Appendix Q

Subsection One:

Government-Conducted

Vapor Intrusion Assessment

Progress Report
Indoor Air Monitoring – Sky Management Services
Defense Supply Center – Philadelphia
Philadelphia, Pennsylvania

November 2017

U.S. Army Corps of Engineers, Philadelphia District
Wanamaker Building - 100 Penn Square East
Philadelphia, PA 19107-3390

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1. Executive Summary

Commercial tenants at Building 6 of the QuarterMaster campus, located at 2800 South 20th Street, Philadelphia, Pennsylvania, reported complaints of indoor odors to DSCP project staff on September 7, 2017.

On behalf of the Defense Logistics Agency (DLA), the US Army Corps of Engineers (USACE) and its contractor monitored the indoor air using a Photoionization Detector (PID) and landfill gas meter in response to the odor complaints. The PID measured up to 2.7 ppm in the PA State Police offices and up to 5 ppm in the Counterterrorism (CT) office. The PID measured 26.5 ppm when held to the end of an open pipe suspended from the ceiling in the CT office.

Indoor air samples were collected on September 26 and October 5, 2017 and were analyzed for volatile organic compounds (VOCs) by EPA Method TO-15. Several VOCs were detected in the indoor air and at lower concentrations in the outdoor air. No detections exceeded the non-residential Statewide Health Standard Vapor Intrusion Screening Values established by the Pennsylvania Department of Environmental Protection (PADEP).

A comparison of the September 26 and October 5 samples reveal that VOC concentrations in the indoor air vary temporally. Elevated concentrations of petroleum-related compounds on October 5 may correlate with odors reported on October 4.

A few short and long term actions are proposed to limit the odors and further investigate the odor source(s), including: capping the pipe in the CT office; adding water to floor drain traps; collecting additional indoor air samples; identifying pathways from the subsurface to the indoor air; and researching changes introduced by recent construction activities.

2. Methods

As an immediate response to odor complaints, indoor air was monitored using a Mini-Rae Photoionization Detector (PID) equipped with a 10.6 electron-volt (eV) lamp on September 8, September 29 and October 4, 2017. A MSA Passport LEL/Oxygen (O_2) meter was also used to monitor the indoor air in the Counterterrorism Unit on September 29, 2017.

Six indoor air samples and two outdoor air samples were collected on September 26, 2016. One additional indoor air sample was collected on October 5, 2017. Sample locations are described in Table 1 and are shown in Figures 1 through 8. Samples were collected in accordance with the methods described in the document titled, "Indoor Air Work Plan – Sky Management Services" (USACE, 2017). All air samples were submitted to the SGS-Accutest laboratory in Dayton, NJ for analysis by EPA Method TO-15, "Determination Of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/ Mass Spectrometry (GC/MS)." Of the ten air samples collected, eight were six-liter canisters deployed to collect eight hour composite samples and two were one-liter canisters deployed to collect five minute grab samples. The five minute canisters were used to sample locations identified as potential vapor sources—an open-ended pipe suspended from the ceiling in the CT office and a floor drain in the PA Police Mechanical Room.

Table 1. Air Sampling Locations

Sample ID	Location	8h/6L	5min/1L	Notes
Collected 9/26/2017				
1	Counterterrorism unit	1		At desk near weights
2			1	At end of open pipe
3	PA Police - Hallway	1		
4	PA Police - Men's Locker Room	1		
5	PA Police - Mechanical Room	1		Center of room
6			1	At floor drain
7	Trip blank	1		Kept at SVE office
8	Loading dock	1		Near HVAC Air Intake
9	Background sample	1		Upwind of building
Collected 10/05/2017				
10	Counterterrorism unit	1		At desk near weights

3. Results

Screening with PID and Landfill Gas Meter

On September 8, DSCP project staff observed the following PID readings: 1 part per million (ppm) in the CT office; 1.9 ppm in the CT storage closet; 0.3 ppm in the PA Police hallway; and 2.7 ppm in the PA Police Mechanical Room. Odors were particularly noticeable in the Mechanical Room on this date. DSCP staff returned to the site on September 14 and no PID detections or odors were observed. DSCP staff returned again on September 26 to collect air samples and again no PID detections or odors were observed.

Odors were subsequently reported after the sampling event, on Friday September 29, 2017. DSCP project staff responded to the complaint and observed PID readings between 3 and 5 ppm within the CT office. When held to the open end of a six-inch pipe suspended from the ceiling in the CT office, the PID read 26.5 ppm. No response was detected with the landfill gas meter. DSCP project staff received another odor complaint from the CT office on Wednesday October 4, 2017. CT staff had the doors propped open and fans running. No odors or PID detections were observed. In response to the October 4 complaint, an additional indoor air sample was collected on October 5, 2017 in the CT office.

Laboratory Results

Six indoor air samples and two outdoor air samples were collected on September 26, 2016. One additional indoor air sample was collected on October 5. 2017. Air samples were analyzed for all TO-15 volatile organic compounds, as summarized in Table 2. The full laboratory report is provided as Attachment A.

On September 26, the greatest VOC concentrations in the indoor air were detected in the PA Police offices: ethanol (167-320 $\mu g/m^3$), acetone (40.9-64.6 $\mu g/m^3$), and isopropyl alcohol (7.1-29 $\mu g/m^3$). Benzene (0.45-0.80 $\mu g/m^3$), toluene (3.1-5.3 $\mu g/m^3$) and total xylenes (3.6-4.8 $\mu g/m^3$) were also detected in the indoor air, among other compounds.

On September 26, VOCs were also detected in the CT office: ethanol (87.2-183 $\mu g/m^3$), acetone (19-28 $\mu g/m^3$), isopropyl alcohol (13-29 $\mu g/m^3$), benzene (0.45 $\mu g/m^3$), trimethylbenzene (1.2-1.6 $\mu g/m^3$), toluene (3.7-4.9 $\mu g/m^3$), and total xylenes (4-4.8 $\mu g/m^3$), among others.

On October 5, some VOCs were detected in the CT office in similar concentrations: ethanol (203 $\mu g/m^3$), acetone (21 $\mu g/m^3$), and isopropyl alcohol (9.3 $\mu g/m^3$). Other analytes were detected in much higher concentrations on October 5: benzene (4.2 $\mu g/m^3$), trimethylbenzene (15 $\mu g/m^3$), toluene (55.8 $\mu g/m^3$) and total xylenes (106 $\mu g/m^3$). Some compounds were detected in the CT office on October 5 that were not observed previously: chlorobenzene (1.4 $\mu g/m^3$), chloroform (2.5 $\mu g/m^3$), and trichloroethylene (0.31 $\mu g/m^3$).

Several compounds were also detected in the outdoor air samples collected on the loading dock and in the background sample collected upwind of the building. No detectable concentrations of VOCs were observed in the trip blank. The laboratory marked many of the ethanol results with an "E" qualifier to indicate that these results were outside of the instrument calibration range. These "E" qualified ethanol results should be considered estimated values. If ethanol is identified as a critical target analyte for subsequent investigations, samples should be analyzed at dilutions to reduce ethanol concentrations to within the instrument's calibrated range.

4. Discussion

Comparison to Statewide Health Standards

The analytical results were compared to the Indoor Air Statewide Health Standard Vapor Intrusion Screening Values provided by the Pennsylvania Department of Environmental Protection (PADEP, 2017). Results were compared with both the nonresidential and residential limits. The assessment with the more conservative residential limits was included since some

building occupants are within the facility for work shifts that exceed the typical eight hour workday. Of the indoor air samples collected on September 26 and October 5, 2017, none exceeded the medium specific concentrations (MSCs) for nonresidential indoor air for any of the TO-15 analytes, as shown in Table 3. However, there some compounds reported at concentrations above the residential limits, including benzene, chloroform, trimethylbenzene, and total xylenes.

Comparison by Date

Indoor odors were initially reported in the Counterterrorism Unit on September 7, 2017. However odors were not observed in the two weeks following the initial report and prior to the September 26, 2017 sampling event. Odors were again reported on September 29 and October 4. As a result another canister was deployed in the CT Unit on October 5.

On October 5, 2017, an indoor air sample (10/CT) was collected from the same location sampled during the September 26th event (1/CT). The analytical results for these samples collected in the same location on different dates are provided together for comparison in Table 4. For many of the analytes, like acetone (a common household and workplace solvent) and dichlorodifluoromethane, trichlorofluoromethane, and Freon 113 (chlorofluorocarbons that may be associated with old air-conditioning or refrigeration equipment), the concentrations were essentially the same on both dates, suggesting that these are likely background components within the building. For several other analytes (e.g. benzene, ethylbenzene, cyclohexane, hexane, heptane), the concentrations from October 5 exceed those from September 26 by one or two orders of magnitude. The analytes that showed the most significant increases from September 26 to October 5 are those commonly found in petroleum products like fuels and other commercial products. This may suggest that temporal changes in environmental, hydrogeologic, or other conditions may be facilitating episodic migration of petroleum-related compounds to the indoor air.

The differences between the September 26 and October 5 samples indicate that the concentrations of certain volatiles in the indoor air vary significantly over time. This is consistent with anecdotal reports from building occupants, who have described the odors as occurring episodically. Tenants say that, “the odors will come on very strong at first, subside after a day or two, and may not return for a week or more.” The September 26 samples were collected after two weeks with no odors and the October 5 sample was collected the day after odors were reported. Therefore there may be a correlation between the odors present on October 4 and the elevated concentrations observed on October 5.

Comparison of loading dock to background air

A large gas-fired furnace and cooling unit is located on the loading dock, as shown in Figure 8. The intake that supplies air to the building is on the west side of the furnace/cooling unit. Building management has acknowledged that the loading dock is not an ideal location for the air intake, as fumes from idling trucks may be drawn into and circulated throughout the building. An outdoor air sample was collected on the loading dock in order to evaluate this possibility.

The analytical results for the sample collected near the air intake is shown in Table 5 alongside the results for the background sample, which was collected from an open field upwind of the building. In general both the background and loading dock samples show fewer detections of analytes. Where detections occur, the concentrations are significantly lower than the concentrations of the same analytes detected in the indoor air samples. A detailed comparison shows that several compounds were detected in the loading dock sample but not in the background sample (e.g. benzene, 1,4 dioxane, ethylbenzene, ethyl acetate, methyl ethyl ketone, 2,2,4 trimethylpentane). Conversely, there were two compounds detected in the background sample that were not detected in the loading dock sample (cyclohexane and methylene chloride). Despite these detection differences, the concentrations observed in both samples were not significantly different from one another. While vehicle traffic and idling at the loading dock near the HVAC air intake remain a concern, the data provided by this sampling event does not give a strong indication of a vapor source on the loading dock.

Qualitative Characteristics of Building Air Components

As described previously, many of the indoor air compounds that exhibit significant temporal fluctuations are compounds that are also common to light petroleum hydrocarbon fractions. These include hexane, cyclohexane, heptane, 2,2,4-trimethylpentane, benzene, xylenes, and ethylbenzene.

For purposes of comparison with a petroleum product, the analytical results from the Defense Logistics Agency (DLA) Vacuum Enhanced Skimmer (VES) system influent for the DSCP project site are provided as Attachment B. The VES system induces a pressure (i.e. vacuum) gradient to the DSCP well network to remove hydrocarbon mass from the site subsurface via vapor phase recovery. Combined influent air samples are collected from the VES system before the vapor phase is modified for oxidation efficiency by adding supplemental air and propane.

Several of the constituents detected in the VES system influent were also detected at much lower concentrations in the indoor air. Additional study would be required to reliably identify the source(s) of the contamination.

Significance of sampling duration

Of the ten air samples collected, eight were six-liter canisters deployed over a period of approximately eight hours and two were one-liter canisters deployed for five minutes. The five minute canisters were used to sample locations identified as potential vapor sources—an open-ended pipe suspended from the ceiling in the CT office and a floor drain in the PA Police Mechanical Room.

In general, the five minute sample results showed the same constituents as the eight hour samples collected in the same room, but at slightly lower concentrations. For example, Samples 1/CT and 2/CT generally reflected the same profile, as did Samples 5/MECHANICAL and 6/MECHANICAL. Several compounds detected in the eight-hour samples at very low concentrations were not detected at all in the five minute samples. There were a few instances when concentrations in the five minute samples slightly exceeded the eight hour samples. In

general the data did not show a significant difference between the five minute and eight hour sample results.

5. Conclusions

The indoor air quality data collected on September 29 and October 5 do not suggest a health and safety risk for nonresidential building occupants when referenced to non-residential screening criteria established by PADEP. However the analytical results demonstrate that VOC concentrations in the indoor air vary temporally and may increase or decrease beyond the range detected thus far.

Elevated concentrations of petroleum-related compounds on October 5 may be correlatable with the report of odors on October 4, 2017. Indoor air samples have not yet been collected on the same day when odors are reported. Collecting and characterizing indoor air samples when odors are present, or over a longer study time period, would provide information about a fuller range of indoor air quality conditions to which building occupants are exposed.

Constituents commonly detected in light petroleum hydrocarbon fractions were found in the indoor air samples during this study. There are several potential sources of this contamination in the vicinity of the building, but a more thorough investigation would be required to more reliably identify the actual source(s) of the contamination.

6. Recommendations

USACE recommends the following short and long term actions to further investigate the odors reported at Building 6 and potentially limit odors.

a. *Cap the open pipe in the Counterterrorism Unit.* The analytical results do not confirm this pipe as a source. However, on one occasion, a PID held up to the pipe showed an elevated response of 26.5 ppm total VOCs as calibrated to isobutylene. Counterterrorism personnel reported that the odors are strongest in the vicinity of the pipe.
b. *Add water to the floor drains in the locker rooms and mechanical room.* In the case that the drains are equipped with traps from which water has evaporated and thus rendering them ineffective, replenishing the drains with additional water may help seal out odors.
c. *Collect additional samples when odors are present.* We recommend ordering five additional quick-draw summa canisters to be held at the DSCP VES system office. When odors are next reported, additional samples can be quickly collected and submitted to the laboratory to evaluate any change to the indoor air quality environment.
d. *Identify the location of the floor drain and other pipes connecting the site subsurface to the indoor air.* Utility drawings for the site have been requested from Sky Management's consultant. A utility markout may be performed to confirm the accuracy of the drawings.
e. *Research construction activities prior to tenant occupancy.* Identify relationship between site improvements (stormwater detention basins) and the Site Conceptual Model (water table, geologic layers, plume footprint, etc.).
f. *Interview building occupants to identify timeline of odor observations*. Cross reference appearance of odors with any coincidental changes in site conditions.

7. References

USACE Philadelphia District. 19 September 2017. "Work Plan, Indoor Air Sampling, Sky Management Services, Defense Supply Center Philadelphia."

Pennsylvania Department of Environmental Protection. 18 January 2017. "Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2." Document Number: 261-0300-101.

Table 2. Laboratory Results

Client Sample ID:		1/CT	2/CT	3/HALLWAY	4/MENS ROOM	5/MECHANICAL	6/MECHANICAL	7/TRIP BLANK	8/LOADING DOCK	9/BACKGROUND	10/CT
Date Sampled:		**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**10/5/2017**
Acetone	ug/m3	19	28	64.6	40.9	53.4	56.5	0.24 U	20	18	21
1,3-Butadiene	ug/m3	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.22 U
Benzene	ug/m3	0.45 J	0.64 U	0.51 J	0.45 J	0.45 J	0.80 J	0.32 U	0.48 J	0.32 U	4.2
Bromodichloromethane	ug/m3	0.67 U	1.3 U	0.67 U	0.67 U	0.67 U	1.3 U	0.67 U	0.67 U	0.67 U	0.67 U
Bromoform	ug/m3	0.41 U	0.83 U	0.41 U	0.41 U	0.41 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	ug/m3	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U
Bromoethene	ug/m3	0.17 U	0.35 U	0.17 U	0.17 U	0.17 U	0.35 U	0.17 U	0.17 U	0.17 U	0.17 U
Benzyl Chloride	ug/m3	0.52 U	1.0 U	0.52 U	0.52 U	0.52 U	1.0 U	0.52 U	0.52 U	0.52 U	0.52 U
Carbon disulfide	ug/m3	0.34 J	0.62 U	0.31 U	0.31 U	0.31 U	0.62 U	0.31 U	0.31 U	0.31 U	0.50 J
Chlorobenzene	ug/m3	0.18 U	0.37 U	0.18 U	0.18 U	0.18 U	0.37 U	0.18 U	0.18 U	0.18 U	1.4
Chloroethane	ug/m3	0.26 U	0.53 U	0.26 U	0.26 U	0.26 U	0.53 U	0.26 U	0.26 U	0.26 U	0.26 U
Chloroform	ug/m3	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	2.5
Chloromethane	ug/m3	1.2	1.3	1.2	1.2	1.2	1.3	0.21 U	1.1	3.1	1.1
3-Chloropropene	ug/m3	0.31 U	0.63 U	0.31 U	0.31 U	0.31 U	0.63 U	0.31 U	0.31 U	0.31 U	0.31 U
2-Chlorotoluene	ug/m3	0.52 U	1.0 U	0.52 U	0.52 U	0.52 U	1.0 U	0.52 U	0.52 U	0.52 U	0.52 U
Carbon tetrachloride	ug/m3	0.47 J	0.50 U	0.25 U	0.25 U	0.25 U	0.50 U	0.25 U	0.25 U	0.25 U	0.25 U
Cyclohexane	ug/m3	0.34 U	0.69 U	0.38 J	0.34 U	0.38 J	1.0 J	0.34 U	0.34 U	1	34
1,1-Dichloroethane	ug/m3	0.40 U	0.81 U	0.40 U	0.40 U	0.40 U	0.81 U	0.40 U	0.40 U	0.40 U	0.40 U
1,1-Dichloroethylene	ug/m3	0.40 U	0.79 U	0.40 U	0.40 U	0.40 U	0.79 U	0.40 U	0.40 U	0.40 U	0.40 U
1,2-Dibromoethane	ug/m3	1.8	0.61 U	0.31 U	0.31 U	0.31 U	0.61 U	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloroethane	ug/m3	0.57 J	0.81 U	0.57 J	0.40 U	0.53 J	0.81 J	0.40 U	0.40 U	0.40 U	0.93
1,2-Dichloropropane	ug/m3	0.46 U	0.92 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	0.46 U	0.46 U	0.46 U
1,4-Dioxane	ug/m3	0.36 U	0.72 U	0.54 J	0.36 U	0.58 J	0.72 U	0.36 U	0.58 J	0.36 U	0.36 U
Dichlorodifluoromethane	ug/m3	2.4	2.3	2.3	2.4	2.4	2.3	0.49 U	2.4	2.4	2.3
Dibromochloromethane	ug/m3	0.85 U	1.7 U	0.85 U	0.85 U	0.85 U	1.7 U	0.85 U	0.85 U	0.85 U	0.85 U
trans-1,2-Dichloroethylene	ug/m3	0.40 U	0.79 U	0.40 U	0.40 U	0.40 U	0.79 U	0.40 U	0.40 U	0.40 U	0.40 U
cis-1,2-Dichloroethylene	ug/m3	0.40 U	0.79 U	0.40 U	0.40 U	0.40 U	0.79 U	0.40 U	0.40 U	0.40 U	0.40 U
cis-1,3-Dichloropropene	ug/m3	0.45 U	0.91 U	0.45 U	0.45 U	0.45 U	0.91 U	0.45 U	0.45 U	0.45 U	0.45 U
m-Dichlorobenzene	ug/m3	0.60 U	1.2 U	0.60 U	0.60 U	0.60 U	1.2 U	0.60 U	0.60 U	0.60 U	0.60 U
o-Dichlorobenzene	ug/m3	0.24 U	0.48 U	0.24 U	0.24 U	0.24 U	0.48 U	0.24 U	0.24 U	0.24 U	0.24 U
p-Dichlorobenzene	ug/m3	0.60 U	1.2 U	0.60 U	0.60 U	0.60 U	1.2 U	0.60 U	0.60 U	0.60 U	0.60 U
trans-1,3-Dichloropropene	ug/m3	0.45 U	0.91 U	0.45 U	0.45 U	0.45 U	0.91 U	0.45 U	0.45 U	0.45 U	0.45 U
Ethanol	ug/m3	87.2 E	183 E	320 E	207 E	288 E	167 E	0.38 U	15	7.7	203 E
Ethylbenzene	ug/m3	0.96	0.87 U	0.83 J	0.69 J	0.78 J	0.87 U	0.43 U	0.61 J	0.43 U	15
Ethyl Acetate	ug/m3	1.4	1.3 J	5.8	3.1	3.3	5.4	0.36 U	0.65 J	0.36 U	1.5
4-Ethyltoluene	ug/m3	0.54 J	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	5.9
Freon 113	ug/m3	2.3	1.7 J	0.31 U	0.31 U	0.31 U	0.61 U	0.31 U	0.31 U	0.31 U	3.7
Freon 114	ug/m3	0.28 U	0.56 U	0.28 U	0.28 U	0.28 U	0.56 U	0.28 U	0.28 U	0.28 U	0.28 U
Heptane	ug/m3	0.41 J	0.82 U	0.66 J	0.53 J	0.57 J	2.2	0.41 U	0.41 U	0.41 U	26
Hexachlorobutadiene	ug/m3	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	0.43 U

Table 2. Laboratory Results

Client Sample ID:		1/CT	2/CT	3/HALLWAY	4/MENS ROOM	5/MECHANICAL	6/MECHANICAL	7/TRIP BLANK	8/LOADING DOCK	9/BACKGROUND	10/CT
Date Sampled:		**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**9/26/2017**	**10/5/2017**
Hexane	ug/m3	1.2	0.99 J	0.63 J	0.60 J	0.56 J	3.9	0.35 U	0.63 J	2.2	39.5
2-Hexanone	ug/m3	1.4	0.82 U	0.57 J	0.41 U	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U
Isopropyl Alcohol	ug/m3	13	29	29	7.1	15	9.3	0.25 U	2.3	1.3	9.3
Methylene chloride	ug/m3	0.35 U	0.69 U	0.35 U	0.35 U	0.35 U	1.4 J	0.35 U	0.35 U	0.83	1.7
Methyl ethyl ketone	ug/m3	2.8	2.7	2.8	1.3	2.9	2.5	0.29 U	1.9	0.29 U	2.9
Methyl Isobutyl Ketone	ug/m3	0.74 J	1.6 J	1.3	0.53 J	0.78 J	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U
Methyl Tert Butyl Ether	ug/m3	0.14 U	0.29 U	0.14 U	0.14 U	0.14 U	0.29 U	0.14 U	0.14 U	0.14 U	0.14 U
Methylmethacrylate	ug/m3	0.41 U	0.82 U	2.6	5.3	2.4	3.7	0.41 U	0.41 U	0.41 U	0.41 U
Propylene	ug/m3	0.17 U	0.34 U	0.17 U	0.17 U	0.17 U	0.34 U	0.17 U	0.17 U	0.17 U	0.17 U
Styrene	ug/m3	0.60 J	0.85 U	0.64 J	0.60 J	0.60 J	0.85 U	0.43 U	0.43 U	0.43 U	0.51 J
1,1,1-Trichloroethane	ug/m3	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-Tetrachloroethane	ug/m3	0.27 U	0.55 U	0.27 U	0.27 U	0.27 U	0.55 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2-Trichloroethane	ug/m3	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2,4-Trichlorobenzene	ug/m3	0.74 U	1.5 U	0.74 U	0.74 U	0.74 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U
1,2,4-Trimethylbenzene	ug/m3	1.6	1.2 J	1.2	0.59 J	1	1.0 J	0.49 U	0.79 J	0.49 U	15
1,3,5-Trimethylbenzene	ug/m3	0.64 J	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	8.8
2,2,4-Trimethylpentane	ug/m3	0.65 J	0.37 U	1.6	1.4	1.5	1.3 J	0.19 U	3.3	0.19 U	14
Tertiary Butyl Alcohol	ug/m3	1.1	0.94 J	1.5	1.5	2	1.5	0.30 U	0.42 J	0.55 J	0.79
Tetrachloroethylene	ug/m3	1.1	1.1	0.14 U	0.14 U	0.14 U	0.27 U	0.14 U	0.14 U	0.14 U	0.88
Tetrahydrofuran	ug/m3	0.29 U	0.59 U	0.29 U	0.29 U	0.29 U	0.59 U	0.29 U	0.29 U	2	0.32 J
Toluene	ug/m3	4.9	3.7	3.5	3.1	3.4	5.3	0.38 U	3.6	0.38 U	55.8
Trichloroethylene	ug/m3	0.11 U	0.21 U	0.11 U	0.11 U	0.11 U	0.21 U	0.11 U	0.11 U	0.11 U	0.31
Trichlorofluoromethane	ug/m3	1.6	1.6 J	2	2.1	2.1	2.4	0.22 U	1.6	1.1	2.5
Vinyl chloride	ug/m3	0.10 U	0.20 U	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	0.10 U	0.10 U	0.10 U
Vinyl Acetate	ug/m3	0.35 U	0.70 U	0.35 U	0.35 U	0.35 U	0.70 U	0.35 U	0.35 U	0.35 U	0.35 U
m,p-Xylene	ug/m3	3.5	2.8	3.3	2.9	3.2	2.6	0.43 U	2.6	0.43 U	81.7
o-Xylene	ug/m3	1.4	1.1 J	1.3	1.1	1.4	1.0 J	0.43 U	0.91	0.43 U	25
Xylenes (total)	ug/m3	4.8	4	4.3	4	4.8	3.6	0.43 U	3.5	0.43 U	106

Table 3. Comparison to Indoor Air Statewide Health Standards

Client Sample ID:		1/CT	2/CT	3/HALLWAY	4/MENS ROOM	5/MECHANICAL	6/MECHANICAL	7/TRIP BLANK	8/LOADING DOCK	9/BACKGROUND	10/CT			VI Screening Values	
Date Sampled:		9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	10/5/2017	MAX		Residential MSC[1]	Nonresidential MSC[1]
Acetone	ug/m3	19	28	64.6	40.9	53.4	56.5	0.24 U	20	18	21	64.6	<	32,000	140,000
Benzene	ug/m3	0.45 J	0.64 U	0.51 J	0.45 J	0.45 J	0.80 J	0.32 U	0.48 J	0.32 U	4.2	4.2	<	3.1	16
Carbon disulfide	ug/m3	0.34 J	0.62 U	0.31 U	0.31 U	0.31 U	0.62 U	0.31 U	0.31 U	0.31 U	0.50 J	0.5	<	730	3,100
Chlorobenzene	ug/m3	0.18 U	0.37 U	0.18 U	0.18 U	0.18 U	0.37 U	0.18 U	0.18 U	0.18 U	1.4	1.4	<	52	220
Chloroform	ug/m3	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	2.5	2.5	<	1.1	5.3
Chloromethane	ug/m3	1.2	1.3	1.2	1.2	1.2	1.3	0.21 U	1.1	3.1	1.1				
Carbon tetrachloride	ug/m3	0.47 J	0.50 U	0.25 U	0.25 U	0.25 U	0.50 U	0.25 U	0.25 U	0.25 U	0.25 U	0.47	<	4.1	20
Cyclohexane	ug/m3	0.34 U	0.69 U	0.38 J	0.34 U	0.38 J	1.0 J	0.34 U	0.34 U	1	34	34	<	6,300	2,600
1,2-Dibromoethane	ug/m3	1.8	0.61 U	0.31 U	0.31 U	0.31 U	0.61 U	0.31 U	0.31 U	0.31 U	0.31 U				
1,2-Dichloroethane	ug/m3	0.57 J	0.81 U	0.57 J	0.40 U	0.53 J	0.81 J	0.40 U	0.40 U	0.40 U	0.93	0.93	<	0.94	4.7
1,2-Dichloropropane	ug/m3	0.46 U	0.92 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	0.46 U	0.46 U	0.46 U	0			
1,4-Dioxane	ug/m3	0.36 U	0.72 U	0.54 J	0.36 U	0.58 J	0.72 U	0.36 U	0.58 J	0.36 U	0.36 U	0.58	<	3.2	16
Dichlorodifluoromethane	ug/m3	2.4	2.3	2.3	2.4	2.4	2.3	0.49 U	2.4	2.4	2.3	2.4	<	100	440
Ethanol	ug/m3	87.2 E	183 E	320 E	207 E	288 E	167 E	0.38 U	15	7.7	203 E				
Ethylbenzene	ug/m3	0.96	0.87 U	0.83 J	0.69 J	0.78 J	0.87 U	0.43 U	0.61 J	0.43 U	15	15	<	19	73
Ethyl Acetate	ug/m3	1.4	1.3 J	5.8	3.1	3.3	5.4	0.36 U	0.65 J	0.36 U	1.5	5.8	<	73	310
4-Ethyltoluene	ug/m3	0.54 J	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	5.9				
Freon 113	ug/m3	2.3	1.7 J	0.31 U	0.31 U	0.31 U	0.61 U	0.31 U	0.31 U	0.31 U	3.7				
Heptane	ug/m3	0.41 J	0.82 U	0.66 J	0.53 J	0.57 J	2.2	0.41 U	0.41 U	0.41 U	26				
Hexachlorobutadiene	ug/m3	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	0.43 U				
Hexane	ug/m3	1.2	0.99 J	0.63 J	0.60 J	0.56 J	3.9	0.35 U	0.63 J	2.2	39.5	39.5	<	730	3,100
2-Hexanone	ug/m3	1.4	0.82 U	0.57 J	0.41 U	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U				
Isopropyl Alcohol	ug/m3	13	29	29	7.1	15	9.3	0.25 U	2.3	1.3	9.3				
Methylene chloride	ug/m3	0.35 U	0.69 U	0.35 U	0.35 U	0.35 U	1.4 J	0.35 U	0.35 U	0.83	1.7	1.7	<	14	68
Methyl ethyl ketone	ug/m3	2.8	2.7	2.8	1.3	2.9	2.5	0.29 U	1.9	0.29 U	2.9	2.9	<	5,200	22,000
Methyl Isobutyl Ketone	ug/m3	0.74 J	1.6 J	1.3	0.53 J	0.78 J	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	1.3	<	3,100	13,000
Methylmethacrylate	ug/m3	0.41 U	0.82 U	2.6	5.3	2.4	3.7	0.41 U	0.41 U	0.41 U	0.41 U	5.3	<	730	3,100
Styrene	ug/m3	0.60 J	0.85 U	0.64 J	0.60 J	0.60 J	0.85 U	0.43 U	0.43 U	0.43 U	0.51 J	0.51	<	1,000	4,400
1,2,4-Trimethylbenzene	ug/m3	1.6	1.2 J	1.2	0.59 J	1	1.0 J	0.49 U	0.79 J	0.49 U	15	15	<	7.3	31
1,3,5-Trimethylbenzene	ug/m3	0.64 J	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	8.8	8.8	<	7.3	31
2,2,4-Trimethylpentane	ug/m3	0.65 J	0.37 U	1.6	1.4	1.5	1.3 J	0.19 U	3.3	0.19 U	14				
Tertiary Butyl Alcohol	ug/m3	1.1	0.94 J	1.5	1.5	2	1.5	0.30 U	0.42 J	0.55 J	0.79				
Tetrachloroethylene	ug/m3	1.1	1.1	0.14 U	0.14 U	0.14 U	0.27 U	0.14 U	0.14 U	0.14 U	0.88	1.1	<		
Tetrahydrofuran	ug/m3	0.29 U	0.59 U	0.29 U	0.29 U	0.29 U	0.59 U	0.29 U	0.29 U	2	0.32 J				
Toluene	ug/m3	4.9	3.7	3.5	3.1	3.4	5.3	0.38 U	3.6	0.38 U	55.8	55.8	<	5,200	22,000
Trichloroethylene	ug/m3	0.11 U	0.21 U	0.11 U	0.11 U	0.11 U	0.21 U	0.11 U	0.11 U	0.11 U	0.31	0.31	<	2.1	8.8
Trichlorofluoromethane	ug/m3	1.6	1.6 J	2	2.1	2.1	2.4	0.22 U	1.6	1.1	2.5			13	63
m,p-Xylene	ug/m3	3.5	2.8	3.3	2.9	3.2	2.6	0.43 U	2.6	0.43 U	81.7				
o-Xylene	ug/m3	1.4	1.1 J	1.3	1.1	1.4	1.0 J	0.43 U	0.91	0.43 U	25				
Xylenes (total)	ug/m3	4.8	4	4.3	4	4.8	3.6	0.43 U	3.5	0.43 U	106	106	<	100	440

Notes:
1. Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2, Document Number: 261-0300-101, January 18, 2017. Table 5. Indoor Air Statewide Health Standard Vapor Intrusion Screening Values (SVIA).
U = Compound analyzed for but not detected above the reporting limit, LOD or MDL value.
J = Estimated value.

Table 4. Comparison by Date

Client Sample ID:		1/CT	2/CT	10/CT
Date Sampled:		9/26/2017	9/26/2017	10/5/2017
Acetone	ug/m3	19	28	21
Benzene	ug/m3	0.45 J	0.64 U	4.2
Carbon disulfide	ug/m3	0.34 J	0.62 U	0.50 J
Chlorobenzene	ug/m3	0.18 U	0.37 U	1.4
Chloroform	ug/m3	0.49 U	0.98 U	2.5
Chloromethane	ug/m3	1.2	1.3	1.1
Carbon tetrachloride	ug/m3	0.47 J	0.50 U	0.25 U
Cyclohexane	ug/m3	0.34 U	0.69 U	34
1,2-Dibromoethane	ug/m3	1.8	0.61 U	0.31 U
1,2-Dichloroethane	ug/m3	0.57 J	0.81 U	0.93
1,2-Dichloropropane	ug/m3	0.46 U	0.92 U	0.46 U
1,4-Dioxane	ug/m3	0.36 U	0.72 U	0.36 U
Dichlorodifluoromethane	ug/m3	2.4	2.3	2.3
Ethanol	ug/m3	87.2 E	183 E	203 E
Ethylbenzene	ug/m3	0.96	0.87 U	15
Ethyl Acetate	ug/m3	1.4	1.3 J	1.5
4-Ethyltoluene	ug/m3	0.54 J	0.98 U	5.9
Freon 113	ug/m3	2.3	1.7 J	3.7
Heptane	ug/m3	0.41 J	0.82 U	26
Hexachlorobutadiene	ug/m3	0.43 U	0.85 U	0.43 U
Hexane	ug/m3	1.2	0.99 J	39.5
2-Hexanone	ug/m3	1.4	0.82 U	0.41 U
Isopropyl Alcohol	ug/m3	13	29	9.3
Methylene chloride	ug/m3	0.35 U	0.69 U	1.7
Methyl ethyl ketone	ug/m3	2.8	2.7	2.9
Methyl Isobutyl Ketone	ug/m3	0.74 J	1.6 J	0.41 U
Methylmethacrylate	ug/m3	0.41 U	0.82 U	0.41 U
Styrene	ug/m3	0.60 J	0.85 U	0.51 J
1,2,4-Trimethylbenzene	ug/m3	1.6	1.2 J	15
1,3,5-Trimethylbenzene	ug/m3	0.64 J	0.98 U	8.8
2,2,4-Trimethylpentane	ug/m3	0.65 J	0.37 U	14
Tertiary Butyl Alcohol	ug/m3	1.1	0.94 J	0.79
Tetrachloroethylene	ug/m3	1.1	1.1	0.88
Tetrahydrofuran	ug/m3	0.29 U	0.59 U	0.32 J
Toluene	ug/m3	4.9	3.7	55.8
Trichloroethylene	ug/m3	0.11 U	0.21 U	0.31
Trichlorofluoromethane	ug/m3	1.6	1.6 J	2.5
m,p-Xylene	ug/m3	3.5	2.8	81.7
o-Xylene	ug/m3	1.4	1.1 J	25
Xylenes (total)	ug/m3	4.8	4	106

Notes:
NA= Not analyzed.
U = Compound analyzed for but not detected above the reporting limit, LOD or MDL value.
J = Estimated value.

Table 5. Comparison between Background and Loading Dock

Client Sample ID:		8/LOADING DOCK	9/BACKGROUND
Date Sampled:		9/26/2017	9/26/2017
Acetone	ug/m3	20	18
Benzene	ug/m3	0.48 J	0.32 U
Carbon disulfide	ug/m3	0.31 U	0.31 U
Chlorobenzene	ug/m3	0.18 U	0.18 U
Chloroform	ug/m3	0.49 U	0.49 U
Chloromethane	ug/m3	1.1	3.1
Carbon tetrachloride	ug/m3	0.25 U	0.25 U
Cyclohexane	ug/m3	0.34 U	1
1,2-Dibromoethane	ug/m3	0.31 U	0.31 U
1,2-Dichloroethane	ug/m3	0.40 U	0.40 U
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U
1,4-Dioxane	ug/m3	0.58 J	0.36 U
Dichlorodifluoromethane	ug/m3	2.4	2.4
Ethanol	ug/m3	15	7.7
Ethylbenzene	ug/m3	0.61 J	0.43 U
Ethyl Acetate	ug/m3	0.65 J	0.36 U
4-Ethyltoluene	ug/m3	0.49 U	0.49 U
Freon 113	ug/m3	0.31 U	0.31 U
Heptane	ug/m3	0.41 U	0.41 U
Hexachlorobutadiene	ug/m3	0.43 U	0.43 U
Hexane	ug/m3	0.63 J	2.2
2-Hexanone	ug/m3	0.41 U	0.41 U
Isopropyl Alcohol	ug/m3	2.3	1.3
Methylene chloride	ug/m3	0.35 U	0.83
Methyl ethyl ketone	ug/m3	1.9	0.29 U
Methyl Isobutyl Ketone	ug/m3	0.41 U	0.41 U
Methylmethacrylate	ug/m3	0.41 U	0.41 U
Styrene	ug/m3	0.43 U	0.43 U
1,2,4-Trimethylbenzene	ug/m3	0.79 J	0.49 U
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.49 U
2,2,4-Trimethylpentane	ug/m3	3.3	0.19 U
Tertiary Butyl Alcohol	ug/m3	0.42 J	0.55 J
Tetrachloroethylene	ug/m3	0.14 U	0.14 U
Tetrahydrofuran	ug/m3	0.29 U	2
Toluene	ug/m3	3.6	0.38 U
Trichloroethylene	ug/m3	0.11 U	0.11 U
Trichlorofluoromethane	ug/m3	1.6	1.1
m,p-Xylene	ug/m3	2.6	0.43 U
o-Xylene	ug/m3	0.91	0.43 U
Xylenes (total)	ug/m3	3.5	0.43 U

Notes:
U = Compound analyzed for but not detected above the reporting limit, LOD or MDL valu
J = Estimated value.

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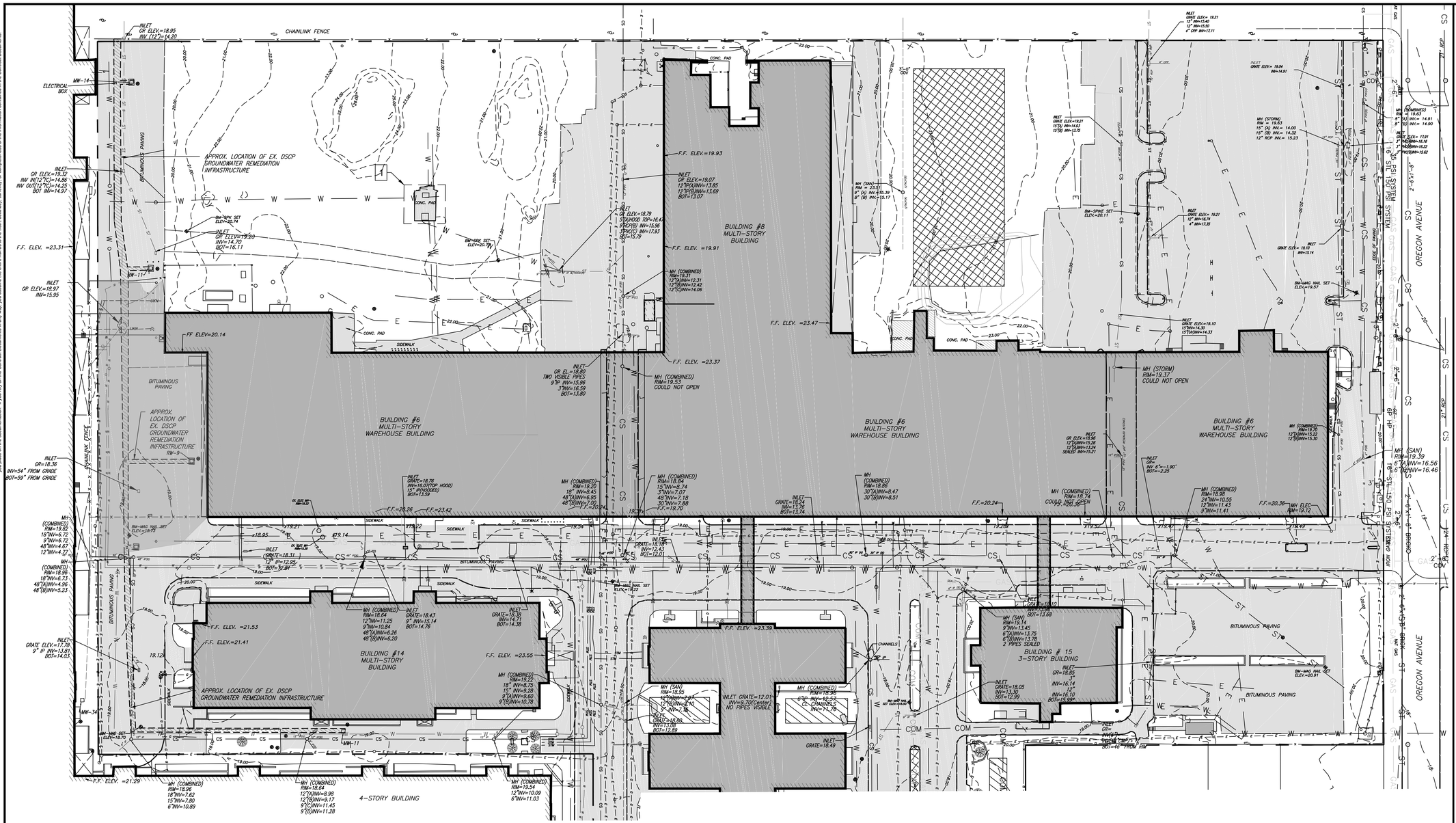
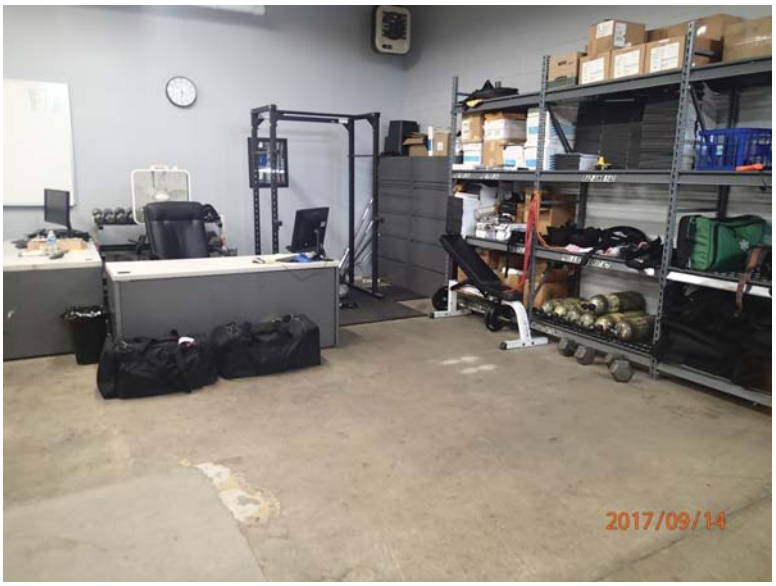

INLET GR ELEV.=18.95 INV (12")=14.20
CHAINLINK FENCE
MW-14
ELECTRICAL BOX
BITUMINOUS PAVING
APPROX. LOCATION OF EX. DSCP GROUNDWATER REMEDIATION INFRASTRUCTURE
INLET GR ELEV.=19.32 INV IN(12"C)=14.86 INV OUT(12"C)=14.25 BOT INV=14.97
CONC. PAD
BM-SPIKE SET ELEV=20.74
INLET GR ELEV=19.20 INV=14.70 BOT=16.11
F.F. ELEV. =23.31
INLET GR ELEV.=18.97 INV=15.95
MW-11
FF ELEV=20.14
SIDEWALK
BUILDING #6 MULTI-STORY WAREHOUSE BUILDING
BUILDING #8 MULTI-STORY BUILDING
F.F. ELEV.=19.93
INLET GR ELEV=19.07 12"P/A)INV=13.85 12"P/B)INV=13.69 BOT=13.07
INLET GR ELEV=18.79 5"(A)WOOD TOP=16.4 9"P/C/P/B) INV=15.96 12"P/C/C) INV=17.93 BOT=13.79
F.F. ELEV. =19.91
MH (COMBINED) RIM=19.31 12"(A)INV=12.31 12"(B)INV=12.42 12"(C)INV=14.06
INLET GR EL.=18.80 TWO VISIBLE PIPES 9"P INV=15.96 12"INV=16.59 BOT=13.80
F.F. ELEV. =23.37
MH (COMBINED) RIM=19.53 COULD NOT OPEN
F.F. ELEV. =23.47
CONC. PAD
MH (STORM) RIM=19.37 COULD NOT OPEN
INLET GRATE ELEV= 19.21 15" INV=15.40 6" INV=15.60 4" OPP INV=17.11
INLET GRATE ELEV= 18.04 INV=14.91
MH (STORM) RIM = 19.63 15" (A) INV.= 14.00 15" (B) INV.= 14.32 12" RCP INV.= 15.23
INLET GRATE ELEV=19.21 15"(A) INV=14.03 15"(B) INV=13.79
MH (SAN) RIM = 23.51 9" (A) INV.=15.39 8" (B) INV.=15.17
BM-SPIKE SET ELEV=20.11
INLET GRATE ELEV= 18.21 12" INV=16.74 4" INV=17.55
INLET GRATE ELEV= 19.10 15"INV=14.30 15"(I)INV=14.33
INLET GRATE ELEV= 19.10 INV=15.14
BM-MAG NAIL SET ELEV=19.57
OREGON AVENUE
MH (COMBINED) RIM=19.63 6" 5"(A) INV.= 14.91 9" (B) INV.= 14.90
INLET GRATE ELEV= 17.91 12"(A)INV=16.16 12"(B)INV=16.28 12"(C)INV=15.62
2'-6"X1'-8" RCBC
2'-6"X1'-8" RCBC
2'-6"X2'-0" RCBC
2'-6"X2'-0" RCBC
2'-6"X2'-0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STAPLES

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Attachment A
Laboratory Electronic Data Deliverable

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Automated Report

Technical Report for

USACE-Philadelphia District

Defense Supply Center, Philadelphia, PA

SGS Accutest Job Number: [redacted]

Sampling Date: 09/26/17

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
[redacted]

Total number of pages in report: **609**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

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Laboratory Director

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Sample Summary

USACE-Philadelphia District

Job No: JC52053

Defense Supply Center, Philadelphia, PA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC52053-1	09/26/17	15:07	[redacted]	09/27/17	AIR	Indoor Air Comp.	1/CT
JC52053-2	09/26/17	07:49	[redacted]	09/27/17	AIR	Indoor Air Comp.	2/CT
JC52053-3	09/26/17	14:56	[redacted]	09/27/17	AIR	Indoor Air Comp.	3/HALLWAY
JC52053-4	09/26/17	14:54	[redacted]	09/27/17	AIR	Indoor Air Comp.	4/MENS ROOM
JC52053-5	09/26/17	14:53	[redacted]	09/27/17	AIR	Indoor Air Comp.	5/MECHANICAL
JC52053-6	09/26/17	07:36	[redacted]	09/27/17	AIR	Indoor Air Comp.	6/MECHANICAL
JC52053-7	09/26/17	15:08	[redacted]	09/27/17	AIR	Trip Blank Air	7/TRIP BLANK
JC52053-8	09/26/17	15:08	[redacted]	09/27/17	AIR	Indoor Air Comp.	8/LOADING DOCK
JC52053-9	09/26/17	15:00	[redacted]	09/27/17	AIR	Indoor Air Comp.	9/BACKGROUND

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	USACE-Philadelphia District	**Job No**	JC52053
Site:	Defense Supply Center, Philadelphia, PA	**Report Date**	10/10/2017 5:31:39 P

On 09/27/2017, 8 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest. A SGS Accutest Job Number of JC52053 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method TO-15

Matrix: AIR **Batch ID:** V5W1066

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC52053-3DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range.

Matrix: AIR **Batch ID:** V5W1067

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC51796-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JC52053-1	**1/CT**					
Acetone		7.9	0.20	0.10	ppbv	TO-15
Benzene		0.14 J	0.20	0.10	ppbv	TO-15
Carbon disulfide		0.11 J	0.20	0.10	ppbv	TO-15
Chloromethane		0.58	0.20	0.10	ppbv	TO-15
Carbon tetrachloride		0.074 J	0.20	0.040	ppbv	TO-15
1,2-Dibromoethane		0.24	0.20	0.040	ppbv	TO-15
1,2-Dichloroethane		0.14 J	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane		0.48	0.20	0.10	ppbv	TO-15
Ethanol		46.3 E	0.50	0.20	ppbv	TO-15
Ethylbenzene		0.22	0.20	0.10	ppbv	TO-15
Ethyl Acetate		0.39	0.20	0.10	ppbv	TO-15
4-Ethyltoluene		0.11 J	0.20	0.10	ppbv	TO-15
Freon 113		0.30	0.20	0.040	ppbv	TO-15
Heptane		0.10 J	0.20	0.10	ppbv	TO-15
Hexane		0.34	0.20	0.10	ppbv	TO-15
2-Hexanone		0.34	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol		5.4	0.20	0.10	ppbv	TO-15
Methyl ethyl ketone		0.94	0.20	0.10	ppbv	TO-15
Methyl Isobutyl Ketone		0.18 J	0.20	0.10	ppbv	TO-15
Styrene		0.14 J	0.20	0.10	ppbv	TO-15
1,2,4-Trimethylbenzene		0.33	0.20	0.10	ppbv	TO-15
1,3,5-Trimethylbenzene		0.13 J	0.20	0.10	ppbv	TO-15
2,2,4-Trimethylpentane		0.14 J	0.20	0.040	ppbv	TO-15
Tertiary Butyl Alcohol		0.35	0.20	0.10	ppbv	TO-15
Tetrachloroethylene		0.16	0.040	0.020	ppbv	TO-15
Toluene		1.3	0.20	0.10	ppbv	TO-15
Trichlorofluoromethane		0.28	0.20	0.040	ppbv	TO-15
m,p-Xylene		0.80	0.20	0.10	ppbv	TO-15
o-Xylene		0.33	0.20	0.10	ppbv	TO-15
Xylenes (total)		1.1	0.20	0.10	ppbv	TO-15
Acetone		19	0.48	0.24	ug/m3	TO-15
Benzene		0.45 J	0.64	0.32	ug/m3	TO-15
Carbon disulfide		0.34 J	0.62	0.31	ug/m3	TO-15
Chloromethane		1.2	0.41	0.21	ug/m3	TO-15
Carbon tetrachloride		0.47 J	1.3	0.25	ug/m3	TO-15
1,2-Dibromoethane		1.8	1.5	0.31	ug/m3	TO-15
1,2-Dichloroethane		0.57 J	0.81	0.40	ug/m3	TO-15
Dichlorodifluoromethane		2.4	0.99	0.49	ug/m3	TO-15
Ethanol		87.2 E	0.94	0.38	ug/m3	TO-15
Ethylbenzene		0.96	0.87	0.43	ug/m3	TO-15
Ethyl Acetate		1.4	0.72	0.36	ug/m3	TO-15
4-Ethyltoluene		0.54 J	0.98	0.49	ug/m3	TO-15
Freon 113		2.3	1.5	0.31	ug/m3	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Heptane		0.41 J	0.82	0.41	ug/m3	TO-15
Hexane		1.2	0.70	0.35	ug/m3	TO-15
2-Hexanone		1.4	0.82	0.41	ug/m3	TO-15
Isopropyl Alcohol		13	0.49	0.25	ug/m3	TO-15
Methyl ethyl ketone		2.8	0.59	0.29	ug/m3	TO-15
Methyl Isobutyl Ketone		0.74 J	0.82	0.41	ug/m3	TO-15
Styrene		0.60 J	0.85	0.43	ug/m3	TO-15
1,2,4-Trimethylbenzene		1.6	0.98	0.49	ug/m3	TO-15
1,3,5-Trimethylbenzene		0.64 J	0.98	0.49	ug/m3	TO-15
2,2,4-Trimethylpentane		0.65 J	0.93	0.19	ug/m3	TO-15
Tertiary Butyl Alcohol		1.1	0.61	0.30	ug/m3	TO-15
Tetrachloroethylene		1.1	0.27	0.14	ug/m3	TO-15
Toluene		4.9	0.75	0.38	ug/m3	TO-15
Trichlorofluoromethane		1.6	1.1	0.22	ug/m3	TO-15
m,p-Xylene		3.5	0.87	0.43	ug/m3	TO-15
o-Xylene		1.4	0.87	0.43	ug/m3	TO-15
Xylenes (total)		4.8	0.87	0.43	ug/m3	TO-15
JC52053-2	**2/CT**					
Acetone		11.8	0.40	0.20	ppbv	TO-15
Chloromethane		0.61	0.40	0.20	ppbv	TO-15
Dichlorodifluoromethane		0.47	0.40	0.20	ppbv	TO-15
Ethanol		97.3 E	1.0	0.40	ppbv	TO-15
Ethyl Acetate		0.35 J	0.40	0.20	ppbv	TO-15
Freon 113		0.22 J	0.40	0.080	ppbv	TO-15
Hexane		0.28 J	0.40	0.20	ppbv	TO-15
Isopropyl Alcohol		11.8	0.40	0.20	ppbv	TO-15
Methyl ethyl ketone		0.90	0.40	0.20	ppbv	TO-15
Methyl Isobutyl Ketone		0.38 J	0.40	0.20	ppbv	TO-15
1,2,4-Trimethylbenzene		0.25 J	0.40	0.20	ppbv	TO-15
Tertiary Butyl Alcohol		0.31 J	0.40	0.20	ppbv	TO-15
Tetrachloroethylene		0.16	0.080	0.040	ppbv	TO-15
Toluene		0.99	0.40	0.20	ppbv	TO-15
Trichlorofluoromethane		0.28 J	0.40	0.080	ppbv	TO-15
m,p-Xylene		0.65	0.40	0.20	ppbv	TO-15
o-Xylene		0.26 J	0.40	0.20	ppbv	TO-15
Xylenes (total)		0.92	0.40	0.20	ppbv	TO-15
Acetone		28.0	0.95	0.48	ug/m3	TO-15
Chloromethane		1.3	0.83	0.41	ug/m3	TO-15
Dichlorodifluoromethane		2.3	2.0	0.99	ug/m3	TO-15
Ethanol		183 E	1.9	0.75	ug/m3	TO-15
Ethyl Acetate		1.3 J	1.4	0.72	ug/m3	TO-15
Freon 113		1.7 J	3.1	0.61	ug/m3	TO-15
Hexane		0.99 J	1.4	0.70	ug/m3	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	LOQ	LOD	Units	Method
Isopropyl Alcohol	29.0	0.98	0.49	ug/m3	TO-15
Methyl ethyl ketone	2.7	1.2	0.59	ug/m3	TO-15
Methyl Isobutyl Ketone	1.6 J	1.6	0.82	ug/m3	TO-15
1,2,4-Trimethylbenzene	1.2 J	2.0	0.98	ug/m3	TO-15
Tertiary Butyl Alcohol	0.94 J	1.2	0.61	ug/m3	TO-15
Tetrachloroethylene	1.1	0.54	0.27	ug/m3	TO-15
Toluene	3.7	1.5	0.75	ug/m3	TO-15
Trichlorofluoromethane	1.6 J	2.2	0.45	ug/m3	TO-15
m,p-Xylene	2.8	1.7	0.87	ug/m3	TO-15
o-Xylene	1.1 J	1.7	0.87	ug/m3	TO-15
Xylenes (total)	4.0	1.7	0.87	ug/m3	TO-15
JC52053-3 3/HALLWAY					
Acetone	27.2	0.20	0.10	ppbv	TO-15
Benzene	0.16 J	0.20	0.10	ppbv	TO-15
Chloromethane	0.59	0.20	0.10	ppbv	TO-15
Cyclohexane	0.11 J	0.20	0.10	ppbv	TO-15
1,2-Dichloroethane	0.14 J	0.20	0.10	ppbv	TO-15
1,4-Dioxane	0.15 J	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane	0.47	0.20	0.10	ppbv	TO-15
Ethanol	170 E	0.50	0.20	ppbv	TO-15
Ethylbenzene	0.19 J	0.20	0.10	ppbv	TO-15
Ethyl Acetate	1.6	0.20	0.10	ppbv	TO-15
Heptane	0.16 J	0.20	0.10	ppbv	TO-15
Hexane	0.18 J	0.20	0.10	ppbv	TO-15
2-Hexanone	0.14 J	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol	11.8	0.20	0.10	ppbv	TO-15
Methyl ethyl ketone	0.94	0.20	0.10	ppbv	TO-15
Methyl Isobutyl Ketone	0.31	0.20	0.10	ppbv	TO-15
Methylmethacrylate	0.64	0.20	0.10	ppbv	TO-15
Styrene	0.15 J	0.20	0.10	ppbv	TO-15
1,2,4-Trimethylbenzene	0.24	0.20	0.10	ppbv	TO-15
2,2,4-Trimethylpentane	0.34	0.20	0.040	ppbv	TO-15
Tertiary Butyl Alcohol	0.50	0.20	0.10	ppbv	TO-15
Toluene	0.93	0.20	0.10	ppbv	TO-15
Trichlorofluoromethane	0.35	0.20	0.040	ppbv	TO-15
m,p-Xylene	0.75	0.20	0.10	ppbv	TO-15
o-Xylene	0.29	0.20	0.10	ppbv	TO-15
Xylenes (total)	1.0	0.20	0.10	ppbv	TO-15
Acetone	64.6	0.48	0.24	ug/m3	TO-15
Benzene	0.51 J	0.64	0.32	ug/m3	TO-15
Chloromethane	1.2	0.41	0.21	ug/m3	TO-15
Cyclohexane	0.38 J	0.69	0.34	ug/m3	TO-15
1,2-Dichloroethane	0.57 J	0.81	0.40	ug/m3	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	LOQ	LOD	Units	Method
1,4-Dioxane	0.54 J	0.72	0.36	ug/m3	TO-15
Dichlorodifluoromethane	2.3	0.99	0.49	ug/m3	TO-15
Ethanol	320 E	0.94	0.38	ug/m3	TO-15
Ethylbenzene	0.83 J	0.87	0.43	ug/m3	TO-15
Ethyl Acetate	5.8	0.72	0.36	ug/m3	TO-15
Heptane	0.66 J	0.82	0.41	ug/m3	TO-15
Hexane	0.63 J	0.70	0.35	ug/m3	TO-15
2-Hexanone	0.57 J	0.82	0.41	ug/m3	TO-15
Isopropyl Alcohol	29.0	0.49	0.25	ug/m3	TO-15
Methyl ethyl ketone	2.8	0.59	0.29	ug/m3	TO-15
Methyl Isobutyl Ketone	1.3	0.82	0.41	ug/m3	TO-15
Methylmethacrylate	2.6	0.82	0.41	ug/m3	TO-15
Styrene	0.64 J	0.85	0.43	ug/m3	TO-15
1,2,4-Trimethylbenzene	1.2	0.98	0.49	ug/m3	TO-15
2,2,4-Trimethylpentane	1.6	0.93	0.19	ug/m3	TO-15
Tertiary Butyl Alcohol	1.5	0.61	0.30	ug/m3	TO-15
Toluene	3.5	0.75	0.38	ug/m3	TO-15
Trichlorofluoromethane	2.0	1.1	0.22	ug/m3	TO-15
m,p-Xylene	3.3	0.87	0.43	ug/m3	TO-15
o-Xylene	1.3	0.87	0.43	ug/m3	TO-15
Xylenes (total)	4.3	0.87	0.43	ug/m3	TO-15
JC52053-4 4/MENS ROOM					
Acetone	17.2	0.20	0.10	ppbv	TO-15
Benzene	0.14 J	0.20	0.10	ppbv	TO-15
Chloromethane	0.56	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane	0.48	0.20	0.10	ppbv	TO-15
Ethanol	110 E	0.50	0.20	ppbv	TO-15
Ethylbenzene	0.16 J	0.20	0.10	ppbv	TO-15
Ethyl Acetate	0.87	0.20	0.10	ppbv	TO-15
Heptane	0.13 J	0.20	0.10	ppbv	TO-15
Hexane	0.17 J	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol	2.9	0.20	0.10	ppbv	TO-15
Methyl ethyl ketone	0.44	0.20	0.10	ppbv	TO-15
Methyl Isobutyl Ketone	0.13 J	0.20	0.10	ppbv	TO-15
Methylmethacrylate	1.3	0.20	0.10	ppbv	TO-15
Styrene	0.14 J	0.20	0.10	ppbv	TO-15
1,2,4-Trimethylbenzene	0.12 J	0.20	0.10	ppbv	TO-15
2,2,4-Trimethylpentane	0.30	0.20	0.040	ppbv	TO-15
Tertiary Butyl Alcohol	0.48	0.20	0.10	ppbv	TO-15
Toluene	0.82	0.20	0.10	ppbv	TO-15
Trichlorofluoromethane	0.37	0.20	0.040	ppbv	TO-15
m,p-Xylene	0.66	0.20	0.10	ppbv	TO-15
o-Xylene	0.26	0.20	0.10	ppbv	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Xylenes (total)		0.92	0.20	0.10	ppbv	TO-15
Acetone		40.9	0.48	0.24	ug/m3	TO-15
Benzene		0.45 J	0.64	0.32	ug/m3	TO-15
Chloromethane		1.2	0.41	0.21	ug/m3	TO-15
Dichlorodifluoromethane		2.4	0.99	0.49	ug/m3	TO-15
Ethanol		207 E	0.94	0.38	ug/m3	TO-15
Ethylbenzene		0.69 J	0.87	0.43	ug/m3	TO-15
Ethyl Acetate		3.1	0.72	0.36	ug/m3	TO-15
Heptane		0.53 J	0.82	0.41	ug/m3	TO-15
Hexane		0.60 J	0.70	0.35	ug/m3	TO-15
Isopropyl Alcohol		7.1	0.49	0.25	ug/m3	TO-15
Methyl ethyl ketone		1.3	0.59	0.29	ug/m3	TO-15
Methyl Isobutyl Ketone		0.53 J	0.82	0.41	ug/m3	TO-15
Methylmethacrylate		5.3	0.82	0.41	ug/m3	TO-15
Styrene		0.60 J	0.85	0.43	ug/m3	TO-15
1,2,4-Trimethylbenzene		0.59 J	0.98	0.49	ug/m3	TO-15
2,2,4-Trimethylpentane		1.4	0.93	0.19	ug/m3	TO-15
Tertiary Butyl Alcohol		1.5	0.61	0.30	ug/m3	TO-15
Toluene		3.1	0.75	0.38	ug/m3	TO-15
Trichlorofluoromethane		2.1	1.1	0.22	ug/m3	TO-15
m,p-Xylene		2.9	0.87	0.43	ug/m3	TO-15
o-Xylene		1.1	0.87	0.43	ug/m3	TO-15
Xylenes (total)		4.0	0.87	0.43	ug/m3	TO-15
JC52053-5	**5/MECHANICAL**					
Acetone		22.5	0.20	0.10	ppbv	TO-15
Benzene		0.14 J	0.20	0.10	ppbv	TO-15
Chloromethane		0.58	0.20	0.10	ppbv	TO-15
Cyclohexane		0.11 J	0.20	0.10	ppbv	TO-15
1,2-Dichloroethane		0.13 J	0.20	0.10	ppbv	TO-15
1,4-Dioxane		0.16 J	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane		0.48	0.20	0.10	ppbv	TO-15
Ethanol		153 E	0.50	0.20	ppbv	TO-15
Ethylbenzene		0.18 J	0.20	0.10	ppbv	TO-15
Ethyl Acetate		0.93	0.20	0.10	ppbv	TO-15
Heptane		0.14 J	0.20	0.10	ppbv	TO-15
Hexane		0.16 J	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol		5.9	0.20	0.10	ppbv	TO-15
Methyl ethyl ketone		0.97	0.20	0.10	ppbv	TO-15
Methyl Isobutyl Ketone		0.19 J	0.20	0.10	ppbv	TO-15
Methylmethacrylate		0.59	0.20	0.10	ppbv	TO-15
Styrene		0.14 J	0.20	0.10	ppbv	TO-15
1,2,4-Trimethylbenzene		0.21	0.20	0.10	ppbv	TO-15
2,2,4-Trimethylpentane		0.33	0.20	0.040	ppbv	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	LOQ	LOD	Units	Method
Tertiary Butyl Alcohol	0.67	0.20	0.10	ppbv	TO-15
Toluene	0.89	0.20	0.10	ppbv	TO-15
Trichlorofluoromethane	0.37	0.20	0.040	ppbv	TO-15
m,p-Xylene	0.74	0.20	0.10	ppbv	TO-15
o-Xylene	0.32	0.20	0.10	ppbv	TO-15
Xylenes (total)	1.1	0.20	0.10	ppbv	TO-15
Acetone	53.4	0.48	0.24	ug/m3	TO-15
Benzene	0.45 J	0.64	0.32	ug/m3	TO-15
Chloromethane	1.2	0.41	0.21	ug/m3	TO-15
Cyclohexane	0.38 J	0.69	0.34	ug/m3	TO-15
1,2-Dichloroethane	0.53 J	0.81	0.40	ug/m3	TO-15
1,4-Dioxane	0.58 J	0.72	0.36	ug/m3	TO-15
Dichlorodifluoromethane	2.4	0.99	0.49	ug/m3	TO-15
Ethanol	288 E	0.94	0.38	ug/m3	TO-15
Ethylbenzene	0.78 J	0.87	0.43	ug/m3	TO-15
Ethyl Acetate	3.3	0.72	0.36	ug/m3	TO-15
Heptane	0.57 J	0.82	0.41	ug/m3	TO-15
Hexane	0.56 J	0.70	0.35	ug/m3	TO-15
Isopropyl Alcohol	15	0.49	0.25	ug/m3	TO-15
Methyl ethyl ketone	2.9	0.59	0.29	ug/m3	TO-15
Methyl Isobutyl Ketone	0.78 J	0.82	0.41	ug/m3	TO-15
Methylmethacrylate	2.4	0.82	0.41	ug/m3	TO-15
Styrene	0.60 J	0.85	0.43	ug/m3	TO-15
1,2,4-Trimethylbenzene	1.0	0.98	0.49	ug/m3	TO-15
2,2,4-Trimethylpentane	1.5	0.93	0.19	ug/m3	TO-15
Tertiary Butyl Alcohol	2.0	0.61	0.30	ug/m3	TO-15
Toluene	3.4	0.75	0.38	ug/m3	TO-15
Trichlorofluoromethane	2.1	1.1	0.22	ug/m3	TO-15
m,p-Xylene	3.2	0.87	0.43	ug/m3	TO-15
o-Xylene	1.4	0.87	0.43	ug/m3	TO-15
Xylenes (total)	4.8	0.87	0.43	ug/m3	TO-15
JC52053-6 6/MECHANICAL					
Acetone	23.8	0.40	0.20	ppbv	TO-15
Benzene	0.25 J	0.40	0.20	ppbv	TO-15
Chloromethane	0.62	0.40	0.20	ppbv	TO-15
Cyclohexane	0.29 J	0.40	0.20	ppbv	TO-15
1,2-Dichloroethane	0.20 J	0.40	0.20	ppbv	TO-15
Dichlorodifluoromethane	0.46	0.40	0.20	ppbv	TO-15
Ethanol	88.4 E	1.0	0.40	ppbv	TO-15
Ethyl Acetate	1.5	0.40	0.20	ppbv	TO-15
Heptane	0.54	0.40	0.20	ppbv	TO-15
Hexane	1.1	0.40	0.20	ppbv	TO-15
Isopropyl Alcohol	3.8	0.40	0.20	ppbv	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Methylene chloride		0.39 J	0.40	0.20	ppbv	TO-15
Methyl ethyl ketone		0.85	0.40	0.20	ppbv	TO-15
Methylmethacrylate		0.91	0.40	0.20	ppbv	TO-15
1,2,4-Trimethylbenzene		0.21 J	0.40	0.20	ppbv	TO-15
2,2,4-Trimethylpentane		0.28 J	0.40	0.080	ppbv	TO-15
Tertiary Butyl Alcohol		0.51	0.40	0.20	ppbv	TO-15
Toluene		1.4	0.40	0.20	ppbv	TO-15
Trichlorofluoromethane		0.43	0.40	0.080	ppbv	TO-15
m,p-Xylene		0.60	0.40	0.20	ppbv	TO-15
o-Xylene		0.23 J	0.40	0.20	ppbv	TO-15
Xylenes (total)		0.83	0.40	0.20	ppbv	TO-15
Acetone		56.5	0.95	0.48	ug/m3	TO-15
Benzene		0.80 J	1.3	0.64	ug/m3	TO-15
Chloromethane		1.3	0.83	0.41	ug/m3	TO-15
Cyclohexane		1.0 J	1.4	0.69	ug/m3	TO-15
1,2-Dichloroethane		0.81 J	1.6	0.81	ug/m3	TO-15
Dichlorodifluoromethane		2.3	2.0	0.99	ug/m3	TO-15
Ethanol		167 E	1.9	0.75	ug/m3	TO-15
Ethyl Acetate		5.4	1.4	0.72	ug/m3	TO-15
Heptane		2.2	1.6	0.82	ug/m3	TO-15
Hexane		3.9	1.4	0.70	ug/m3	TO-15
Isopropyl Alcohol		9.3	0.98	0.49	ug/m3	TO-15
Methylene chloride		1.4 J	1.4	0.69	ug/m3	TO-15
Methyl ethyl ketone		2.5	1.2	0.59	ug/m3	TO-15
Methylmethacrylate		3.7	1.6	0.82	ug/m3	TO-15
1,2,4-Trimethylbenzene		1.0 J	2.0	0.98	ug/m3	TO-15
2,2,4-Trimethylpentane		1.3 J	1.9	0.37	ug/m3	TO-15
Tertiary Butyl Alcohol		1.5	1.2	0.61	ug/m3	TO-15
Toluene		5.3	1.5	0.75	ug/m3	TO-15
Trichlorofluoromethane		2.4	2.2	0.45	ug/m3	TO-15
m,p-Xylene		2.6	1.7	0.87	ug/m3	TO-15
o-Xylene		1.0 J	1.7	0.87	ug/m3	TO-15
Xylenes (total)		3.6	1.7	0.87	ug/m3	TO-15
JC52053-7	**7/TRIP BLANK**					
No hits reported in this sample.						
JC52053-8	**8/LOADING DOCK**					
Acetone		8.3	0.20	0.10	ppbv	TO-15
Benzene		0.15 J	0.20	0.10	ppbv	TO-15
Chloromethane		0.54	0.20	0.10	ppbv	TO-15
1,4-Dioxane		0.16 J	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane		0.48	0.20	0.10	ppbv	TO-15

SGS ACCUTEST
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JC52053

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	LOQ	LOD	Units	Method
Ethanol	7.7	0.50	0.20	ppbv	TO-15
Ethylbenzene	0.14 J	0.20	0.10	ppbv	TO-15
Ethyl Acetate	0.18 J	0.20	0.10	ppbv	TO-15
Hexane	0.18 J	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol	0.95	0.20	0.10	ppbv	TO-15
Methyl ethyl ketone	0.64	0.20	0.10	ppbv	TO-15
1,2,4-Trimethylbenzene	0.16 J	0.20	0.10	ppbv	TO-15
2,2,4-Trimethylpentane	0.70	0.20	0.040	ppbv	TO-15
Tertiary Butyl Alcohol	0.14 J	0.20	0.10	ppbv	TO-15
Toluene	0.95	0.20	0.10	ppbv	TO-15
Trichlorofluoromethane	0.29	0.20	0.040	ppbv	TO-15
m,p-Xylene	0.59	0.20	0.10	ppbv	TO-15
o-Xylene	0.21	0.20	0.10	ppbv	TO-15
Xylenes (total)	0.80	0.20	0.10	ppbv	TO-15
Acetone	20	0.48	0.24	ug/m3	TO-15
Benzene	0.48 J	0.64	0.32	ug/m3	TO-15
Chloromethane	1.1	0.41	0.21	ug/m3	TO-15
1,4-Dioxane	0.58 J	0.72	0.36	ug/m3	TO-15
Dichlorodifluoromethane	2.4	0.99	0.49	ug/m3	TO-15
Ethanol	15	0.94	0.38	ug/m3	TO-15
Ethylbenzene	0.61 J	0.87	0.43	ug/m3	TO-15
Ethyl Acetate	0.65 J	0.72	0.36	ug/m3	TO-15
Hexane	0.63 J	0.70	0.35	ug/m3	TO-15
Isopropyl Alcohol	2.3	0.49	0.25	ug/m3	TO-15
Methyl ethyl ketone	1.9	0.59	0.29	ug/m3	TO-15
1,2,4-Trimethylbenzene	0.79 J	0.98	0.49	ug/m3	TO-15
2,2,4-Trimethylpentane	3.3	0.93	0.19	ug/m3	TO-15
Tertiary Butyl Alcohol	0.42 J	0.61	0.30	ug/m3	TO-15
Toluene	3.6	0.75	0.38	ug/m3	TO-15
Trichlorofluoromethane	1.6	1.1	0.22	ug/m3	TO-15
m,p-Xylene	2.6	0.87	0.43	ug/m3	TO-15
o-Xylene	0.91	0.87	0.43	ug/m3	TO-15
Xylenes (total)	3.5	0.87	0.43	ug/m3	TO-15
JC52053-9 9/BACKGROUND					
Acetone	7.6	0.20	0.10	ppbv	TO-15
Chloromethane	1.5	0.20	0.10	ppbv	TO-15
Cyclohexane	0.29	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane	0.48	0.20	0.10	ppbv	TO-15
Ethanol	4.1	0.50	0.20	ppbv	TO-15
Hexane	0.63	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol	0.52	0.20	0.10	ppbv	TO-15
Methylene chloride	0.24	0.20	0.10	ppbv	TO-15
Tertiary Butyl Alcohol	0.18 J	0.20	0.10	ppbv	TO-15

Summary of Hits

Job Number: JC52053
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 09/26/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Tetrahydrofuran		0.67	0.20	0.10	ppbv	TO-15
Trichlorofluoromethane		0.20	0.20	0.040	ppbv	TO-15
Acetone		18	0.48	0.24	ug/m3	TO-15
Chloromethane		3.1	0.41	0.21	ug/m3	TO-15
Cyclohexane		1.0	0.69	0.34	ug/m3	TO-15
Dichlorodifluoromethane		2.4	0.99	0.49	ug/m3	TO-15
Ethanol		7.7	0.94	0.38	ug/m3	TO-15
Hexane		2.2	0.70	0.35	ug/m3	TO-15
Isopropyl Alcohol		1.3	0.49	0.25	ug/m3	TO-15
Methylene chloride		0.83	0.69	0.35	ug/m3	TO-15
Tertiary Butyl Alcohol		0.55 J	0.61	0.30	ug/m3	TO-15
Tetrahydrofuran		2.0	0.59	0.29	ug/m3	TO-15
Trichlorofluoromethane		1.1	1.1	0.22	ug/m3	TO-15

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: 1/CT
Lab Sample ID: JC52053-1
Matrix: AIR - Indoor Air Comp. Summa ID: A1054
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27098.D	1	10/07/17 13:40	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	7.9	0.20	0.10	ppbv		19	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.14	0.20	0.10	ppbv	J	0.45	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.11	0.20	0.10	ppbv	J	0.34	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.58	0.20	0.10	ppbv		1.2	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.074	0.20	0.040	ppbv	J	0.47	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.10 U	0.20	0.10	ppbv		0.34 U	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.24	0.20	0.040	ppbv		1.8	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.14	0.20	0.10	ppbv	J	0.57	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.48	0.20	0.10	ppbv		2.4	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1/CT
Lab Sample ID: JC52053-1
Matrix: AIR - Indoor Air Comp. Summa ID: A1054
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	46.3	0.50	0.20	ppbv	E	87.2	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.22	0.20	0.10	ppbv		0.96	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.39	0.20	0.10	ppbv		1.4	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.11	0.20	0.10	ppbv	J	0.54	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.30	0.20	0.040	ppbv		2.3	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.10	0.20	0.10	ppbv	J	0.41	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.34	0.20	0.10	ppbv		1.2	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.34	0.20	0.10	ppbv		1.4	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	5.4	0.20	0.10	ppbv		13	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.10 U	0.20	0.10	ppbv		0.35 U	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.94	0.20	0.10	ppbv		2.8	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.18	0.20	0.10	ppbv	J	0.74	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.14	0.20	0.10	ppbv	J	0.60	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.33	0.20	0.10	ppbv		1.6	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.13	0.20	0.10	ppbv	J	0.64	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.14	0.20	0.040	ppbv	J	0.65	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.35	0.20	0.10	ppbv		1.1	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.16	0.040	0.020	ppbv		1.1	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	1.3	0.20	0.10	ppbv		4.9	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.28	0.20	0.040	ppbv		1.6	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.80	0.20	0.10	ppbv		3.5	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.33	0.20	0.10	ppbv		1.4	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	1.1	0.20	0.10	ppbv		4.8	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	114%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 2/CT
Lab Sample ID: JC52053-2
Matrix: AIR - Indoor Air Comp. Summa ID: A1151
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27099.D	1	10/07/17 14:28	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	200 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	11.8	0.40	0.20	ppbv		28.0	0.95	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	0.20 U	0.40	0.20	ppbv		0.44 U	0.88	0.44	ug/m3
71-43-2	78.11	Benzene	0.20 U	0.40	0.20	ppbv		0.64 U	1.3	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	0.20 U	0.40	0.20	ppbv		1.3 U	2.7	1.3	ug/m3
75-25-2	252.8	Bromoform	0.080 U	0.40	0.080	ppbv		0.83 U	4.1	0.83	ug/m3
74-83-9	94.94	Bromomethane	0.20 U	0.40	0.20	ppbv		0.78 U	1.6	0.78	ug/m3
593-60-2	106.9	Bromoethene	0.080 U	0.40	0.080	ppbv		0.35 U	1.7	0.35	ug/m3
100-44-7	126	Benzyl Chloride	0.20 U	0.40	0.20	ppbv		1.0 U	2.1	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	0.20 U	0.40	0.20	ppbv		0.62 U	1.2	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	0.080 U	0.40	0.080	ppbv		0.37 U	1.8	0.37	ug/m3
75-00-3	64.52	Chloroethane	0.20 U	0.40	0.20	ppbv		0.53 U	1.1	0.53	ug/m3
67-66-3	119.4	Chloroform	0.20 U	0.40	0.20	ppbv		0.98 U	2.0	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.61	0.40	0.20	ppbv		1.3	0.83	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	0.20 U	0.40	0.20	ppbv		0.63 U	1.3	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.20 U	0.40	0.20	ppbv		1.0 U	2.1	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.080 U	0.40	0.080	ppbv		0.50 U	2.5	0.50	ug/m3
110-82-7	84.16	Cyclohexane	0.20 U	0.40	0.20	ppbv		0.69 U	1.4	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.20 U	0.40	0.20	ppbv		0.81 U	1.6	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.20 U	0.40	0.20	ppbv		0.79 U	1.6	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.080 U	0.40	0.080	ppbv		0.61 U	3.1	0.61	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.20 U	0.40	0.20	ppbv		0.81 U	1.6	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	0.20 U	0.40	0.20	ppbv		0.92 U	1.8	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	0.20 U	0.40	0.20	ppbv		0.72 U	1.4	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.47	0.40	0.20	ppbv		2.3	2.0	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	0.20 U	0.40	0.20	ppbv		1.7 U	3.4	1.7	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.20 U	0.40	0.20	ppbv		0.79 U	1.6	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.20 U	0.40	0.20	ppbv		0.79 U	1.6	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.20 U	0.40	0.20	ppbv		0.91 U	1.8	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	0.20 U	0.40	0.20	ppbv		1.2 U	2.4	1.2	ug/m3
95-50-1	147	o-Dichlorobenzene	0.080 U	0.40	0.080	ppbv		0.48 U	2.4	0.48	ug/m3
106-46-7	147	p-Dichlorobenzene	0.20 U	0.40	0.20	ppbv		1.2 U	2.4	1.2	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.20 U	0.40	0.20	ppbv		0.91 U	1.8	0.91	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2/CT
Lab Sample ID: JC52053-2
Matrix: AIR - Indoor Air Comp. Summa ID: A1151
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	97.3	1.0	0.40	ppbv	E	183	1.9	0.75	ug/m3
100-41-4	106.2	Ethylbenzene	0.20 U	0.40	0.20	ppbv		0.87 U	1.7	0.87	ug/m3
141-78-6	88	Ethyl Acetate	0.35	0.40	0.20	ppbv	J	1.3	1.4	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.20 U	0.40	0.20	ppbv		0.98 U	2.0	0.98	ug/m3
76-13-1	187.4	Freon 113	0.22	0.40	0.080	ppbv	J	1.7	3.1	0.61	ug/m3
76-14-2	170.9	Freon 114	0.080 U	0.40	0.080	ppbv		0.56 U	2.8	0.56	ug/m3
142-82-5	100.2	Heptane	0.20 U	0.40	0.20	ppbv		0.82 U	1.6	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.080 U	0.40	0.080	ppbv		0.85 U	4.3	0.85	ug/m3
110-54-3	86.17	Hexane	0.28	0.40	0.20	ppbv	J	0.99	1.4	0.70	ug/m3
591-78-6	100	2-Hexanone	0.20 U	0.40	0.20	ppbv		0.82 U	1.6	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	11.8	0.40	0.20	ppbv		29.0	0.98	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.20 U	0.40	0.20	ppbv		0.69 U	1.4	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.90	0.40	0.20	ppbv		2.7	1.2	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.38	0.40	0.20	ppbv	J	1.6	1.6	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.080 U	0.40	0.080	ppbv		0.29 U	1.4	0.29	ug/m3
80-62-6	100.12	Methylmethacrylate	0.20 U	0.40	0.20	ppbv		0.82 U	1.6	0.82	ug/m3
115-07-1	42	Propylene	0.20 U	1.0	0.20	ppbv		0.34 U	1.7	0.34	ug/m3
100-42-5	104.1	Styrene	0.20 U	0.40	0.20	ppbv		0.85 U	1.7	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.080 U	0.40	0.080	ppbv		0.44 U	2.2	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.080 U	0.40	0.080	ppbv		0.55 U	2.7	0.55	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.080 U	0.40	0.080	ppbv		0.44 U	2.2	0.44	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.20 U	0.40	0.20	ppbv		1.5 U	3.0	1.5	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.25	0.40	0.20	ppbv	J	1.2	2.0	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.20 U	0.40	0.20	ppbv		0.98 U	2.0	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.080 U	0.40	0.080	ppbv		0.37 U	1.9	0.37	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.31	0.40	0.20	ppbv	J	0.94	1.2	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.16	0.080	0.040	ppbv		1.1	0.54	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.20 U	0.40	0.20	ppbv		0.59 U	1.2	0.59	ug/m3
108-88-3	92.14	Toluene	0.99	0.40	0.20	ppbv		3.7	1.5	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	0.040 U	0.080	0.040	ppbv		0.21 U	0.43	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.28	0.40	0.080	ppbv	J	1.6	2.2	0.45	ug/m3
75-01-4	62.5	Vinyl chloride	0.080 U	0.40	0.080	ppbv		0.20 U	1.0	0.20	ug/m3
108-05-4	86	Vinyl Acetate	0.20 U	0.40	0.20	ppbv		0.70 U	1.4	0.70	ug/m3
	106.2	m,p-Xylene	0.65	0.40	0.20	ppbv		2.8	1.7	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.26	0.40	0.20	ppbv	J	1.1	1.7	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	0.92	0.40	0.20	ppbv		4.0	1.7	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	104%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 3/HALLWAY
Lab Sample ID: JC52053-3
Matrix: AIR - Indoor Air Comp. Summa ID: M168
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27100.D	1.52	10/07/17 15:22	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	608 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	27.2	0.20	0.10	ppbv		64.6	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.16	0.20	0.10	ppbv	J	0.51	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.10 U	0.20	0.10	ppbv		0.31 U	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.59	0.20	0.10	ppbv		1.2	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.11	0.20	0.10	ppbv	J	0.38	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.14	0.20	0.10	ppbv	J	0.57	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.15	0.20	0.10	ppbv	J	0.54	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.47	0.20	0.10	ppbv		2.3	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 3/HALLWAY
Lab Sample ID: JC52053-3
Matrix: AIR - Indoor Air Comp. Summa ID: M168
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	170	0.50	0.20	ppbv	E	320	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.19	0.20	0.10	ppbv	J	0.83	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	1.6	0.20	0.10	ppbv		5.8	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.16	0.20	0.10	ppbv	J	0.66	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.18	0.20	0.10	ppbv	J	0.63	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.14	0.20	0.10	ppbv	J	0.57	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	11.8	0.20	0.10	ppbv		29.0	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.10 U	0.20	0.10	ppbv		0.35 U	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.94	0.20	0.10	ppbv		2.8	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.31	0.20	0.10	ppbv		1.3	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.64	0.20	0.10	ppbv		2.6	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.15	0.20	0.10	ppbv	J	0.64	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.24	0.20	0.10	ppbv		1.2	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.34	0.20	0.040	ppbv		1.6	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.50	0.20	0.10	ppbv		1.5	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.020 U	0.040	0.020	ppbv		0.14 U	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	0.93	0.20	0.10	ppbv		3.5	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.35	0.20	0.040	ppbv		2.0	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.75	0.20	0.10	ppbv		3.3	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.29	0.20	0.10	ppbv		1.3	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	1.0	0.20	0.10	ppbv		4.3	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	118%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 4/MENS ROOM
Lab Sample ID: JC52053-4
Matrix: AIR - Indoor Air Comp. Summa ID: A751
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27103.D	1.6	10/07/17 18:03	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	640 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	17.2	0.20	0.10	ppbv		40.9	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.14	0.20	0.10	ppbv	J	0.45	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.10 U	0.20	0.10	ppbv		0.31 U	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.56	0.20	0.10	ppbv		1.2	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.10 U	0.20	0.10	ppbv		0.34 U	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.48	0.20	0.10	ppbv		2.4	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 4/MENS ROOM
Lab Sample ID: JC52053-4
Matrix: AIR - Indoor Air Comp. Summa ID: A751
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	110	0.50	0.20	ppbv	E	207	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.16	0.20	0.10	ppbv	J	0.69	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.87	0.20	0.10	ppbv		3.1	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.13	0.20	0.10	ppbv	J	0.53	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.17	0.20	0.10	ppbv	J	0.60	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	2.9	0.20	0.10	ppbv		7.1	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.10 U	0.20	0.10	ppbv		0.35 U	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.44	0.20	0.10	ppbv		1.3	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.13	0.20	0.10	ppbv	J	0.53	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	1.3	0.20	0.10	ppbv		5.3	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.14	0.20	0.10	ppbv	J	0.60	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.12	0.20	0.10	ppbv	J	0.59	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.30	0.20	0.040	ppbv		1.4	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.48	0.20	0.10	ppbv		1.5	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.020 U	0.040	0.020	ppbv		0.14 U	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	0.82	0.20	0.10	ppbv		3.1	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.37	0.20	0.040	ppbv		2.1	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.66	0.20	0.10	ppbv		2.9	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.26	0.20	0.10	ppbv		1.1	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	0.92	0.20	0.10	ppbv		4.0	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	123%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 5/MECHANICAL
Lab Sample ID: JC52053-5
Matrix: AIR - Indoor Air Comp. Summa ID: A906
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27104.D	1.52	10/07/17 18:57	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	608 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	22.5	0.20	0.10	ppbv		53.4	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.14	0.20	0.10	ppbv	J	0.45	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.10 U	0.20	0.10	ppbv		0.31 U	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.58	0.20	0.10	ppbv		1.2	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.11	0.20	0.10	ppbv	J	0.38	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.13	0.20	0.10	ppbv	J	0.53	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.16	0.20	0.10	ppbv	J	0.58	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.48	0.20	0.10	ppbv		2.4	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5/MECHANICAL
Lab Sample ID: JC52053-5
Matrix: AIR - Indoor Air Comp. Summa ID: A906
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	153	0.50	0.20	ppbv	E	288	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.18	0.20	0.10	ppbv	J	0.78	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.93	0.20	0.10	ppbv		3.3	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.14	0.20	0.10	ppbv	J	0.57	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.16	0.20	0.10	ppbv	J	0.56	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	5.9	0.20	0.10	ppbv		15	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.10 U	0.20	0.10	ppbv		0.35 U	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.97	0.20	0.10	ppbv		2.9	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.19	0.20	0.10	ppbv	J	0.78	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.59	0.20	0.10	ppbv		2.4	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.14	0.20	0.10	ppbv	J	0.60	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.21	0.20	0.10	ppbv		1.0	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.33	0.20	0.040	ppbv		1.5	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.67	0.20	0.10	ppbv		2.0	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.020 U	0.040	0.020	ppbv		0.14 U	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	0.89	0.20	0.10	ppbv		3.4	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.37	0.20	0.040	ppbv		2.1	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.74	0.20	0.10	ppbv		3.2	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.32	0.20	0.10	ppbv		1.4	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	1.1	0.20	0.10	ppbv		4.8	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	122%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 6/MECHANICAL
Lab Sample ID: JC52053-6
Matrix: AIR - Indoor Air Comp. Summa ID: A806
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27105.D	1	10/07/17 19:45	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	200 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	23.8	0.40	0.20	ppbv		56.5	0.95	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	0.20 U	0.40	0.20	ppbv		0.44 U	0.88	0.44	ug/m3
71-43-2	78.11	Benzene	0.25	0.40	0.20	ppbv	J	0.80	1.3	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	0.20 U	0.40	0.20	ppbv		1.3 U	2.7	1.3	ug/m3
75-25-2	252.8	Bromoform	0.080 U	0.40	0.080	ppbv		0.83 U	4.1	0.83	ug/m3
74-83-9	94.94	Bromomethane	0.20 U	0.40	0.20	ppbv		0.78 U	1.6	0.78	ug/m3
593-60-2	106.9	Bromoethene	0.080 U	0.40	0.080	ppbv		0.35 U	1.7	0.35	ug/m3
100-44-7	126	Benzyl Chloride	0.20 U	0.40	0.20	ppbv		1.0 U	2.1	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	0.20 U	0.40	0.20	ppbv		0.62 U	1.2	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	0.080 U	0.40	0.080	ppbv		0.37 U	1.8	0.37	ug/m3
75-00-3	64.52	Chloroethane	0.20 U	0.40	0.20	ppbv		0.53 U	1.1	0.53	ug/m3
67-66-3	119.4	Chloroform	0.20 U	0.40	0.20	ppbv		0.98 U	2.0	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.62	0.40	0.20	ppbv		1.3	0.83	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	0.20 U	0.40	0.20	ppbv		0.63 U	1.3	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.20 U	0.40	0.20	ppbv		1.0 U	2.1	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.080 U	0.40	0.080	ppbv		0.50 U	2.5	0.50	ug/m3
110-82-7	84.16	Cyclohexane	0.29	0.40	0.20	ppbv	J	1.0	1.4	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.20 U	0.40	0.20	ppbv		0.81 U	1.6	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.20 U	0.40	0.20	ppbv		0.79 U	1.6	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.080 U	0.40	0.080	ppbv		0.61 U	3.1	0.61	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.20	0.40	0.20	ppbv	J	0.81	1.6	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	0.20 U	0.40	0.20	ppbv		0.92 U	1.8	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	0.20 U	0.40	0.20	ppbv		0.72 U	1.4	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.46	0.40	0.20	ppbv		2.3	2.0	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	0.20 U	0.40	0.20	ppbv		1.7 U	3.4	1.7	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.20 U	0.40	0.20	ppbv		0.79 U	1.6	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.20 U	0.40	0.20	ppbv		0.79 U	1.6	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.20 U	0.40	0.20	ppbv		0.91 U	1.8	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	0.20 U	0.40	0.20	ppbv		1.2 U	2.4	1.2	ug/m3
95-50-1	147	o-Dichlorobenzene	0.080 U	0.40	0.080	ppbv		0.48 U	2.4	0.48	ug/m3
106-46-7	147	p-Dichlorobenzene	0.20 U	0.40	0.20	ppbv		1.2 U	2.4	1.2	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.20 U	0.40	0.20	ppbv		0.91 U	1.8	0.91	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 6/MECHANICAL
Lab Sample ID: JC52053-6
Matrix: AIR - Indoor Air Comp. Summa ID: A806
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	88.4	1.0	0.40	ppbv	E	167	1.9	0.75	ug/m3
100-41-4	106.2	Ethylbenzene	0.20 U	0.40	0.20	ppbv		0.87 U	1.7	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.5	0.40	0.20	ppbv		5.4	1.4	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.20 U	0.40	0.20	ppbv		0.98 U	2.0	0.98	ug/m3
76-13-1	187.4	Freon 113	0.080 U	0.40	0.080	ppbv		0.61 U	3.1	0.61	ug/m3
76-14-2	170.9	Freon 114	0.080 U	0.40	0.080	ppbv		0.56 U	2.8	0.56	ug/m3
142-82-5	100.2	Heptane	0.54	0.40	0.20	ppbv		2.2	1.6	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.080 U	0.40	0.080	ppbv		0.85 U	4.3	0.85	ug/m3
110-54-3	86.17	Hexane	1.1	0.40	0.20	ppbv		3.9	1.4	0.70	ug/m3
591-78-6	100	2-Hexanone	0.20 U	0.40	0.20	ppbv		0.82 U	1.6	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	3.8	0.40	0.20	ppbv		9.3	0.98	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.39	0.40	0.20	ppbv	J	1.4	1.4	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.85	0.40	0.20	ppbv		2.5	1.2	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.20 U	0.40	0.20	ppbv		0.82 U	1.6	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.080 U	0.40	0.080	ppbv		0.29 U	1.4	0.29	ug/m3
80-62-6	100.12	Methylmethacrylate	0.91	0.40	0.20	ppbv		3.7	1.6	0.82	ug/m3
115-07-1	42	Propylene	0.20 U	1.0	0.20	ppbv		0.34 U	1.7	0.34	ug/m3
100-42-5	104.1	Styrene	0.20 U	0.40	0.20	ppbv		0.85 U	1.7	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.080 U	0.40	0.080	ppbv		0.44 U	2.2	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.080 U	0.40	0.080	ppbv		0.55 U	2.7	0.55	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.080 U	0.40	0.080	ppbv		0.44 U	2.2	0.44	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.20 U	0.40	0.20	ppbv		1.5 U	3.0	1.5	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.21	0.40	0.20	ppbv	J	1.0	2.0	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.20 U	0.40	0.20	ppbv		0.98 U	2.0	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.28	0.40	0.080	ppbv	J	1.3	1.9	0.37	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.51	0.40	0.20	ppbv		1.5	1.2	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.040 U	0.080	0.040	ppbv		0.27 U	0.54	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.20 U	0.40	0.20	ppbv		0.59 U	1.2	0.59	ug/m3
108-88-3	92.14	Toluene	1.4	0.40	0.20	ppbv		5.3	1.5	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	0.040 U	0.080	0.040	ppbv		0.21 U	0.43	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.43	0.40	0.080	ppbv		2.4	2.2	0.45	ug/m3
75-01-4	62.5	Vinyl chloride	0.080 U	0.40	0.080	ppbv		0.20 U	1.0	0.20	ug/m3
108-05-4	86	Vinyl Acetate	0.20 U	0.40	0.20	ppbv		0.70 U	1.4	0.70	ug/m3
	106.2	m,p-Xylene	0.60	0.40	0.20	ppbv		2.6	1.7	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.23	0.40	0.20	ppbv	J	1.0	1.7	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	0.83	0.40	0.20	ppbv		3.6	1.7	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 7/TRIP BLANK
Lab Sample ID: JC52053-7
Matrix: AIR - Trip Blank Air Summa ID: A636
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27118.D	1	10/08/17 15:18	[redacted]	n/a	n/a	V5W1067
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	0.10 U	0.20	0.10	ppbv		0.24 U	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.10 U	0.20	0.10	ppbv		0.32 U	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.10 U	0.20	0.10	ppbv		0.31 U	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.10 U	0.20	0.10	ppbv		0.21 U	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.10 U	0.20	0.10	ppbv		0.34 U	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.10 U	0.20	0.10	ppbv		0.49 U	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 7/TRIP BLANK
Lab Sample ID: JC52053-7
Matrix: AIR - Trip Blank Air Summa ID: A636
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	0.20 U	0.50	0.20	ppbv		0.38 U	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	0.10 U	0.20	0.10	ppbv		0.25 U	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.10 U	0.20	0.10	ppbv		0.35 U	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.10 U	0.20	0.10	ppbv		0.43 U	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.040 U	0.20	0.040	ppbv		0.19 U	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.10 U	0.20	0.10	ppbv		0.30 U	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.020 U	0.040	0.020	ppbv		0.14 U	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	0.10 U	0.20	0.10	ppbv		0.38 U	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 8/LOADING DOCK
Lab Sample ID: JC52053-8
Matrix: AIR - Indoor Air Comp. Summa ID: A300
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27107.D	1.6	10/07/17 21:47	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	640 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	8.3	0.20	0.10	ppbv		20	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.15	0.20	0.10	ppbv	J	0.48	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.10 U	0.20	0.10	ppbv		0.31 U	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.54	0.20	0.10	ppbv		1.1	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.10 U	0.20	0.10	ppbv		0.34 U	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.16	0.20	0.10	ppbv	J	0.58	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.48	0.20	0.10	ppbv		2.4	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 8/LOADING DOCK
Lab Sample ID: JC52053-8
Matrix: AIR - Indoor Air Comp. Summa ID: A300
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	7.7	0.50	0.20	ppbv		15	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.14	0.20	0.10	ppbv	J	0.61	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.18	0.20	0.10	ppbv	J	0.65	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.18	0.20	0.10	ppbv	J	0.63	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	0.95	0.20	0.10	ppbv		2.3	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.10 U	0.20	0.10	ppbv		0.35 U	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.64	0.20	0.10	ppbv		1.9	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.10 U	0.20	0.10	ppbv		0.43 U	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.16	0.20	0.10	ppbv	J	0.79	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.70	0.20	0.040	ppbv		3.3	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.14	0.20	0.10	ppbv	J	0.42	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.020 U	0.040	0.020	ppbv		0.14 U	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	0.95	0.20	0.10	ppbv		3.6	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.29	0.20	0.040	ppbv		1.6	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.59	0.20	0.10	ppbv		2.6	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.21	0.20	0.10	ppbv		0.91	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	0.80	0.20	0.10	ppbv		3.5	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	121%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 9/BACKGROUND
Lab Sample ID: JC52053-9
Matrix: AIR - Indoor Air Comp. Summa ID: A321
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27108.D	1.6	10/07/17 22:42	[redacted]	n/a	n/a	V5W1066
Run #2							

	Initial Volume
Run #1	640 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	7.6	0.20	0.10	ppbv		18	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	0.10 U	0.20	0.10	ppbv		0.32 U	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.10 U	0.20	0.10	ppbv		0.31 U	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.040 U	0.20	0.040	ppbv		0.18 U	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	1.5	0.20	0.10	ppbv		3.1	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.29	0.20	0.10	ppbv		1.0	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.48	0.20	0.10	ppbv		2.4	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 9/BACKGROUND
Lab Sample ID: JC52053-9
Matrix: AIR - Indoor Air Comp. Summa ID: A321
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 09/26/17
Date Received: 09/27/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	4.1	0.50	0.20	ppbv		7.7	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	0.63	0.20	0.10	ppbv		2.2	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	0.52	0.20	0.10	ppbv		1.3	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.24	0.20	0.10	ppbv		0.83	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.10 U	0.20	0.10	ppbv		0.29 U	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.10 U	0.20	0.10	ppbv		0.43 U	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.10 U	0.20	0.10	ppbv		0.49 U	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.040 U	0.20	0.040	ppbv		0.19 U	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.18	0.20	0.10	ppbv	J	0.55	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.020 U	0.040	0.020	ppbv		0.14 U	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.67	0.20	0.10	ppbv		2.0	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	0.10 U	0.20	0.10	ppbv		0.38 U	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.020 U	0.040	0.020	ppbv		0.11 U	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.20	0.20	0.040	ppbv		1.1	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	0.10 U	0.20	0.10	ppbv		0.43 U	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	113%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log
- Sample Tracking Chronicle
- Internal Chain of Custody
- 2017 MDL Study - Method: TO-15

AIR

SGS ACCUTEST

AIR CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FEDEX Tracking #: JW-09/2017/96 PAGE 1 OF 1
Lab Quote #: Lab Job #: JC52053

Client / Reporting Information

Company Name: USACE Philadelphia District
Address: [redacted]
City: Philadelphia State: PA Zip: 19107
[redacted]

Project Information

Project Name: DSCP-Sky
Street: [redacted]
City: [redacted] State: PA
Project #:
Client Purchase Order #:

Weather Conditions / Temperature

Temperature (Fahrenheit): Start 69° Maximum 85 Stop 85° Minimum 69
Atmospheric Pressure (inches of Hg): Start 30.04 Maximum 30.05 Stop 29.96 Minimum 29.96
Other weather comment:

Requested Analysis: VT015STD

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor(I) Sol. Vap(SV) Ambient(A)	Sampling Equipment Info: Canister Serial #	Canister Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure (°Hg)	Interior Temp (F)	Sampler Int.	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure (°Hg)	Interior Temp (F)	Sampler Int.	VT015STD
1 1	1 / CT	I	A1054	6L	FC245	9/26/17	0719	30.0		LF	9/26/17	1507	8.5	80	LF	X
2 2	2 / CT	I	A1151	1L	MC069	9/26/17	0744	30.0		LF	9/26/17	0749	3.0	80	LF	X
3 3	3 / Hallway	I	M168	6L	FC317	9/26/17	0659	30.0		LF	9/26/17	1456	12.5		LF	X
4 4	4 / Mens Room	I	A751	6L	FC594	9/26/17	0700	30.0		LF	9/26/17	1454	11.0		LF	X
5 5	5 / Mechanical	I	A906	6L	FC679	9/26/17	0657	29.2		LF	9/26/17	1453	14.2		LF	X
6 6	6 / Mechanical	I	A806	1L	MC127	9/26/17	0731	27.0		LF	9/26/17	0736	6.0		LF	X
7 7	7 / Trip Blank	I	A636	6L	[redacted]	9/26/17	—	—		LF	9/26/17	—	—		LF	X
8 8	8 / Loading Dock	I	A300	6L	FC615	9/26/17	0711	29.5		LF	9/26/17	1508	9.0	-	LF	X
9 9	9 / Background	I	A321	6L	MC149	9/26/17	0705	29.0		LF	9/26/17	1500	10.2	-	LF	X

Turnaround Time (Business days)

Standard - 15 Days
10 Day
5 Day
3 Day
2 Day
1 Day
Other

Approved By:
Date:

Data Deliverable Information

All NJDEP TO-15 is mandatory Full T1
Comm A
Comm B
Reduced T2
Full T1
Other:
DKQP reporting

Comments / Remarks

SUMMA

INITIAL ASESSMENT 3/4/01
LABEL VERIFICATION G6
Sample inventory is verified upon receipt in the Laboratory

Sample [redacted] samples change possession, including courier delivery.

	Date Time:	Relinquished By:	Date Time:	Received By:
[redacted]	9/27/17 1470	2		2
	9/27/17 0915	[redacted]	9-27-17 1400	[redacted]
	9-27-17 1700	Custody Seal #		

JC52053: Chain of Custody
Page 1 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC52053 **Client:** _____ **Project:** _____

Date / Time Received: 9/27/2017 5:00:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C:

Cooler Temps (Corrected) °C:

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☐		☐
2. Cooler temp verification:	N/A		
3. Cooler media:	N/A		
4. No. Coolers:	N/A		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

JC52053: Chain of Custody
Page 2 of 3

Job Change Order: JC52053

Requested Date:	10/5/2017	**Received Date:**	9/27/2017
Account Name:	USACE-Philadelphia District	**Due Date:**	10/11/2017
Project Description:	Defense Supply Center, Philadelphia, PA	**Deliverable:**	FULT1
C/O Initiated By:	[redacted] **PM:** MC	**TAT (Days):**	9

==========

Sample #: JC52053-all

Dept:

TAT:

Change:
Revise report date to 10/6. TO15 Change TAT to 9 D

==========

Above Changes Per:

Date/Time: 10/5/2017 1:04:35 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Page 1 of 1

5.1

5

JC52053: Chain of Custody
Page 3 of 3

Summa Canister and Flow Controller Log

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Received: 09/27/17

SUMMA CANISTERS

Shipping							Receiving						
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
A1054	6	29.4	09/22/17	RC	CP9367	5W26759.D	JC52053-1	10/07/17	[redacted]	7.5			1
A1151	1	29.4	09/22/17	RC	CP9378	5W26816.D	JC52053-2	10/07/17		3			1
M168	6	29.4	09/22/17	RC	CP9367	5W26759.D	JC52053-3	10/07/17		8.5		1.3	1.52
A751	6	29.4	09/22/17	RC	CP9233	3W60501.D	JC52053-4	10/07/17		10		1	1.6
A906	6	29.4	09/22/17	RC	CP9367	5W26759.D	JC52053-5	10/07/17		8.5		1.3	1.52
A806	1	29.4	09/22/17	RC	CP9373	5W26820.D	JC52053-6	10/01/17	HD	7			1
A636	6	29.4	09/22/17	RC	CP9370	5W26768.D	JC52053-7	10/01/17	HD	29.4		1	61.47
A300	6	29.4	09/22/17	RC	CP9367	5W26759.D	JC52053-8	10/07/17	[redacted]	10		1	1.6
A321	6	29.4	09/22/17	RC	CP9370	5W26768.D	JC52053-9	10/01/17	HD	10		1	1.6

FLOW CONTROLLERS / OTHER

Shipping					Receiving				
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min	Flow RPD	Equipment Type
FC245	09/22/17	RC	9.4	8	09/29/17	RC	9.4	0	Flow Controller
FC317	09/22/17	RC	9.4	8	09/29/17	RC	9.1	3.2	Flow Controller
FC594	09/22/17	RC	9.4	8	09/29/17	RC	9	4.3	Flow Controller
FC615	09/22/17	RC	9.4	8	09/29/17	RC	8.2	13.6	Flow Controller
FC679	09/22/17	RC	9.4	8	09/29/17	RC	8.8	6.6	Flow Controller
MC069	09/22/17	RC	150	.083	09/29/17	RC	158	5.2	Flow Controller
MC098	09/22/17	RC	9.4	8	09/29/17	RC	10.7	12.9	Flow Controller
MC127	09/22/17	RC	150	.083	09/29/17	RC	157	4.6	Flow Controller
MC149	09/22/17	RC	9.4	8	09/29/17	RC	9	4.3	Flow Controller

SGS Accutest Bottle Order(s):
SW-092017-196

Prep Date	Room Temp(F)	Bar Pres "Hg
09/22/17	70	29.92

Internal Sample Tracking Chronicle

USACE-Philadelphia District

Defense Supply Center, Philadelphia, PA

Job No: JC52053

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC52053-1	Collected: 26-SEP-17 15:07 By: [redacted]		Received: 27-SEP-17 By: AS			
1/CT						
JC52053-1	TO-15	07-OCT-17 13:40	[redacted]			VTO15STD
JC52053-2	Collected: 26-SEP-17 07:49 By: [redacted]		Received: 27-SEP-17 By: AS			
2/CT						
JC52053-2	TO-15	07-OCT-17 14:28	[redacted]			VTO15STD
JC52053-3	Collected: 26-SEP-17 14:56 By: [redacted]		Received: 27-SEP-17 By: AS			
3/HALLWAY						
JC52053-3	TO-15	07-OCT-17 15:22	[redacted]			VTO15STD
JC52053-4	Collected: 26-SEP-17 14:54 By: [redacted]		Received: 27-SEP-17 By: AS			
4/MENS ROOM						
JC52053-4	TO-15	07-OCT-17 18:03	[redacted]			VTO15STD
JC52053-5	Collected: 26-SEP-17 14:53 By: [redacted]		Received: 27-SEP-17 By: AS			
5/MECHANICAL						
JC52053-5	TO-15	07-OCT-17 18:57	[redacted]			VTO15STD
JC52053-6	Collected: 26-SEP-17 07:36 By: [redacted]		Received: 27-SEP-17 By: AS			
6/MECHANICAL						
JC52053-6	TO-15	07-OCT-17 19:45	[redacted]			VTO15STD
JC52053-7	Collected: 26-SEP-17 15:08 By: [redacted]		Received: 27-SEP-17 By: AS			
7/TRIP BLANK						
JC52053-7	TO-15	08-OCT-17 15:18	[redacted]			VTO15STD
JC52053-8	Collected: 26-SEP-17 15:08 By: [redacted]		Received: 27-SEP-17 By: AS			
8/LOADING DOCK						
JC52053-8	TO-15	07-OCT-17 21:47	[redacted]			VTO15STD

Internal Sample Tracking Chronicle

USACE-Philadelphia District

Defense Supply Center, Philadelphia, PA

Job No: JC52053

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC52053-9 Collected: 26-SEP-17 15:00 By: [redacted] Received: 27-SEP-17 By: AS						
9/BACKGROUND						
JC52053-9	TO-15	07-OCT-17 22:42	[redacted]			VTO15STD

SGS Accutest Internal Chain of Custody

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Received: 09/27/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC52053-1.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-2.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-3.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-4.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-5.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-6.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-7.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-8.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage
JC52053-9.1	[redacted]	Air Storage	09/29/17 00:04	Return to Storage

Accutest Laboratories Annual Method Detection Limit Determination
Dayton, NJ Facility

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
Acetone	22-Feb-17	0.2	0.24	0.24	0.23	0.23	0.22	0.28	0.25	0.24	120.58	0.02	0.06	3.21
Acrolein	10-Jan-17	0.1	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.13	129.20	0.01	0.02	5.59
Acrylonitrile	2-Feb-17	0.1	0.11	0.11	0.09	0.09	0.08	0.11	0.10	0.10	99.68	0.01	0.04	2.26
Acetonitrile	12-Jan-17	0.1	0.12	0.18	0.13	0.11	0.12	0.11	0.12	0.13	127.49	0.02	0.08	1.29
1,3-Butadiene	2-Feb-17	0.1	0.11	0.11	0.10	0.09	0.09	0.12	0.11	0.10	104.72	0.01	0.03	3.55
Benzene	2-Feb-17	0.1	0.10	0.10	0.10	0.10	0.10	0.12	0.12	0.11	104.98	0.01	0.03	3.90
Bromobenzene	2-Feb-17	0.1	0.10	0.10	0.08	0.07	0.07	0.09	0.09	0.09	86.75	0.01	0.03	2.95
Bromodichloromethane	22-Feb-17	0.2	0.19	0.22	0.21	0.20	0.20	0.20	0.19	0.20	99.79	0.01	0.03	6.90
Bromoform	10-Jan-17	0.1	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.09	93.45	0.01	0.02	5.65
Bromomethane	2-Feb-17	0.1	0.12	0.13	0.11	0.10	0.11	0.13	0.12	0.12	115.86	0.01	0.03	3.06
Bromoethene	25-Mar-17	0.04	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.03	85.36	0.01	0.02	2.57
n-Butane	12-Jan-17	0.1	0.05	0.08	0.08	0.12	0.08	0.09	0.10	0.09	85.51	0.02	0.06	1.59
Benzyl Chloride	22-Feb-17	0.2	0.13	0.13	0.12	0.11	0.12	0.13	0.12	0.12	61.87	0.01	0.02	9.43
n-Butylbenzene	13-Jan-17	0.2	0.19	0.17	0.18	0.16	0.16	0.17	0.17	0.17	86.76	0.01	0.04	5.35
sec-Butylbenzene	12-Jan-17	0.1	0.09	0.09	0.09	0.06	0.07	0.08	0.07	0.08	79.60	0.01	0.04	2.32
tert-Butylbenzene	13-Jan-17	0.2	0.22	0.20	0.21	0.18	0.18	0.20	0.18	0.20	97.73	0.02	0.05	3.85
Carbon disulfide	2-Feb-17	0.1	0.12	0.13	0.11	0.11	0.10	0.13	0.12	0.12	116.39	0.01	0.03	3.04
Chlorobenzene	2-Feb-17	0.1	0.10	0.10	0.10	0.09	0.09	0.11	0.11	0.10	100.11	0.01	0.02	5.80
Chlorodifluoromethane	2-Feb-17	0.1	0.10	0.10	0.08	0.07	0.08	0.11	0.10	0.09	91.63	0.01	0.05	2.14
Chloroethane	12-Jan-17	0.1	0.10	0.11	0.11	0.11	0.11	0.09	0.09	0.10	101.72	0.01	0.04	2.79
Chlorotrifluoroethene	12-Jan-17	0.1	0.09	0.12	0.10	0.10	0.06	0.10	0.09	0.09	93.25	0.02	0.05	1.86
Chloroform	22-Feb-17	0.2	0.19	0.21	0.21	0.20	0.20	0.21	0.19	0.20	100.76	0.01	0.03	6.42
Chloromethane	2-Feb-17	0.1	0.13	0.13	0.09	0.09	0.10	0.14	0.13	0.11	114.59	0.02	0.06	1.54
3-Chloropropene	2-Feb-17	0.1	0.10	0.10	0.08	0.08	0.09	0.11	0.11	0.10	96.67	0.01	0.04	2.71
2-Chlorotoluene	12-Jan-17	0.1	0.09	0.10	0.10	0.07	0.07	0.08	0.08	0.08	84.26	0.01	0.04	2.77
Carbon tetrachloride	12-Jan-17	0.1	0.10	0.11	0.10	0.10	0.10	0.10	0.09	0.10	100.95	0.01	0.02	5.00
Cyclohexane	2-Feb-17	0.1	0.08	0.09	0.10	0.10	0.09	0.11	0.11	0.10	96.71	0.01	0.04	2.83
1,1-Dichloroethane	12-Jan-17	0.1	0.10	0.12	0.11	0.09	0.09	0.09	0.09	0.10	97.36	0.01	0.03	3.06
1,1-Dichloroethylene	12-Jan-17	0.1	0.10	0.12	0.10	0.09	0.09	0.10	0.09	0.10	97.89	0.01	0.03	3.04
1,2-Dibromoethane	2-Feb-17	0.1	0.10	0.10	0.09	0.09	0.09	0.11	0.11	0.10	98.49	0.01	0.02	4.54
1,2-Dichloroethane	12-Jan-17	0.1	0.10	0.12	0.11	0.09	0.10	0.10	0.10	0.10	101.13	0.01	0.03	3.79

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
1,2-Dichloropropane	12-Jan-17	0.1	0.10	0.11	0.10	0.09	0.09	0.09	0.08	0.10	95.24	0.01	0.03	3.07
1,3-Dichloropropane	12-Jan-17	0.1	0.10	0.11	0.10	0.09	0.08	0.09	0.08	0.09	92.27	0.01	0.03	3.31
1,4-Dioxane	2-Feb-17	0.1	0.09	0.08	0.08	0.08	0.08	0.11	0.11	0.09	91.26	0.02	0.05	2.12
Dichlorodifluoromethane	10-Jan-17	0.1	0.11	0.12	0.12	0.12	0.13	0.13	0.13	0.12	122.78	0.01	0.03	3.93
Dichlorofluoromethane	12-Jan-17	0.1	0.10	0.12	0.10	0.11	0.11	0.09	0.10	0.10	102.56	0.01	0.03	3.49
Dibromochloromethane	12-Jan-17	0.1	0.10	0.11	0.10	0.09	0.09	0.10	0.09	0.10	96.01	0.01	0.03	4.01
Dibromomethane	24-Feb-17	0.04	0.05	0.04	0.04	0.06	0.04	0.06	0.04	0.05	122.92	0.01	0.03	1.29
trans-1,2-Dichloroethylene	2-Feb-17	0.1	0.10	0.10	0.11	0.10	0.10	0.12	0.11	0.11	107.38	0.01	0.03	3.91
cis-1,2-Dichloroethylene	24-Feb-17	0.04	0.07	0.07	0.09	0.06	0.08	0.06	0.06	0.07	175.56	0.01	0.03	1.19
cis-1,3-Dichloropropene	2-Feb-17	0.1	0.09	0.10	0.09	0.09	0.09	0.11	0.10	0.09	94.65	0.01	0.02	4.31
m-Dichlorobenzene	2-Feb-17	0.1	0.08	0.08	0.07	0.06	0.06	0.08	0.08	0.07	73.37	0.01	0.03	3.45
o-Dichlorobenzene	2-Feb-17	0.1	0.08	0.07	0.06	0.06	0.06	0.07	0.08	0.07	68.43	0.01	0.03	3.61
p-Dichlorobenzene	22-Feb-17	0.2	0.15	0.16	0.15	0.14	0.14	0.17	0.15	0.15	75.53	0.01	0.03	6.87
trans-1,3-Dichloropropene	12-Jan-17	0.1	0.09	0.10	0.09	0.07	0.07	0.08	0.08	0.08	82.63	0.01	0.03	3.42
Di-Isopropyl ether	24-Feb-17	0.04	0.05	0.05	0.05	0.07	0.04	0.06	0.04	0.05	126.34	0.01	0.04	1.06
2,3-Dimethylpentane	12-Jan-17	0.1	0.08	0.10	0.08	0.07	0.07	0.07	0.06	0.08	76.97	0.01	0.05	2.18
2,4-Dimethylpentane	2-Feb-17	0.1	0.08	0.09	0.10	0.09	0.09	0.11	0.11	0.10	96.32	0.01	0.04	2.76
Ethanol	2-Feb-17	0.1	0.21	0.21	0.18	0.18	0.17	0.25	0.23	0.20	204.64	0.03	0.10	1.05
Ethylbenzene	11-Jan-17	0.2	0.18	0.19	0.18	0.18	0.19	0.19	0.17	0.18	91.30	0.01	0.02	8.82
Ethyl Acetate	2-Feb-17	0.1	0.10	0.09	0.07	0.07	0.04	0.09	0.07	0.08	75.89	0.02	0.06	1.54
Ethyl Acrylate	12-Jan-17	0.1	0.08	0.09	0.08	0.05	0.06	0.06	0.06	0.07	68.56	0.01	0.05	2.19
4-Ethyltoluene	2-Feb-17	0.1	0.07	0.06	0.06	0.06	0.05	0.07	0.08	0.06	63.21	0.01	0.03	3.62
Freon 113	11-Jan-17	0.2	0.19	0.21	0.20	0.19	0.20	0.18	0.20	0.20	98.13	0.01	0.02	8.34
Freon 114	12-Jan-17	0.1	0.10	0.11	0.10	0.11	0.11	0.09	0.11	0.10	104.50	0.01	0.02	4.12
Freon 123	2-Feb-17	0.1	0.11	0.12	0.10	0.10	0.10	0.12	0.12	0.11	107.53	0.01	0.03	3.34
Freon 123A	12-Jan-17	0.1	0.20	0.22	0.20	0.20	0.19	0.20	0.19	0.20	200.27	0.01	0.03	2.98
Freon 141B	12-Jan-17	0.1	0.10	0.12	0.11	0.10	0.09	0.10	0.10	0.10	102.42	0.01	0.03	3.31
Freon 142B	12-Jan-17	0.1	0.10	0.12	0.11	0.12	0.12	0.10	0.11	0.11	111.00	0.01	0.02	5.40
Freon 143a	12-Jan-17	0.1	0.12	0.14	0.12	0.13	0.12	0.10	0.12	0.12	120.79	0.01	0.04	2.49
Freon 152A	12-Jan-17	0.1	0.10	0.12	0.11	0.11	0.10	0.11	0.09	0.11	105.44	0.01	0.03	3.98
Heptane	12-Jan-17	0.1	0.08	0.10	0.09	0.06	0.06	0.07	0.06	0.07	74.68	0.01	0.05	2.18
Hexachlorobutadiene	25-Mar-17	0.04	0.03	0.03	0.03	0.04	0.05	0.03	0.04	0.04	90.89	0.01	0.02	1.66
Hexachloroethane	2-Feb-17	0.1	0.10	0.10	0.09	0.09	0.09	0.10	0.11	0.09	94.91	0.01	0.03	3.90
Hexane	2-Feb-17	0.1	0.09	0.10	0.10	0.10	0.10	0.12	0.11	0.10	102.70	0.01	0.03	3.79

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
2-Hexanone	12-Jan-17	0.1	0.06	0.07	0.07	0.04	0.05	0.05	0.04	0.05	53.21	0.01	0.04	2.44
Iodomethane	2-Feb-17	0.1	0.10	0.10	0.10	0.10	0.11	0.12	0.11	0.11	105.14	0.01	0.02	4.38
Isopropylbenzene	12-Jan-17	0.1	0.10	0.10	0.10	0.08	0.08	0.09	0.08	0.09	89.58	0.01	0.04	2.82
Isopropyl Alcohol	12-Jan-17	0.1	0.20	0.21	0.21	0.15	0.15	0.16	0.14	0.18	175.77	0.03	0.09	1.11
p-Isopropyltoluene	12-Jan-17	0.1	0.09	0.10	0.09	0.07	0.06	0.08	0.06	0.08	78.32	0.02	0.05	1.93
Methylene chloride	22-Feb-17	0.2	0.22	0.23	0.23	0.21	0.21	0.24	0.22	0.22	111.82	0.01	0.03	6.11
Methyl ethyl ketone	22-Feb-17	0.2	0.18	0.19	0.18	0.17	0.17	0.21	0.20	0.19	92.99	0.01	0.04	4.64
Methyl Isobutyl Ketone	12-Jan-17	0.1	0.08	0.09	0.08	0.05	0.05	0.05	0.04	0.06	63.11	0.02	0.06	1.75
Methyl Tert Butyl Ether	10-Jan-17	0.1	0.10	0.11	0.10	0.10	0.11	0.11	0.11	0.11	106.21	0.01	0.02	5.33
Methylmethacrylate	12-Jan-17	0.1	0.08	0.09	0.08	0.05	0.05	0.06	0.06	0.07	67.70	0.01	0.04	2.26
Naphthalene	13-Jan-17	0.2	0.15	0.15	0.16	0.13	0.13	0.14	0.13	0.14	70.00	0.01	0.04	4.84
Nonane	12-Jan-17	0.1	0.09	0.10	0.09	0.06	0.06	0.07	0.07	0.08	78.16	0.02	0.06	1.69
Octane	12-Jan-17	0.1	0.09	0.10	0.09	0.05	0.05	0.07	0.06	0.07	73.61	0.02	0.06	1.64
Pentane	2-Feb-17	0.1	0.12	0.15	0.10	0.11	0.11	0.15	0.10	0.12	120.03	0.02	0.06	1.59
n-Propylbenzene	12-Jan-17	0.1	0.09	0.10	0.09	0.07	0.06	0.08	0.07	0.08	78.45	0.02	0.05	2.03
Propylene	2-Feb-17	0.1	0.12	0.13	0.12	0.12	0.12	0.16	0.15	0.13	130.63	0.02	0.06	1.71
Styrene	13-Jan-17	0.2	0.20	0.18	0.18	0.16	0.16	0.18	0.16	0.17	87.19	0.01	0.05	4.38
1,1,1-Trichloroethane	2-Feb-17	0.1	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.10	103.96	0.01	0.02	5.84
1,1,1,2-Tetrachloroethane	12-Jan-17	0.1	0.10	0.11	0.10	0.10	0.10	0.10	0.10	0.10	100.19	0.01	0.02	5.85
1,1,2,2-Tetrachloroethane	2-Feb-17	0.1	0.11	0.10	0.09	0.08	0.08	0.10	0.10	0.09	94.21	0.01	0.04	2.77
1,1,2-Trichloroethane	10-Jan-17	0.1	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.10	101.79	0.01	0.02	4.55
1,2,4-Trichlorobenzene	13-Jan-17	0.2	0.15	0.14	0.14	0.12	0.12	0.13	0.11	0.13	65.06	0.01	0.04	5.20
1,2,3-Trichloropropane	2-Feb-17	0.1	0.10	0.10	0.08	0.08	0.08	0.10	0.10	0.09	91.72	0.01	0.03	2.90
1,2,4-Trimethylbenzene	12-Jan-17	0.1	0.10	0.10	0.09	0.06	0.06	0.08	0.07	0.08	80.69	0.02	0.05	1.95
1,3,5-Trimethylbenzene	22-Feb-17	0.2	0.17	0.16	0.15	0.16	0.16	0.17	0.17	0.16	81.28	0.01	0.03	6.63
2,2,4-Trimethylpentane	22-Feb-17	0.2	0.19	0.19	0.18	0.18	0.18	0.20	0.19	0.19	93.70	0.01	0.03	7.58
Tertiary Butyl Alcohol	2-Feb-17	0.1	0.10	0.10	0.09	0.09	0.09	0.11	0.11	0.10	100.82	0.01	0.03	3.79
Tetrachloroethylene	22-Feb-17	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	110.27	0.01	0.02	2.45
Tetrahydrofuran	12-Jan-17	0.1	0.08	0.09	0.08	0.06	0.06	0.07	0.06	0.07	68.70	0.01	0.05	2.21
Toluene	2-Feb-17	0.1	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.09	89.77	0.01	0.03	3.48
Trichloroethylene	10-Jan-17	0.1	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.10	102.21	0.00	0.01	8.50
Trichlorofluoromethane	11-Jan-17	0.2	0.22	0.23	0.22	0.23	0.22	0.22	0.23	0.22	111.84	0.00	0.02	13.36
Vinyl chloride	24-Feb-17	0.04	0.06	0.06	0.06	0.08	0.06	0.08	0.05	0.06	155.76	0.01	0.04	1.05
Vinyl Acetate	2-Feb-17	0.1	0.09	0.08	0.07	0.08	0.07	0.09	0.08	0.08	80.90	0.01	0.03	3.66

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
m,p-Xylene	24-Feb-17	0.08	0.11	0.07	0.08	0.10	0.06	0.11	0.07	0.08	105.33	0.02	0.07	1.19
o-Xylene	2-Feb-17	0.1	0.07	0.08	0.08	0.08	0.07	0.10	0.10	0.08	82.27	0.01	0.04	2.86
TVHC As Equiv Pentane	12-Jan-17	0.1	0.12	0.12	0.10	0.10	0.12	0.08	0.08	0.10	103.66	0.02	0.06	1.69
4-Bromofluorobenzene	12-Jan-17	0.1	9.92	9.98	9.97	10.15	10.13	10.33	10.11	10.08	10084.46	0.14	0.44	0.23

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Detection limits derived using the method described in 40 CFR Part 136, Appendix B

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Initial Calibration RT/ISTD Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1066-MB	5W27097.D	1	10/07/17	[redacted]	n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1066-MB	5W27097.D	1	10/07/17	[redacted]	n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1066-MB	5W27097.D	1	10/07/17	[redacted]	n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	101%	65-128%

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1067-MB	5W27116.D	1	10/08/17	[redacted]	n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1067-MB	5W27116.D	1	10/08/17	[redacted]	n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1067-MB	5W27116.D	1	10/08/17	[redacted]	n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	101%	65-128%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	3.88	48	ppbv	JN
	Total TIC, Volatile		0	ppbv	

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JC52053

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-MB	3W60494.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-MB	3W60494.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-MB	3W60494.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	84%	65-128%

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-MB	5W26746.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051

The QC reported here applies to the following samples: **Method:** TO-15

V5W1051-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-MB	5W26746.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051

The QC reported here applies to the following samples: **Method:** TO-15

V5W1051-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-MB	5W26746.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051

The QC reported here applies to the following samples: **Method:** TO-15

V5W1051-SCC

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	65-128%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	3.86	80	ppbv	JN
	Total TIC, Volatile		0	ppbv	

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-MB	5W26802.D	1	09/21/17	[redacted]	n/a	n/a	V5W1053

The QC reported here applies to the following samples: **Method:** TO-15

V5W1053-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-MB	5W26802.D	1	09/21/17	[redacted]	n/a	n/a	V5W1053

The QC reported here applies to the following samples: **Method:** TO-15

V5W1053-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep [redacted]	Analytical Batch
V5W1053-MB	5W26802.D	1	09/21/17	[redacted]	n/a	n/a	V5W1053

The QC reported here applies to the following samples: **Method:** TO-15

V5W1053-SCC

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	96%	65-128%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1066-BS	5W27094.D	1	10/07/17	[redacted]	n/a	n/a	V5W1066
V5W1066-BSD	5W27095.D	1	10/07/17		n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	8.8	88	8.6	86	2	70-130/30
106-99-0	1,3-Butadiene	10	9.6	96	9.6	96	0	70-130/30
71-43-2	Benzene	10	9.1	91	9.2	92	1	70-130/30
75-27-4	Bromodichloromethane	10	9.3	93	9.3	93	0	70-130/30
75-25-2	Bromoform	10	10.9	109	10.2	102	7	70-130/30
74-83-9	Bromomethane	10	8.7	87	8.5	85	2	70-130/30
593-60-2	Bromoethene	10	9.8	98	9.6	96	2	70-130/30
100-44-7	Benzyl Chloride	10	11.3	113	10.1	101	11	70-130/30
75-15-0	Carbon disulfide	10	10.0	100	9.9	99	1	70-130/30
108-90-7	Chlorobenzene	10	9.4	94	8.9	89	5	70-130/30
75-00-3	Chloroethane	10	9.7	97	9.5	95	2	70-130/30
67-66-3	Chloroform	10	9.4	94	9.3	93	1	70-130/30
74-87-3	Chloromethane	10	9.5	95	9.6	96	1	70-130/30
107-05-1	3-Chloropropene	10	10.1	101	10	100	1	70-130/30
95-49-8	2-Chlorotoluene	10	10.4	104	9.4	94	10	70-130/30
56-23-5	Carbon tetrachloride	10	10	100	9.8	98	2	70-130/30
110-82-7	Cyclohexane	10	9.9	99	9.7	97	2	70-130/30
75-34-3	1,1-Dichloroethane	10	9.8	98	9.6	96	2	70-130/30
75-35-4	1,1-Dichloroethylene	10	10.0	100	9.8	98	2	70-130/30
106-93-4	1,2-Dibromoethane	10	9.0	90	9.2	92	2	70-130/30
107-06-2	1,2-Dichloroethane	10	9.5	95	9.5	95	0	70-130/30
78-87-5	1,2-Dichloropropane	10	9.5	95	9.5	95	0	70-130/30
123-91-1	1,4-Dioxane	10	10.4	104	10.1	101	3	70-130/30
75-71-8	Dichlorodifluoromethane	10	9.9	99	9.7	97	2	70-130/30
124-48-1	Dibromochloromethane	10	8.8	88	9.0	90	2	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	10	100	9.8	98	2	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	9.8	98	9.7	97	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	9.7	97	9.7	97	0	70-130/30
541-73-1	m-Dichlorobenzene	10	10	100	9.0	90	11	70-130/30
95-50-1	o-Dichlorobenzene	10	9.7	97	8.8	88	10	70-130/30
106-46-7	p-Dichlorobenzene	10	9.8	98	8.9	89	10	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	10.1	101	10.1	101	0	70-130/30
64-17-5	Ethanol	10	8.9	89	8.7	87	2	70-130/30
100-41-4	Ethylbenzene	10	10.3	103	9.6	96	7	70-130/30
141-78-6	Ethyl Acetate	10	10.6	106	10.5	105	1	70-130/30
622-96-8	4-Ethyltoluene	10	10.1	101	9.1	91	10	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1066-BS	5W27094.D	1	10/07/17	[redacted]	n/a	n/a	V5W1066
V5W1066-BSD	5W27095.D	1	10/07/17		n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	9.9	99	9.7	97	2	70-130/30
76-14-2	Freon 114	10	9.8	98	9.8	98	0	70-130/30
142-82-5	Heptane	10	10.3	103	10.1	101	2	70-130/30
87-68-3	Hexachlorobutadiene	10	8.1	81	7.0	70	15	70-130/30
110-54-3	Hexane	10	10	100	9.9	99	1	70-130/30
591-78-6	2-Hexanone	10	12.0	120	11.5	115	4	70-130/30
67-63-0	Isopropyl Alcohol	10	7.3	73	7.2	72	1	70-130/30
75-09-2	Methylene chloride	10	8.6	86	8.5	85	1	70-130/30
78-93-3	Methyl ethyl ketone	10	10.4	104	10.1	101	3	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	11.3	113	10.9	109	4	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	10.1	101	9.9	99	2	70-130/30
80-62-6	Methylmethacrylate	10	10.7	107	10.3	103	4	70-130/30
115-07-1	Propylene	10	9.5	95	9.5	95	0	70-130/30
100-42-5	Styrene	10	10.8	108	9.8	98	10	70-130/30
71-55-6	1,1,1-Trichloroethane	10	9.5	95	9.5	95	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	10.0	100	9.1	91	9	70-130/30
79-00-5	1,1,2-Trichloroethane	10	9.2	92	9.3	93	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	11.9	119	10.4	104	13	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	9.8	98	8.8	88	11	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	9.8	98	8.7	87	12	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	10.3	103	10	100	3	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	9.0	90	8.8	88	2	70-130/30
127-18-4	Tetrachloroethylene	10	8.4	84	8.5	85	1	70-130/30
109-99-9	Tetrahydrofuran	10	10.7	107	10.6	106	1	70-130/30
108-88-3	Toluene	10	9.1	91	9.3	93	2	70-130/30
79-01-6	Trichloroethylene	10	9.5	95	9.4	94	1	70-130/30
75-69-4	Trichlorofluoromethane	10	9.6	96	9.4	94	2	70-130/30
75-01-4	Vinyl chloride	10	10.0	100	10.1	101	1	70-130/30
108-05-4	Vinyl Acetate	10	9.4	94	9.2	92	2	70-130/30
	m,p-Xylene	20	20.9	105	19.1	96	9	70-130/30
95-47-6	o-Xylene	10	10.6	106	9.7	97	9	70-130/30
1330-20-7	Xylenes (total)	30	31.5	105	28.7	96	9	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1066-BS	5W27094.D	1	10/07/17	[redacted]	n/a	n/a	V5W1066
V5W1066-BSD	5W27095.D	1	10/07/17		n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	119%	111%	65-128%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1067-BS	5W27113.D	1	10/08/17	[redacted]	n/a	n/a	V5W1067
V5W1067-BSD	5W27114.D	1	10/08/17		n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	9.3	93	9.6	96	3	70-130/30
106-99-0	1,3-Butadiene	10	9.9	99	10.2	102	3	70-130/30
71-43-2	Benzene	10	9.4	94	9.5	95	1	70-130/30
75-27-4	Bromodichloromethane	10	9.6	96	9.7	97	1	70-130/30
75-25-2	Bromoform	10	9.9	99	9.9	99	0	70-130/30
74-83-9	Bromomethane	10	9.0	90	9.2	92	2	70-130/30
593-60-2	Bromoethene	10	10.1	101	10.2	102	1	70-130/30
100-44-7	Benzyl Chloride	10	10.8	108	10.9	109	1	70-130/30
75-15-0	Carbon disulfide	10	10	100	10.1	101	1	70-130/30
108-90-7	Chlorobenzene	10	8.8	88	8.9	89	1	70-130/30
75-00-3	Chloroethane	10	10.1	101	10.5	105	4	70-130/30
67-66-3	Chloroform	10	9.5	95	9.6	96	1	70-130/30
74-87-3	Chloromethane	10	9.4	94	10.4	104	10	70-130/30
107-05-1	3-Chloropropene	10	10.0	100	10.1	101	1	70-130/30
95-49-8	2-Chlorotoluene	10	9.7	97	9.8	98	1	70-130/30
56-23-5	Carbon tetrachloride	10	10	100	10.0	100	0	70-130/30
110-82-7	Cyclohexane	10	10	100	10.1	101	1	70-130/30
75-34-3	1,1-Dichloroethane	10	9.7	97	9.9	99	2	70-130/30
75-35-4	1,1-Dichloroethylene	10	10.0	100	10.2	102	2	70-130/30
106-93-4	1,2-Dibromoethane	10	9.1	91	9.2	92	1	70-130/30
107-06-2	1,2-Dichloroethane	10	9.8	98	9.9	99	1	70-130/30
78-87-5	1,2-Dichloropropane	10	9.8	98	10.0	100	2	70-130/30
123-91-1	1,4-Dioxane	10	10.0	100	10.1	101	1	70-130/30
75-71-8	Dichlorodifluoromethane	10	9.9	99	9.9	99	0	70-130/30
124-48-1	Dibromochloromethane	10	9.0	90	9.1	91	1	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	10.0	100	10.2	102	2	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	10	100	10.0	100	0	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	9.8	98	9.9	99	1	70-130/30
541-73-1	m-Dichlorobenzene	10	9.4	94	9.5	95	1	70-130/30
95-50-1	o-Dichlorobenzene	10	9.0	90	9.3	93	3	70-130/30
106-46-7	p-Dichlorobenzene	10	9.1	91	9.2	92	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	9.9	99	10.1	101	2	70-130/30
64-17-5	Ethanol	10	9.2	92	9.5	95	3	70-130/30
100-41-4	Ethylbenzene	10	9.7	97	9.8	98	1	70-130/30
141-78-6	Ethyl Acetate	10	10.6	106	10.9	109	3	70-130/30
622-96-8	4-Ethyltoluene	10	9.5	95	9.6	96	1	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1067-BS	5W27113.D	1	10/08/17	[redacted]	n/a	n/a	V5W1067
V5W1067-BSD	5W27114.D	1	10/08/17		n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	9.7	97	9.8	98	1	70-130/30
76-14-2	Freon 114	10	9.6	96	10.2	102	6	70-130/30
142-82-5	Heptane	10	10.2	102	10.6	106	4	70-130/30
87-68-3	Hexachlorobutadiene	10	7.4	74	7.5	75	1	70-130/30
110-54-3	Hexane	10	10.2	102	10.3	103	1	70-130/30
591-78-6	2-Hexanone	10	11.9	119	12.1	121	2	70-130/30
67-63-0	Isopropyl Alcohol	10	9.6	96	8.1	81	17	70-130/30
75-09-2	Methylene chloride	10	8.5	85	8.6	86	1	70-130/30
78-93-3	Methyl ethyl ketone	10	10.2	102	10.4	104	2	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	11.1	111	11.4	114	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	9.9	99	10.0	100	1	70-130/30
80-62-6	Methylmethacrylate	10	10.4	104	10.7	107	3	70-130/30
115-07-1	Propylene	10	9.8	98	10.1	101	3	70-130/30
100-42-5	Styrene	10	10.0	100	10.2	102	2	70-130/30
71-55-6	1,1,1-Trichloroethane	10	9.6	96	9.6	96	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	9.7	97	9.9	99	2	70-130/30
79-00-5	1,1,2-Trichloroethane	10	9.3	93	9.4	94	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	11.2	112	11.0	110	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	9.3	93	9.6	96	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	9.2	92	9.3	93	1	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	10.3	103	10.5	105	2	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	8.9	89	9.0	90	1	70-130/30
127-18-4	Tetrachloroethylene	10	8.4	84	8.5	85	1	70-130/30
109-99-9	Tetrahydrofuran	10	10.5	105	10.7	107	2	70-130/30
108-88-3	Toluene	10	9.4	94	9.4	94	0	70-130/30
79-01-6	Trichloroethylene	10	9.6	96	9.7	97	1	70-130/30
75-69-4	Trichlorofluoromethane	10	10	100	10.1	101	1	70-130/30
75-01-4	Vinyl chloride	10	9.9	99	10.7	107	8	70-130/30
108-05-4	Vinyl Acetate	10	9.5	95	9.7	97	2	70-130/30
	m,p-Xylene	20	19.5	98	19.8	99	2	70-130/30
95-47-6	o-Xylene	10	9.9	99	10.1	101	2	70-130/30
1330-20-7	Xylenes (total)	30	29.4	98	29.9	100	2	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1067-BS	5W27113.D	1	10/08/17	[redacted]	n/a	n/a	V5W1067
V5W1067-BSD	5W27114.D	1	10/08/17		n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	116%	117%	65-128%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-BS	3W60489.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298
V3W2298-BSD	3W60490.D	1	06/27/17		n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	9.1	91	8.9	89	2	70-130/30
106-99-0	1,3-Butadiene	10	10.0	100	10.2	102	2	70-130/30
71-43-2	Benzene	10	10.4	104	10.5	105	1	70-130/30
75-27-4	Bromodichloromethane	10	10.6	106	10.4	104	2	70-130/30
75-25-2	Bromoform	10	12.0	120	11.8	118	2	70-130/30
74-83-9	Bromomethane	10	9.5	95	9.3	93	2	70-130/30
593-60-2	Bromoethene	10	9.8	98	9.7	97	1	70-130/30
100-44-7	Benzyl Chloride	10	12.2	122	12.0	120	2	70-130/30
75-15-0	Carbon disulfide	10	9.9	99	9.9	99	0	70-130/30
108-90-7	Chlorobenzene	10	10.7	107	10.5	105	2	70-130/30
75-00-3	Chloroethane	10	10.5	105	10.4	104	1	70-130/30
67-66-3	Chloroform	10	10.3	103	10.1	101	2	70-130/30
74-87-3	Chloromethane	10	10.5	105	10.6	106	1	70-130/30
107-05-1	3-Chloropropene	10	11.5	115	11.2	112	3	70-130/30
95-49-8	2-Chlorotoluene	10	11.5	115	11.3	113	2	70-130/30
56-23-5	Carbon tetrachloride	10	11.2	112	11.0	110	2	70-130/30
110-82-7	Cyclohexane	10	10.8	108	11.1	111	3	70-130/30
75-34-3	1,1-Dichloroethane	10	10.8	108	10.5	105	3	70-130/30
75-35-4	1,1-Dichloroethylene	10	9.2	92	9.1	91	1	70-130/30
106-93-4	1,2-Dibromoethane	10	10.8	108	10.0	100	8	70-130/30
107-06-2	1,2-Dichloroethane	10	10.4	104	10.0	100	4	70-130/30
78-87-5	1,2-Dichloropropane	10	10.5	105	10.4	104	1	70-130/30
123-91-1	1,4-Dioxane	10	12.9	129	12.8	128	1	70-130/30
75-71-8	Dichlorodifluoromethane	10	10.3	103	10.3	103	0	70-130/30
124-48-1	Dibromochloromethane	10	11.5	115	10.9	109	5	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	9.4	94	9.2	92	2	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	10.4	104	10.3	103	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	12.0	120	11.5	115	4	70-130/30
541-73-1	m-Dichlorobenzene	10	11.3	113	11.1	111	2	70-130/30
95-50-1	o-Dichlorobenzene	10	11.1	111	10.9	109	2	70-130/30
106-46-7	p-Dichlorobenzene	10	10.9	109	10.6	106	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	11.2	112	10.7	107	5	70-130/30
64-17-5	Ethanol	10	12.0	120	11.7	117	3	70-130/30
100-41-4	Ethylbenzene	10	10.8	108	10.7	107	1	70-130/30
141-78-6	Ethyl Acetate	10	10.8	108	11.2	112	4	70-130/30
622-96-8	4-Ethyltoluene	10	11.8	118	11.7	117	1	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-BS	3W60489.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298
V3W2298-BSD	3W60490.D	1	06/27/17		n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	10.1	101	10.1	101	0	70-130/30
76-14-2	Freon 114	10	11.2	112	11.1	111	1	70-130/30
142-82-5	Heptane	10	10.0	100	9.9	99	1	70-130/30
87-68-3	Hexachlorobutadiene	10	10.4	104	10.3	103	1	70-130/30
110-54-3	Hexane	10	10.2	102	10.6	106	4	70-130/30
591-78-6	2-Hexanone	10	10.8	108	10	100	8	70-130/30
67-63-0	Isopropyl Alcohol	10	8.8	88	8.1	81	8	70-130/30
75-09-2	Methylene chloride	10	9.7	97	9.5	95	2	70-130/30
78-93-3	Methyl ethyl ketone	10	10.4	104	10.4	104	0	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	10.5	105	10.4	104	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	10.9	109	10.3	103	6	70-130/30
80-62-6	Methylmethacrylate	10	10.4	104	10.4	104	0	70-130/30
115-07-1	Propylene	10	10.7	107	10.9	109	2	70-130/30
100-42-5	Styrene	10	11.3	113	11.1	111	2	70-130/30
71-55-6	1,1,1-Trichloroethane	10	11.1	111	10.8	108	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	10.8	108	10.7	107	1	70-130/30
79-00-5	1,1,2-Trichloroethane	10	10.8	108	10.6	106	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	9.2	92	8.9	89	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	11.8	118	11.7	117	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	11.4	114	11.3	113	1	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	10.3	103	10.2	102	1	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	10.5	105	10.1	101	4	70-130/30
127-18-4	Tetrachloroethylene	10	10	100	9.7	97	3	70-130/30
109-99-9	Tetrahydrofuran	10	11.4	114	11.0	110	4	70-130/30
108-88-3	Toluene	10	11.4	114	10.7	107	6	70-130/30
79-01-6	Trichloroethylene	10	10.6	106	10.5	105	1	70-130/30
75-69-4	Trichlorofluoromethane	10	10.4	104	10.3	103	1	70-130/30
75-01-4	Vinyl chloride	10	10.9	109	10.7	107	2	70-130/30
108-05-4	Vinyl Acetate	10	13.2	132* [a]	13.0	130	2	70-130/30
	m,p-Xylene	20	21.9	110	21.6	108	1	70-130/30
95-47-6	o-Xylene	10	10.9	109	10.9	109	0	70-130/30
1330-20-7	Xylenes (total)	30	32.8	109	32.4	108	1	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-BS	3W60489.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298
V3W2298-BSD	3W60490.D	1	06/27/17		n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	105%	105%	65-128%

(a) High percent recoveries and no associated positive reported in the QC batch.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-BS	5W26743.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051
V5W1051-BSD	5W26744.D	1	09/19/17		n/a	n/a	V5W1051

The QC reported here applies to the following samples: **Method:** TO-15

V5W1051-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	9.9	99	9.6	96	3	70-130/30
106-99-0	1,3-Butadiene	10	10.6	106	10.1	101	5	70-130/30
71-43-2	Benzene	10	8.6	86	8.6	86	0	70-130/30
75-27-4	Bromodichloromethane	10	10.6	106	10.6	106	0	70-130/30
75-25-2	Bromoform	10	12.0	120	11.9	119	1	70-130/30
74-83-9	Bromomethane	10	9.7	97	9.2	92	5	70-130/30
593-60-2	Bromoethene	10	9.9	99	9.8	98	1	70-130/30
100-44-7	Benzyl Chloride	10	11.9	119	12.0	120	1	70-130/30
75-15-0	Carbon disulfide	10	9.7	97	9.6	96	1	70-130/30
108-90-7	Chlorobenzene	10	9.2	92	9.2	92	0	70-130/30
75-00-3	Chloroethane	10	10.3	103	10.0	100	3	70-130/30
67-66-3	Chloroform	10	9.6	96	9.6	96	0	70-130/30
74-87-3	Chloromethane	10	10.5	105	9.8	98	7	70-130/30
107-05-1	3-Chloropropene	10	9.1	91	9.1	91	0	70-130/30
95-49-8	2-Chlorotoluene	10	9.8	98	9.8	98	0	70-130/30
56-23-5	Carbon tetrachloride	10	10.6	106	10.6	106	0	70-130/30
110-82-7	Cyclohexane	10	8.4	84	8.3	83	1	70-130/30
75-34-3	1,1-Dichloroethane	10	9.3	93	9.3	93	0	70-130/30
75-35-4	1,1-Dichloroethylene	10	9.8	98	9.8	98	0	70-130/30
106-93-4	1,2-Dibromoethane	10	9.7	97	9.8	98	1	70-130/30
107-06-2	1,2-Dichloroethane	10	10.6	106	10.5	105	1	70-130/30
78-87-5	1,2-Dichloropropane	10	9.5	95	9.5	95	0	70-130/30
123-91-1	1,4-Dioxane	10	9.8	98	9.8	98	0	70-130/30
75-71-8	Dichlorodifluoromethane	10	10.6	106	10.1	101	5	70-130/30
124-48-1	Dibromochloromethane	10	10.7	107	10.9	109	2	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	9.2	92	9.2	92	0	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	9.1	91	9.1	91	0	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	9.2	92	9.3	93	1	70-130/30
541-73-1	m-Dichlorobenzene	10	10.3	103	10.4	104	1	70-130/30
95-50-1	o-Dichlorobenzene	10	9.9	99	10.0	100	1	70-130/30
106-46-7	p-Dichlorobenzene	10	10.2	102	10.4	104	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	10.0	100	10.0	100	0	70-130/30
64-17-5	Ethanol	10	10	100	9.7	97	3	70-130/30
100-41-4	Ethylbenzene	10	9.1	91	9.1	91	0	70-130/30
141-78-6	Ethyl Acetate	10	10.0	100	9.9	99	1	70-130/30
622-96-8	4-Ethyltoluene	10	9.7	97	9.7	97	0	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-BS	5W26743.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051
V5W1051-BSD	5W26744.D	1	09/19/17		n/a	n/a	V5W1051

The QC reported here applies to the following samples: **Method:** TO-15

V5W1051-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	9.7	97	9.6	96	1	70-130/30
76-14-2	Freon 114	10	10.6	106	10.1	101	5	70-130/30
142-82-5	Heptane	10	8.9	89	9.0	90	1	70-130/30
87-68-3	Hexachlorobutadiene	10	8.9	89	9.0	90	1	70-130/30
110-54-3	Hexane	10	8.8	88	8.8	88	0	70-130/30
591-78-6	2-Hexanone	10	10.9	109	10.9	109	0	70-130/30
67-63-0	Isopropyl Alcohol	10	10.1	101	10.8	108	7	70-130/30
75-09-2	Methylene chloride	10	9.0	90	8.9	89	1	70-130/30
78-93-3	Methyl ethyl ketone	10	9.1	91	9.1	91	0	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	10.4	104	10.4	104	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	8.6	86	8.5	85	1	70-130/30
80-62-6	Methylmethacrylate	10	10	100	10.1	101	1	70-130/30
115-07-1	Propylene	10	8.6	86	8.1	81	6	70-130/30
100-42-5	Styrene	10	9.7	97	9.7	97	0	70-130/30
71-55-6	1,1,1-Trichloroethane	10	9.7	97	9.8	98	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	10.4	104	10.3	103	1	70-130/30
79-00-5	1,1,2-Trichloroethane	10	9.4	94	9.5	95	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	8.9	89	9.1	91	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	10.0	100	10.1	101	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	9.6	96	9.6	96	0	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	9.2	92	9.2	92	0	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	9.1	91	9.2	92	1	70-130/30
127-18-4	Tetrachloroethylene	10	8.7	87	8.8	88	1	70-130/30
109-99-9	Tetrahydrofuran	10	9.0	90	9.0	90	0	70-130/30
108-88-3	Toluene	10	8.7	87	8.8	88	1	70-130/30
79-01-6	Trichloroethylene	10	9.6	96	9.6	96	0	70-130/30
75-69-4	Trichlorofluoromethane	10	11.6	116	11.6	116	0	70-130/30
75-01-4	Vinyl chloride	10	10.6	106	10.1	101	5	70-130/30
108-05-4	Vinyl Acetate	10	9.0	90	9.1	91	1	70-130/30
	m,p-Xylene	20	18.9	95	18.9	95	0	70-130/30
95-47-6	o-Xylene	10	9.7	97	9.6	96	1	70-130/30
1330-20-7	Xylenes (total)	30	28.6	95	28.5	95	0	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-BS	5W26743.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051
V5W1051-BSD	5W26744.D	1	09/19/17		n/a	n/a	V5W1051

The QC reported here applies to the following samples: **Method:** TO-15

V5W1051-SCC

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	104%	104%	65-128%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-BS	5W26799.D	1	09/21/17	[redacted]	n/a	n/a	V5W1053
V5W1053-BSD	5W26800.D	1	09/21/17		n/a	n/a	V5W1053

The QC reported here applies to the following samples: **Method:** TO-15

V5W1053-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	9.5	95	9.2	92	3	70-130/30
106-99-0	1,3-Butadiene	10	10.1	101	9.6	96	5	70-130/30
71-43-2	Benzene	10	8.7	87	8.5	85	2	70-130/30
75-27-4	Bromodichloromethane	10	10.8	108	10.5	105	3	70-130/30
75-25-2	Bromoform	10	13.4	134* [a]	12.9	129	4	70-130/30
74-83-9	Bromomethane	10	9.8	98	9.2	92	6	70-130/30
593-60-2	Bromoethene	10	10.3	103	9.8	98	5	70-130/30
100-44-7	Benzyl Chloride	10	12.9	129	13.3	133* [a]	3	70-130/30
75-15-0	Carbon disulfide	10	9.8	98	9.6	96	2	70-130/30
108-90-7	Chlorobenzene	10	9.7	97	9.6	96	1	70-130/30
75-00-3	Chloroethane	10	10.1	101	9.5	95	6	70-130/30
67-66-3	Chloroform	10	9.8	98	9.7	97	1	70-130/30
74-87-3	Chloromethane	10	9.9	99	9.4	94	5	70-130/30
107-05-1	3-Chloropropene	10	9.3	93	9.2	92	1	70-130/30
95-49-8	2-Chlorotoluene	10	11.0	110	11.2	112	2	70-130/30
56-23-5	Carbon tetrachloride	10	11.1	111	10.9	109	2	70-130/30
110-82-7	Cyclohexane	10	8.2	82	8.1	81	1	70-130/30
75-34-3	1,1-Dichloroethane	10	9.2	92	9.1	91	1	70-130/30
75-35-4	1,1-Dichloroethylene	10	9.9	99	9.8	98	1	70-130/30
106-93-4	1,2-Dibromoethane	10	9.8	98	9.4	94	4	70-130/30
107-06-2	1,2-Dichloroethane	10	10.7	107	10.6	106	1	70-130/30
78-87-5	1,2-Dichloropropane	10	9.4	94	9.1	91	3	70-130/30
123-91-1	1,4-Dioxane	10	10.3	103	9.9	99	4	70-130/30
75-71-8	Dichlorodifluoromethane	10	10.6	106	10.2	102	4	70-130/30
124-48-1	Dibromochloromethane	10	10.9	109	10.5	105	4	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	9.3	93	9.1	91	2	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	9.0	90	8.9	89	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	9.4	94	9.2	92	2	70-130/30
541-73-1	m-Dichlorobenzene	10	11.6	116	11.9	119	3	70-130/30
95-50-1	o-Dichlorobenzene	10	11.3	113	11.6	116	3	70-130/30
106-46-7	p-Dichlorobenzene	10	11.4	114	11.7	117	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	10.2	102	9.8	98	4	70-130/30
64-17-5	Ethanol	10	10.0	100	9.6	96	4	70-130/30
100-41-4	Ethylbenzene	10	9.8	98	9.8	98	0	70-130/30
141-78-6	Ethyl Acetate	10	9.8	98	9.6	96	2	70-130/30
622-96-8	4-Ethyltoluene	10	10.8	108	10.9	109	1	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-BS	5W26799.D	1	09/21/17	[redacted]	n/a	n/a	V5W1053
V5W1053-BSD	5W26800.D	1	09/21/17		n/a	n/a	V5W1053

The QC reported here applies to the following samples: **Method:** TO-15

V5W1053-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	10.1	101	9.8	98	3	70-130/30
76-14-2	Freon 114	10	10.7	107	10.1	101	6	70-130/30
142-82-5	Heptane	10	9.1	91	8.8	88	3	70-130/30
87-68-3	Hexachlorobutadiene	10	11.3	113	11.8	118	4	70-130/30
110-54-3	Hexane	10	8.7	87	8.6	86	1	70-130/30
591-78-6	2-Hexanone	10	10.8	108	10.6	106	2	70-130/30
67-63-0	Isopropyl Alcohol	10	10.7	107	10.9	109	2	70-130/30
75-09-2	Methylene chloride	10	9.2	92	9.0	90	2	70-130/30
78-93-3	Methyl ethyl ketone	10	9.2	92	9.0	90	2	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	10.3	103	10.1	101	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	8.7	87	8.6	86	1	70-130/30
80-62-6	Methylmethacrylate	10	10.2	102	9.9	99	3	70-130/30
115-07-1	Propylene	10	7.9	79	7.5	75	5	70-130/30
100-42-5	Styrene	10	10.5	105	10.7	107	2	70-130/30
71-55-6	1,1,1-Trichloroethane	10	10.1	101	10.0	100	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	11.0	110	11.2	112	2	70-130/30
79-00-5	1,1,2-Trichloroethane	10	9.6	96	9.3	93	3	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	11.1	111	11.6	116	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	11.2	112	11.4	114	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	11.0	110	11.3	113	3	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	9.2	92	8.9	89	3	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	9.2	92	9.2	92	0	70-130/30
127-18-4	Tetrachloroethylene	10	9.2	92	8.8	88	4	70-130/30
109-99-9	Tetrahydrofuran	10	9.2	92	9.0	90	2	70-130/30
108-88-3	Toluene	10	8.8	88	8.6	86	2	70-130/30
79-01-6	Trichloroethylene	10	9.9	99	9.6	96	3	70-130/30
75-69-4	Trichlorofluoromethane	10	12.2	122	12.1	121	1	70-130/30
75-01-4	Vinyl chloride	10	10.4	104	9.8	98	6	70-130/30
108-05-4	Vinyl Acetate	10	8.7	87	8.6	86	1	70-130/30
	m,p-Xylene	20	20.5	103	20.5	103	0	70-130/30
95-47-6	o-Xylene	10	10.5	105	10.5	105	0	70-130/30
1330-20-7	Xylenes (total)	30	31.0	103	31.1	104	0	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-BS	5W26799.D	1	09/21/17	[redacted]	n/a	n/a	V5W1053
V5W1053-BSD	5W26800.D	1	09/21/17		n/a	n/a	V5W1053

The QC reported here applies to the following samples: **Method:** TO-15

V5W1053-SCC

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	105%	110%	65-128%

(a) High percent recoveries and no associated positive found in the QC batch.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC52053-3DUP	5W27101.D	1.52	10/07/17	[redacted]	n/a	n/a	V5W1066
JC52053-3	5W27100.D	1.52	10/07/17		n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Compound	JC52053-3 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	27.2		26.7		2	25
106-99-0	1,3-Butadiene	0.20 U		ND		nc	25
71-43-2	Benzene	0.16	J	0.16	J	0	25
75-27-4	Bromodichloromethane	0.20 U		ND		nc	25
75-25-2	Bromoform	0.20 U		ND		nc	25
74-83-9	Bromomethane	0.20 U		ND		nc	25
593-60-2	Bromoethene	0.20 U		ND		nc	25
100-44-7	Benzyl Chloride	0.20 U		ND		nc	25
75-15-0	Carbon disulfide	0.20 U		ND		nc	25
108-90-7	Chlorobenzene	0.20 U		ND		nc	25
75-00-3	Chloroethane	0.20 U		ND		nc	25
67-66-3	Chloroform	0.20 U		ND		nc	25
74-87-3	Chloromethane	0.59		0.60		2	25
107-05-1	3-Chloropropene	0.20 U		ND		nc	25
95-49-8	2-Chlorotoluene	0.20 U		ND		nc	25
56-23-5	Carbon tetrachloride	0.20 U		ND		nc	25
110-82-7	Cyclohexane	0.11	J	0.11	J	0	25
75-34-3	1,1-Dichloroethane	0.20 U		ND		nc	25
75-35-4	1,1-Dichloroethylene	0.20 U		ND		nc	25
106-93-4	1,2-Dibromoethane	0.20 U		ND		nc	25
107-06-2	1,2-Dichloroethane	0.14	J	0.13	J	7	25
78-87-5	1,2-Dichloropropane	0.20 U		ND		nc	25
123-91-1	1,4-Dioxane	0.15	J	0.16	J	6	25
75-71-8	Dichlorodifluoromethane	0.47		0.47		0	25
124-48-1	Dibromochloromethane	0.20 U		ND		nc	25
156-60-5	trans-1,2-Dichloroethylene	0.20 U		ND		nc	25
156-59-2	cis-1,2-Dichloroethylene	0.20 U		ND		nc	25
10061-01-5	cis-1,3-Dichloropropene	0.20 U		ND		nc	25
541-73-1	m-Dichlorobenzene	0.20 U		ND		nc	25
95-50-1	o-Dichlorobenzene	0.20 U		ND		nc	25
106-46-7	p-Dichlorobenzene	0.20 U		ND		nc	25
10061-02-6	trans-1,3-Dichloropropene	0.20 U		ND		nc	25
64-17-5	Ethanol	170	E	171	E	1	25
100-41-4	Ethylbenzene	0.19	J	0.19	J	0	25
141-78-6	Ethyl Acetate	1.6		1.6		0	25
622-96-8	4-Ethyltoluene	0.20 U		ND		nc	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC52053-3DUP	5W27101.D	1.52	10/07/17	[redacted]	n/a	n/a	V5W1066
JC52053-3	5W27100.D	1.52	10/07/17		n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Compound	JC52053-3 ppbv	Q	DUP ppbv	Q	RPD	Limits
76-13-1	Freon 113	0.20 U		ND		nc	25
76-14-2	Freon 114	0.20 U		ND		nc	25
142-82-5	Heptane	0.16	J	0.16	J	0	25
87-68-3	Hexachlorobutadiene	0.20 U		ND		nc	25
110-54-3	Hexane	0.18	J	0.17	J	6	25
591-78-6	2-Hexanone	0.14	J	0.14	J	0	25
67-63-0	Isopropyl Alcohol	11.8		9.8		19	25
75-09-2	Methylene chloride	0.20 U		ND		nc	25
78-93-3	Methyl ethyl ketone	0.94		0.92		2	25
108-10-1	Methyl Isobutyl Ketone	0.31		0.32		3	25
1634-04-4	Methyl Tert Butyl Ether	0.20 U		ND		nc	25
80-62-6	Methylmethacrylate	0.64		0.64		0	25
115-07-1	Propylene	0.50 U		ND		nc	25
100-42-5	Styrene	0.15	J	0.14	J	7	25
71-55-6	1,1,1-Trichloroethane	0.20 U		ND		nc	25
79-34-5	1,1,2,2-Tetrachloroethane	0.20 U		ND		nc	25
79-00-5	1,1,2-Trichloroethane	0.20 U		ND		nc	25
120-82-1	1,2,4-Trichlorobenzene	0.20 U		ND		nc	25
95-63-6	1,2,4-Trimethylbenzene	0.24		0.23		4	25
108-67-8	1,3,5-Trimethylbenzene	0.20 U		ND		nc	25
540-84-1	2,2,4-Trimethylpentane	0.34		0.35		3	25
75-65-0	Tertiary Butyl Alcohol	0.50		0.50		0	25
127-18-4	Tetrachloroethylene	0.040 U		ND		nc	25
109-99-9	Tetrahydrofuran	0.20 U		ND		nc	25
108-88-3	Toluene	0.93		0.93		0	25
79-01-6	Trichloroethylene	0.040 U		ND		nc	25
75-69-4	Trichlorofluoromethane	0.35		0.34		3	25
75-01-4	Vinyl chloride	0.20 U		ND		nc	25
108-05-4	Vinyl Acetate	0.20 U		ND		nc	25
	m,p-Xylene	0.75		0.72		4	25
95-47-6	o-Xylene	0.29		0.28		4	25
1330-20-7	Xylenes (total)	1.0		1.0		0	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC52053-3DUP	5W27101.D	1.52	10/07/17	[redacted]	n/a	n/a	V5W1066
JC52053-3	5W27100.D	1.52	10/07/17		n/a	n/a	V5W1066

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-1, JC52053-2, JC52053-3, JC52053-4, JC52053-5, JC52053-6, JC52053-8, JC52053-9

CAS No.	Surrogate Recoveries	DUP	JC52053-3	Limits
460-00-4	4-Bromofluorobenzene	122%	118%	65-128%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC51796-1DUP	5W27120.D	1.55	10/08/17	[redacted]	n/a	n/a	V5W1067
JC51796-1	5W27119.D	1.55	10/08/17		n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Compound	JC51796-1 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	11.8		11.9		1	25
106-99-0	1,3-Butadiene	ND		ND		nc	25
71-43-2	Benzene	0.36		0.37		3	25
75-27-4	Bromodichloromethane	ND		ND		nc	25
75-25-2	Bromoform	ND		ND		nc	25
74-83-9	Bromomethane	ND		ND		nc	25
593-60-2	Bromoethene	ND		ND		nc	25
100-44-7	Benzyl Chloride	ND		ND		nc	25
75-15-0	Carbon disulfide	ND		ND		nc	25
108-90-7	Chlorobenzene	ND		ND		nc	25
75-00-3	Chloroethane	ND		ND		nc	25
67-66-3	Chloroform	ND		ND		nc	25
74-87-3	Chloromethane	0.75		0.77		3	25
107-05-1	3-Chloropropene	ND		ND		nc	25
95-49-8	2-Chlorotoluene	ND		ND		nc	25
56-23-5	Carbon tetrachloride	ND		ND		nc	25
110-82-7	Cyclohexane	0.16	J	0.17	J	6	25
75-34-3	1,1-Dichloroethane	ND		ND		nc	25
75-35-4	1,1-Dichloroethylene	ND		ND		nc	25
106-93-4	1,2-Dibromoethane	ND		ND		nc	25
107-06-2	1,2-Dichloroethane	ND		ND		nc	25
78-87-5	1,2-Dichloropropane	ND		ND		nc	25
123-91-1	1,4-Dioxane	ND		ND		nc	25
75-71-8	Dichlorodifluoromethane	0.48		0.49		2	25
124-48-1	Dibromochloromethane	ND		ND		nc	25
156-60-5	trans-1,2-Dichloroethylene	ND		ND		nc	25
156-59-2	cis-1,2-Dichloroethylene	ND		ND		nc	25
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	25
541-73-1	m-Dichlorobenzene	ND		ND		nc	25
95-50-1	o-Dichlorobenzene	ND		ND		nc	25
106-46-7	p-Dichlorobenzene	ND		ND		nc	25
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	25
64-17-5	Ethanol	1130	E	1190	E	5	25
100-41-4	Ethylbenzene	0.098	J	0.10	J	2	25
141-78-6	Ethyl Acetate	8.9		9.2		3	25
622-96-8	4-Ethyltoluene	ND		ND		nc	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC51796-1DUP	5W27120.D	1.55	10/08/17	[redacted]	n/a	n/a	V5W1067
JC51796-1	5W27119.D	1.55	10/08/17		n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Compound	JC51796-1 ppbv	Q	DUP ppbv	Q	RPD	Limits
76-13-1	Freon 113	ND		ND		nc	25
76-14-2	Freon 114	ND		ND		nc	25
142-82-5	Heptane	0.11	J	0.11	J	0	25
87-68-3	Hexachlorobutadiene	ND		ND		nc	25
110-54-3	Hexane	0.28		0.28		0	25
591-78-6	2-Hexanone	ND		ND		nc	25
67-63-0	Isopropyl Alcohol	2.8		2.7		4	25
75-09-2	Methylene chloride	ND		ND		nc	25
78-93-3	Methyl ethyl ketone	0.71		0.74		4	25
108-10-1	Methyl Isobutyl Ketone	ND		ND		nc	25
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	25
80-62-6	Methylmethacrylate	ND		ND		nc	25
115-07-1	Propylene	ND		ND		nc	25
100-42-5	Styrene	ND		ND		nc	25
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	25
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	25
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	25
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	25
95-63-6	1,2,4-Trimethylbenzene	0.22		0.23		4	25
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	25
540-84-1	2,2,4-Trimethylpentane	0.10	J	0.11	J	10	25
75-65-0	Tertiary Butyl Alcohol	0.83		0.86		4	25
127-18-4	Tetrachloroethylene	0.14		0.14		0	25
109-99-9	Tetrahydrofuran	ND		ND		nc	25
108-88-3	Toluene	1.2		1.2		0	25
79-01-6	Trichloroethylene	ND		ND		nc	25
75-69-4	Trichlorofluoromethane	0.28		0.28		0	25
75-01-4	Vinyl chloride	ND		ND		nc	25
108-05-4	Vinyl Acetate	ND		ND		nc	25
	m,p-Xylene	0.34		0.35		3	25
95-47-6	o-Xylene	0.14	J	0.15	J	7	25
1330-20-7	Xylenes (total)	0.48		0.50		4	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC51796-1DUP	5W27120.D	1.55	10/08/17	[redacted]	n/a	n/a	V5W1067
JC51796-1	5W27119.D	1.55	10/08/17		n/a	n/a	V5W1067

The QC reported here applies to the following samples: **Method:** TO-15

JC52053-7

CAS No.	Surrogate Recoveries	DUP	JC51796-1	Limits
460-00-4	4-Bromofluorobenzene	123%	121%	65-128%

* = Outside of Control Limits.

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-SCC	3W60501.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here (Summa M254) applies to the following samples: **Method:** TO-15

Batch CP9233 cleaned 06/22/17: JC52053-4(A751)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-SCC	3W60501.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here (Summa M254) applies to the following samples: **Method:** TO-15

Batch CP9233 cleaned 06/22/17: JC52053-4(A751)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-SCC	3W60501.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here (Summa M254) applies to the following samples: **Method:** TO-15

Batch CP9233 cleaned 06/22/17: JC52053-4(A751)

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	65-128%

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-SCC	5W26759.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051

The QC reported here (Summa A864) applies to the following samples: **Method:** TO-15

Batch CP9367 cleaned 09/11/17: JC52053-1(A1054), JC52053-3(M168), JC52053-5(A906), JC52053-8(A300)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-SCC	5W26759.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051

The QC reported here (Summa A864) applies to the following samples: **Method:** TO-15

Batch CP9367 cleaned 09/11/17: JC52053-1(A1054), JC52053-3(M168), JC52053-5(A906), JC52053-8(A300)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-SCC	5W26759.D	1	09/19/17	[redacted]	n/a	n/a	V5W1051

The QC reported here (Summa A864) applies to the following samples: **Method:** TO-15

Batch CP9367 cleaned 09/11/17: JC52053-1(A1054), JC52053-3(M168), JC52053-5(A906), JC52053-8(A300)

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	91%	65-128%

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-SCC	5W26768.D	1	09/20/17	[redacted]	n/a	n/a	V5W1051

The QC reported here (Summa M258) applies to the following samples: **Method:** TO-15

Batch CP9370 cleaned 09/13/17: JC52053-7(A636), JC52053-9(A321)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-SCC	5W26768.D	1	09/20/17	[redacted]	n/a	n/a	V5W1051

The QC reported here (Summa M258) applies to the following samples: **Method:** TO-15

Batch CP9370 cleaned 09/13/17: JC52053-7(A636), JC52053-9(A321)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1051-SCC	5W26768.D	1	09/20/17	[redacted]	n/a	n/a	V5W1051

The QC reported here (Summa M258) applies to the following samples: **Method:** TO-15

Batch CP9370 cleaned 09/13/17: JC52053-7(A636), JC52053-9(A321)

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	95%	65-128%

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-SCC	5W26816.D	1	09/22/17	[redacted]	n/a	n/a	V5W1053

The QC reported here (Summa A1151) applies to the following samples: **Method:** TO-15

Batch CP9378 cleaned 09/18/17: JC52053-2(A1151)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-SCC	5W26816.D	1	09/22/17	[redacted]	n/a	n/a	V5W1053

The QC reported here (Summa A1151) applies to the following samples: **Method:** TO-15

Batch CP9378 cleaned 09/18/17: JC52053-2(A1151)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-SCC	5W26816.D	1	09/22/17	[redacted]	n/a	n/a	V5W1053

The QC reported here (Summa A1151) applies to the following samples: **Method:** TO-15

Batch CP9378 cleaned 09/18/17: JC52053-2(A1151)

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	97%	65-128%

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-SCC	5W26820.D	1	09/22/17	[redacted]	n/a	n/a	V5W1053

The QC reported here (Summa A806) applies to the following samples: **Method:** TO-15

Batch CP9373 cleaned 09/15/17: JC52053-6(A806)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-SCC	5W26820.D	1	09/22/17	[redacted]	n/a	n/a	V5W1053

The QC reported here (Summa A806) applies to the following samples: **Method:** TO-15

Batch CP9373 cleaned 09/15/17: JC52053-6(A806)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Summa Cleaning Certification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1053-SCC	5W26820.D	1	09/22/17	[redacted]	n/a	n/a	V5W1053

The QC reported here (Summa A806) applies to the following samples: **Method:** TO-15

Batch CP9373 cleaned 09/15/17: JC52053-6(A806)

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	95%	65-128%

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-BFB
Lab File ID: 3W60361.D
Instrument ID: GCMS3W
Injection Date: 06/21/17
Injection Time: 12:13

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	21597	14.8		Pass
75	30.0 - 66.0% of mass 95	61213	41.8		Pass
95	Base peak, 100% relative abundance	146269	100.0		Pass
96	5.0 - 9.0% of mass 95	9651	6.60		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	154019	105.3		Pass
175	4.0 - 9.01% of mass 174	12052	8.24	(7.83) [a]	Pass
176	93.0 - 101.0% of mass 174	150840	103.1	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	10053	6.87	(6.66) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3W2293-IC2293	3W60362.D	06/21/17	12:54	00:41	Initial cal 0.04
V3W2293-IC2293	3W60363.D	06/21/17	13:35	01:22	Initial cal 0.1
V3W2293-IC2293	3W60364.D	06/21/17	14:15	02:02	Initial cal 0.2
V3W2293-IC2293	3W60365.D	06/21/17	14:55	02:42	Initial cal 0.5
V3W2293-IC2293	3W60366.D	06/21/17	15:35	03:22	Initial cal 5
V3W2293-ICC2293	3W60367.D	06/21/17	16:16	04:03	Initial cal 10
V3W2293-IC2293	3W60370.D	06/21/17	18:21	06:08	Initial cal 40
V3W2293-IC2293	3W60372.D	06/21/17	19:43	07:30	Initial cal 20
V3W2293-ICV2293	3W60374.D	06/21/17	21:03	08:50	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2298-BFB
Lab File ID: 3W60485.D
Instrument ID: GCMS3W
Injection Date: 06/27/17
Injection Time: 08:55

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	19228	14.8		Pass
75	30.0 - 66.0% of mass 95	54269	41.7		Pass
95	Base peak, 100% relative abundance	130085	100.0		Pass
96	5.0 - 9.0% of mass 95	8675	6.67		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	135259	104.0		Pass
175	4.0 - 9.01% of mass 174	10420	8.01	(7.70) [a]	Pass
176	93.0 - 101.0% of mass 174	133640	102.7	(98.8) [a]	Pass
177	5.0 - 9.0% of mass 176	8621	6.63	(6.45) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3W2298-CC2293	3W60487.D	06/27/17	10:37	01:42	Continuing cal 10
V3W2298-BS	3W60489.D	06/27/17	11:58	03:03	Blank Spike
V3W2298-BSD	3W60490.D	06/27/17	12:43	03:48	Blank Spike Duplicate
V3W2298-MB	3W60494.D	06/27/17	15:41	06:46	Method Blank
V3W2298-SCC	3W60495.D	06/27/17	16:27	07:32	Summa Cleaning Certification
ZZZZZZ	3W60496.D	06/27/17	17:08	08:13	(unrelated sample)
JC44473-1	3W60498.D	06/27/17	18:31	09:36	(used for QC only; not part of job JC52053)
JC44473-1DUP	3W60499.D	06/27/17	19:14	10:19	Duplicate
ZZZZZZ	3W60500.D	06/27/17	19:55	11:00	(unrelated sample)
V3W2298-SCC	3W60501.D	06/27/17	20:36	11:41	Summa Cleaning Certification
ZZZZZZ	3W60502.D	06/27/17	21:22	12:27	(unrelated sample)
ZZZZZZ	3W60503.D	06/27/17	22:06	13:11	(unrelated sample)
ZZZZZZ	3W60504.D	06/27/17	22:50	13:55	(unrelated sample)
ZZZZZZ	3W60505.D	06/27/17	23:37	14:42	(unrelated sample)
ZZZZZZ	3W60506.D	06/28/17	00:21	15:26	(unrelated sample)
ZZZZZZ	3W60507.D	06/28/17	01:02	16:07	(unrelated sample)
ZZZZZZ	3W60509.D	06/28/17	02:26	17:31	(unrelated sample)
ZZZZZZ	3W60510.D	06/28/17	03:07	18:12	(unrelated sample)
ZZZZZZ	3W60511.D	06/28/17	03:48	18:53	(unrelated sample)
V3W2298-SCC	3W60513.D	06/28/17	05:11	20:16	Summa Cleaning Certification

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1007-BFB
Lab File ID: 5W25534.D
Instrument ID: GCMS5W
Injection Date: 07/26/17
Injection Time: 19:23

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	22253	14.5		Pass
75	30.0 - 66.0% of mass 95	64083	41.8		Pass
95	Base peak, 100% relative abundance	153408	100.0		Pass
96	5.0 - 9.0% of mass 95	10164	6.63		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	137104	89.4		Pass
175	4.0 - 9.0% of mass 174	10471	6.83	(7.64) [a]	Pass
176	93.0 - 101.0% of mass 174	133256	86.9	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	8775	5.72	(6.59) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1007-IC1007	5W25535.D	07/26/17	20:08	00:45	Initial cal 0.04
ZZZZZZ	5W25535A.D	07/26/17	20:08	00:45	(unrelated sample)
V5W1007-IC1007	5W25539.D	07/26/17	23:07	03:44	Initial cal 5
V5W1007-ICC1007	5W25540.D	07/26/17	23:53	04:30	Initial cal 10
V5W1007-IC1007	5W25541.D	07/27/17	00:40	05:17	Initial cal 20
V5W1007-IC1007	5W25542.D	07/27/17	01:31	06:08	Initial cal 40
V5W1007-IC1007	5W25545.D	07/27/17	08:56	13:33	Initial cal 0.5
ZZZZZZ	5W25546A.D	07/27/17	09:42	14:19	(unrelated sample)
V5W1007-IC1007	5W25546.D	07/27/17	09:42	14:19	Initial cal 0.2
V5W1007-IC1007	5W25547.D	07/27/17	10:26	15:03	Initial cal 0.1
ZZZZZZ	5W25547A.D	07/27/17	10:26	15:03	(unrelated sample)
V5W1007-ICV1007	5W25548.D	07/27/17	11:11	15:48	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1051-BFB
Lab File ID: 5W26741.D
Instrument ID: GCMS5W
Injection Date: 09/19/17
Injection Time: 09:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	21899	18.6		Pass
75	30.0 - 66.0% of mass 95	56813	48.2		Pass
95	Base peak, 100% relative abundance	117805	100.0		Pass
96	5.0 - 9.0% of mass 95	7723	6.56		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	98325	83.5		Pass
175	4.0 - 9.0% of mass 174	7472	6.34	(7.60) [a]	Pass
176	93.0 - 101.0% of mass 174	94960	80.6	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	6172	5.24	(6.50) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1051-CC1007	5W26742.D	09/19/17	09:46	00:45	Continuing cal 10
V5W1051-BS	5W26743.D	09/19/17	10:37	01:36	Blank Spike
V5W1051-BSD	5W26744.D	09/19/17	11:22	02:21	Blank Spike Duplicate
V5W1051-MB	5W26746.D	09/19/17	13:07	04:06	Method Blank
ZZZZZZ	5W26747.D	09/19/17	14:44	05:43	(unrelated sample)
ZZZZZZ	5W26748.D	09/19/17	15:29	06:28	(unrelated sample)
ZZZZZZ	5W26749.D	09/19/17	16:20	07:19	(unrelated sample)
ZZZZZZ	5W26751.D	09/19/17	17:57	08:56	(unrelated sample)
ZZZZZZ	5W26752.D	09/19/17	18:42	09:41	(unrelated sample)
ZZZZZZ	5W26753.D	09/19/17	19:26	10:25	(unrelated sample)
V5W1051-SCC	5W26759.D	09/19/17	23:59	14:58	Summa Cleaning Certification
JC50965-2	5W26760.D	09/20/17	00:45	15:44	(used for QC only; not part of job JC52053)
JC50965-2DUP	5W26761.D	09/20/17	01:31	16:30	Duplicate
ZZZZZZ	5W26762.D	09/20/17	02:17	17:16	(unrelated sample)
ZZZZZZ	5W26763.D	09/20/17	03:03	18:02	(unrelated sample)
ZZZZZZ	5W26764.D	09/20/17	03:49	18:48	(unrelated sample)
ZZZZZZ	5W26765.D	09/20/17	04:35	19:34	(unrelated sample)
ZZZZZZ	5W26766.D	09/20/17	05:21	20:20	(unrelated sample)
ZZZZZZ	5W26767.D	09/20/17	06:07	21:06	(unrelated sample)
V5W1051-SCC	5W26768.D	09/20/17	06:58	21:57	Summa Cleaning Certification

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1053-BFB
Lab File ID: 5W26797.D
Instrument ID: GCMS5W
Injection Date: 09/21/17
Injection Time: 08:58

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	19952	17.5		Pass
75	30.0 - 66.0% of mass 95	54323	47.7		Pass
95	Base peak, 100% relative abundance	113936	100.0		Pass
96	5.0 - 9.0% of mass 95	7521	6.60		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	98587	86.5		Pass
175	4.0 - 9.0% of mass 174	7439	6.53	(7.55) [a]	Pass
176	93.0 - 101.0% of mass 174	96013	84.3	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	6171	5.42	(6.43) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1053-CC1007	5W26798.D	09/21/17	09:44	00:46	Continuing cal 10
V5W1053-BS	5W26799.D	09/21/17	10:32	01:34	Blank Spike
V5W1053-BSD	5W26800.D	09/21/17	11:17	02:19	Blank Spike Duplicate
V5W1053-MB	5W26802.D	09/21/17	13:09	04:11	Method Blank
ZZZZZZ	5W26803.D	09/21/17	15:28	06:30	(unrelated sample)
ZZZZZZ	5W26804.D	09/21/17	16:12	07:14	(unrelated sample)
JC50543-1	5W26809.D	09/21/17	20:29	11:31	(used for QC only; not part of job JC52053)
JC50543-1DUP	5W26810.D	09/21/17	21:23	12:25	Duplicate
V5W1053-SCC	5W26816.D	09/22/17	01:59	17:01	Summa Cleaning Certification
ZZZZZZ	5W26817.D	09/22/17	02:44	17:46	(unrelated sample)
ZZZZZZ	5W26818.D	09/22/17	03:29	18:31	(unrelated sample)
ZZZZZZ	5W26819.D	09/22/17	04:13	19:15	(unrelated sample)
V5W1053-SCC	5W26820.D	09/22/17	05:04	20:06	Summa Cleaning Certification
ZZZZZZ	5W26821.D	09/22/17	05:48	20:50	(unrelated sample)
ZZZZZZ	5W26822.D	09/22/17	06:32	21:34	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-BFB
Lab File ID: 5W27079.D
Instrument ID: GCMS5W
Injection Date: 10/06/17
Injection Time: 12:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	31941	13.0		Pass
75	30.0 - 66.0% of mass 95	98781	40.4		Pass
95	Base peak, 100% relative abundance	244800	100.0		Pass
96	5.0 - 9.0% of mass 95	16052	6.56		Pass
173	Less than 2.0% of mass 174	1412	0.58	(0.59) [a]	Pass
174	50.0 - 120.0% of mass 95	240832	98.4		Pass
175	4.0 - 9.0% of mass 174	17781	7.26	(7.38) [a]	Pass
176	93.0 - 101.0% of mass 174	233813	95.5	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	15298	6.25	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1065-IC1065	5W27080.D	10/06/17	12:49	00:44	Initial cal 0.04
V5W1065-IC1065	5W27081.D	10/06/17	13:35	01:30	Initial cal 0.1
V5W1065-IC1065	5W27082.D	10/06/17	14:28	02:23	Initial cal 0.2
V5W1065-IC1065	5W27084.D	10/06/17	16:10	04:05	Initial cal 0.5
V5W1065-IC1065	5W27085.D	10/06/17	17:00	04:55	Initial cal 5
V5W1065-ICC1065	5W27086.D	10/06/17	17:45	05:40	Initial cal 10
V5W1065-IC1065	5W27087.D	10/06/17	18:33	06:28	Initial cal 20
V5W1065-IC1065	5W27088.D	10/06/17	19:23	07:18	Initial cal 40
V5W1065-ICV1065	5W27092.D	10/07/17	08:32	20:27	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1066-BFB
Lab File ID: 5W27093.D
Instrument ID: GCMS5W
Injection Date: 10/07/17
Injection Time: 09:34

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	37509	13.4		Pass
75	30.0 - 66.0% of mass 95	113981	40.9		Pass
95	Base peak, 100% relative abundance	278976	100.0		Pass
96	5.0 - 9.0% of mass 95	18499	6.63		Pass
173	Less than 2.0% of mass 174	2382	0.85	(0.90) [a]	Pass
174	50.0 - 120.0% of mass 95	263467	94.4		Pass
175	4.0 - 9.0% of mass 174	19680	7.05	(7.47) [a]	Pass
176	93.0 - 101.0% of mass 174	254101	91.1	(96.4) [a]	Pass
177	5.0 - 9.0% of mass 176	16890	6.05	(6.65) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1066-CC1065	5W27093.D	10/07/17	09:34	00:00	Continuing cal 10
V5W1066-BS	5W27094.D	10/07/17	10:20	00:46	Blank Spike
V5W1066-BSD	5W27095.D	10/07/17	11:05	01:31	Blank Spike Duplicate
V5W1066-MB	5W27097.D	10/07/17	12:47	03:13	Method Blank
JC52053-1	5W27098.D	10/07/17	13:40	04:06	1/CT
JC52053-2	5W27099.D	10/07/17	14:28	04:54	2/CT
JC52053-3	5W27100.D	10/07/17	15:22	05:48	3/HALLWAY
JC52053-3DUP	5W27101.D	10/07/17	16:17	06:43	Duplicate
V5W1066-SCC	5W27102.D	10/07/17	17:08	07:34	Summa Cleaning Certification
JC52053-4	5W27103.D	10/07/17	18:03	08:29	4/MENS ROOM
JC52053-5	5W27104.D	10/07/17	18:57	09:23	5/MECHANICAL
JC52053-6	5W27105.D	10/07/17	19:45	10:11	6/MECHANICAL
JC52053-8	5W27107.D	10/07/17	21:47	12:13	8/LOADING DOCK
JC52053-9	5W27108.D	10/07/17	22:42	13:08	9/BACKGROUND
ZZZZZZ	5W27109.D	10/07/17	23:27	13:53	(unrelated sample)
V5W1066-SCC	5W27110.D	10/08/17	00:18	14:44	Summa Cleaning Certification
V5W1066-ECC1065	5W27111.D	10/08/17	01:04	15:30	Ending cal 10

Instrument Performance Check (BFB)

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1067-BFB
Lab File ID: 5W27112.D
Instrument ID: GCMS5W
Injection Date: 10/08/17
Injection Time: 09:31

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	37803	13.8		Pass
75	30.0 - 66.0% of mass 95	113291	41.2		Pass
95	Base peak, 100% relative abundance	274709	100.0		Pass
96	5.0 - 9.0% of mass 95	17866	6.50		Pass
173	Less than 2.0% of mass 174	2343	0.85	(0.91) [a]	Pass
174	50.0 - 120.0% of mass 95	257301	93.7		Pass
175	4.0 - 9.0% of mass 174	19000	6.92	(7.38) [a]	Pass
176	93.0 - 101.0% of mass 174	250389	91.1	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	16553	6.03	(6.61) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1067-CC1065	5W27112.D	10/08/17	09:31	00:00	Continuing cal 10
V5W1067-BS	5W27113.D	10/08/17	11:01	01:30	Blank Spike
V5W1067-BSD	5W27114.D	10/08/17	11:46	02:15	Blank Spike Duplicate
V5W1067-MB	5W27116.D	10/08/17	13:30	03:59	Method Blank
V5W1067-SCC	5W27117.D	10/08/17	14:27	04:56	Summa Cleaning Certification
JC52053-7	5W27118.D	10/08/17	15:18	05:47	7/TRIP BLANK
JC51796-1	5W27119.D	10/08/17	16:12	06:41	(used for QC only; not part of job JC52053)
JC51796-1DUP	5W27120.D	10/08/17	17:08	07:37	Duplicate
ZZZZZZ	5W27121.D	10/08/17	18:02	08:31	(unrelated sample)
ZZZZZZ	5W27122.D	10/08/17	18:56	09:25	(unrelated sample)
ZZZZZZ	5W27123.D	10/08/17	19:49	10:18	(unrelated sample)
ZZZZZZ	5W27124.D	10/08/17	20:42	11:11	(unrelated sample)
ZZZZZZ	5W27125.D	10/08/17	21:37	12:06	(unrelated sample)
ZZZZZZ	5W27126.D	10/08/17	22:31	13:00	(unrelated sample)
ZZZZZZ	5W27127.D	10/08/17	23:17	13:46	(unrelated sample)
ZZZZZZ	5W27128.D	10/09/17	00:01	14:30	(unrelated sample)
ZZZZZZ	5W27129.D	10/09/17	00:46	15:15	(unrelated sample)
ZZZZZZ	5W27130.D	10/09/17	01:33	16:02	(unrelated sample)
ZZZZZZ	5W27131.D	10/09/17	02:20	16:49	(unrelated sample)
ZZZZZZ	5W27132.D	10/09/17	03:09	17:38	(unrelated sample)
V5W1067-ECC1065	5W27133.D	10/09/17	03:55	18:24	Ending cal 10

Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V3W2298-CC2293	**Injection Date:**	06/27/17
Lab File ID:	3W60487.D	**Injection Time:**	10:37
Instrument ID:	GCMS3W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	154664	7.71	688631	9.75	315502	14.37
Upper Limit [a]	216530	8.04	964083	10.08	441703	14.70
Lower Limit [b]	92798	7.38	413179	9.42	189301	14.04

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V3W2298-BS	165282	7.71	716083	9.75	328912	14.38
V3W2298-BSD	167874	7.71	713945	9.75	325663	14.37
V3W2298-MB	152968	7.71	618668	9.75	242348	14.37
V3W2298-SCC	157980	7.70	638862	9.74	245504	14.37
ZZZZZZ	162980	7.70	695667	9.74	295458	14.37
JC44473-1	163415	7.70	692224	9.74	292700	14.37
JC44473-1DUP	165601	7.70	701026	9.74	294083	14.37
ZZZZZZ	158797	7.71	736454	9.75	353954	14.38
V3W2298-SCC	175184	7.71	755067	9.75	298845	14.37
ZZZZZZ	172096	7.70	725666	9.74	315434	14.37
ZZZZZZ	170313	7.70	735221	9.74	291067	14.37
ZZZZZZ	176851	7.70	748075	9.74	305283	14.37
ZZZZZZ	169561	7.71	742689	9.75	300401	14.37
ZZZZZZ	166621	7.70	744418	9.75	301746	14.37
ZZZZZZ	167059	7.70	769672	9.75	307386	14.37
ZZZZZZ	166237	7.71	728685	9.75	300074	14.37
ZZZZZZ	167796	7.70	742141	9.75	299691	14.37
ZZZZZZ	169047	7.70	748912	9.75	303702	14.37
V3W2298-SCC	167507	7.70	741485	9.74	287768	14.37

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V5W1051-CC1007	**Injection Date:**	09/19/17
Lab File ID:	5W26742.D	**Injection Time:**	09:46
Instrument ID:	GCMS5W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	136145	8.16	471089	10.29	228260	15.77
Upper Limit [a]	190603	8.49	659525	10.62	319564	16.10
Lower Limit [b]	81687	7.83	282653	9.96	136956	15.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V5W1051-BS	153194	8.17	528756	10.29	239786	15.77
V5W1051-BSD	147251	8.16	507239	10.29	231037	15.77
V5W1051-MB	134871	8.16	461216	10.29	206107	15.77
ZZZZZZ	135403	8.16	453798	10.29	207705	15.77
ZZZZZZ	125652	8.16	434531	10.29	197430	15.77
ZZZZZZ	135688	8.17	456986	10.29	204594	15.77
ZZZZZZ	131679	8.17	450241	10.29	209272	15.77
ZZZZZZ	131313	8.16	451731	10.29	205785	15.77
ZZZZZZ	130878	8.15	435600	10.28	200033	15.77
V5W1051-SCC	127758	8.16	437460	10.29	199886	15.77
JC50965-2	128888	8.16	448940	10.29	212090	15.77
JC50965-2DUP	130689	8.17	451990	10.29	211606	15.77
ZZZZZZ	127897	8.15	451130	10.28	207408	15.77
ZZZZZZ	138761	8.17	474835	10.29	224640	15.77
ZZZZZZ	136149	8.17	474371	10.29	219118	15.77
ZZZZZZ	144287	8.18	501804	10.30	234108	15.77
ZZZZZZ	138350	8.16	482771	10.29	235556	15.77
ZZZZZZ	154164	8.16	525721	10.29	238186	15.77
V5W1051-SCC	130860	8.14	436102	10.27	192428	15.77

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V5W1053-CC1007	**Injection Date:**	09/21/17
Lab File ID:	5W26798.D	**Injection Time:**	09:44
Instrument ID:	GCMS5W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	130808	8.16	448911	10.29	211128	15.77
Upper Limit [a]	183131	8.49	628475	10.62	295579	16.10
Lower Limit [b]	78485	7.83	269347	9.96	126677	15.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V5W1053-BS	138752	8.16	472515	10.29	209382	15.77
V5W1053-BSD	136661	8.16	472589	10.29	200385	15.77
V5W1053-MB	127857	8.16	433866	10.28	190708	15.77
ZZZZZZ	130024	8.16	429072	10.29	176040	15.77
ZZZZZZ	128408	8.16	440276	10.29	193912	15.77
JC50543-1	123373	8.17	415386	10.29	165080	15.77
JC50543-1DUP	132005	8.16	445272	10.29	191921	15.77
V5W1053-SCC	132580	8.16	450268	10.29	195357	15.77
ZZZZZZ	124519	8.16	431314	10.29	197068	15.77
ZZZZZZ	123277	8.16	428086	10.29	195854	15.77
ZZZZZZ	122673	8.16	425734	10.29	195214	15.77
V5W1053-SCC	121178	8.16	421026	10.29	193929	15.77
ZZZZZZ	131695	8.17	477569	10.29	242547	15.77
ZZZZZZ	152318	8.18	503617	10.29	224630	15.77

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V5W1066-CC1065	**Injection Date:**	10/07/17
Lab File ID:	5W27093.D	**Injection Time:**	09:34
Instrument ID:	GCMS5W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	290230	8.18	977566	10.29	399671	15.77
Upper Limit [a]	406322	8.51	1368592	10.62	559539	16.10
Lower Limit [b]	174138	7.85	586540	9.96	239803	15.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V5W1066-BS	296195	8.18	995809	10.29	418786	15.77
V5W1066-BSD	284317	8.16	968061	10.28	436487	15.76
V5W1066-MB	290170	8.18	1006154	10.29	462230	15.77
JC52053-1	282719	8.18	962115	10.29	412550	15.77
JC52053-2	284006	8.18	983879	10.30	441747	15.77
JC52053-3	286077	8.18	984527	10.29	395143	15.77
JC52053-3DUP	286088	8.18	972683	10.29	404548	15.77
V5W1066-SCC	279721	8.18	977775	10.29	455666	15.77
JC52053-4	282483	8.18	958377	10.29	387438	15.77
JC52053-5	272591	8.18	928226	10.29	381039	15.77
JC52053-6	259759	8.16	915350	10.28	436660	15.76
JC52053-8	274318	8.18	937255	10.29	383707	15.77
JC52053-9	270455	8.18	934815	10.29	395933	15.77
ZZZZZZ	271961	8.18	955643	10.29	430748	15.77
V5W1066-SCC	246496	8.15	861457	10.28	398279	15.76
V5W1066-ECC1062	262149	8.18	894533	10.29	405198	15.77

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

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Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V5W1067-CC1065	**Injection Date:**	10/08/17
Lab File ID:	5W27112.D	**Injection Time:**	09:31
Instrument ID:	GCMS5W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	262891	8.14	902474	10.27	389207	15.76
Upper Limit [a]	368047	8.47	1263464	10.60	544890	16.09
Lower Limit [b]	157735	7.81	541484	9.94	233524	15.43

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V5W1067-BS	281008	8.16	959992	10.29	419124	15.77
V5W1067-BSD	286961	8.17	975475	10.29	426662	15.77
V5W1067-MB	277338	8.18	971352	10.29	451869	15.77
V5W1067-SCC	254461	8.14	876940	10.27	409652	15.76
JC52053-7	257432	8.16	897049	10.28	418672	15.76
JC51796-1	258354	8.17	902452	10.29	355263	15.77
JC51796-1DUP	255939	8.18	887677	10.29	346884	15.77
ZZZZZZ	257795	8.18	895372	10.29	338639	15.77
ZZZZZZ	264319	8.17	910083	10.29	390010	15.77
ZZZZZZ	257791	8.18	899276	10.29	403183	15.77
ZZZZZZ	254458	8.18	894205	10.29	400537	15.77
ZZZZZZ	260407	8.18	909848	10.29	397348	15.77
ZZZZZZ	254317	8.18	888505	10.29	397142	15.77
ZZZZZZ	259992	8.18	934074	10.30	422296	15.77
ZZZZZZ	255816	8.19	895576	10.30	412210	15.77
ZZZZZZ	253750	8.18	893017	10.30	413896	15.77
ZZZZZZ	216413	8.16	751786	10.31	324364	15.77
ZZZZZZ	250992	8.18	891061	10.30	423359	15.77
ZZZZZZ	269107	8.18	941317	10.30	413615	15.77
V5W1067-ECC1065	281718	8.18	957809	10.29	445500	15.77

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

SGS ACCUTEST
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JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,3-Butadiene	4.07	7.70	0.529	ok	0.529	0.469-0.589
Benzene	9.36	9.74	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.44	9.74	1.072	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromoethene	4.64	7.70	0.603	ok	0.604	0.544-0.664
Benzyl Chloride	17.80	14.37	1.239	ok	1.238	1.178-1.298
tert-Butylbenzene	17.64	14.37	1.228	ok	1.227	1.167-1.287
Carbon disulfide	5.88	7.70	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.42	14.37	1.003	ok	1.004	0.944-1.064
Chlorotrifluoroethene	3.64	7.70	0.473	ok	0.473	0.413-0.533
Chloroform	7.83	7.70	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.70	0.496	ok	0.495	0.435-0.555
2-Chlorotoluene	16.80	14.37	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.52	7.70	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.67	9.74	0.993	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.67	7.70	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.47	7.70	0.710	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloropropane	10.23	9.74	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.74	1.282	ok	1.281	1.221-1.341
Dichlorodifluoromethane	3.69	7.70	0.479	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.44	7.70	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.20	9.74	1.047	ok	1.048	0.988-1.108
cis-1,2-Dichloroethylene	7.52	7.70	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.74	1.172	ok	1.171	1.111-1.231
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.37	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.99	9.74	1.231	ok	1.229	1.169-1.289
2,3-Dimethylpentane	9.91	9.74	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.70	1.127	ok	1.126	1.066-1.186
Ethylbenzene	14.83	14.37	1.032	ok	1.032	0.972-1.092
Ethyl Acrylate	10.28	9.74	1.055	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.81	7.70	0.755	ok	0.754	0.694-0.814
Freon 114	3.87	7.70	0.503	ok	0.504	0.444-0.564
Freon 115	3.87	7.70	0.503	ok	0.504	0.444-0.564
Freon 123	4.73	7.70	0.614	ok	0.615	0.555-0.675

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 123A	4.77	7.70	0.619	ok	0.620	0.560-0.680
Freon 141B	5.03	7.70	0.653	ok	0.655	0.595-0.715
Freon 142B	3.79	7.70	0.492	ok	0.492	0.432-0.552
Freon 143a	3.49	7.70	0.453	ok	0.455	0.395-0.515
Freon 152A	3.79	7.70	0.492	ok	0.492	0.432-0.552
Heptane	10.81	9.74	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Iodomethane	5.42	7.70	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
Methyl Tert Butyl Ether	6.79	7.70	0.882	ok	0.877	0.817-0.937
Methylmethacrylate	10.74	9.74	1.103	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Styrene	15.45	14.37	1.075	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.88	7.70	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.40	14.37	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.55	14.37	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.74	1.248	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.14	14.37	1.193	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.74	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.58	7.70	0.725	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Toluene	12.46	9.74	1.279	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.74	1.078	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.95	7.70	0.643	ok	0.644	0.584-0.704
Vinyl chloride	3.97	7.70	0.516	ok	0.516	0.456-0.576
m,p-Xylene	15.04	14.37	1.047	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.70	ok	7.71	7.38-8.04	162331	ok	160518	96311-224725
1,4-Difluorobenzene	9.74	ok	9.75	9.42-10.08	661874	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	261098	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acrylonitrile	5.24	7.71	0.680	ok	0.675	0.615-0.735
Acetonitrile	4.69	7.71	0.608	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.38	9.75	0.962	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.37	1.239	ok	1.238	1.178-1.298
n-Butylbenzene	18.67	14.37	1.299	ok	1.298	1.238-1.358
sec-Butylbenzene	17.97	14.37	1.251	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.71	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.37	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.71	0.470	ok	0.470	0.410-0.530
Chloroethane	4.39	7.71	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.84	7.71	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.37	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.53	7.71	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.48	7.71	0.711	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.75	1.048	ok	1.048	0.988-1.108
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.75	1.171	ok	1.171	1.111-1.231
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.90	14.37	1.246	ok	1.245	1.185-1.305

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
trans-1,3-Dichloropropene	11.98	9.75	1.229	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.78	7.71	1.009	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethylbenzene	14.84	14.37	1.033	ok	1.032	0.972-1.092
Ethyl Acrylate	10.28	9.75	1.054	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.81	7.71	0.754	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
p-Isopropyltoluene	18.16	14.37	1.264	ok	1.263	1.203-1.323
Methyl Tert Butyl Ether	6.79	7.71	0.881	ok	0.877	0.817-0.937
Methylmethacrylate	10.73	9.75	1.101	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.71	0.681	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.37	1.173	ok	1.173	1.113-1.233
Styrene	15.44	14.37	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.89	7.71	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.37	1.003	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.37	1.083	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.37	1.192	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.75	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.61	7.71	0.728	ok	0.720	0.660-0.780

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.34	7.71	1.082	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.71	0.516	ok	0.516	0.456-0.576
m,p-Xylene	15.05	14.37	1.047	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	160222	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	673835	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	266874	ok	291063	174638-407488

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Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.88	7.71	0.633	ok	0.628	0.568-0.688
Acrylonitrile	5.23	7.71	0.678	ok	0.675	0.615-0.735
Acetonitrile	4.68	7.71	0.607	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.37	9.75	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.44	9.75	1.071	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.37	1.239	ok	1.238	1.178-1.298
n-Butylbenzene	18.67	14.37	1.299	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.37	1.250	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.90	7.71	0.765	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.37	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.63	7.71	0.471	ok	0.470	0.410-0.530
Chloroethane	4.40	7.71	0.571	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.84	7.71	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.37	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.53	7.71	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.71	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.58	9.75	1.085	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.21	9.75	1.047	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.71	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.75	1.171	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.37	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.98	9.75	1.229	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.77	7.71	1.008	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethylbenzene	14.84	14.37	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.79	7.71	1.010	ok	1.007	0.947-1.067
Ethyl Acrylate	10.27	9.75	1.053	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.82	7.71	0.755	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Hexane	7.75	7.71	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.80	14.37	0.891	ok	0.888	0.828-0.948
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.06	7.71	0.656	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.37	1.264	ok	1.263	1.203-1.323
Methylene chloride	5.58	7.71	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.13	7.71	0.925	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.51	9.75	1.181	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.78	7.71	0.879	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.75	1.099	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.71	0.681	ok	0.680	0.620-0.740
n-Propylbenzene	16.85	14.37	1.173	ok	1.173	1.113-1.233
Propylene	3.65	7.71	0.473	ok	0.473	0.413-0.533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	15.44	14.37	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.89	7.71	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.40	14.37	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.37	1.083	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.70	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.14	14.37	1.193	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.75	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.59	7.71	0.725	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.32	7.71	1.079	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.99	7.71	0.518	ok	0.516	0.456-0.576
Vinyl Acetate	6.85	7.71	0.888	ok	0.885	0.825-0.945
m,p-Xylene	15.03	14.37	1.046	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.71	0.680	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	162274	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	677314	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	272804	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.86	7.71	0.630	ok	0.628	0.568-0.688
Acrylonitrile	5.22	7.71	0.677	ok	0.675	0.615-0.735
Acetonitrile	4.67	7.71	0.606	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.37	9.75	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.79	14.37	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.37	1.299	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.37	1.250	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.71	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.42	14.37	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.63	7.71	0.471	ok	0.470	0.410-0.530
Chloroethane	4.40	7.71	0.571	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.83	7.71	1.016	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.37	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.53	7.71	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.71	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.55	9.75	1.082	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.21	9.75	1.047	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.71	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.41	9.75	1.170	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.37	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.97	9.75	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.75	7.71	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethanol	4.50	7.71	0.584	ok	0.580	0.520-0.640
Ethylbenzene	14.84	14.37	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.78	7.71	1.009	ok	1.007	0.947-1.067
Ethyl Acrylate	10.26	9.75	1.052	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.82	7.71	0.755	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Hexane	7.75	7.71	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.78	14.37	0.889	ok	0.888	0.828-0.948
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.05	7.71	0.655	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.37	1.264	ok	1.263	1.203-1.323
Methylene chloride	5.58	7.71	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.11	7.71	0.922	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.49	9.75	1.178	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.77	7.71	0.878	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.75	1.099	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Pentane	5.24	7.71	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.37	1.173	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Styrene	15.44	14.37	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.88	7.71	1.152	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.37	1.003	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.55	14.37	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.70	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.37	1.192	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.75	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.57	7.71	0.722	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.31	7.71	1.078	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.49	9.75	1.076	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.71	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	6.84	7.71	0.887	ok	0.885	0.825-0.945
m,p-Xylene	15.03	14.37	1.046	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.71	0.680	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	165414	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	680663	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	279703	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	Reporting this level
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.71	0.626	ok	0.628	0.568-0.688
Acrylonitrile	5.19	7.71	0.673	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.71	0.602	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.37	9.75	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.38	1.136	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.12	14.38	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.79	14.38	1.237	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.38	1.249	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.71	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.71	0.470	ok	0.470	0.410-0.530
Chloroethane	4.39	7.71	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.84	7.71	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.38	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.71	1.237	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.71	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.51	9.75	1.078	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.92	14.38	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.75	1.048	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.71	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.41	9.75	1.170	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	Reporting this level
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.38	1.244	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.97	9.75	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.74	7.71	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethanol	4.47	7.71	0.580	ok	0.580	0.520-0.640
Ethylbenzene	14.84	14.38	1.032	ok	1.032	0.972-1.092
Ethyl Acetate	7.76	7.71	1.006	ok	1.007	0.947-1.067
Ethyl Acrylate	10.24	9.75	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.38	1.185	ok	1.185	1.125-1.245
Freon 113	5.82	7.71	0.755	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.38	1.328	ok	1.329	1.269-1.389
Hexane	7.75	7.71	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.76	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.01	7.71	0.650	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.58	7.71	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.71	0.918	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.75	1.175	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.71	0.874	ok	0.877	0.817-0.937
Methylmethacrylate	10.71	9.75	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.83	14.38	1.101	ok	1.101	1.041-1.161
Octane	13.54	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.24	7.71	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.38	1.172	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	Reporting this level
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Styrene	15.44	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.88	7.71	1.152	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.38	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.70	14.38	1.092	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.38	1.191	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.54	9.75	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.52	7.71	0.716	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.38	0.951	ok	0.952	0.892-1.012
Tetrahydrofuran	8.27	7.71	1.073	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.71	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	6.82	7.71	0.885	ok	0.885	0.825-0.945
m,p-Xylene	15.05	14.38	1.047	ok	1.046	0.986-1.106
o-Xylene	15.56	14.38	1.082	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.63	7.71	0.730	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	160276	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	694445	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	285192	ok	291063	174638-407488

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Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.72	0.626	ok	0.628	0.568-0.688
Acrylonitrile	5.19	7.72	0.672	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.72	0.601	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.72	0.528	ok	0.529	0.469-0.589
Benzene	9.38	9.75	0.962	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.38	1.136	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.12	14.38	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.72	0.554	ok	0.555	0.495-0.615
Bromoethene	4.66	7.72	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.72	0.532	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.38	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.38	1.249	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.72	0.763	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.72	0.469	ok	0.470	0.410-0.530
Chloroethane	4.39	7.72	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.72	0.473	ok	0.473	0.413-0.533
Chloroform	7.85	7.72	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.72	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.72	0.738	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.38	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.72	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.67	9.75	0.992	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.72	0.865	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.72	0.711	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.72	1.117	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.25	9.75	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.50	9.75	1.077	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.72	0.479	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.72	0.576	ok	0.577	0.517-0.637
Dibromochloromethane	12.92	14.38	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.75	1.048	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.72	0.839	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.54	7.72	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.75	1.171	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.38	1.244	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.98	9.75	1.229	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.74	7.72	1.003	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.69	7.72	1.126	ok	1.126	1.066-1.186
Ethanol	4.47	7.72	0.579	ok	0.580	0.520-0.640
Ethylbenzene	14.84	14.38	1.032	ok	1.032	0.972-1.092
Ethyl Acetate	7.76	7.72	1.005	ok	1.007	0.947-1.067
Ethyl Acrylate	10.24	9.75	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.38	1.185	ok	1.185	1.125-1.245
Freon 113	5.82	7.72	0.754	ok	0.754	0.694-0.814
Freon 114	3.89	7.72	0.504	ok	0.504	0.444-0.564
Freon 115	3.89	7.72	0.504	ok	0.504	0.444-0.564
Freon 123	4.74	7.72	0.614	ok	0.615	0.555-0.675
Freon 123A	4.78	7.72	0.619	ok	0.620	0.560-0.680
Freon 141B	5.05	7.72	0.654	ok	0.655	0.595-0.715
Freon 142B	3.80	7.72	0.492	ok	0.492	0.432-0.552
Freon 143a	3.51	7.72	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.72	0.492	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.38	1.328	ok	1.329	1.269-1.389
Hexane	7.75	7.72	1.004	ok	1.005	0.945-1.065
2-Hexanone	12.75	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.43	7.72	0.703	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.01	7.72	0.649	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.59	7.72	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.72	0.917	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.75	1.175	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.72	0.873	ok	0.877	0.817-0.937
Methylmethacrylate	10.71	9.75	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.83	14.38	1.101	ok	1.101	1.041-1.161
Octane	13.54	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.72	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.38	1.172	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.72	0.473	ok	0.473	0.413-0.533
Styrene	15.45	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.89	7.72	1.152	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.38	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.38	1.092	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.38	1.191	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.54	9.75	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.51	7.72	0.714	ok	0.720	0.660-0.780
Tetrachloroethylene	13.69	14.38	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.26	7.72	1.070	ok	1.074	1.014-1.134
Toluene	12.47	9.75	1.279	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.72	0.644	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.72	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	6.82	7.72	0.883	ok	0.885	0.825-0.945
m,p-Xylene	15.03	14.38	1.045	ok	1.046	0.986-1.106
o-Xylene	15.57	14.38	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.72	0.679	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.72	ok	7.71	7.38-8.04	155655	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	690506	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	294329	ok	291063	174638-407488

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.73	0.625	ok	0.628	0.568-0.688
Acrylonitrile	5.20	7.73	0.673	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.73	0.600	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.73	0.528	ok	0.529	0.469-0.589
Benzene	9.39	9.76	0.962	ok	0.961	0.901-1.021
Bromobenzene	16.35	14.38	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.46	9.76	1.072	ok	1.072	1.012-1.132
Bromoform	15.13	14.38	1.052	ok	1.052	0.992-1.112
Bromomethane	4.28	7.73	0.554	ok	0.555	0.495-0.615
Bromoethene	4.66	7.73	0.603	ok	0.604	0.544-0.664
n-Butane	4.11	7.73	0.532	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.38	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.67	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.97	14.38	1.250	ok	1.250	1.190-1.310
tert-Butylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.90	7.73	0.763	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.73	0.468	ok	0.470	0.410-0.530
Chloroethane	4.40	7.73	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.73	0.472	ok	0.473	0.413-0.533
Chloroform	7.86	7.73	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.73	0.494	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.73	0.737	ok	0.739	0.679-0.799
2-Chlorotoluene	16.82	14.38	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.73	1.234	ok	1.236	1.176-1.296
Cyclohexane	9.67	9.76	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.70	7.73	0.867	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.50	7.73	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.19	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.63	7.73	1.116	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.26	9.76	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.50	9.76	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.50	9.76	1.076	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.71	7.73	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.46	7.73	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.93	14.38	0.899	ok	0.899	0.839-0.959
Dibromomethane	10.23	9.76	1.048	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.49	7.73	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.55	7.73	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.43	9.76	1.171	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.82	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.91	14.38	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.99	9.76	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.75	7.73	1.003	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.94	9.76	1.018	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.70	7.73	1.125	ok	1.126	1.066-1.186
Ethanol	4.47	7.73	0.578	ok	0.580	0.520-0.640
Ethylbenzene	14.85	14.38	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.77	7.73	1.005	ok	1.007	0.947-1.067
Ethyl Acrylate	10.25	9.76	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.05	14.38	1.186	ok	1.185	1.125-1.245
Freon 113	5.83	7.73	0.754	ok	0.754	0.694-0.814
Freon 114	3.89	7.73	0.503	ok	0.504	0.444-0.564
Freon 115	3.89	7.73	0.503	ok	0.504	0.444-0.564
Freon 123	4.75	7.73	0.614	ok	0.615	0.555-0.675
Freon 123A	4.79	7.73	0.620	ok	0.620	0.560-0.680
Freon 141B	5.06	7.73	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.73	0.492	ok	0.492	0.432-0.552
Freon 143a	3.51	7.73	0.454	ok	0.455	0.395-0.515
Freon 152A	3.80	7.73	0.492	ok	0.492	0.432-0.552
Heptane	10.83	9.76	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.11	14.38	1.329	ok	1.329	1.269-1.389
Hexane	7.76	7.73	1.004	ok	1.005	0.945-1.065
2-Hexanone	12.76	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.45	7.73	0.705	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.01	7.73	0.648	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.59	7.73	0.723	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.73	0.916	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.76	1.174	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.73	0.872	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.76	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.84	14.38	1.102	ok	1.101	1.041-1.161
Octane	13.55	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.73	0.679	ok	0.680	0.620-0.740
n-Propylbenzene	16.87	14.38	1.173	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.73	0.472	ok	0.473	0.413-0.533
Styrene	15.45	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.90	7.73	1.151	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.57	14.38	1.083	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.18	9.76	1.248	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.72	14.38	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.15	14.38	1.193	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.55	9.76	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.52	7.73	0.714	ok	0.720	0.660-0.780
Tetrachloroethylene	13.70	14.38	0.953	ok	0.952	0.892-1.012
Tetrahydrofuran	8.26	7.73	1.069	ok	1.074	1.014-1.134
Toluene	12.47	9.76	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.51	9.76	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.73	0.643	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.73	0.515	ok	0.516	0.456-0.576
Vinyl Acetate	6.83	7.73	0.884	ok	0.885	0.825-0.945
m,p-Xylene	15.06	14.38	1.047	ok	1.046	0.986-1.106
o-Xylene	15.58	14.38	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.73	0.678	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.73	ok	7.71	7.38-8.04	158824	ok	160518	96311-224725
1,4-Difluorobenzene	9.76	ok	9.75	9.42-10.08	726608	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	350562	ok	291063	174638-407488

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.72	0.626	ok	0.628	0.568-0.688
Acrylonitrile	5.20	7.72	0.674	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.72	0.601	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.72	0.528	ok	0.529	0.469-0.589
Benzene	9.38	9.76	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.38	1.136	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.76	1.071	ok	1.072	1.012-1.132
Bromoform	15.12	14.38	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.72	0.554	ok	0.555	0.495-0.615
Bromoethene	4.66	7.72	0.604	ok	0.604	0.544-0.664
n-Butane	4.12	7.72	0.534	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.38	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.38	1.249	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
Carbon disulfide	5.90	7.72	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.63	7.72	0.470	ok	0.470	0.410-0.530
Chloroethane	4.40	7.72	0.570	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.66	7.72	0.474	ok	0.473	0.413-0.533
Chloroform	7.86	7.72	1.018	ok	1.017	0.957-1.077
Chloromethane	3.83	7.72	0.496	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.72	0.738	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.38	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.72	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.68	9.76	0.992	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.69	7.72	0.867	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.50	7.72	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.19	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.63	7.72	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.25	9.76	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.50	9.76	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.50	9.76	1.076	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.71	7.72	0.481	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.46	7.72	0.578	ok	0.577	0.517-0.637
Dibromochloromethane	12.92	14.38	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.76	1.047	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.49	7.72	0.841	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.55	7.72	0.978	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.76	1.170	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.90	14.38	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.99	9.76	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.75	7.72	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.93	9.76	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.70	7.72	1.127	ok	1.126	1.066-1.186
Ethanol	4.47	7.72	0.579	ok	0.580	0.520-0.640
Ethylbenzene	14.85	14.38	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.76	7.72	1.005	ok	1.007	0.947-1.067
Ethyl Acrylate	10.25	9.76	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.38	1.185	ok	1.185	1.125-1.245
Freon 113	5.83	7.72	0.755	ok	0.754	0.694-0.814
Freon 114	3.90	7.72	0.505	ok	0.504	0.444-0.564
Freon 115	3.90	7.72	0.505	ok	0.504	0.444-0.564
Freon 123	4.75	7.72	0.615	ok	0.615	0.555-0.675
Freon 123A	4.79	7.72	0.620	ok	0.620	0.560-0.680
Freon 141B	5.06	7.72	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.72	0.492	ok	0.492	0.432-0.552
Freon 143a	3.51	7.72	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.72	0.492	ok	0.492	0.432-0.552
Heptane	10.82	9.76	1.109	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.38	1.328	ok	1.329	1.269-1.389
Hexane	7.76	7.72	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.75	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.44	7.72	0.705	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.02	7.72	0.650	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.59	7.72	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.72	0.917	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.76	1.174	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.72	0.873	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.76	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.83	14.38	1.101	ok	1.101	1.041-1.161
Octane	13.54	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.72	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.38	1.172	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.72	0.473	ok	0.473	0.413-0.533
Styrene	15.45	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.90	7.72	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.38	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.17	9.76	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.38	1.092	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.14	14.38	1.192	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.54	9.76	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.52	7.72	0.715	ok	0.720	0.660-0.780
Tetrachloroethylene	13.69	14.38	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.26	7.72	1.070	ok	1.074	1.014-1.134
Toluene	12.47	9.76	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.76	1.076	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.72	0.644	ok	0.644	0.584-0.704
Vinyl chloride	3.99	7.72	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	6.83	7.72	0.885	ok	0.885	0.825-0.945
m,p-Xylene	15.05	14.38	1.047	ok	1.046	0.986-1.106
o-Xylene	15.57	14.38	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.72	0.679	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.72	ok	7.71	7.38-8.04	159146	ok	160518	96311-224725
1,4-Difluorobenzene	9.76	ok	9.75	9.42-10.08	709572	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	317938	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acrylonitrile	5.67	8.12	0.698	ok	0.697	0.637-0.757
1,3-Butadiene	4.43	8.12	0.546	ok	0.545	0.485-0.605
Benzene	9.84	8.12	1.212	ok	1.211	1.151-1.271
Bromobenzene	18.35	15.77	1.164	ok	1.163	1.103-1.223
Bromodichloromethane	11.04	10.27	1.075	ok	1.075	1.015-1.135
Bromoform	16.74	15.77	1.062	ok	1.061	1.001-1.121
Bromomethane	4.64	8.12	0.571	ok	0.571	0.511-0.631
Bromoethene	5.05	8.12	0.622	ok	0.622	0.562-0.682
Benzyl Chloride	20.20	15.77	1.281	ok	1.279	1.219-1.339
sec-Butylbenzene	20.37	15.77	1.292	ok	1.291	1.231-1.351
tert-Butylbenzene	19.97	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.31	8.12	0.777	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.94	8.12	0.485	ok	0.486	0.426-0.546
Chloroethane	4.76	8.12	0.586	ok	0.587	0.527-0.647
Chlorotrifluoroethene	3.97	8.12	0.489	ok	0.489	0.429-0.549
Chloroform	8.26	8.12	1.017	ok	1.017	0.957-1.077
Chloromethane	4.16	8.12	0.512	ok	0.511	0.451-0.571
3-Chloropropene	6.14	8.12	0.756	ok	0.757	0.697-0.817
2-Chlorotoluene	18.98	15.77	1.204	ok	1.202	1.142-1.262
Carbon tetrachloride	10.00	8.12	1.232	ok	1.232	1.172-1.292
Cyclohexane	10.13	8.12	1.248	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.10	8.12	0.874	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.93	8.12	0.730	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.26	10.27	1.389	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.05	8.12	1.115	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.79	10.27	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.45	10.27	1.310	ok	1.309	1.249-1.369
Dichlorodifluoromethane	4.02	8.12	0.495	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.84	8.12	0.596	ok	0.596	0.536-0.656
Dibromochloromethane	13.95	10.27	1.358	ok	1.358	1.298-1.418
Dibromomethane	10.77	10.27	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.90	8.12	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.95	8.12	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.27	1.185	ok	1.184	1.124-1.244
m-Dichlorobenzene	20.20	15.77	1.281	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.76	15.77	1.316	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.29	15.77	1.287	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.85	10.27	1.251	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.19	8.12	1.009	ok	1.006	0.946-1.066

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Ethylbenzene	16.39	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acrylate	10.90	10.27	1.061	ok	1.058	0.998-1.118
4-Ethyltoluene	19.28	15.77	1.223	ok	1.222	1.162-1.282
Freon 113	6.27	8.12	0.772	ok	0.771	0.711-0.831
Freon 114	4.22	8.12	0.520	ok	0.520	0.460-0.580
Freon 123	5.17	8.12	0.637	ok	0.637	0.577-0.697
Freon 123A	5.21	8.12	0.642	ok	0.642	0.582-0.702
Freon 141B	5.48	8.12	0.675	ok	0.675	0.615-0.735
Freon 152A	3.90	8.12	0.480	ok	0.482	0.422-0.542
Heptane	11.45	10.27	1.115	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.57	15.77	1.495	ok	1.494	1.434-1.554
Hexachloroethane	21.65	15.77	1.373	ok	1.372	1.312-1.432
Iodomethane	5.87	8.12	0.723	ok	0.723	0.663-0.783
Isopropylbenzene	18.24	15.77	1.157	ok	1.156	1.096-1.216
p-Isopropyltoluene	20.61	15.77	1.307	ok	1.306	1.246-1.366
Methyl Tert Butyl Ether	7.21	8.12	0.888	ok	0.885	0.825-0.945
Methylmethacrylate	11.41	10.27	1.111	ok	1.109	1.049-1.169
Nonane	17.71	15.77	1.123	ok	1.123	1.063-1.183
n-Propylbenzene	19.05	15.77	1.208	ok	1.207	1.147-1.267
Styrene	17.20	15.77	1.091	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.32	8.12	1.148	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.82	10.27	1.540	ok	1.541	1.481-1.601
1,1,2,2-Tetrachloroethane	17.35	15.77	1.100	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.27	1.271	ok	1.270	1.210-1.330
1,2,3-Trichloropropane	17.54	15.77	1.112	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.99	15.77	1.268	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.40	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.09	10.27	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	6.05	8.12	0.745	ok	0.740	0.680-0.800
Tetrachloroethylene	14.90	10.27	1.451	ok	1.450	1.390-1.510
Toluene	13.39	10.27	1.304	ok	1.304	1.244-1.364
Trichloroethylene	11.09	10.27	1.080	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.38	8.12	0.663	ok	0.663	0.603-0.723
Vinyl chloride	4.32	8.12	0.532	ok	0.532	0.472-0.592
m,p-Xylene	16.66	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.33	15.77	1.099	ok	1.099	1.039-1.159

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.12	ok	8.12	7.79-8.45	163557	ok	160060	96036-224084
1,4-Difluorobenzene	10.27	ok	10.27	9.94-10.60	602833	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	258719	ok	261690	157014-366366

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	Reporting this level
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.26	8.11	0.649	ok	0.650	0.590-0.710
Acrylonitrile	5.65	8.11	0.697	ok	0.697	0.637-0.757
Acetonitrile	5.05	8.11	0.623	ok	0.624	0.564-0.684
1,3-Butadiene	4.41	8.11	0.544	ok	0.545	0.485-0.605
Benzene	9.83	8.11	1.212	ok	1.211	1.151-1.271
Bromobenzene	18.34	15.77	1.163	ok	1.163	1.103-1.223
Bromodichloromethane	11.04	10.26	1.076	ok	1.075	1.015-1.135
Bromoform	16.73	15.77	1.061	ok	1.061	1.001-1.121
Bromomethane	4.63	8.11	0.571	ok	0.571	0.511-0.631
Bromoethene	5.04	8.11	0.621	ok	0.622	0.562-0.682
n-Butane	4.45	8.11	0.549	ok	0.549	0.489-0.609
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.77	1.343	ok	1.343	1.283-1.403
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.97	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.30	8.11	0.777	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.94	8.11	0.486	ok	0.486	0.426-0.546
Chloroethane	4.76	8.11	0.587	ok	0.587	0.527-0.647
Chlorotrifluoroethene	3.97	8.11	0.490	ok	0.489	0.429-0.549
Chloroform	8.25	8.11	1.017	ok	1.017	0.957-1.077
Chloromethane	4.14	8.11	0.510	ok	0.511	0.451-0.571
3-Chloropropene	6.14	8.11	0.757	ok	0.757	0.697-0.817
2-Chlorotoluene	18.96	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.00	8.11	1.233	ok	1.232	1.172-1.292
Cyclohexane	10.13	8.11	1.249	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.09	8.11	0.874	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.92	8.11	0.730	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.25	10.26	1.389	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.04	8.11	1.115	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.79	10.26	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.43	10.26	1.309	ok	1.309	1.249-1.369
1,4-Dioxane	11.13	10.26	1.085	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.01	8.11	0.494	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.83	8.11	0.596	ok	0.596	0.536-0.656
Dibromochloromethane	13.94	10.26	1.359	ok	1.358	1.298-1.418
Dibromomethane	10.77	10.26	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.89	8.11	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.94	8.11	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.15	10.26	1.184	ok	1.184	1.124-1.244

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	Reporting this level
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.75	15.77	1.316	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.28	15.77	1.286	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.82	10.26	1.250	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.16	8.11	1.006	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.41	8.11	1.284	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.08	8.11	1.120	ok	1.119	1.059-1.179
Ethanol	4.87	8.11	0.600	ok	0.601	0.541-0.661
Ethylbenzene	16.38	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acetate	8.21	8.11	1.012	ok	1.012	0.952-1.072
Ethyl Acrylate	10.84	10.26	1.057	ok	1.058	0.998-1.118
4-Ethyltoluene	19.27	15.77	1.222	ok	1.222	1.162-1.282
Freon 113	6.25	8.11	0.771	ok	0.771	0.711-0.831
Freon 114	4.22	8.11	0.520	ok	0.520	0.460-0.580
Freon 123	5.16	8.11	0.636	ok	0.637	0.577-0.697
Freon 123A	5.20	8.11	0.641	ok	0.642	0.582-0.702
Freon 152A	3.90	8.11	0.481	ok	0.482	0.422-0.542
Heptane	11.44	10.26	1.115	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.64	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.13	8.11	1.002	ok	1.002	0.942-1.062
2-Hexanone	13.78	10.26	1.343	ok	1.344	1.284-1.404
Iodomethane	5.86	8.11	0.723	ok	0.723	0.663-0.783
Isopropylbenzene	18.23	15.77	1.156	ok	1.156	1.096-1.216
Isopropyl Alcohol	5.47	8.11	0.674	ok	0.676	0.616-0.736
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.04	8.11	0.745	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.52	8.11	0.927	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.22	10.26	1.191	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.17	8.11	0.884	ok	0.885	0.825-0.945
Methylmethacrylate	11.37	10.26	1.108	ok	1.109	1.049-1.169
Naphthalene	23.11	15.77	1.465	ok	1.465	1.405-1.525
Nonane	17.71	15.77	1.123	ok	1.123	1.063-1.183
Octane	14.73	10.26	1.436	ok	1.435	1.375-1.495
Pentane	5.65	8.11	0.697	ok	0.698	0.638-0.758
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	3.96	8.11	0.488	ok	0.488	0.428-0.548
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.31	8.11	1.148	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.82	10.26	1.542	ok	1.541	1.481-1.601

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Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	Reporting this level
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.26	1.271	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	22.99	15.77	1.458	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.52	15.77	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.39	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.09	10.26	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.98	8.11	0.737	ok	0.740	0.680-0.800
Tetrachloroethylene	14.89	10.26	1.451	ok	1.450	1.390-1.510
Tetrahydrofuran	8.72	8.11	1.075	ok	1.076	1.016-1.136
Toluene	13.38	10.26	1.304	ok	1.304	1.244-1.364
Trichloroethylene	11.07	10.26	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.37	8.11	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.31	8.11	0.531	ok	0.532	0.472-0.592
Vinyl Acetate	7.25	8.11	0.894	ok	0.894	0.834-0.954
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.32	15.77	1.098	ok	1.099	1.039-1.159
TVHC As Equiv Pentane	5.65	15.77	0.358	ok	0.359	0.299-0.419

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.11	ok	8.12	7.79-8.45	154026	ok	160060	96036-224084
1,4-Difluorobenzene	10.26	ok	10.27	9.94-10.60	564193	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	259455	ok	261690	157014-366366

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.26	8.11	0.649	ok	0.650	0.590-0.710
Acrylonitrile	5.65	8.11	0.697	ok	0.697	0.637-0.757
Acetonitrile	5.05	8.11	0.623	ok	0.624	0.564-0.684
1,3-Butadiene	4.41	8.11	0.544	ok	0.545	0.485-0.605
Benzene	9.83	8.11	1.212	ok	1.211	1.151-1.271
Bromobenzene	18.34	15.77	1.163	ok	1.163	1.103-1.223
Bromodichloromethane	11.04	10.26	1.076	ok	1.075	1.015-1.135
Bromoform	16.73	15.77	1.061	ok	1.061	1.001-1.121
Bromomethane	4.63	8.11	0.571	ok	0.571	0.511-0.631
Bromoethene	5.04	8.11	0.621	ok	0.622	0.562-0.682
n-Butane	4.45	8.11	0.549	ok	0.549	0.489-0.609
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.77	1.343	ok	1.343	1.283-1.403
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.97	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.30	8.11	0.777	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.94	8.11	0.486	ok	0.486	0.426-0.546
Chloroethane	4.76	8.11	0.587	ok	0.587	0.527-0.647
Chlorotrifluoroethene	3.96	8.11	0.488	ok	0.489	0.429-0.549
Chloroform	8.25	8.11	1.017	ok	1.017	0.957-1.077
Chloromethane	4.14	8.11	0.510	ok	0.511	0.451-0.571
3-Chloropropene	6.14	8.11	0.757	ok	0.757	0.697-0.817
2-Chlorotoluene	18.96	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.00	8.11	1.233	ok	1.232	1.172-1.292
Cyclohexane	10.13	8.11	1.249	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.09	8.11	0.874	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.92	8.11	0.730	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.26	10.26	1.390	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.04	8.11	1.115	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.79	10.26	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.43	10.26	1.309	ok	1.309	1.249-1.369
1,4-Dioxane	11.12	10.26	1.084	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.02	8.11	0.496	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.83	8.11	0.596	ok	0.596	0.536-0.656
Dibromochloromethane	13.94	10.26	1.359	ok	1.358	1.298-1.418
Dibromomethane	10.77	10.26	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.89	8.11	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.94	8.11	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.15	10.26	1.184	ok	1.184	1.124-1.244

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.75	15.77	1.316	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.28	15.77	1.286	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.82	10.26	1.250	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.15	8.11	1.005	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.41	8.11	1.284	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.08	8.11	1.120	ok	1.119	1.059-1.179
Ethanol	4.87	8.11	0.600	ok	0.601	0.541-0.661
Ethylbenzene	16.38	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acetate	8.20	8.11	1.011	ok	1.012	0.952-1.072
Ethyl Acrylate	10.84	10.26	1.057	ok	1.058	0.998-1.118
4-Ethyltoluene	19.27	15.77	1.222	ok	1.222	1.162-1.282
Freon 113	6.25	8.11	0.771	ok	0.771	0.711-0.831
Freon 114	4.21	8.11	0.519	ok	0.520	0.460-0.580
Freon 123	5.16	8.11	0.636	ok	0.637	0.577-0.697
Freon 123A	5.20	8.11	0.641	ok	0.642	0.582-0.702
Freon 152A	3.90	8.11	0.481	ok	0.482	0.422-0.542
Heptane	11.44	10.26	1.115	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.64	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.13	8.11	1.002	ok	1.002	0.942-1.062
2-Hexanone	13.78	10.26	1.343	ok	1.344	1.284-1.404
Iodomethane	5.86	8.11	0.723	ok	0.723	0.663-0.783
Isopropylbenzene	18.23	15.77	1.156	ok	1.156	1.096-1.216
Isopropyl Alcohol	5.47	8.11	0.674	ok	0.676	0.616-0.736
p-Isopropyltoluene	20.60	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.03	8.11	0.744	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.51	8.11	0.926	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.21	10.26	1.190	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.17	8.11	0.884	ok	0.885	0.825-0.945
Methylmethacrylate	11.37	10.26	1.108	ok	1.109	1.049-1.169
Naphthalene	23.11	15.77	1.465	ok	1.465	1.405-1.525
Nonane	17.71	15.77	1.123	ok	1.123	1.063-1.183
Octane	14.73	10.26	1.436	ok	1.435	1.375-1.495
Pentane	5.66	8.11	0.698	ok	0.698	0.638-0.758
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	3.95	8.11	0.487	ok	0.488	0.428-0.548
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.31	8.11	1.148	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.82	10.26	1.542	ok	1.541	1.481-1.601

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.26	1.271	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	22.99	15.77	1.458	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.52	15.77	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.39	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.09	10.26	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.99	8.11	0.739	ok	0.740	0.680-0.800
Tetrachloroethylene	14.89	10.26	1.451	ok	1.450	1.390-1.510
Tetrahydrofuran	8.71	8.11	1.074	ok	1.076	1.016-1.136
Toluene	13.38	10.26	1.304	ok	1.304	1.244-1.364
Trichloroethylene	11.07	10.26	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.37	8.11	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.31	8.11	0.531	ok	0.532	0.472-0.592
Vinyl Acetate	7.25	8.11	0.894	ok	0.894	0.834-0.954
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.32	15.77	1.098	ok	1.099	1.039-1.159
TVHC As Equiv Pentane	5.65	15.77	0.358	ok	0.359	0.299-0.419

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.11	ok	8.12	7.79-8.45	156094	ok	160060	96036-224084
1,4-Difluorobenzene	10.26	ok	10.27	9.94-10.60	564228	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	253838	ok	261690	157014-366366

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.26	8.12	0.648	ok	0.650	0.590-0.710
Acrylonitrile	5.65	8.12	0.696	ok	0.697	0.637-0.757
Acetonitrile	5.05	8.12	0.622	ok	0.624	0.564-0.684
1,3-Butadiene	4.41	8.12	0.543	ok	0.545	0.485-0.605
Benzene	9.83	8.12	1.211	ok	1.211	1.151-1.271
Bromobenzene	18.34	15.77	1.163	ok	1.163	1.103-1.223
Bromodichloromethane	11.04	10.27	1.075	ok	1.075	1.015-1.135
Bromoform	16.73	15.77	1.061	ok	1.061	1.001-1.121
Bromomethane	4.62	8.12	0.569	ok	0.571	0.511-0.631
Bromoethene	5.03	8.12	0.619	ok	0.622	0.562-0.682
n-Butane	4.44	8.12	0.547	ok	0.549	0.489-0.609
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.77	1.343	ok	1.343	1.283-1.403
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.97	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.30	8.12	0.776	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.94	8.12	0.485	ok	0.486	0.426-0.546
Chloroethane	4.76	8.12	0.586	ok	0.587	0.527-0.647
Chlorotrifluoroethene	3.96	8.12	0.488	ok	0.489	0.429-0.549
Chloroform	8.25	8.12	1.016	ok	1.017	0.957-1.077
Chloromethane	4.14	8.12	0.510	ok	0.511	0.451-0.571
3-Chloropropene	6.13	8.12	0.755	ok	0.757	0.697-0.817
2-Chlorotoluene	18.96	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.00	8.12	1.232	ok	1.232	1.172-1.292
Cyclohexane	10.13	8.12	1.248	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.09	8.12	0.873	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.92	8.12	0.729	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.26	10.27	1.389	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.04	8.12	1.113	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.79	10.27	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.43	10.27	1.308	ok	1.309	1.249-1.369
1,4-Dioxane	11.12	10.27	1.083	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.01	8.12	0.494	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.83	8.12	0.595	ok	0.596	0.536-0.656
Dibromochloromethane	13.94	10.27	1.357	ok	1.358	1.298-1.418
Dibromomethane	10.77	10.27	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.89	8.12	0.849	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.94	8.12	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.15	10.27	1.183	ok	1.184	1.124-1.244

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.74	15.77	1.315	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.28	15.77	1.286	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.83	10.27	1.249	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.15	8.12	1.004	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.41	8.12	1.282	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.08	8.12	1.118	ok	1.119	1.059-1.179
Ethanol	4.87	8.12	0.600	ok	0.601	0.541-0.661
Ethylbenzene	16.38	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acetate	8.20	8.12	1.010	ok	1.012	0.952-1.072
Ethyl Acrylate	10.84	10.27	1.056	ok	1.058	0.998-1.118
4-Ethyltoluene	19.26	15.77	1.221	ok	1.222	1.162-1.282
Freon 113	6.25	8.12	0.770	ok	0.771	0.711-0.831
Freon 114	4.21	8.12	0.518	ok	0.520	0.460-0.580
Freon 123	5.15	8.12	0.634	ok	0.637	0.577-0.697
Freon 123A	5.20	8.12	0.640	ok	0.642	0.582-0.702
Freon 152A	3.90	8.12	0.480	ok	0.482	0.422-0.542
Heptane	11.44	10.27	1.114	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.64	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.13	8.12	1.001	ok	1.002	0.942-1.062
2-Hexanone	13.78	10.27	1.342	ok	1.344	1.284-1.404
Iodomethane	5.86	8.12	0.722	ok	0.723	0.663-0.783
Isopropylbenzene	18.23	15.77	1.156	ok	1.156	1.096-1.216
Isopropyl Alcohol	5.46	8.12	0.672	ok	0.676	0.616-0.736
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.03	8.12	0.743	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.51	8.12	0.925	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.21	10.27	1.189	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.16	8.12	0.882	ok	0.885	0.825-0.945
Methylmethacrylate	11.37	10.27	1.107	ok	1.109	1.049-1.169
Naphthalene	23.10	15.77	1.465	ok	1.465	1.405-1.525
Nonane	17.71	15.77	1.123	ok	1.123	1.063-1.183
Octane	14.73	10.27	1.434	ok	1.435	1.375-1.495
Pentane	5.65	8.12	0.696	ok	0.698	0.638-0.758
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	3.95	8.12	0.486	ok	0.488	0.428-0.548
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.31	8.12	1.147	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.82	10.27	1.540	ok	1.541	1.481-1.601

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.27	1.270	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	22.98	15.77	1.457	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.52	15.77	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.39	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.09	10.27	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.98	8.12	0.736	ok	0.740	0.680-0.800
Tetrachloroethylene	14.89	10.27	1.450	ok	1.450	1.390-1.510
Tetrahydrofuran	8.71	8.12	1.073	ok	1.076	1.016-1.136
Toluene	13.39	10.27	1.304	ok	1.304	1.244-1.364
Trichloroethylene	11.08	10.27	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.37	8.12	0.661	ok	0.663	0.603-0.723
Vinyl chloride	4.31	8.12	0.531	ok	0.532	0.472-0.592
Vinyl Acetate	7.25	8.12	0.893	ok	0.894	0.834-0.954
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.32	15.77	1.098	ok	1.099	1.039-1.159
TVHC As Equiv Pentane	5.65	15.77	0.358	ok	0.359	0.299-0.419

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.12	ok	8.12	7.79-8.45	157177	ok	160060	96036-224084
1,4-Difluorobenzene	10.27	ok	10.27	9.94-10.60	563734	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	263530	ok	261690	157014-366366

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
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Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.29	8.15	0.649	ok	0.650	0.590-0.710
Acrylonitrile	5.69	8.15	0.698	ok	0.697	0.637-0.757
Acetonitrile	5.09	8.15	0.625	ok	0.624	0.564-0.684
1,3-Butadiene	4.45	8.15	0.546	ok	0.545	0.485-0.605
Benzene	9.86	8.15	1.210	ok	1.211	1.151-1.271
Bromobenzene	18.34	15.78	1.162	ok	1.163	1.103-1.223
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.73	15.78	1.060	ok	1.061	1.001-1.121
Bromomethane	4.66	8.15	0.572	ok	0.571	0.511-0.631
Bromoethene	5.07	8.15	0.622	ok	0.622	0.562-0.682
n-Butane	4.49	8.15	0.551	ok	0.549	0.489-0.609
Benzyl Chloride	20.17	15.78	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.78	1.342	ok	1.343	1.283-1.403
sec-Butylbenzene	20.37	15.78	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.98	15.78	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.33	8.15	0.777	ok	0.777	0.717-0.837
Chlorobenzene	15.85	15.78	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.98	8.15	0.488	ok	0.486	0.426-0.546
Chloroethane	4.80	8.15	0.589	ok	0.587	0.527-0.647
Chlorotrifluoroethene	4.00	8.15	0.491	ok	0.489	0.429-0.549
Chloroform	8.29	8.15	1.017	ok	1.017	0.957-1.077
Chloromethane	4.18	8.15	0.513	ok	0.511	0.451-0.571
3-Chloropropene	6.17	8.15	0.757	ok	0.757	0.697-0.817
2-Chlorotoluene	18.97	15.78	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.02	8.15	1.229	ok	1.232	1.172-1.292
Cyclohexane	10.14	8.15	1.244	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.13	8.15	0.875	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.96	8.15	0.731	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.27	10.29	1.387	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.07	8.15	1.113	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.81	10.29	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.309	1.249-1.369
1,4-Dioxane	11.14	10.29	1.083	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.06	8.15	0.498	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.87	8.15	0.598	ok	0.596	0.536-0.656
Dibromochloromethane	13.96	10.29	1.357	ok	1.358	1.298-1.418
Dibromomethane	10.79	10.29	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.93	8.15	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.97	8.15	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.29	1.183	ok	1.184	1.124-1.244

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.18	15.78	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.75	15.78	1.315	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.28	15.78	1.285	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.18	8.15	1.004	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.43	8.15	1.280	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.10	8.15	1.117	ok	1.119	1.059-1.179
Ethanol	4.91	8.15	0.602	ok	0.601	0.541-0.661
Ethylbenzene	16.38	15.78	1.038	ok	1.039	0.979-1.099
Ethyl Acetate	8.23	8.15	1.010	ok	1.012	0.952-1.072
Ethyl Acrylate	10.86	10.29	1.055	ok	1.058	0.998-1.118
4-Ethyltoluene	19.27	15.78	1.221	ok	1.222	1.162-1.282
Freon 113	6.29	8.15	0.772	ok	0.771	0.711-0.831
Freon 114	4.25	8.15	0.521	ok	0.520	0.460-0.580
Freon 123	5.20	8.15	0.638	ok	0.637	0.577-0.697
Freon 123A	5.24	8.15	0.643	ok	0.642	0.582-0.702
Freon 152A	3.94	8.15	0.483	ok	0.482	0.422-0.542
Heptane	11.45	10.29	1.113	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.78	1.493	ok	1.494	1.434-1.554
Hexachloroethane	21.65	15.78	1.372	ok	1.372	1.312-1.432
Hexane	8.16	8.15	1.001	ok	1.002	0.942-1.062
2-Hexanone	13.79	10.29	1.340	ok	1.344	1.284-1.404
Iodomethane	5.90	8.15	0.724	ok	0.723	0.663-0.783
Isopropylbenzene	18.24	15.78	1.156	ok	1.156	1.096-1.216
Isopropyl Alcohol	5.51	8.15	0.676	ok	0.676	0.616-0.736
p-Isopropyltoluene	20.61	15.78	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.08	8.15	0.746	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.54	8.15	0.925	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.23	10.29	1.189	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.19	8.15	0.882	ok	0.885	0.825-0.945
Methylmethacrylate	11.39	10.29	1.107	ok	1.109	1.049-1.169
Naphthalene	23.11	15.78	1.465	ok	1.465	1.405-1.525
Nonane	17.71	15.78	1.122	ok	1.123	1.063-1.183
Octane	14.74	10.29	1.432	ok	1.435	1.375-1.495
Pentane	5.70	8.15	0.699	ok	0.698	0.638-0.758
n-Propylbenzene	19.04	15.78	1.207	ok	1.207	1.147-1.267
Propylene	4.00	8.15	0.491	ok	0.488	0.428-0.548
Styrene	17.18	15.78	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.34	8.15	1.146	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.83	10.29	1.538	ok	1.541	1.481-1.601

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,2,2-Tetrachloroethane	17.34	15.78	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.29	1.268	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	22.99	15.78	1.457	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.53	15.78	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.99	15.78	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.39	15.78	1.229	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	6.03	8.15	0.740	ok	0.740	0.680-0.800
Tetrachloroethylene	14.90	10.29	1.448	ok	1.450	1.390-1.510
Tetrahydrofuran	8.73	8.15	1.071	ok	1.076	1.016-1.136
Toluene	13.40	10.29	1.302	ok	1.304	1.244-1.364
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.41	8.15	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.35	8.15	0.534	ok	0.532	0.472-0.592
Vinyl Acetate	7.29	8.15	0.894	ok	0.894	0.834-0.954
m,p-Xylene	16.66	15.78	1.056	ok	1.055	0.995-1.115
o-Xylene	17.33	15.78	1.098	ok	1.099	1.039-1.159
TVHC As Equiv Pentane	5.69	15.78	0.361	ok	0.359	0.299-0.419

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.15	ok	8.12	7.79-8.45	171241	ok	160060	96036-224084
1,4-Difluorobenzene	10.29	ok	10.27	9.94-10.60	602293	ok	580890	348534-813246
Chlorobenzene-D5	15.78	ok	15.77	15.44-16.10	276947	ok	261690	157014-366366

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.28	8.11	0.651	ok	0.650	0.590-0.710
Acrylonitrile	5.65	8.11	0.697	ok	0.697	0.637-0.757
Acetonitrile	5.06	8.11	0.624	ok	0.624	0.564-0.684
1,3-Butadiene	4.41	8.11	0.544	ok	0.545	0.485-0.605
Benzene	9.83	8.11	1.212	ok	1.211	1.151-1.271
Bromobenzene	18.34	15.77	1.163	ok	1.163	1.103-1.223
Bromodichloromethane	11.03	10.26	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.061	1.001-1.121
Bromomethane	4.63	8.11	0.571	ok	0.571	0.511-0.631
Bromoethene	5.04	8.11	0.621	ok	0.622	0.562-0.682
n-Butane	4.44	8.11	0.547	ok	0.549	0.489-0.609
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.77	1.343	ok	1.343	1.283-1.403
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.96	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.30	8.11	0.777	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.94	8.11	0.486	ok	0.486	0.426-0.546
Chloroethane	4.76	8.11	0.587	ok	0.587	0.527-0.647
Chlorotrifluoroethene	3.96	8.11	0.488	ok	0.489	0.429-0.549
Chloroform	8.25	8.11	1.017	ok	1.017	0.957-1.077
Chloromethane	4.14	8.11	0.510	ok	0.511	0.451-0.571
3-Chloropropene	6.14	8.11	0.757	ok	0.757	0.697-0.817
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.00	8.11	1.233	ok	1.232	1.172-1.292
Cyclohexane	10.13	8.11	1.249	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.09	8.11	0.874	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.92	8.11	0.730	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.26	10.26	1.390	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.04	8.11	1.115	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.79	10.26	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.43	10.26	1.309	ok	1.309	1.249-1.369
1,4-Dioxane	11.16	10.26	1.088	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.02	8.11	0.496	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.83	8.11	0.596	ok	0.596	0.536-0.656
Dibromochloromethane	13.94	10.26	1.359	ok	1.358	1.298-1.418
Dibromomethane	10.77	10.26	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.89	8.11	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.94	8.11	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.15	10.26	1.184	ok	1.184	1.124-1.244

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.74	15.77	1.315	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.28	15.77	1.286	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.83	10.26	1.250	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.16	8.11	1.006	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.41	8.11	1.284	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.08	8.11	1.120	ok	1.119	1.059-1.179
Ethanol	4.88	8.11	0.602	ok	0.601	0.541-0.661
Ethylbenzene	16.38	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acetate	8.22	8.11	1.014	ok	1.012	0.952-1.072
Ethyl Acrylate	10.85	10.26	1.058	ok	1.058	0.998-1.118
4-Ethyltoluene	19.26	15.77	1.221	ok	1.222	1.162-1.282
Freon 113	6.25	8.11	0.771	ok	0.771	0.711-0.831
Freon 114	4.21	8.11	0.519	ok	0.520	0.460-0.580
Freon 123	5.15	8.11	0.635	ok	0.637	0.577-0.697
Freon 123A	5.20	8.11	0.641	ok	0.642	0.582-0.702
Freon 152A	3.90	8.11	0.481	ok	0.482	0.422-0.542
Heptane	11.44	10.26	1.115	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.64	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.13	8.11	1.002	ok	1.002	0.942-1.062
2-Hexanone	13.80	10.26	1.345	ok	1.344	1.284-1.404
Iodomethane	5.86	8.11	0.723	ok	0.723	0.663-0.783
Isopropylbenzene	18.23	15.77	1.156	ok	1.156	1.096-1.216
Isopropyl Alcohol	5.49	8.11	0.677	ok	0.676	0.616-0.736
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.03	8.11	0.744	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.54	8.11	0.930	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.23	10.26	1.192	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.18	8.11	0.885	ok	0.885	0.825-0.945
Methylmethacrylate	11.37	10.26	1.108	ok	1.109	1.049-1.169
Naphthalene	23.11	15.77	1.465	ok	1.465	1.405-1.525
Nonane	17.70	15.77	1.122	ok	1.123	1.063-1.183
Octane	14.73	10.26	1.436	ok	1.435	1.375-1.495
Pentane	5.65	8.11	0.697	ok	0.698	0.638-0.758
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	3.95	8.11	0.487	ok	0.488	0.428-0.548
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.31	8.11	1.148	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.81	10.26	1.541	ok	1.541	1.481-1.601

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.26	1.271	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	22.99	15.77	1.458	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.52	15.77	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.39	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.09	10.26	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	6.00	8.11	0.740	ok	0.740	0.680-0.800
Tetrachloroethylene	14.89	10.26	1.451	ok	1.450	1.390-1.510
Tetrahydrofuran	8.75	8.11	1.079	ok	1.076	1.016-1.136
Toluene	13.38	10.26	1.304	ok	1.304	1.244-1.364
Trichloroethylene	11.07	10.26	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.37	8.11	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.31	8.11	0.531	ok	0.532	0.472-0.592
Vinyl Acetate	7.26	8.11	0.895	ok	0.894	0.834-0.954
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.32	15.77	1.098	ok	1.099	1.039-1.159
TVHC As Equiv Pentane	5.65	15.77	0.358	ok	0.359	0.299-0.419

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.11	ok	8.12	7.79-8.45	157714	ok	160060	96036-224084
1,4-Difluorobenzene	10.26	ok	10.27	9.94-10.60	574672	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	255925	ok	261690	157014-366366

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.31	8.14	0.652	ok	0.650	0.590-0.710
Acrylonitrile	5.69	8.14	0.699	ok	0.697	0.637-0.757
Acetonitrile	5.10	8.14	0.627	ok	0.624	0.564-0.684
1,3-Butadiene	4.45	8.14	0.547	ok	0.545	0.485-0.605
Benzene	9.85	8.14	1.210	ok	1.211	1.151-1.271
Bromobenzene	18.34	15.77	1.163	ok	1.163	1.103-1.223
Bromodichloromethane	11.04	10.27	1.075	ok	1.075	1.015-1.135
Bromoform	16.73	15.77	1.061	ok	1.061	1.001-1.121
Bromomethane	4.66	8.14	0.572	ok	0.571	0.511-0.631
Bromoethene	5.07	8.14	0.623	ok	0.622	0.562-0.682
n-Butane	4.49	8.14	0.552	ok	0.549	0.489-0.609
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.77	1.343	ok	1.343	1.283-1.403
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.97	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.33	8.14	0.778	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.97	8.14	0.488	ok	0.486	0.426-0.546
Chloroethane	4.80	8.14	0.590	ok	0.587	0.527-0.647
Chlorotrifluoroethene	4.00	8.14	0.491	ok	0.489	0.429-0.549
Chloroform	8.27	8.14	1.016	ok	1.017	0.957-1.077
Chloromethane	4.18	8.14	0.514	ok	0.511	0.451-0.571
3-Chloropropene	6.17	8.14	0.758	ok	0.757	0.697-0.817
2-Chlorotoluene	18.96	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.02	8.14	1.231	ok	1.232	1.172-1.292
Cyclohexane	10.15	8.14	1.247	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.12	8.14	0.875	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.95	8.14	0.731	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.26	10.27	1.389	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.06	8.14	1.113	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.80	10.27	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.27	1.309	ok	1.309	1.249-1.369
1,4-Dioxane	11.19	10.27	1.090	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.05	8.14	0.498	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.87	8.14	0.598	ok	0.596	0.536-0.656
Dibromochloromethane	13.95	10.27	1.358	ok	1.358	1.298-1.418
Dibromomethane	10.79	10.27	1.051	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.92	8.14	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.97	8.14	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.27	1.184	ok	1.184	1.124-1.244

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.18	15.77	1.280	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.75	15.77	1.316	ok	1.316	1.256-1.376
p-Dichlorobenzene	20.28	15.77	1.286	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.84	10.27	1.250	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.19	8.14	1.006	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.43	8.14	1.281	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.10	8.14	1.118	ok	1.119	1.059-1.179
Ethylbenzene	16.39	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acetate	8.24	8.14	1.012	ok	1.012	0.952-1.072
Ethyl Acrylate	10.88	10.27	1.059	ok	1.058	0.998-1.118
4-Ethyltoluene	19.27	15.77	1.222	ok	1.222	1.162-1.282
Freon 113	6.29	8.14	0.773	ok	0.771	0.711-0.831
Freon 114	4.25	8.14	0.522	ok	0.520	0.460-0.580
Freon 123	5.20	8.14	0.639	ok	0.637	0.577-0.697
Freon 123A	5.24	8.14	0.644	ok	0.642	0.582-0.702
Freon 152A	3.94	8.14	0.484	ok	0.482	0.422-0.542
Heptane	11.44	10.27	1.114	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.64	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.15	8.14	1.001	ok	1.002	0.942-1.062
2-Hexanone	13.82	10.27	1.346	ok	1.344	1.284-1.404
Iodomethane	5.89	8.14	0.724	ok	0.723	0.663-0.783
Isopropylbenzene	18.23	15.77	1.156	ok	1.156	1.096-1.216
Isopropyl Alcohol	5.53	8.14	0.679	ok	0.676	0.616-0.736
p-Isopropyltoluene	20.60	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.07	8.14	0.746	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.58	8.14	0.931	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.25	10.27	1.193	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.22	8.14	0.887	ok	0.885	0.825-0.945
Methylmethacrylate	11.40	10.27	1.110	ok	1.109	1.049-1.169
Naphthalene	23.13	15.77	1.467	ok	1.465	1.405-1.525
Nonane	17.71	15.77	1.123	ok	1.123	1.063-1.183
Octane	14.73	10.27	1.434	ok	1.435	1.375-1.495
Pentane	5.69	8.14	0.699	ok	0.698	0.638-0.758
n-Propylbenzene	19.04	15.77	1.207	ok	1.207	1.147-1.267
Propylene	4.00	8.14	0.491	ok	0.488	0.428-0.548
Styrene	17.18	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.33	8.14	1.146	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.82	10.27	1.540	ok	1.541	1.481-1.601
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	Reporting this level
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,2-Trichloroethane	13.04	10.27	1.270	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	22.99	15.77	1.458	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.53	15.77	1.112	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.39	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.11	10.27	1.082	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	6.05	8.14	0.743	ok	0.740	0.680-0.800
Tetrachloroethylene	14.89	10.27	1.450	ok	1.450	1.390-1.510
Tetrahydrofuran	8.79	8.14	1.080	ok	1.076	1.016-1.136
Toluene	13.39	10.27	1.304	ok	1.304	1.244-1.364
Trichloroethylene	11.09	10.27	1.080	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.41	8.14	0.665	ok	0.663	0.603-0.723
Vinyl chloride	4.35	8.14	0.534	ok	0.532	0.472-0.592
Vinyl Acetate	7.29	8.14	0.896	ok	0.894	0.834-0.954
m,p-Xylene	16.64	15.77	1.055	ok	1.055	0.995-1.115
o-Xylene	17.33	15.77	1.099	ok	1.099	1.039-1.159
TVHC As Equiv Pentane	5.69	15.77	0.361	ok	0.359	0.299-0.419

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.14	ok	8.12	7.79-8.45	166556	ok	160060	96036-224084
1,4-Difluorobenzene	10.27	ok	10.27	9.94-10.60	606362	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	273130	ok	261690	157014-366366

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acrylonitrile	5.67	8.12	0.698	ok	0.697	0.637-0.757
1,3-Butadiene	4.42	8.12	0.544	ok	0.545	0.485-0.605
Benzene	9.83	8.12	1.211	ok	1.211	1.151-1.271
Bromobenzene	18.35	15.77	1.164	ok	1.163	1.103-1.223
Bromodichloromethane	11.04	10.26	1.076	ok	1.075	1.015-1.135
Bromoform	16.73	15.77	1.061	ok	1.061	1.001-1.121
Bromomethane	4.63	8.12	0.570	ok	0.571	0.511-0.631
Bromoethene	5.05	8.12	0.622	ok	0.622	0.562-0.682
n-Butane	4.46	8.12	0.549	ok	0.549	0.489-0.609
Benzyl Chloride	20.18	15.77	1.280	ok	1.279	1.219-1.339
n-Butylbenzene	21.18	15.77	1.343	ok	1.343	1.283-1.403
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.96	15.77	1.266	ok	1.266	1.206-1.326
Carbon disulfide	6.30	8.12	0.776	ok	0.777	0.717-0.837
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.94	8.12	0.485	ok	0.486	0.426-0.546
Chloroethane	4.76	8.12	0.586	ok	0.587	0.527-0.647
Chlorotrifluoroethene	3.97	8.12	0.489	ok	0.489	0.429-0.549
Chloroform	8.25	8.12	1.016	ok	1.017	0.957-1.077
Chloromethane	4.15	8.12	0.511	ok	0.511	0.451-0.571
3-Chloropropene	6.14	8.12	0.756	ok	0.757	0.697-0.817
2-Chlorotoluene	18.97	15.77	1.203	ok	1.202	1.142-1.262
Carbon tetrachloride	10.00	8.12	1.232	ok	1.232	1.172-1.292
Cyclohexane	10.13	8.12	1.248	ok	1.248	1.188-1.308
1,1-Dichloroethane	7.10	8.12	0.874	ok	0.874	0.814-0.934
1,1-Dichloroethylene	5.92	8.12	0.729	ok	0.730	0.670-0.790
1,2-Dibromoethane	14.26	10.26	1.390	ok	1.389	1.329-1.449
1,2-Dichloroethane	9.04	8.12	1.113	ok	1.114	1.054-1.174
1,2-Dichloropropane	10.79	10.26	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.26	1.310	ok	1.309	1.249-1.369
1,4-Dioxane	11.19	10.26	1.091	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.02	8.12	0.495	ok	0.496	0.436-0.556
Dichlorofluoromethane	4.83	8.12	0.595	ok	0.596	0.536-0.656
Dibromochloromethane	13.94	10.26	1.359	ok	1.358	1.298-1.418
Dibromomethane	10.77	10.26	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.90	8.12	0.850	ok	0.850	0.790-0.910
cis-1,2-Dichloroethylene	7.94	8.12	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.26	1.186	ok	1.184	1.124-1.244
m-Dichlorobenzene	20.18	15.77	1.280	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.75	15.77	1.316	ok	1.316	1.256-1.376

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
p-Dichlorobenzene	20.29	15.77	1.287	ok	1.286	1.226-1.346
trans-1,3-Dichloropropene	12.85	10.26	1.252	ok	1.250	1.190-1.310
Di-Isopropyl ether	8.18	8.12	1.007	ok	1.006	0.946-1.066
2,3-Dimethylpentane	10.41	8.12	1.282	ok	1.282	1.222-1.342
2,4-Dimethylpentane	9.08	8.12	1.118	ok	1.119	1.059-1.179
Ethylbenzene	16.39	15.77	1.039	ok	1.039	0.979-1.099
Ethyl Acetate	8.24	8.12	1.015	ok	1.012	0.952-1.072
Ethyl Acrylate	10.89	10.26	1.061	ok	1.058	0.998-1.118
4-Ethyltoluene	19.27	15.77	1.222	ok	1.222	1.162-1.282
Freon 113	6.26	8.12	0.771	ok	0.771	0.711-0.831
Freon 114	4.22	8.12	0.520	ok	0.520	0.460-0.580
Freon 123	5.17	8.12	0.637	ok	0.637	0.577-0.697
Freon 123A	5.21	8.12	0.642	ok	0.642	0.582-0.702
Freon 152A	3.91	8.12	0.482	ok	0.482	0.422-0.542
Heptane	11.44	10.26	1.115	ok	1.114	1.054-1.174
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.64	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.13	8.12	1.001	ok	1.002	0.942-1.062
2-Hexanone	13.84	10.26	1.349	ok	1.344	1.284-1.404
Iodomethane	5.86	8.12	0.722	ok	0.723	0.663-0.783
Isopropylbenzene	18.23	15.77	1.156	ok	1.156	1.096-1.216
p-Isopropyltoluene	20.60	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.05	8.12	0.745	ok	0.744	0.684-0.804
Methyl ethyl ketone	7.56	8.12	0.931	ok	0.928	0.868-0.988
Methyl Isobutyl Ketone	12.26	10.26	1.195	ok	1.191	1.131-1.251
Methyl Tert Butyl Ether	7.21	8.12	0.888	ok	0.885	0.825-0.945
Methylmethacrylate	11.39	10.26	1.110	ok	1.109	1.049-1.169
Nonane	17.71	15.77	1.123	ok	1.123	1.063-1.183
Octane	14.73	10.26	1.436	ok	1.435	1.375-1.495
Pentane	5.67	8.12	0.698	ok	0.698	0.638-0.758
n-Propylbenzene	19.05	15.77	1.208	ok	1.207	1.147-1.267
Propylene	3.96	8.12	0.488	ok	0.488	0.428-0.548
Styrene	17.19	15.77	1.090	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.31	8.12	1.147	ok	1.147	1.087-1.207
1,1,1,2-Tetrachloroethane	15.82	10.26	1.542	ok	1.541	1.481-1.601
1,1,2,2-Tetrachloroethane	17.34	15.77	1.100	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.26	1.272	ok	1.270	1.210-1.330
1,2,4-Trichlorobenzene	23.00	15.77	1.458	ok	1.458	1.398-1.518
1,2,3-Trichloropropane	17.54	15.77	1.112	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.99	15.77	1.268	ok	1.267	1.207-1.327

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1007-IC1007	5W25535.D	07/26/17 20:08	[redacted]	0.04	GCMS5W	TO-15	
V5W1007-IC1007	5W25539.D	07/26/17 23:07		5	GCMS5W	TO-15	
V5W1007-ICC1007	5W25540.D	07/26/17 23:53		10	GCMS5W	TO-15	
V5W1007-IC1007	5W25541.D	07/27/17 00:40		20	GCMS5W	TO-15	
V5W1007-IC1007	5W25542.D	07/27/17 01:31		40	GCMS5W	TO-15	
V5W1007-IC1007	5W25545.D	07/27/17 08:56		0.5	GCMS5W	TO-15	
V5W1007-IC1007	5W25546.D	07/27/17 09:42		0.2	GCMS5W	TO-15	
V5W1007-IC1007	5W25547.D	07/27/17 10:26		0.1	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,3,5-Trimethylbenzene	19.40	15.77	1.230	ok	1.230	1.170-1.290
2,2,4-Trimethylpentane	11.09	10.26	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	6.03	8.12	0.743	ok	0.740	0.680-0.800
Tetrachloroethylene	14.89	10.26	1.451	ok	1.450	1.390-1.510
Tetrahydrofuran	8.79	8.12	1.083	ok	1.076	1.016-1.136
Toluene	13.39	10.26	1.305	ok	1.304	1.244-1.364
Trichloroethylene	11.08	10.26	1.080	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.38	8.12	0.663	ok	0.663	0.603-0.723
Vinyl chloride	4.31	8.12	0.531	ok	0.532	0.472-0.592
Vinyl Acetate	7.27	8.12	0.895	ok	0.894	0.834-0.954
m,p-Xylene	16.64	15.77	1.055	ok	1.055	0.995-1.115
o-Xylene	17.33	15.77	1.099	ok	1.099	1.039-1.159

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.12	ok	8.12	7.79-8.45	154115	ok	160060	96036-224084
1,4-Difluorobenzene	10.26	ok	10.27	9.94-10.60	568804	ok	580890	348534-813246
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	251979	ok	261690	157014-366366

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acrylonitrile	5.76	8.18	0.704	ok	0.703	0.643-0.763
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.18	1.207	ok	1.208	1.148-1.268
Bromobenzene	18.34	15.77	1.163	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.17	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.39	8.18	0.781	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.87	8.18	0.595	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.18	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.18	1.016	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.23	8.18	0.762	ok	0.760	0.700-0.820
2-Chlorotoluene	18.96	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.18	1.226	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.18	0.735	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.27	10.29	1.387	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.29	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.45	10.29	1.307	ok	1.306	1.246-1.366
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.95	10.29	1.356	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.29	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.18	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.18	10.29	1.184	ok	1.183	1.123-1.243
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.74	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.27	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.86	10.29	1.250	ok	1.248	1.188-1.308

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Di-Isopropyl ether	8.24	8.18	1.007	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.43	8.18	1.275	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.18	1.115	ok	1.116	1.056-1.176
Ethyl Acrylate	10.92	10.29	1.061	ok	1.058	0.998-1.118
4-Ethyltoluene	19.26	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.30	8.18	0.648	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.23	8.18	0.517	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Heptane	11.46	10.29	1.114	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.55	15.77	1.493	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.84	10.29	1.345	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.64	8.18	0.934	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.27	10.29	1.192	ok	1.190	1.130-1.250
Methylmethacrylate	11.42	10.29	1.110	ok	1.108	1.048-1.168
Naphthalene	23.13	15.77	1.467	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556
Styrene	17.18	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.29	1.268	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	23.00	15.77	1.458	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.52	15.77	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.12	10.29	1.081	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.13	8.18	0.749	ok	0.745	0.685-0.805

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.84	8.18	1.081	ok	1.075	1.015-1.135
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.18	0.539	ok	0.539	0.479-0.599
Vinyl Acetate	7.34	8.18	0.897	ok	0.896	0.836-0.956

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	285389	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	995094	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	428758	ok	428337	257002-599672

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.33	8.14	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.71	8.14	0.701	ok	0.703	0.643-0.763
1,3-Butadiene	4.46	8.14	0.548	ok	0.552	0.492-0.612
Benzene	9.85	8.14	1.210	ok	1.208	1.148-1.268
Bromobenzene	18.34	15.76	1.164	ok	1.162	1.102-1.222
Bromodichloromethane	11.04	10.27	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.76	1.061	ok	1.060	1.000-1.120
Bromomethane	4.67	8.14	0.574	ok	0.578	0.518-0.638
Bromoethene	5.09	8.14	0.625	ok	0.628	0.568-0.688
n-Butane	4.49	8.14	0.552	ok	0.555	0.495-0.615
Benzyl Chloride	20.17	15.76	1.280	ok	1.279	1.219-1.339
n-Butylbenzene	21.17	15.76	1.343	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.76	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.76	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.34	8.14	0.779	ok	0.780	0.720-0.840
Chlorobenzene	15.82	15.76	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.98	8.14	0.489	ok	0.494	0.434-0.554
Chloroethane	4.81	8.14	0.591	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.02	8.14	0.494	ok	0.497	0.437-0.557
Chloroform	8.27	8.14	1.016	ok	1.016	0.956-1.076
Chloromethane	4.20	8.14	0.516	ok	0.519	0.459-0.579
3-Chloropropene	6.17	8.14	0.758	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.76	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.01	8.14	1.230	ok	1.227	1.167-1.287
Cyclohexane	10.13	8.14	1.244	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.12	8.14	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	5.96	8.14	0.732	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.27	1.389	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.06	8.14	1.113	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.80	10.27	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.27	1.309	ok	1.306	1.246-1.366
1,4-Dioxane	11.20	10.27	1.091	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.06	8.14	0.499	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.88	8.14	0.600	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.27	1.357	ok	1.355	1.295-1.415
Dibromomethane	10.78	10.27	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.92	8.14	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	7.97	8.14	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.27	1.184	ok	1.183	1.123-1.243
m-Dichlorobenzene	20.17	15.76	1.280	ok	1.279	1.219-1.339

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
o-Dichlorobenzene	20.74	15.76	1.316	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.27	15.76	1.286	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.27	1.250	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.20	8.14	1.007	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.41	8.14	1.279	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.09	8.14	1.117	ok	1.116	1.056-1.176
Ethyl Acetate	8.26	8.14	1.015	ok	1.012	0.952-1.072
Ethyl Acrylate	10.89	10.27	1.060	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.76	1.221	ok	1.221	1.161-1.281
Freon 113	6.29	8.14	0.773	ok	0.775	0.715-0.835
Freon 114	4.27	8.14	0.525	ok	0.527	0.467-0.587
Freon 123	5.20	8.14	0.639	ok	0.642	0.582-0.702
Freon 123A	5.25	8.14	0.645	ok	0.648	0.588-0.708
Freon 141B	5.51	8.14	0.677	ok	0.680	0.620-0.740
Freon 142B	4.17	8.14	0.512	ok	0.517	0.457-0.577
Freon 143a	3.86	8.14	0.474	ok	0.478	0.418-0.538
Freon 152A	3.95	8.14	0.485	ok	0.489	0.429-0.549
Heptane	11.44	10.27	1.114	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.76	1.495	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.76	1.372	ok	1.372	1.312-1.432
Hexane	8.15	8.14	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.82	10.27	1.346	ok	1.341	1.281-1.401
Iodomethane	5.90	8.14	0.725	ok	0.727	0.667-0.787
p-Isopropyltoluene	20.59	15.76	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.08	8.14	0.747	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.59	8.14	0.932	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.25	10.27	1.193	ok	1.190	1.130-1.250
Methylmethacrylate	11.39	10.27	1.109	ok	1.108	1.048-1.168
Naphthalene	23.12	15.76	1.467	ok	1.466	1.406-1.526
Nonane	17.69	15.76	1.122	ok	1.122	1.062-1.182
Octane	14.72	10.27	1.433	ok	1.431	1.371-1.491
Pentane	5.70	8.14	0.700	ok	0.703	0.643-0.763
n-Propylbenzene	19.03	15.76	1.207	ok	1.207	1.147-1.267
Propylene	4.01	8.14	0.493	ok	0.496	0.436-0.556
Styrene	17.17	15.76	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.33	8.14	1.146	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.80	10.27	1.538	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.76	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.27	1.270	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.99	15.76	1.459	ok	1.457	1.397-1.517

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,2,3-Trichloropropane	17.51	15.76	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.76	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.76	1.230	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.09	10.27	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.06	8.14	0.744	ok	0.745	0.685-0.805
Tetrachloroethylene	14.88	10.27	1.449	ok	1.447	1.387-1.507
Tetrahydrofuran	8.79	8.14	1.080	ok	1.075	1.015-1.135
Trichloroethylene	11.08	10.27	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.42	8.14	0.666	ok	0.668	0.608-0.728
Vinyl chloride	4.36	8.14	0.536	ok	0.539	0.479-0.599
Vinyl Acetate	7.29	8.14	0.896	ok	0.896	0.836-0.956

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.14	ok	8.17	7.84-8.50	256090	ok	284320	170592-398048
1,4-Difluorobenzene	10.27	ok	10.29	9.96-10.62	886442	ok	977438	586463-1368413
Chlorobenzene-D5	15.76	ok	15.77	15.44-16.10	385129	ok	428337	257002-599672

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.35	8.16	0.656	ok	0.656	0.596-0.716
Acrylonitrile	5.73	8.16	0.702	ok	0.703	0.643-0.763
Acetonitrile	5.14	8.16	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.49	8.16	0.550	ok	0.552	0.492-0.612
Benzene	9.86	8.16	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.33	15.76	1.163	ok	1.162	1.102-1.222
Bromodichloromethane	11.05	10.28	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.76	1.061	ok	1.060	1.000-1.120
Bromomethane	4.71	8.16	0.577	ok	0.578	0.518-0.638
Bromoethene	5.11	8.16	0.626	ok	0.628	0.568-0.688
n-Butane	4.52	8.16	0.554	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.76	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.76	1.343	ok	1.342	1.282-1.402
sec-Butylbenzene	20.34	15.76	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.76	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.36	8.16	0.779	ok	0.780	0.720-0.840
Chlorobenzene	15.82	15.76	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.01	8.16	0.491	ok	0.494	0.434-0.554
Chloroethane	4.83	8.16	0.592	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.04	8.16	0.495	ok	0.497	0.437-0.557
Chloroform	8.29	8.16	1.016	ok	1.016	0.956-1.076
Chloromethane	4.22	8.16	0.517	ok	0.519	0.459-0.579
3-Chloropropene	6.20	8.16	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.76	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.02	8.16	1.228	ok	1.227	1.167-1.287
Cyclohexane	10.15	8.16	1.244	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.15	8.16	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	5.98	8.16	0.733	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.25	10.28	1.386	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.07	8.16	1.112	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.81	10.28	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.43	10.28	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.19	10.28	1.089	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.09	8.16	0.501	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.91	8.16	0.602	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.28	1.356	ok	1.355	1.295-1.415
Dibromomethane	10.78	10.28	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.95	8.16	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	7.99	8.16	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.28	1.184	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.76	1.280	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.76	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.76	1.286	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.28	1.249	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.16	1.006	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.43	8.16	1.278	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.11	8.16	1.116	ok	1.116	1.056-1.176
Ethanol	4.96	8.16	0.608	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.76	1.039	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.16	1.012	ok	1.012	0.952-1.072
Ethyl Acrylate	10.88	10.28	1.058	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.76	1.221	ok	1.221	1.161-1.281
Freon 113	6.32	8.16	0.775	ok	0.775	0.715-0.835
Freon 114	4.29	8.16	0.526	ok	0.527	0.467-0.587
Freon 123	5.23	8.16	0.641	ok	0.642	0.582-0.702
Freon 123A	5.28	8.16	0.647	ok	0.648	0.588-0.708
Freon 141B	5.54	8.16	0.679	ok	0.680	0.620-0.740
Freon 142B	4.20	8.16	0.515	ok	0.517	0.457-0.577
Freon 143a	3.88	8.16	0.475	ok	0.478	0.418-0.538
Freon 152A	3.98	8.16	0.488	ok	0.489	0.429-0.549
Heptane	11.44	10.28	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.55	15.76	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.76	1.372	ok	1.372	1.312-1.432
Hexane	8.17	8.16	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.81	10.28	1.343	ok	1.341	1.281-1.401
Iodomethane	5.92	8.16	0.725	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.76	1.156	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.56	8.16	0.681	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.59	15.76	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.11	8.16	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.60	8.16	0.931	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.25	10.28	1.192	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.25	8.16	0.888	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.28	1.108	ok	1.108	1.048-1.168
Naphthalene	23.11	15.76	1.466	ok	1.466	1.406-1.526
Nonane	17.69	15.76	1.122	ok	1.122	1.062-1.182
Octane	14.72	10.28	1.432	ok	1.431	1.371-1.491
Pentane	5.73	8.16	0.702	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.76	1.207	ok	1.207	1.147-1.267
Propylene	4.03	8.16	0.494	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.17	15.76	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.34	8.16	1.145	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.80	10.28	1.537	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.76	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.28	1.268	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.99	15.76	1.459	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.76	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.76	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.76	1.230	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.28	1.081	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.16	0.745	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.28	1.448	ok	1.447	1.387-1.507
Tetrahydrofuran	8.80	8.16	1.078	ok	1.075	1.015-1.135
Toluene	13.39	10.28	1.303	ok	1.301	1.241-1.361
Trichloroethylene	11.09	10.28	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.44	8.16	0.667	ok	0.668	0.608-0.728
Vinyl chloride	4.39	8.16	0.538	ok	0.539	0.479-0.599
Vinyl Acetate	7.31	8.16	0.896	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.76	1.055	ok	1.055	0.995-1.115
o-Xylene	17.31	15.76	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.73	15.76	0.364	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.16	ok	8.17	7.84-8.50	269496	ok	284320	170592-398048
1,4-Difluorobenzene	10.28	ok	10.29	9.96-10.62	937921	ok	977438	586463-1368413
Chlorobenzene-D5	15.76	ok	15.77	15.44-16.10	416042	ok	428337	257002-599672

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.38	8.18	0.658	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.18	0.703	ok	0.703	0.643-0.763
Acetonitrile	5.17	8.18	0.632	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.18	1.207	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.34	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.86	8.18	0.594	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.18	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.18	1.016	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.18	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.18	1.226	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.18	0.735	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.29	1.386	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.29	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.19	10.29	1.087	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.29	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.29	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.18	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.29	1.183	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.16	15.77	1.278	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.22	8.18	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.18	1.115	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.28	8.18	1.012	ok	1.012	0.952-1.072
Ethyl Acrylate	10.88	10.29	1.057	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.30	8.18	0.648	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.23	8.18	0.517	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.01	8.18	0.490	ok	0.489	0.429-0.549
Heptane	11.45	10.29	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.80	10.29	1.341	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.58	8.18	0.682	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.58	15.77	1.305	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.61	8.18	0.930	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.25	10.29	1.190	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.26	8.18	0.888	ok	0.886	0.826-0.946
Methylmethacrylate	11.40	10.29	1.108	ok	1.108	1.048-1.168
Naphthalene	23.11	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.29	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.98	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.77	1.266	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.10	8.18	0.746	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.80	8.18	1.076	ok	1.075	1.015-1.135
Toluene	13.39	10.29	1.301	ok	1.301	1.241-1.361
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.18	0.539	ok	0.539	0.479-0.599
Vinyl Acetate	7.33	8.18	0.896	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	287053	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	994982	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	435260	ok	428337	257002-599672

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	Reporting this level
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.18	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.74	8.18	0.702	ok	0.703	0.643-0.763
Acetonitrile	5.15	8.18	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.18	1.207	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.15	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.86	8.18	0.594	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.18	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.18	1.016	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.18	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.94	15.77	1.201	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.18	1.226	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.18	0.735	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.25	10.29	1.385	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.81	10.29	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.15	10.29	1.084	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.29	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.79	10.29	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.18	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.29	1.182	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	Reporting this level
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.16	15.77	1.278	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.18	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.18	1.115	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.18	1.010	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.29	1.056	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.30	8.18	0.648	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.23	8.18	0.517	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.01	8.18	0.490	ok	0.489	0.429-0.549
Heptane	11.45	10.29	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.78	10.29	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.21	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.56	8.18	0.680	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.58	15.77	1.305	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.59	8.18	0.928	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.23	10.29	1.189	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.18	0.885	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.29	1.107	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.72	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	Reporting this level
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.16	15.77	1.088	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.29	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.50	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.77	1.266	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.18	0.743	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.77	8.18	1.072	ok	1.075	1.015-1.135
Toluene	13.39	10.29	1.301	ok	1.301	1.241-1.361
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.18	0.539	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.18	0.895	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	293092	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	1004061	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	463849	ok	428337	257002-599672

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.17	0.656	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.17	0.704	ok	0.703	0.643-0.763
Acetonitrile	5.15	8.17	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.17	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.17	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.17	0.579	ok	0.578	0.518-0.638
Bromoethene	5.14	8.17	0.629	ok	0.628	0.568-0.688
n-Butane	4.55	8.17	0.557	ok	0.555	0.495-0.615
Benzyl Chloride	20.15	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.17	0.781	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.17	0.496	ok	0.494	0.434-0.554
Chloroethane	4.86	8.17	0.595	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.17	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.17	1.017	ok	1.016	0.956-1.076
Chloromethane	4.25	8.17	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.17	0.761	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.17	1.228	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.17	1.244	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.17	0.878	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.17	0.736	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.29	1.386	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.17	1.113	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.81	10.29	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.15	10.29	1.084	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.17	0.506	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.17	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.29	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.29	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.17	0.853	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.17	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.29	1.182	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.16	15.77	1.278	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.17	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.17	1.278	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.17	1.116	ok	1.116	1.056-1.176
Ethanol	4.98	8.17	0.610	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.17	1.011	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.29	1.056	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.17	0.776	ok	0.775	0.715-0.835
Freon 114	4.32	8.17	0.529	ok	0.527	0.467-0.587
Freon 123	5.26	8.17	0.644	ok	0.642	0.582-0.702
Freon 123A	5.30	8.17	0.649	ok	0.648	0.588-0.708
Freon 141B	5.57	8.17	0.682	ok	0.680	0.620-0.740
Freon 142B	4.23	8.17	0.518	ok	0.517	0.457-0.577
Freon 143a	3.92	8.17	0.480	ok	0.478	0.418-0.538
Freon 152A	4.01	8.17	0.491	ok	0.489	0.429-0.549
Heptane	11.45	10.29	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.55	15.77	1.493	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.17	1.002	ok	1.001	0.941-1.061
2-Hexanone	13.78	10.29	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.17	0.728	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.57	8.17	0.682	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.58	15.77	1.305	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.17	0.750	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.58	8.17	0.928	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.23	10.29	1.189	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.17	0.886	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.29	1.107	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.17	0.704	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.17	0.497	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.16	15.77	1.088	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.17	1.146	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.29	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.77	1.266	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.17	0.744	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.76	8.17	1.072	ok	1.075	1.015-1.135
Toluene	13.39	10.29	1.301	ok	1.301	1.241-1.361
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.17	0.670	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.17	0.540	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.17	0.896	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.17	ok	8.17	7.84-8.50	291386	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	996968	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	450995	ok	428337	257002-599672

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.18	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.18	0.703	ok	0.703	0.643-0.763
Acetonitrile	5.15	8.18	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.88	8.18	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.07	10.30	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.96	15.77	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.86	8.18	0.594	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.08	8.18	0.499	ok	0.497	0.437-0.557
Chloroform	8.32	8.18	1.017	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.18	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.04	8.18	1.227	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.02	8.18	0.736	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.30	1.384	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.30	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.30	1.305	ok	1.306	1.246-1.366
1,4-Dioxane	11.15	10.30	1.083	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.95	10.30	1.354	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.30	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.01	8.18	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.30	1.182	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.30	1.247	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.18	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.13	8.18	1.116	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.18	1.010	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.30	1.055	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.31	8.18	0.649	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.24	8.18	0.518	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.01	8.18	0.490	ok	0.489	0.429-0.549
Heptane	11.45	10.30	1.112	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.79	10.30	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.57	8.18	0.681	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.58	8.18	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.23	10.30	1.187	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.18	0.885	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.30	1.106	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.30	1.430	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.16	15.77	1.088	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.30	1.535	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.30	1.266	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.12	10.30	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.18	0.743	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.30	1.446	ok	1.447	1.387-1.507
Tetrahydrofuran	8.76	8.18	1.071	ok	1.075	1.015-1.135
Toluene	13.39	10.30	1.300	ok	1.301	1.241-1.361
Trichloroethylene	11.11	10.30	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.42	8.18	0.540	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.18	0.895	ok	0.896	0.836-0.956
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.32	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	293152	ok	284320	170592-398048
1,4-Difluorobenzene	10.30	ok	10.29	9.96-10.62	994053	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	418627	ok	428337	257002-599672

SGS ACCUTEST JC52053

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.18	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.18	0.703	ok	0.703	0.643-0.763
Acetonitrile	5.16	8.18	0.631	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.88	8.18	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.33	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.07	10.30	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.17	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.96	15.77	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.87	8.18	0.595	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.08	8.18	0.499	ok	0.497	0.437-0.557
Chloroform	8.32	8.18	1.017	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.23	8.18	0.762	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.04	8.18	1.227	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.02	8.18	0.736	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.30	1.384	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.30	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.30	1.305	ok	1.306	1.246-1.366
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.96	10.30	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.81	10.30	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.01	8.18	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.30	1.182	ok	1.183	1.123-1.243
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
o-Dichlorobenzene	20.74	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.27	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.30	1.247	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.22	8.18	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.13	8.18	1.116	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.27	8.18	1.011	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.30	1.055	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.31	8.18	0.649	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.24	8.18	0.518	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.02	8.18	0.491	ok	0.489	0.429-0.549
Heptane	11.46	10.30	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.79	10.30	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.23	15.77	1.156	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.57	8.18	0.681	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.58	8.18	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.24	10.30	1.188	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.18	0.885	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.30	1.106	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.70	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.30	1.430	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.82	10.30	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.30	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.12	10.30	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.18	0.743	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.30	1.446	ok	1.447	1.387-1.507
Tetrahydrofuran	8.76	8.18	1.071	ok	1.075	1.015-1.135
Toluene	13.39	10.30	1.300	ok	1.301	1.241-1.361
Trichloroethylene	11.11	10.30	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.42	8.18	0.540	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.18	0.895	ok	0.896	0.836-0.956
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	298904	ok	284320	170592-398048
1,4-Difluorobenzene	10.30	ok	10.29	9.96-10.62	1009982	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	428032	ok	428337	257002-599672

SGS ACCUTEST JC52053

Surrogate Recovery Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Method: TO-15 **Matrix:** AIR

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
JC52053-1	5W27098.D	114
JC52053-2	5W27099.D	104
JC52053-3	5W27100.D	118
JC52053-4	5W27103.D	123
JC52053-5	5W27104.D	122
JC52053-6	5W27105.D	99
JC52053-7	5W27118.D	101
JC52053-8	5W27107.D	121
JC52053-9	5W27108.D	113
JC51796-1DUP	5W27120.D	123
JC52053-3DUP	5W27101.D	122
V3W2298-SCC	3W60501.D	93
V5W1051-SCC	5W26759.D	91
V5W1051-SCC	5W26768.D	95
V5W1053-SCC	5W26820.D	95
V5W1053-SCC	5W26816.D	97
V5W1066-BS	5W27094.D	119
V5W1066-BSD	5W27095.D	111
V5W1066-MB	5W27097.D	101
V5W1067-BS	5W27113.D	116
V5W1067-BSD	5W27114.D	117
V5W1067-MB	5W27116.D	101
V3W2298-BS	3W60489.D	105
V3W2298-BSD	3W60490.D	105
V3W2298-MB	3W60494.D	84
V5W1051-BS	5W26743.D	104
V5W1051-BSD	5W26744.D	104
V5W1051-MB	5W26746.D	93
V5W1053-BS	5W26799.D	105
V5W1053-BSD	5W26800.D	110
V5W1053-MB	5W26802.D	96

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	65-128%

Initial Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICC2293
Lab FileID: 3W60367.D

Response Factor Report GCMS3W

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Calibration Files
0.04=3W60362.D 0.1 =3W60363.D 0.2 =3W60364.D 0.5 =3W60365.D
5 =3W60366.D 10 =3W60367.D 20 =3W60372.D 40 =3W60370.D

Compound	0.04	0.1	0.2	0.5	5	10	20	40	Avg	%RSD
1) I BROMOCHLOROMETHANE	ISTD									
2) 1,1,1-TRIFLU	1.722	1.536	1.445	1.456	1.354	1.451	1.404	1.402	1.471	7.77
3) FREON 115	2.230	2.198	2.162	2.144	2.114	2.218	2.159	2.115	2.167	2.04
4) FREON 152A	1.443	1.334	1.353	1.355	1.307	1.391	1.351	1.373	1.363	2.98
5) CHLORODIFLUO		0.220	0.183	0.192	0.178	0.189	0.185	0.188	0.191	7.22
6) CHLOROTRIFLU	1.161	1.128	1.211	1.163	1.156	1.226	1.196	1.206	1.181	2.85
7) DICHLORODIFL	2.430	2.000	2.001	2.003	1.902	2.005	1.923	1.913	2.022	8.45
8) PROPYLENE			0.659	0.610	0.518	0.546	0.525	0.522	0.563	10.32
9) 1-CHLORO-1,1	1.443	1.334	1.353	1.355	1.307	1.391	1.351	1.373	1.363	2.98
10) FREON 114	2.230	2.198	2.162	2.144	2.114	2.218	2.159	2.115	2.167	2.04
11) CHLOROMETHAN	0.259	0.250	0.262	0.255	0.229	0.240	0.236	0.237	0.246	4.94
12) VINYL CHLORI	0.795	0.841	0.873	0.857	0.842	0.887	0.876	0.887	0.857	3.65
13) 1,3-BUTADIEN	0.611	0.649	0.634	0.616	0.592	0.624	0.617	0.630	0.622	2.75
14) n-BUTANE		1.116	1.100	1.045	1.041	1.103	1.077	1.090	1.082	2.67
15) BROMOMETHANE		1.346	1.162	1.036	0.917	0.961	0.932	0.940	1.042	15.24
16) CHLOROETHANE		0.347	0.433	0.421	0.408	0.423	0.414	0.424	0.410	7.05
17) DICHLOROFLUO	2.128	1.994	1.945	1.863	1.738	1.804	1.757	1.777	1.876	7.28
18) ACETONITRILE		0.685	0.569	0.656	0.523	0.554	0.547	0.564	0.585	10.34
19) FREON 123	2.342	2.590	2.435	2.341	2.195	2.282	2.217	2.207	2.326	5.80
20) FREON 123A	1.080	1.143	1.206	1.223	1.177	1.228	1.189	1.178	1.178	4.10
21) TRICHLOROFLU	2.145	1.891	1.945	1.930	1.959	2.079	2.027	2.040	2.002	4.27
22) 1,1-DICHLORO	2.313	1.946	1.798	1.751	1.656	1.743	1.707	1.734	1.831	11.60
23) ISOPROPYL AL			2.387	1.762	1.466	1.539	1.396	1.303	1.642	24.16
24) ACETONE			0.466	0.442	0.330	0.354	0.351	0.363	0.384	14.47
25) PENTANE		0.702	0.716	0.730	0.688	0.724	0.720	0.736	0.717	2.34
26) TVHC as EQUI			4.836	4.388	3.371	3.512	3.436	3.507	3.842	16.02
27) IODOMETHANE	2.523	2.654	2.789	2.800	2.708	2.828	2.719	2.681	2.713	3.62
28) 1,1-DICHLORO	1.123	1.027	0.943	0.856	0.844	0.887	0.850	0.861	0.924	11.00
29) CARBON DISUL	3.052	2.845	2.846	2.757	2.683	2.775	2.682	2.689	2.791	4.49
30) ETHANOL				0.395	0.220	0.229	0.206	0.193	0.249	33.43
31) BROMOETHENE	0.966	0.964	0.963	0.956	0.917	0.959	0.938	0.948	0.951	1.77
32) ACRYLONITRIL		0.421	0.495	0.520	0.428	0.455	0.460	0.480	0.465	7.66
33) METHYLENE CH			1.250	1.021	0.780	0.806	0.479	0.486	0.804	37.49
34) 3-CHLOROPROP		0.347	0.350	0.396	0.378	0.395	0.378	0.394	0.377	5.56
35) FREON 113	1.324	1.391	1.509	1.503	1.525	1.611	1.565	1.588	1.502	6.54
36) TRANS-1,2-DI			1.318	1.116	0.887	0.906	0.882	0.906	1.003	17.79
37) TERTIARY BUT	1.415	1.396	1.573	1.395	1.611	1.633	1.259	1.089	1.421	13.09
38) METHYL TERTI	1.970	1.983	2.234	2.266	2.132	2.205	2.127	2.206	2.140	5.21
39) TETRAHYDROFU		0.240	0.349	0.369	0.363	0.383	0.373	0.391	0.353	14.63
40) HEXANE			1.342	1.126	1.159	1.136	1.125	1.125	1.169	7.34
41) VINYL ACETAT			0.061	0.122	0.134	0.148	0.152	0.163	0.130	28.30
42) 1,1-DICHLORO	1.200	1.322	1.422	1.449	1.391	1.438	1.419	1.449	1.386	6.21
43) METHYL ETHYL			0.291	0.377	0.366	0.383	0.384	0.405	0.368	10.86
44) cis-1,2-DICH	0.762	0.903	0.925	0.942	0.890	0.923	0.909	0.942	0.900	6.49
45) DIISOPROPYL		0.247	0.317	0.344	0.329	0.348	0.336	0.341	0.323	10.92
46) ETHYL ACETAT			0.182	0.218	0.226	0.249	0.246	0.247	0.228	11.32

Initial Calibration Summary

Job Number: JC52053 **Sample:** V3W2293-ICC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60367.D
Project: Defense Supply Center, Philadelphia, PA

47)	METHYL ACRYL	0.956	1.373	1.394	1.300	1.249	1.296	1.287	1.308	1.270	10.65
48)	CHLOROFORM	1.551	1.600	1.765	1.771	1.639	1.711	1.698	1.747	1.685	4.79
49)	2,4-DIMETHYL	1.870	1.620	1.460	1.267	1.320	1.340	1.353	1.391	1.453	13.77
50)	1,1,1-TRICHL	1.386	1.537	1.595	1.620	1.556	1.636	1.607	1.658	1.574	5.45
51)	CARBON TETRA	1.328	1.515	1.584	1.678	1.682	1.779	1.785	1.842	1.649	10.26
52)	1,2-DICHLORO		0.750	0.888	0.941	0.889	0.921	0.919	0.971	0.897	7.93
53)	I 1,4-DIFLUOROBENZENE	----------ISTD----------									
54)	BENZENE	0.586	0.583	0.618	0.646	0.576	0.584	0.581	0.579	0.594	4.13
55)	CYCLOHEXANE	0.222	0.242	0.254	0.248	0.247	0.251	0.246	0.246	0.245	4.06
56)	2,3-DIMETHYL	0.151	0.135	0.133	0.122	0.117	0.120	0.120	0.121	0.128	9.09
57)	TRICHLOROETH	0.227	0.261	0.265	0.283	0.250	0.252	0.253	0.258	0.256	6.11
58)	1,2-DICHLORO	0.210	0.207	0.224	0.230	0.201	0.206	0.202	0.199	0.210	5.38
59)	DIBROMOMETHA	0.343	0.307	0.310	0.323	0.271	0.276	0.274	0.276	0.298	9.13
60)	ETHYL ACRYLA	0.309	0.310	0.324	0.392	0.338	0.362	0.357	0.369	0.345	8.58
61)	BROMODICHLOR	0.386	0.382	0.411	0.444	0.390	0.399	0.404	0.410	0.403	4.84
62)	2,2,4-TRIMET	1.041	0.929	0.934	0.847	0.820	0.817	0.821	0.812	0.878	9.41
63)	1,4-DIOXANE			0.103	0.103	0.105	0.110	0.098	0.093	0.102	5.78
64)	HEPTANE	0.380	0.322	0.290	0.262	0.264	0.258	0.261	0.265	0.288	14.95
65)	METHYL METHA	0.170	0.160	0.189	0.204	0.178	0.188	0.186	0.194	0.184	7.65
66)	METHYL ISOBU			0.130	0.161	0.145	0.158	0.152	0.160	0.151	7.92
67)	cis-1,3-DICH	0.215	0.259	0.292	0.336	0.302	0.311	0.316	0.330	0.295	13.68
68)	TOLUENE	0.381	0.379	0.401	0.434	0.396	0.411	0.410	0.415	0.403	4.51
69)	1,3-DICHLORO	0.228	0.251	0.289	0.324	0.288	0.296	0.302	0.309	0.286	11.02
70)	trans-1,3-DI	0.194	0.209	0.247	0.289	0.261	0.271	0.275	0.292	0.255	14.13
71)	1,1,2-TRICHL	0.185	0.192	0.207	0.230	0.201	0.205	0.205	0.210	0.204	6.55
72)	I CHLOROBENZENE-D5	----------ISTD----------									
73)	2-HEXANONE			0.382	0.510	0.440	0.469	0.443	0.439	0.447	9.42
74)	ETHYL METHAC	0.595	0.566	0.604	0.740	0.679	0.707	0.663	0.646	0.650	9.13
75)	TETRACHLOROE	0.754	0.861	0.870	0.852	0.768	0.750	0.718	0.677	0.781	9.20
76)	DIBROMOCHLOR	0.760	0.930	0.999	1.116	1.042	1.044	1.016	0.964	0.984	10.80
77)	1,2-DIBROMOE	0.693	0.781	0.885	1.013	0.865	0.859	0.828	0.805	0.841	10.94
78)	OCTANE	1.065	0.969	0.883	0.861	0.857	0.821	0.779	0.736	0.871	12.01
79)	1,1,1,2-TETR	0.613	0.701	0.795	0.841	0.793	0.799	0.749	0.688	0.748	10.09
80)	CHLOROBENZEN	1.302	1.262	1.366	1.481	1.329	1.319	1.267	1.187	1.314	6.54
81)	ETHYLBENZENE	1.875	1.878	2.045	2.208	2.031	2.037	1.928	1.816	1.977	6.42
82)	m,p-XYLENE	0.734	0.749	0.832	0.895	0.817	0.824	0.778	0.728	0.795	7.23
83)	o-XYLENE	0.768	0.730	0.802	0.880	0.808	0.813	0.761	0.705	0.783	6.97
84)	STYRENE	0.919	0.978	1.084	1.273	1.153	1.202	1.159	1.124	1.111	10.43
85)	NONANE	0.913	0.848	0.830	0.863	0.832	0.828	0.788	0.753	0.832	5.76
86)	BROMOFORM	0.677	0.822	0.897	1.041	1.025	1.081	1.060	1.026	0.954	14.97
87)	4-BROMOFLUOR	1.165	1.158	1.194	1.227	1.249	1.256	1.262	1.227	1.217	3.33
88)	1,1,2,2-TETR	1.130	1.113	1.275	1.391	1.199	1.223	1.137	1.046	1.189	9.09
89)	1,2,3-TRICHL	0.643	0.709	0.820	0.935	0.818	0.833	0.791	0.767	0.790	11.03
90)	ISOPROPYLBEN	1.944	1.992	2.174	2.398	2.196	2.198	2.051	1.916	2.108	7.71
91)	BROMOBENZENE	0.921	0.866	0.953	1.059	0.919	0.953	0.918	0.902	0.936	6.05
92)	2-CHLOROTOLU	0.462	0.486	0.576	0.630	0.586	0.599	0.566	0.546	0.556	10.24
93)	n-PROPYLBENZ		0.411	0.523	0.627	0.613	0.631	0.600	0.577	0.569	13.82
94)	4-ETHYLTOLUE	1.363	1.465	1.749	2.139	2.084	2.176	2.053	1.947	1.872	16.74
95)	1,3,5-TRIMET	1.385	1.426	1.701	1.948	1.786	1.826	1.711	1.625	1.676	11.52
96)	ALPHA-METHYL		0.528	0.671	0.875	0.883	0.946	0.903	0.883	0.813	18.88
97)	tert-BUTYLBE	0.270	0.354	0.439	0.475	0.429	0.440	0.401	0.370	0.397	16.29
98)	1,2,4-TRIMET	1.170	1.175	1.502	1.801	1.685	1.771	1.655	1.544	1.538	16.07
99)	m-DICHLOROBE	0.861	0.895	1.009	1.244	1.098	1.198	1.163	1.148	1.077	13.12
100)	BENZYL CHLOR	0.716	0.700	0.826	1.069	1.074	1.248	1.287	1.324	1.031	24.68
101)	p-DICHLOROBE	0.974	0.908	1.022	1.228	1.067	1.162	1.153	1.156	1.084	10.11
102)	sec-BUTYLBEN		0.351	0.440	0.529	0.494	0.513	0.480	0.462	0.467	12.67
103)	p-ISOPROPYLT		0.332	0.448	0.570	0.554	0.589	0.547	0.508	0.507	17.78
104)	o-DICHLOROBE	0.892	0.831	1.002	1.225	1.097	1.186	1.137	1.125	1.062	13.24

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JC52053

Initial Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICC2293
Lab FileID: 3W60367.D

105) n-BUTYLBENZE		0.218	0.268	0.381	0.400	0.468	0.456	0.468	0.380	26.43
106) HEXACHLOROET	0.552	0.632	0.709	0.798	0.756	0.798	0.770	0.721	0.717	12.01
107) HEXACHLOROBU	0.567	0.627	0.755	0.934	0.655	0.751	0.716	0.698	0.713	15.42
108) 1,2,4-TRICHL	0.567	0.441	0.413	0.529	0.429	0.470	0.521	0.591	0.495	13.39
109) NAPHTHALENE	0.904	0.547	0.711	0.974	0.878	0.989	1.071	1.221	0.912	22.90

(#) = Out of Range ### Number of calibration levels exceeded format ###

M3W2293.M Fri Jun 23 09:34:59 2017 GCMS6W

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICV2293
Lab FileID: 3W60374.D

Evaluate Continuing Calibration Report

Data File : [redacted]1\DATA\3W60374.D Vial: 1
Acq On : 21 Jun 2017 9:03 pm Operator: [redacted]
Sample : icv2293-10 Inst : GCMS3W
Misc : MS16663,V3W2293,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	103	0.00	7.71
2		1,1,1-TRIFLUOROETHANE		----------NA----------				
3		FREON 115	2.167	2.313	-6.7	107	0.00	3.88
4		FREON 152A	1.363	1.361	0.1	100	0.00	3.80
5		CHLORODIFLUOROMETHANE	0.191	0.182	4.7	99	0.00	3.62
6		CHLOROTRIFLUOROETHENE		----------NA----------				
7		DICHLORODIFLUOROMETHANE	2.022	1.960	3.1	100	0.00	3.70
8		PROPYLENE	0.563	0.524	6.9	99	0.00	3.65
9		1-CHLORO-1,1-DIFLUOROETHA		----------NA----------				
10		FREON 114	2.167	2.313	-6.7	107	0.00	3.88
11		CHLOROMETHANE	0.246	0.239	2.8	102	0.00	3.82
12		VINYL CHLORIDE	0.857	0.868	-1.3	101	0.00	3.97
13		1,3-BUTADIENE	0.622	0.587	5.6	97	0.00	4.07
14		n-BUTANE	1.082	1.080	0.2	101	0.00	4.11
15		BROMOMETHANE	1.042	0.936	10.2	100	0.00	4.27
16		CHLOROETHANE	0.410	0.416	-1.5	101	0.00	4.39
17		DICHLOROFLUOROMETHANE	1.876	1.852	1.3	105	0.00	4.45
18		ACETONITRILE	0.585	0.527	9.9	98	0.00	4.63
19		FREON 123	2.326	2.102	9.6	95	0.00	4.74
20		FREON 123A	1.178	1.222	-3.7	102	0.00	4.78
21		TRICHLOROFLUOROMETHANE	2.002	2.046	-2.2	101	0.00	4.97
22		1,1-DICHLORO-1-FLUOROETHA		----------NA----------				
23		ISOPROPYL ALCOHOL	1.642	1.280	22.0	85	0.00	5.01
24		ACETONE	0.384	0.330	14.1	96	0.00	4.83
25		PENTANE	0.717	0.744	-3.8	106	0.00	5.24
26	H	TVHC as EQUIV PENTANE	3.842	3.577	6.9	105	0.00	5.24
27		IODOMETHANE	2.713	2.748	-1.3	100	0.00	5.43
28		1,1-DICHLOROETHYLENE	0.924	0.824	10.8	95	0.00	5.48
29		CARBON DISULFIDE	2.791	2.545	8.8	94	0.00	5.89
30		ETHANOL	0.249	0.288	-15.7	129	0.00	4.47
31		BROMOETHENE	0.951	0.903	5.0	97	0.00	4.65
32		ACRYLONITRILE	0.465	0.453	2.6	102	0.00	5.19
33		METHYLENE CHLORIDE	0.804	0.759	5.6	97	0.00	5.58
34		3-CHLOROPROPENE	0.377	0.419	-11.1	109	0.00	5.69
35		FREON 113	1.502	1.502	0.0	96	0.00	5.82
36		TRANS-1,2-DICHLOROETHYLEN	1.003	0.905	9.8	103	0.00	6.48
37		TERTIARY BUTYL ALCOHOL	1.421	1.475	-3.8	93	0.00	5.51
38		METHYL TERTIARY BUTYL ETH	2.140	2.101	1.8	98	0.00	6.74
39		TETRAHYDROFURAN	0.353	0.370	-4.8	99	0.00	8.26
40		HEXANE	1.169	1.112	4.9	101	0.00	7.75
41		VINYL ACETATE	0.130	0.159	-22.3	110	0.00	6.82
42		1,1-DICHLOROETHANE	1.386	1.397	-0.8	100	0.00	6.68

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICV2293
Lab FileID: 3W60374.D

43		METHYL ETHYL KETONE	0.368	0.358	2.7	96	0.00	7.08
44		cis-1,2-DICHLOROETHYLENE	0.900	0.893	0.8	99	0.00	7.53
45		DIISOPROPYL ETHER	0.323	0.330	-2.2	98	0.00	7.74
46		ETHYL ACETATE	0.228	0.231	-1.3	95	0.00	7.76
47		METHYL ACRYLATE	1.270	1.230	3.1	98	0.00	7.75
48		CHLOROFORM	1.685	1.660	1.5	100	0.00	7.84
49		2,4-DIMETHYLPENTANE	1.453	1.340	7.8	103	0.00	8.69
50		1,1,1-TRICHLOROETHANE	1.574	1.705	-8.3	107	0.00	8.89
51		CARBON TETRACHLORIDE	1.649	1.783	-8.1	103	0.00	9.54
52		1,2-DICHLOROETHANE	0.897	0.904	-0.8	101	0.00	8.62
53	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.00	9.75
54		BENZENE	0.594	0.594	0.0	101	0.00	9.38
55		CYCLOHEXANE	0.245	0.261	-6.5	103	0.00	9.67
56		2,3-DIMETHYLPENTANE	0.128	0.124	3.1	102	0.00	9.92
57		TRICHLOROETHYLENE	0.256	0.257	-0.4	101	0.00	10.50
58		1,2-DICHLOROPROPANE	0.210	0.204	2.9	98	0.00	10.25
59		DIBROMOMETHANE	0.298	0.278	6.7	100	0.00	10.22
60		ETHYL ACRYLATE	0.345	0.348	-0.9	95	0.00	10.24
61		BROMODICHLOROMETHANE	0.403	0.407	-1.0	101	0.00	10.45
62		2,2,4-TRIMETHYLPENTANE	0.878	0.860	2.1	104	0.00	10.54
63		1,4-DIOXANE	0.102	0.131	-28.4	118	0.00	10.50
64		HEPTANE	0.288	0.267	7.3	103	0.00	10.82
65		METHYL METHACRYLATE	0.184	0.184	0.0	97	0.00	10.71
66		METHYL ISOBUTYL KETONE	0.151	0.151	0.0	95	0.00	11.46
67		cis-1,3-DICHLOROPROPENE	0.295	0.328	-11.2	104	0.00	11.41
68		TOLUENE	0.403	0.409	-1.5	99	0.00	12.47
69		1,3-DICHLOROPROPANE	0.286	0.290	-1.4	97	0.00	12.49
70		trans-1,3-DICHLOROPROPENE	0.255	0.267	-4.7	98	0.00	11.98
71		1,1,2-TRICHLOROETHANE	0.204	0.206	-1.0	99	0.00	12.16
72	I	CHLOROBENZENE-D5	1.000	1.000	0.0	101	0.00	14.38
73		2-HEXANONE	0.447	0.447	0.0	96	0.00	12.75
74		ETHYL METHACRYLATE	0.650	0.681	-4.8	97	0.00	12.77
75		TETRACHLOROETHYLENE	0.781	0.744	4.7	100	0.00	13.69
76		DIBROMOCHLOROMETHANE	0.984	1.059	-7.6	102	0.00	12.92
77		1,2-DIBROMOETHANE	0.841	0.847	-0.7	100	0.00	13.18
78		OCTANE	0.871	0.833	4.4	102	0.00	13.54
79		1,1,1,2-TETRACHLOROETHANE	0.748	0.785	-4.9	99	0.00	14.41
80		CHLOROBENZENE	1.314	1.288	2.0	99	0.00	14.43
81		ETHYLBENZENE	1.977	1.988	-0.6	99	0.00	14.84
82		m,p-XYLENE	0.795	0.799	-0.5	98	0.01	15.05
83		o-XYLENE	0.783	0.787	-0.5	98	0.00	15.56
84		STYRENE	1.111	1.169	-5.2	98	0.00	15.45
85		NONANE	0.832	0.809	2.8	99	0.00	15.83
86		BROMOFORM	0.954	1.058	-10.9	99	0.00	15.12
87	S	4-BROMOFLUOROBENZENE	1.217	1.291	-6.1	104	0.00	16.09
88		1,1,2,2-TETRACHLOROETHANE	1.189	1.183	0.5	98	0.00	15.56
89		1,2,3-TRICHLOROPROPANE	0.790	0.816	-3.3	99	0.00	15.71
90		ISOPROPYLBENZENE	2.108	2.288	-8.5	105	0.00	16.25
91		BROMOBENZENE	0.936	0.908	3.0	96	0.00	16.34
92		2-CHLOROTOLUENE	0.556	0.589	-5.9	99	0.00	16.81
93		n-PROPYLBENZENE	0.569	0.601	-5.6	96	0.00	16.86
94		4-ETHYLTOLUENE	1.872	2.063	-10.2	96	0.00	17.04
95		1,3,5-TRIMETHYLBENZENE	1.676	1.765	-5.3	98	0.00	17.13
96		ALPHA-METHYLSTYRENE	0.813	0.892	-9.7	95	0.00	17.33
97		tert-BUTYLBENZENE	0.397	0.418	-5.3	96	0.00	17.63
98		1,2,4-TRIMETHYLBENZENE	1.538	1.685	-9.6	96	0.00	17.63
99		m-DICHLOROBENZENE	1.077	1.144	-6.2	96	0.00	17.81
100		BENZYL CHLORIDE	1.031	1.178	-14.3	95	0.00	17.80

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICV2293
Lab FileID: 3W60374.D

101	p-DICHLOROBENZENE	1.084	1.115	-2.9	97	0.00	17.89
102	sec-BUTYLBENZENE	0.467	0.515	-10.3	101	0.00	17.96
103	p-ISOPROPYLTOLUENE	0.507	0.566	-11.6	97	0.00	18.16
104	o-DICHLOROBENZENE	1.062	1.117	-5.2	95	0.00	18.31
105	n-BUTYLBENZENE	0.380	0.444	-16.8	96	0.00	18.66
106	HEXACHLOROETHANE	0.717	0.810	-13.0	103	0.00	19.10
107	HEXACHLOROBUTADIENE	0.713	0.694	2.7	93	0.00	20.86
108	1,2,4-TRICHLOROBENZENE	0.495	0.420	15.2	90	0.00	20.33
109	NAPHTHALENE	0.912	0.817	10.4	83	0.00	20.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0

3W60367.D M3W2293.M Fri Jun 23 09:35:12 2017 GCMS6W

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2298-CC2293
Lab FileID: 3W60487.D

Evaluate Continuing Calibration Report

Data File : [redacted]1\DATA\3W60487.D Vial: 1
Acq On : 27 Jun 2017 10:37 am Operator: [redacted]
Sample : cc2293-10 Inst : GCMS3W
Misc : MS16797,V3W2298,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	99	0.00	7.71
2		1,1,1-TRIFLUOROETHANE	1.471	1.458	0.9	100	0.00	3.50
3		FREON 115	2.167	2.167	0.0	97	0.00	3.88
4		FREON 152A	1.363	1.322	3.0	94	0.00	3.80
5		CHLORODIFLUOROMETHANE	0.191	0.182	4.7	96	0.00	3.62
6		CHLOROTRIFLUOROETHENE	1.181	1.212	-2.6	98	0.00	3.65
7		DICHLORODIFLUOROMETHANE	2.022	1.946	3.8	96	0.00	3.70
8		PROPYLENE	0.563	0.568	-0.9	103	0.00	3.65
9		1-CHLORO-1,1-DIFLUOROETHA	1.363	1.322	3.0	94	0.00	3.80
10		FREON 114	2.167	2.167	0.0	97	0.00	3.88
11		CHLOROMETHANE	0.246	0.244	0.8	101	0.00	3.82
12		VINYL CHLORIDE	0.857	0.881	-2.8	99	0.00	3.97
13		1,3-BUTADIENE	0.622	0.615	1.1	98	0.00	4.07
14		n-BUTANE	1.082	1.082	0.0	97	0.00	4.11
15		BROMOMETHANE	1.042	0.925	11.2	96	0.00	4.27
16		CHLOROETHANE	0.410	0.416	-1.5	98	0.00	4.39
17		DICHLOROFLUOROMETHANE	1.876	1.704	9.2	94	0.00	4.45
18		ACETONITRILE	0.585	0.522	10.8	94	0.00	4.64
19		FREON 123	2.326	2.142	7.9	93	0.00	4.74
20		FREON 123A	1.178	1.143	3.0	93	0.00	4.78
21		TRICHLOROFLUOROMETHANE	2.002	1.988	0.7	95	0.00	4.97
22		1,1-DICHLORO-1-FLUOROETHA	1.831	1.629	11.0	93	0.00	5.05
23		ISOPROPYL ALCOHOL	1.642	1.452	11.6	94	0.00	5.01
24		ACETONE	0.384	0.327	14.8	92	0.00	4.83
25		PENTANE	0.717	0.691	3.6	95	0.00	5.24
26	H	TVHC as EQUIV PENTANE	3.842	3.263	15.1	92	0.00	5.24
27		IODOMETHANE	2.713	2.600	4.2	91	0.00	5.43
28		1,1-DICHLOROETHYLENE	0.924	0.830	10.2	93	0.00	5.48
29		CARBON DISULFIDE	2.791	2.666	4.5	95	0.00	5.89
30		ETHANOL	0.249	0.224	10.0	98	0.00	4.47
31		BROMOETHENE	0.951	0.910	4.3	94	0.00	4.65
32		ACRYLONITRILE	0.465	0.416	10.5	91	0.00	5.19
33		METHYLENE CHLORIDE	0.804	0.751	6.6	93	0.00	5.58
34		3-CHLOROPROPENE	0.377	0.366	2.9	92	0.00	5.69
35		FREON 113	1.502	1.485	1.1	92	0.00	5.82
36		TRANS-1,2-DICHLOROETHYLEN	1.003	0.842	16.1	92	0.00	6.48
37		TERTIARY BUTYL ALCOHOL	1.421	1.465	-3.1	89	0.00	5.51
38		METHYL TERTIARY BUTYL ETH	2.140	2.007	6.2	90	0.00	6.74
39		TETRAHYDROFURAN	0.353	0.362	-2.5	94	0.00	8.27
40		HEXANE	1.169	1.128	3.5	99	0.00	7.75
41		VINYL ACETATE	0.130	0.133	-2.3	89	0.00	6.82
42		1,1-DICHLOROETHANE	1.386	1.392	-0.4	96	0.00	6.68

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V3W2298-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60487.D
Project: Defense Supply Center, Philadelphia, PA

43		METHYL ETHYL KETONE	0.368	0.366	0.5	95	0.00	7.08
44		cis-1,2-DICHLOROETHYLENE	0.900	0.892	0.9	96	0.00	7.53
45		DIISOPROPYL ETHER	0.323	0.326	-0.9	93	0.00	7.75
46		ETHYL ACETATE	0.228	0.239	-4.8	95	0.00	7.76
47		METHYL ACRYLATE	1.270	1.244	2.0	95	0.00	7.75
48		CHLOROFORM	1.685	1.653	1.9	96	0.00	7.84
49		2,4-DIMETHYLPENTANE	1.453	1.378	5.2	102	0.00	8.68
50		1,1,1-TRICHLOROETHANE	1.574	1.559	1.0	95	0.00	8.89
51		CARBON TETRACHLORIDE	1.649	1.765	-7.0	99	0.00	9.53
52		1,2-DICHLOROETHANE	0.897	0.901	-0.4	97	0.00	8.62
53	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	100	0.00	9.75
54		BENZENE	0.594	0.577	2.9	99	0.00	9.37
55		CYCLOHEXANE	0.245	0.243	0.8	97	0.00	9.66
56		2,3-DIMETHYLPENTANE	0.128	0.117	8.6	97	0.00	9.92
57		TRICHLOROETHYLENE	0.256	0.243	5.1	96	0.00	10.50
58		1,2-DICHLOROPROPANE	0.210	0.204	2.9	99	0.00	10.24
59		DIBROMOMETHANE	0.298	0.256	14.1	93	0.00	10.22
60		ETHYL ACRYLATE	0.345	0.338	2.0	93	0.00	10.25
61		BROMODICHLOROMETHANE	0.403	0.391	3.0	98	0.00	10.45
62		2,2,4-TRIMETHYLPENTANE	0.878	0.823	6.3	100	0.00	10.53
63		1,4-DIOXANE	0.102	0.101	1.0	92	0.00	10.50
64		HEPTANE	0.288	0.272	5.6	105	0.00	10.82
65		METHYL METHACRYLATE	0.184	0.176	4.3	94	0.00	10.71
66		METHYL ISOBUTYL KETONE	0.151	0.155	-2.6	98	0.00	11.46
67		cis-1,3-DICHLOROPROPENE	0.295	0.313	-6.1	100	0.00	11.41
68		TOLUENE	0.403	0.411	-2.0	100	0.00	12.46
69		1,3-DICHLOROPROPANE	0.286	0.300	-4.9	101	0.00	12.49
70		trans-1,3-DICHLOROPROPENE	0.255	0.271	-6.3	100	0.00	11.98
71		1,1,2-TRICHLOROETHANE	0.204	0.207	-1.5	100	0.00	12.16
72	I	CHLOROBENZENE-D5	1.000	1.000	0.0	107	0.00	14.37
73		2-HEXANONE	0.447	0.443	0.9	101	0.00	12.75
74		ETHYL METHACRYLATE	0.650	0.647	0.5	98	0.00	12.77
75		TETRACHLOROETHYLENE	0.781	0.695	11.0	99	0.00	13.68
76		DIBROMOCHLOROMETHANE	0.984	0.995	-1.1	102	0.00	12.91
77		1,2-DIBROMOETHANE	0.841	0.804	4.4	100	0.00	13.18
78		OCTANE	0.871	0.854	2.0	111	0.00	13.54
79		1,1,1,2-TETRACHLOROETHANE	0.748	0.751	-0.4	101	0.00	14.41
80		CHLOROBENZENE	1.314	1.259	4.2	102	0.00	14.43
81		ETHYLBENZENE	1.977	1.932	2.3	102	0.00	14.84
82		m,p-XYLENE	0.795	0.791	0.5	103	0.01	15.05
83		o-XYLENE	0.783	0.783	0.0	103	0.00	15.56
84		STYRENE	1.111	1.144	-3.0	102	0.00	15.44
85		NONANE	0.832	0.901	-8.3	117	0.00	15.83
86		BROMOFORM	0.954	1.041	-9.1	103	0.00	15.11
87	S	4-BROMOFLUOROBENZENE	1.217	1.272	-4.5	109	0.00	16.08
88		1,1,2,2-TETRACHLOROETHANE	1.189	1.200	-0.9	105	0.00	15.56
89		1,2,3-TRICHLOROPROPANE	0.790	0.835	-5.7	107	0.00	15.70
90		ISOPROPYLBENZENE	2.108	2.107	0.0	103	0.00	16.25
91		BROMOBENZENE	0.936	0.961	-2.7	108	0.00	16.34
92		2-CHLOROTOLUENE	0.556	0.573	-3.1	102	0.00	16.80
93		n-PROPYLBENZENE	0.569	0.606	-6.5	103	0.00	16.85
94		4-ETHYLTOLUENE	1.872	2.072	-10.7	102	0.00	17.04
95		1,3,5-TRIMETHYLBENZENE	1.676	1.749	-4.4	103	0.00	17.13
96		ALPHA-METHYLSTYRENE	0.813	0.889	-9.3	101	0.00	17.33
97		tert-BUTYLBENZENE	0.397	0.410	-3.3	100	0.00	17.63
98		1,2,4-TRIMETHYLBENZENE	1.538	1.690	-9.9	102	0.00	17.63
99		m-DICHLOROBENZENE	1.077	1.130	-4.9	101	0.00	17.81
100		BENZYL CHLORIDE	1.031	1.232	-19.5	106	0.00	17.79

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V3W2298-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60487.D
Project: Defense Supply Center, Philadelphia, PA

101	p-DICHLOROBENZENE	1.084	1.098	-1.3	101	0.00	17.89
102	sec-BUTYLBENZENE	0.467	0.484	-3.6	101	0.00	17.95
103	p-ISOPROPYLTOLUENE	0.507	0.555	-9.5	101	0.00	18.15
104	o-DICHLOROBENZENE	1.062	1.104	-4.0	100	0.00	18.30
105	n-BUTYLBENZENE	0.380	0.434	-14.2	99	0.00	18.65
106	HEXACHLOROETHANE	0.717	0.782	-9.1	105	0.00	19.10
107	HEXACHLOROBUTADIENE	0.713	0.690	3.2	98	0.00	20.86
108	1,2,4-TRICHLOROBENZENE	0.495	0.497	-0.4	113	0.00	20.33
109	NAPHTHALENE	0.912	1.055	-15.7	114	0.00	20.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3W60367.D M3W2293.M Tue Jun 27 17:06:00 2017 GCMS6W

6.9.3

6

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2299-CC2293
Lab FileID: 3W60516.D

Evaluate Continuing Calibration Report

Data File : [redacted]1\DATA\3W60516.D Vial: 1
Acq On : 28 Jun 2017 10:07 am Operator: [redacted]
Sample : cc2293-10 Inst : GCMS3W
Misc : MS17009,V3W2299,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	112	0.00	7.71
2		1,1,1-TRIFLUOROETHANE	1.471	1.442	2.0	111	0.00	3.51
3		FREON 115	2.167	2.112	2.5	106	0.00	3.89
4		FREON 152A	1.363	1.293	5.1	104	0.00	3.80
5		CHLORODIFLUOROMETHANE	0.191	0.179	6.3	106	0.00	3.62
6		CHLOROTRIFLUOROETHENE	1.181	1.175	0.5	107	0.00	3.65
7		DICHLORODIFLUOROMETHANE	2.022	1.912	5.4	106	0.00	3.70
8		PROPYLENE	0.563	0.596	-5.9	122	0.00	3.65
9		1-CHLORO-1,1-DIFLUOROETHA	1.363	1.293	5.1	104	0.00	3.80
10		FREON 114	2.167	2.112	2.5	106	0.00	3.89
11		CHLOROMETHANE	0.246	0.246	0.0	114	0.00	3.82
12		VINYL CHLORIDE	0.857	0.877	-2.3	110	0.00	3.98
13		1,3-BUTADIENE	0.622	0.609	2.1	109	0.00	4.08
14		n-BUTANE	1.082	1.124	-3.9	114	0.00	4.11
15		BROMOMETHANE	1.042	0.897	13.9	104	0.00	4.28
16		CHLOROETHANE	0.410	0.426	-3.9	112	0.00	4.39
17		DICHLOROFLUOROMETHANE	1.876	1.750	6.7	108	0.00	4.45
18		ACETONITRILE	0.585	0.546	6.7	110	0.00	4.64
19		FREON 123	2.326	2.149	7.6	105	0.00	4.74
20		FREON 123A	1.178	1.128	4.2	102	0.00	4.78
21		TRICHLOROFLUOROMETHANE	2.002	1.903	4.9	102	0.00	4.97
22		1,1-DICHLORO-1-FLUOROETHA	1.831	1.641	10.4	105	0.00	5.05
23		ISOPROPYL ALCOHOL	1.642	1.496	8.9	108	0.00	5.01
24		ACETONE	0.384	0.337	12.2	106	0.00	4.83
25		PENTANE	0.717	0.699	2.5	108	0.00	5.24
26	H	TVHC as EQUIV PENTANE	3.842	3.339	13.1	106	0.00	5.24
27		IODOMETHANE	2.713	2.493	8.1	98	0.00	5.43
28		1,1-DICHLOROETHYLENE	0.924	0.794	14.1	100	0.00	5.49
29		CARBON DISULFIDE	2.791	2.641	5.4	106	0.00	5.89
30		ETHANOL	0.249	0.241	3.2	117	0.00	4.47
31		BROMOETHENE	0.951	0.878	7.7	102	0.00	4.66
32		ACRYLONITRILE	0.465	0.435	6.5	107	0.00	5.19
33		METHYLENE CHLORIDE	0.804	0.741	7.8	103	0.00	5.59
34		3-CHLOROPROPENE	0.377	0.369	2.1	104	0.00	5.69
35		FREON 113	1.502	1.474	1.9	102	0.00	5.82
36		TRANS-1,2-DICHLOROETHYLEN	1.003	0.857	14.6	106	0.00	6.48
37		TERTIARY BUTYL ALCOHOL	1.421	1.504	-5.8	103	0.00	5.52
38		METHYL TERTIARY BUTYL ETH	2.140	2.011	6.0	102	0.00	6.74
39		TETRAHYDROFURAN	0.353	0.364	-3.1	106	0.01	8.28
40		HEXANE	1.169	1.160	0.8	114	0.00	7.75
41		VINYL ACETATE	0.130	0.133	-2.3	100	0.00	6.82
42		1,1-DICHLOROETHANE	1.386	1.410	-1.7	109	0.00	6.68

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V3W2299-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60516.D
Project: Defense Supply Center, Philadelphia, PA

43		METHYL ETHYL KETONE	0.368	0.362	1.6	105	0.00	7.08
44		cis-1,2-DICHLOROETHYLENE	0.900	0.864	4.0	104	0.00	7.53
45		DIISOPROPYL ETHER	0.323	0.335	-3.7	108	0.00	7.75
46		ETHYL ACETATE	0.228	0.248	-8.8	111	0.00	7.76
47		METHYL ACRYLATE	1.270	1.273	-0.2	110	0.00	7.75
48		CHLOROFORM	1.685	1.622	3.7	106	0.00	7.84
49		2,4-DIMETHYLPENTANE	1.453	1.361	6.3	113	0.00	8.68
50		1,1,1-TRICHLOROETHANE	1.574	1.523	3.2	104	0.00	8.89
51		CARBON TETRACHLORIDE	1.649	1.709	-3.6	107	0.00	9.53
52		1,2-DICHLOROETHANE	0.897	0.870	3.0	105	0.00	8.62
53	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	113	0.00	9.75
54		BENZENE	0.594	0.558	6.1	108	0.00	9.38
55		CYCLOHEXANE	0.245	0.238	2.9	107	0.00	9.66
56		2,3-DIMETHYLPENTANE	0.128	0.115	10.2	108	0.00	9.92
57		TRICHLOROETHYLENE	0.256	0.235	8.2	105	0.00	10.50
58		1,2-DICHLOROPROPANE	0.210	0.200	4.8	110	0.00	10.24
59		DIBROMOMETHANE	0.298	0.243	18.5	99	0.00	10.22
60		ETHYL ACRYLATE	0.345	0.340	1.4	106	0.00	10.25
61		BROMODICHLOROMETHANE	0.403	0.376	6.7	106	0.00	10.45
62		2,2,4-TRIMETHYLPENTANE	0.878	0.813	7.4	112	0.00	10.53
63		1,4-DIOXANE	0.102	0.101	1.0	103	0.01	10.51
64		HEPTANE	0.288	0.268	6.9	117	0.00	10.82
65		METHYL METHACRYLATE	0.184	0.174	5.4	104	0.00	10.72
66		METHYL ISOBUTYL KETONE	0.151	0.150	0.7	107	0.00	11.46
67		cis-1,3-DICHLOROPROPENE	0.295	0.296	-0.3	107	0.00	11.41
68		TOLUENE	0.403	0.379	6.0	104	0.00	12.46
69		1,3-DICHLOROPROPANE	0.286	0.282	1.4	107	0.00	12.49
70		trans-1,3-DICHLOROPROPENE	0.255	0.256	-0.4	107	0.00	11.97
71		1,1,2-TRICHLOROETHANE	0.204	0.191	6.4	105	0.00	12.16
72	I	CHLOROBENZENE-D5	1.000	1.000	0.0	114	0.00	14.37
73		2-HEXANONE	0.447	0.445	0.4	108	0.00	12.75
74		ETHYL METHACRYLATE	0.650	0.653	-0.5	106	0.00	12.77
75		TETRACHLOROETHYLENE	0.781	0.659	15.6	100	0.00	13.68
76		DIBROMOCHLOROMETHANE	0.984	0.965	1.9	106	0.00	12.91
77		1,2-DIBROMOETHANE	0.841	0.787	6.4	105	0.00	13.18
78		OCTANE	0.871	0.819	6.0	114	0.00	13.54
79		1,1,1,2-TETRACHLOROETHANE	0.748	0.713	4.7	102	0.00	14.40
80		CHLOROBENZENE	1.314	1.200	8.7	104	0.00	14.42
81		ETHYLBENZENE	1.977	1.825	7.7	102	0.00	14.84
82		m,p-XYLENE	0.795	0.746	6.2	103	0.01	15.05
83		o-XYLENE	0.783	0.738	5.7	104	0.00	15.56
84		STYRENE	1.111	1.071	3.6	102	0.00	15.44
85		NONANE	0.832	0.815	2.0	112	0.00	15.83
86		BROMOFORM	0.954	0.988	-3.6	105	0.00	15.11
87	S	4-BROMOFLUOROBENZENE	1.217	1.253	-3.0	114	0.00	16.08
88		1,1,2,2-TETRACHLOROETHANE	1.189	1.126	5.3	105	0.00	15.55
89		1,2,3-TRICHLOROPROPANE	0.790	0.778	1.5	107	0.00	15.70
90		ISOPROPYLBENZENE	2.108	1.972	6.5	103	0.00	16.24
91		BROMOBENZENE	0.936	0.895	4.4	107	0.00	16.34
92		2-CHLOROTOLUENE	0.556	0.534	4.0	102	0.00	16.80
93		n-PROPYLBENZENE	0.569	0.565	0.7	102	0.00	16.85
94		4-ETHYLTOLUENE	1.872	1.942	-3.7	102	0.00	17.04
95		1,3,5-TRIMETHYLBENZENE	1.676	1.640	2.1	103	0.00	17.13
96		ALPHA-METHYLSTYRENE	0.813	0.831	-2.2	100	0.00	17.33
97		tert-BUTYLBENZENE	0.397	0.387	2.5	100	0.00	17.63
98		1,2,4-TRIMETHYLBENZENE	1.538	1.592	-3.5	103	0.00	17.63
99		m-DICHLOROBENZENE	1.077	1.060	1.6	101	0.00	17.81
100		BENZYL CHLORIDE	1.031	1.144	-11.0	105	0.00	17.79

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V3W2299-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60516.D
Project: Defense Supply Center, Philadelphia, PA

101	p-DICHLOROBENZENE	1.084	1.042	3.9	102	0.00	17.89
102	sec-BUTYLBENZENE	0.467	0.454	2.8	101	0.00	17.95
103	p-ISOPROPYLTOLUENE	0.507	0.523	-3.2	101	0.00	18.15
104	o-DICHLOROBENZENE	1.062	1.042	1.9	100	0.00	18.30
105	n-BUTYLBENZENE	0.380	0.419	-10.3	102	0.00	18.65
106	HEXACHLOROETHANE	0.717	0.738	-2.9	106	0.00	19.10
107	HEXACHLOROBUTADIENE	0.713	0.659	7.6	100	0.00	20.86
108	1,2,4-TRICHLOROBENZENE	0.495	0.448	9.5	109	0.00	20.33
109	NAPHTHALENE	0.912	0.940	-3.1	109	0.00	20.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3W60367.D M3W2293.M Wed Jun 28 14:48:46 2017 GCMS6W

6.9.4

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Initial Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1007-ICC1007
Lab FileID: 5W25540.D

Response Factor Report Air5w

Method Path : [redacted]1\methods\
Method File : m5w1007.M
Title : TO-15 Full Scan Mode
Last Update : Thu Jul 27 12:05:49 2017
Response Via : Initial Calibration

Calibration Files
20 =5W25541.D 0.5 =5W25545.D 0.2 =5W25546.D 0.1 =5W25547.D 0.04=5W25535.D 10 =5W25540.D 5 =5W25539.D 40 =5W25

	Compound	20	0.5	0.2	0.1	0.04	10	5	40	Avg	%RSD
1) I	Bromochloromethane	----------ISTD----------									
2)	1,1,1-Trifluor...									0.000	-1.00
3)	Freon 152A	0.527	0.563	0.544	0.559	0.711	0.548	0.594	0.522	0.571	10.64
4)	Chlorodifluoro...	0.209	0.213	0.209	0.200	0.209	0.217	0.238	0.204	0.212	5.41
5)	Propene	0.593	0.720	0.669	0.712		0.621	0.682	0.568	0.652	9.03
6)	Chlorotrifluor...	1.310	1.308	1.324	1.372	1.489	1.373	1.482	1.300	1.370	5.59
7)	Dichlorodifluo...	2.195	2.297	2.386	2.459	2.866	2.319	2.519	2.121	2.395	9.62
8)	1-Chloro-1,1-d...									0.000	-1.00
9)	Chloromethane	0.758	0.778	0.834	0.840	0.935	0.804	0.864	0.730	0.818	7.98
10)	Dichlorotetraf...	2.266	2.373	2.414	2.572	3.059	2.430	2.602	2.163	2.485	11.00
11)	Vinyl Chloride	0.875	0.929	0.935	0.923	0.987	0.930	0.983	0.835	0.925	5.49
12)	1,3-Butadiene	0.597	0.659	0.656	0.682	0.864	0.606	0.670	0.581	0.664	13.35
13)	n-Butane	0.124	0.142	0.118	0.130		0.131	0.147	0.122	0.131	8.09
14)	Bromomethane	0.901	1.053	1.080	1.176	1.539	0.997	1.069	0.907	1.090	18.64
15)	Chloroethane	0.406	0.448	0.476	0.475	0.469	0.443	0.473	0.409	0.450	6.42
16)	Dichlorofluoro...	1.805	1.985	2.093	2.060	2.525	1.942	2.086	1.753	2.031	11.62
17)	Acetonitrile	0.526	0.608	0.965			0.576	0.612	0.523	0.635	26.19
18)	Freon 123	2.184	2.456	2.535	2.622	3.292	2.397	2.588	2.075	2.519	14.56
19)	Freon 123A	1.213	1.309	1.340	1.351	1.516	1.319	1.423	1.132	1.325	8.89
20)	Bromoethene	0.915	0.996	1.006	1.010	1.020	0.981	1.048	0.901	0.985	5.20
21)	Trichlorofluor...	2.263	2.364	2.372	2.396	2.785	2.389	2.589	2.186	2.418	7.79
22)	Acetone	0.393	0.485	0.492			0.381	0.417	0.354	0.420	13.47
23)	Pentane	0.218	0.240	0.239	0.250		0.231	0.253	0.213	0.235	6.38
24)	1,1-Dichloro-1...									0.000	-1.00
25)	Iodomethane	2.763	2.882	2.853	2.878	3.361	2.901	3.136	2.682	2.932	7.40
26)	Isopropyl Alcohol	0.219	0.313	0.354			0.241	0.268	0.211	0.268	21.10
27)	1,1-Dichloroet...	1.414	1.513	1.437	1.486	1.506	1.497	1.611	1.371	1.479	4.94
28)	Freon 113	2.012	2.057	2.045	2.101	2.256	2.122	2.280	1.959	2.104	5.38
29)	Methylene Chlo...	0.841	0.936	0.959	1.100		0.876	0.939	0.823	0.925	10.06
30)	Carbon Disulfide	2.848	2.951	2.872	2.976	3.123	2.968	3.213	2.783	2.967	4.81
31)	Ethanol	0.221	0.373				0.238	0.257	0.222	0.262	24.34
32)	Acrylonitrile	0.658	0.660	0.616	0.592	0.602	0.686	0.730	0.641	0.648	7.08
33)	3-Chloropropene	0.405	0.414	0.382	0.390	0.298	0.418	0.451	0.400	0.395	11.23
34)	trans-1,2-Dich...	1.329	1.347	1.307	1.279	1.411	1.383	1.494	1.302	1.357	5.19
35)	tert-Butyl Alc...	1.783	1.835	1.747	1.745	1.963	1.854	1.978	1.733	1.830	5.30
36)	Methyl tert-Bu...	2.493	2.525	2.519	2.547	2.947	2.608	2.792	2.452	2.610	6.56
37)	Vinyl Acetate	2.025	2.107	2.224	2.322		2.096	2.209	1.995	2.140	5.47
38)	1,1-Dichloroet...	1.669	1.761	1.750	1.755	1.897	1.744	1.886	1.641	1.763	5.14
39)	2-Butanone	0.461	0.461	0.424	0.402		0.472	0.504	0.453	0.454	7.28
40)	Hexane	1.398	1.438	1.417	1.509		1.451	1.534	1.344	1.442	4.50
41)	cis-1,2-Dichlo...	1.267	1.304	1.248	1.294	1.256	1.311	1.427	1.235	1.293	4.70
42)	Di-isopropyl E...	0.794	0.768	0.740	0.713	0.708	0.822	0.888	0.779	0.776	7.69
43)	Ethyl Acetate	0.311	0.299	0.255	0.236		0.325	0.344	0.304	0.296	12.97
44)	Methyl Acrylate	1.563	1.611	1.469	1.455	2.181	1.633	1.749	1.517	1.647	14.33
45)	Chloroform	1.953	2.083	2.065	2.183	2.507	2.050	2.217	1.887	2.118	9.00
46)	2,4-Dimethylpe...	1.623	1.656	1.648	1.666		1.687	1.817	1.584	1.669	4.39

Initial Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1007-ICC1007
Lab FileID: 5W25540.D

47)		Tetrahydrofuran	0.434	0.426	0.389	0.324	0.451	0.482	0.431	0.420	12.02
48)		1,1,1-Trichlor...	1.819	1.858	1.811	1.817	2.226	1.877	2.032	1.781	1.903	7.98
49)		1,2-Dichloroet...	1.169	1.222	1.174	1.178	1.085	1.224	1.315	1.123	1.186	5.88
50)		Benzene	2.924	3.007	3.001	3.005	3.525	3.052	3.268	2.853	3.079	7.02
51)		Carbon Tetrach...	1.839	1.708	1.711	1.618	1.903	1.866	1.941	1.860	1.805	6.25
52)		Cyclohexane	1.376	1.415	1.344	1.425	1.741	1.430	1.545	1.345	1.453	9.15
53)		2,3-Dimethylpe...	0.624	0.631	0.606	0.622	0.648	0.694	0.614	0.634	4.65
54)	I	1,4-Difluorobenzene	----------ISTD----------								
55)		2,2,4-Trimethy...	1.231	1.253	1.238	1.233	1.709	1.290	1.374	1.177	1.313	12.92
56)		Heptane	0.258	0.255	0.263	0.253	0.380	0.270	0.286	0.258	0.278	15.40
57)		Trichloroethene	0.375	0.401	0.388	0.367	0.453	0.390	0.414	0.369	0.395	7.23
58)		1,2-Dichloropr...	0.306	0.313	0.300	0.302	0.316	0.319	0.338	0.301	0.312	4.11
59)		Dibromomethane	0.364	0.368	0.374	0.392	0.486	0.372	0.394	0.363	0.389	10.52
60)		Ethyl Acrylate	0.589	0.566	0.517	0.456	0.495	0.610	0.636	0.575	0.555	11.01
61)		Methyl Methacr...	0.291	0.292	0.264	0.232	0.243	0.299	0.313	0.288	0.278	10.19
62)		1,4-Dioxane	0.156	0.166	0.147	0.117	0.160	0.172	0.144	0.152	12.10
63)		Bromodichlorom...	0.570	0.551	0.569	0.578	0.658	0.586	0.615	0.566	0.586	5.87
64)		cis-1,3-Dichlo...	0.470	0.467	0.443	0.405	0.454	0.487	0.520	0.466	0.464	7.17
65)		4-Methyl-2-pen...	0.241	0.230	0.203	0.154	0.248	0.259	0.238	0.225	16.01
66)		trans-1,3-Dich...	0.420	0.398	0.364	0.331	0.315	0.429	0.467	0.401	0.391	13.08
67)		Toluene	0.967	0.984	0.967	0.960	1.164	1.007	1.081	0.940	1.009	7.56
68)		1,1,2-Trichlor...	0.345	0.351	0.334	0.318	0.396	0.357	0.380	0.334	0.352	7.28
69)		1,3-Dichloropr...	0.452	0.464	0.448	0.403	0.443	0.470	0.508	0.427	0.452	6.84
70)		2-Hexanone	0.328	0.307	0.228	0.150	0.338	0.352	0.330	0.291	25.47
71)		Ethyl Methacry...	0.473	0.453	0.389	0.354	0.508	0.485	0.509	0.465	0.455	12.22
72)		Dibromochlorom...	0.567	0.552	0.567	0.534	0.549	0.562	0.613	0.534	0.560	4.52
73)		Tetrachloroethene	0.510	0.562	0.535	0.511	0.605	0.528	0.563	0.519	0.542	6.05
74)		1,2-Dibromoethane	0.541	0.581	0.533	0.499	0.558	0.556	0.604	0.499	0.547	6.74
75)		Octane	0.569	0.575	0.558	0.585	0.595	0.631	0.552	0.581	4.59
76)		1,1,1,2-Tetrac...	0.420	0.407	0.403	0.388	0.443	0.428	0.460	0.376	0.416	6.70
77)	I	Chlorobenzene-d5	----------ISTD----------								
78)		Chlorobenzene	1.647	1.872	1.689	1.780	2.155	1.755	1.866	1.464	1.779	11.30
79)		Ethylbenzene	2.608	2.795	2.619	2.690	3.472	2.770	2.923	2.277	2.769	12.32
80)		m,p-Xylene	1.983	2.136	2.012	1.988	2.780	2.145	2.215	1.724	2.123	14.35
81)		Styrene	1.538	1.568	1.314	1.278	1.452	1.629	1.662	1.319	1.470	10.31
82)		Nonane	1.182	1.236	1.170	1.198	2.070	1.285	1.310	1.118	1.321	23.38
83)		o-Xylene	2.011	2.188	2.077	2.138	2.638	2.145	2.227	1.653	2.135	12.71
84)		Bromoform	1.187	1.180	1.051	0.992	1.004	1.200	1.275	0.908	1.099	11.65
85)		1,1,2,2-Tetrac...	1.455	1.575	1.435	1.439	1.713	1.554	1.604	1.332	1.513	7.96
86)		1,2,3-Trichlor...	1.065	1.197	1.098	1.080	1.137	1.147	1.181	0.936	1.105	7.48
87)		Isopropylbenzene	2.628	2.807	2.669	2.680	3.191	2.822	2.920	2.256	2.747	9.75
88)		Bromobenzene	0.920	1.044	0.899	0.895	0.932	0.976	1.010	0.738	0.927	10.02
89)		2-Chlorotoluene	0.686	0.770	0.661	0.671	0.593	0.728	0.750	0.571	0.679	10.44
90)		n-Propylbenzene	0.733	0.782	0.682	0.649	0.645	0.787	0.799	0.659	0.717	9.24
91)	S	4-Bromofluorob...	1.337	1.378	1.306	1.321	1.332	1.389	1.343	1.096	1.313	7.00
92)		4-Ethyltoluene	2.511	2.688	2.440	2.409	2.869	2.707	2.820	2.290	2.592	8.06
93)		1,3,5-Trimethy...	2.085	2.326	2.159	2.096	2.419	2.250	2.306	1.967	2.201	6.81
94)		alpha-Methylst...	1.068	1.105	0.904	0.855	0.893	1.131	1.138	1.035	1.016	11.33
95)		tert-Butylbenzene	0.461	0.508	0.467	0.451	0.446	0.495	0.503	0.451	0.473	5.34
96)		1,2,4-Trimethy...	1.976	2.180	1.956	1.946	2.271	2.153	2.181	1.895	2.070	6.81
97)		1,3-Dichlorobe...	1.329	1.550	1.155	1.134	1.259	1.393	1.401	1.281	1.313	10.43
98)		Benzyl Chloride	1.561	1.318	0.974	0.937	1.213	1.578	1.527	1.526	1.329	19.83
99)		1,4-Dichlorobe...	1.293	1.506	1.105	1.099	1.262	1.361	1.357	1.267	1.281	10.54
100)		sec-Butylbenzene	0.529	0.590	0.516	0.480	0.538	0.567	0.580	0.528	0.541	6.68
101)		p-Isopropyltol...	0.600	0.677	0.583	0.555	0.517	0.642	0.648	0.620	0.605	8.69
102)		1,2-Dichlorobe...	1.209	1.461	1.113	1.095	1.240	1.279	1.281	1.216	1.237	9.18
103)		n-Butylbenzene	0.494	0.546	0.413	0.346	0.522	0.530	0.535	0.484	15.56
104)		Hexachloroethane	0.684	0.618	0.550	0.519	0.489	0.696	0.674	0.663	0.612	13.31

Initial Calibration Summary

Job Number: JC52053
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Sample: V5W1007-ICC1007
Lab FileID: 5W25540.D

105)	1,2,4-Trichlor...	0.469	0.647	0.258	0.237	0.462	0.409	0.524	0.429	33.71
106)	Naphthalene	0.945	1.563	0.530		0.898	0.752	1.068	0.959	36.33
107)	Hexachlorobuta...	0.466	0.735	0.588	0.627	0.566	0.508	0.515	0.528	0.567	14.93
108) I	Bromochloromethane...	----------ISTD----------								
109)	TVHC as equiv ...	5.168	5.583	5.137		5.456	5.888	4.995	5.371	6.21

(#) = Out of Range

m5w1007.M Thu Jul 27 12:11:42 2017

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1007-ICV1007
Lab FileID: 5W25548.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W25548.D
Acq On : 27 Jul 2017 11:11 am
Operator : [redacted]
Sample : icv1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 12:06:12 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 12:05:49 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	98	0.00
2	1,1,1-Trifluoroethane	0.000	0.000	0.0	0#	-3.81#
3	Freon 152A	0.571	0.563	1.4	101	0.00
4	Chlorodifluoromethane	0.212	0.220	-3.8	99	0.00
5	Propene	0.652	0.639	2.0	101	0.00
6	Chlorotrifluoroethene	1.370	0.000	100.0#	0#	-3.96#
7	Dichlorodifluoromethane	2.395	2.379	0.7	101	0.00
8	1-Chloro-1,1-difluoroethane	0.000	0.000	0.0	0#	-3.90#
9	Chloromethane	0.818	0.829	-1.3	101	0.00
10	Dichlorotetrafluoroethane	2.485	2.637	-6.1	106	0.00
11	Vinyl Chloride	0.925	0.959	-3.7	101	0.00
12	1,3-Butadiene	0.664	0.632	4.8	102	0.00
13	n-Butane	0.131	0.141	-7.6	106	0.00
14	Bromomethane	1.090	1.012	7.2	100	0.00
15	Chloroethane	0.450	0.447	0.7	99	0.00
16	Dichlorofluoromethane	2.031	2.051	-1.0	104	0.00
17	Acetonitrile	0.635	0.606	4.6	103	0.00
18	Freon 123	2.519	2.326	7.7	95	0.00
19	Freon 123A	1.325	1.362	-2.8	100	0.00
20	Bromoethene	0.985	0.958	2.7	96	0.00
21	Trichlorofluoromethane	2.418	2.399	0.8	98	0.00
22	Acetone	0.420	0.399	5.0	103	0.00
23	Pentane	0.235	0.248	-5.5	105	0.00
24	1,1-Dichloro-1-fluoroethane	0.000	0.000	0.0	0#	-5.47#
25	Iodomethane	2.932	2.834	3.3	96	0.00
26	Isopropyl Alcohol	0.268	0.278	-3.7	113	0.00
27	1,1-Dichloroethene	1.479	1.443	2.4	95	0.00
28	Freon 113	2.104	1.997	5.1	92	0.00
29	Methylene Chloride	0.925	0.839	9.3	94	0.00
30	Carbon Disulfide	2.967	2.805	5.5	93	0.00
31	Ethanol	0.262	0.339	-29.4	140	0.00
32	Acrylonitrile	0.648	0.738	-13.9	105	0.00
33	3-Chloropropene	0.395	0.448	-13.4	105	0.00
34	trans-1,2-Dichloroethene	1.357	1.406	-3.6	100	0.00
35	tert-Butyl Alcohol	1.830	1.763	3.7	93	0.00
36	Methyl tert-Butyl Ether	2.610	2.665	-2.1	100	0.00
37	Vinyl Acetate	2.140	2.420	-13.1	113	0.00
38	1,1-Dichloroethane	1.763	1.750	0.7	98	0.00

Initial Calibration Verification

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Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1007-ICV1007
Lab FileID: 5W25548.D

39		2-Butanone	0.454	0.474	-4.4	98	0.00
40		Hexane	1.442	1.460	-1.2	99	0.00
41		cis-1,2-Dichloroethene	1.293	1.324	-2.4	99	0.00
42		Di-isopropyl Ether	0.776	0.829	-6.8	99	0.00
43		Ethyl Acetate	0.296	0.327	-10.5	99	0.00
44		Methyl Acrylate	1.647	1.669	-1.3	100	0.00
45		Chloroform	2.118	2.063	2.6	99	0.00
46		2,4-Dimethylpentane	1.669	1.747	-4.7	102	0.00
47		Tetrahydrofuran	0.420	0.472	-12.4	103	0.00
48		1,1,1-Trichloroethane	1.903	2.018	-6.0	105	0.00
49		1,2-Dichloroethane	1.186	1.257	-6.0	101	0.00
50		Benzene	3.079	3.052	0.9	98	0.00
51		Carbon Tetrachloride	1.805	1.911	-5.9	100	0.00
52		Cyclohexane	1.453	1.471	-1.2	101	0.00
53		2,3-Dimethylpentane	0.634	0.658	-3.8	100	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	99	0.00
55		2,2,4-Trimethylpentane	1.313	1.339	-2.0	103	0.00
56		Heptane	0.278	0.271	2.5	99	0.00
57		Trichloroethene	0.395	0.389	1.5	99	0.00
58		1,2-Dichloropropane	0.312	0.321	-2.9	99	0.00
59		Dibromomethane	0.389	0.360	7.5	96	0.00
60		Ethyl Acrylate	0.555	0.608	-9.5	98	0.00
61		Methyl Methacrylate	0.278	0.298	-7.2	98	0.00
62		1,4-Dioxane	0.152	0.195	-28.3	120	0.00
63		Bromodichloromethane	0.586	0.592	-1.0	100	0.00
64		cis-1,3-Dichloropropene	0.464	0.514	-10.8	104	0.00
65		4-Methyl-2-pentanone	0.225	0.252	-12.0	100	0.00
66		trans-1,3-Dichloropropene	0.391	0.420	-7.4	96	0.00
67		Toluene	1.009	1.002	0.7	98	0.00
68		1,1,2-Trichloroethane	0.352	0.351	0.3	97	0.00
69		1,3-Dichloropropane	0.452	0.460	-1.8	97	0.00
70		2-Hexanone	0.291	0.343	-17.9	100	0.00
71		Ethyl Methacrylate	0.455	0.497	-9.2	101	0.00
72		Dibromochloromethane	0.560	0.578	-3.2	102	0.00
73		Tetrachloroethene	0.542	0.512	5.5	96	0.00
74		1,2-Dibromoethane	0.547	0.554	-1.3	98	0.00
75		Octane	0.581	0.632	-8.8	105	0.00
76		1,1,1,2-Tetrachloroethane	0.416	0.427	-2.6	99	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00
78		Chlorobenzene	1.779	1.710	3.9	98	0.00
79		Ethylbenzene	2.769	2.744	0.9	100	0.00
80		m,p-Xylene	2.123	2.095	1.3	98	0.00
81		Styrene	1.470	1.604	-9.1	99	0.00
82		Nonane	1.321	1.319	0.2	103	0.00
83		o-Xylene	2.135	2.116	0.9	99	0.00
84		Bromoform	1.099	1.206	-9.7	101	0.00
85		1,1,2,2-Tetrachloroethane	1.513	1.553	-2.6	101	0.00
86		1,2,3-Trichloropropane	1.105	1.159	-4.9	102	0.00
87		Isopropylbenzene	2.747	2.966	-8.0	106	0.00
88		Bromobenzene	0.927	0.934	-0.8	96	0.00
89		2-Chlorotoluene	0.679	0.722	-6.3	100	0.00
90		n-Propylbenzene	0.717	0.770	-7.4	99	0.00
91	S	4-Bromofluorobenzene	1.313	1.384	-5.4	100	0.00
92		4-Ethyltoluene	2.592	2.683	-3.5	100	0.00
93		1,3,5-Trimethylbenzene	2.201	2.242	-1.9	100	0.00
94		alpha-Methylstyrene	1.016	1.094	-7.7	97	0.00
95		tert-Butylbenzene	0.473	0.489	-3.4	100	0.00
96		1,2,4-Trimethylbenzene	2.070	2.122	-2.5	99	0.00

SGS ACCUTEST JC52053

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1007-ICV1007
Lab FileID: 5W25548.D

97		1,3-Dichlorobenzene	1.313	1.370	-4.3	99	0.00
98		Benzyl Chloride	1.329	1.538	-15.7	98	0.00
99		1,4-Dichlorobenzene	1.281	1.312	-2.4	97	0.00
100		sec-Butylbenzene	0.541	0.590	-9.1	105	0.00
101		p-Isopropyltoluene	0.605	0.638	-5.5	100	0.00
102		1,2-Dichlorobenzene	1.237	1.243	-0.5	98	0.00
103		n-Butylbenzene	0.484	0.530	-9.5	102	0.00
104		Hexachloroethane	0.612	0.694	-13.4	100	0.00
105		1,2,4-Trichlorobenzene	0.429	0.448	-4.4	98	0.00
106		Naphthalene	0.959	0.828	13.7	93	0.00
107		Hexachlorobutadiene	0.567	0.515	9.2	102	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	98	0.00
109		TVHC as equiv Pentane	5.371	5.941	-10.6	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1007.M Thu Jul 27 12:11:17 2017

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1051-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26742.D
Project: Defense Supply Center, Philadelphia, PA

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W26742.D
Acq On : 19 Sep 2017 9:46 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:07:32 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	87	0.04
2	1,1,1-Trifluoroethane	0.000	0.000	0.0	0#	-3.81#
3	Freon 152A	0.571	0.568	0.5	90	-0.01
4	Chlorodifluoromethane	0.212	0.258	-21.7	104	0.07
5	Propene	0.652	0.669	-2.6	94	0.08
6	Chlorotrifluoroethene	1.370	1.322	3.5	84	0.08
7	Dichlorodifluoromethane	2.395	2.571	-7.3	97	0.07
8	1-Chloro-1,1-difluoroethane	0.000	0.000	0.0	0#	-3.90#
9	Chloromethane	0.818	0.926	-13.2	101	0.07
10	Dichlorotetrafluoroethane	2.485	2.576	-3.7	92	0.08
11	Vinyl Chloride	0.925	1.006	-8.8	94	0.07
12	1,3-Butadiene	0.664	0.729	-9.8	105	0.07
13	n-Butane	0.131	0.149	-13.7	99	0.07
14	Bromomethane	1.090	1.045	4.1	91	0.07
15	Chloroethane	0.450	0.491	-9.1	97	0.07
16	Dichlorofluoromethane	2.031	2.447	-20.5	110	0.07
17	Acetonitrile	0.635	0.769	-21.1	116	0.07
18	Freon 123	2.519	2.717	-7.9	99	0.07
19	Freon 123A	1.325	1.371	-3.5	91	0.07
20	Bromoethene	0.985	0.953	3.2	85	0.07
21	Trichlorofluoromethane	2.418	2.911	-20.4	106	0.07
22	Acetone	0.420	0.452	-7.6	103	0.07
23	Pentane	0.235	0.220	6.4	83	0.06
24	1,1-Dichloro-1-fluoroethane	0.000	0.000	0.0	0#	-5.47#
25	Iodomethane	2.932	2.352	19.8	71	0.07
26	Isopropyl Alcohol	0.268	0.337	-25.7	122	0.07
27	1,1-Dichloroethene	1.479	1.508	-2.0	88	0.07
28	Freon 113	2.104	2.118	-0.7	87	0.06
29	Methylene Chloride	0.925	0.852	7.9	85	0.07
30	Carbon Disulfide	2.967	3.059	-3.1	90	0.06
31	Ethanol	0.262	0.290	-10.7	106	0.07
32	Acrylonitrile	0.648	0.693	-6.9	88	0.07
33	3-Chloropropene	0.395	0.358	9.4	75	0.06
34	trans-1,2-Dichloroethene	1.357	1.300	4.2	82	0.05
35	tert-Butyl Alcohol	1.830	1.667	8.9	78	0.07
36	Methyl tert-Butyl Ether	2.610	2.246	13.9	75	0.05
37	Vinyl Acetate	2.140	2.125	0.7	88	0.05
38	1,1-Dichloroethane	1.763	1.771	-0.5	89	0.05

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1051-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26742.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.454	0.417	8.1	77	0.05
40		Hexane	1.442	1.407	2.4	85	0.04
41		cis-1,2-Dichloroethene	1.293	1.240	4.1	82	0.04
42		Di-isopropyl Ether	0.776	0.723	6.8	77	0.04
43		Ethyl Acetate	0.296	0.318	-7.4	85	0.04
44		Methyl Acrylate	1.647	1.671	-1.5	89	0.04
45		Chloroform	2.118	2.170	-2.5	92	0.04
46		2,4-Dimethylpentane	1.669	1.629	2.4	84	0.03
47		Tetrahydrofuran	0.420	0.381	9.3	74	0.04
48		1,1,1-Trichloroethane	1.903	1.927	-1.3	90	0.03
49		1,2-Dichloroethane	1.186	1.374	-15.9	98	0.03
50		Benzene	3.079	2.778	9.8	79	0.02
51		Carbon Tetrachloride	1.805	1.997	-10.6	93	0.02
52		Cyclohexane	1.453	1.337	8.0	82	0.02
53		2,3-Dimethylpentane	0.634	0.605	4.6	81	0.02
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	83	0.02
55		2,2,4-Trimethylpentane	1.313	1.368	-4.2	89	0.01
56		Heptane	0.278	0.265	4.7	82	0.01
57		Trichloroethene	0.395	0.404	-2.3	87	0.02
58		1,2-Dichloropropane	0.312	0.332	-6.4	87	0.02
59		Dibromomethane	0.389	0.341	12.3	77	0.02
60		Ethyl Acrylate	0.555	0.624	-12.4	85	0.02
61		Methyl Methacrylate	0.278	0.292	-5.0	81	0.01
62		1,4-Dioxane	0.152	0.152	0.0	80	0.02
63		Bromodichloromethane	0.586	0.668	-14.0	95	0.01
64		cis-1,3-Dichloropropene	0.464	0.447	3.7	76	0.01
65		4-Methyl-2-pentanone	0.225	0.253	-12.4	85	0.01
66		trans-1,3-Dichloropropene	0.391	0.409	-4.6	80	0.00
67		Toluene	1.009	0.932	7.6	77	0.00
68		1,1,2-Trichloroethane	0.352	0.356	-1.1	83	0.00
69		1,3-Dichloropropane	0.452	0.488	-8.0	87	0.00
70		2-Hexanone	0.291	0.342	-17.5	84	0.00
71		Ethyl Methacrylate	0.455	0.500	-9.9	86	0.00
72		Dibromochloromethane	0.560	0.623	-11.2	93	0.00
73		Tetrachloroethene	0.542	0.497	8.3	79	0.00
74		1,2-Dibromoethane	0.547	0.553	-1.1	83	0.00
75		Octane	0.581	0.631	-8.6	89	0.00
76		1,1,1,2-Tetrachloroethane	0.416	0.462	-11.1	90	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
78		Chlorobenzene	1.779	1.653	7.1	85	0.00
79		Ethylbenzene	2.769	2.539	8.3	82	0.00
80		m,p-Xylene	2.123	2.029	4.4	85	-0.01
81		Styrene	1.470	1.405	4.4	78	-0.01
82		Nonane	1.321	1.306	1.1	91	-0.01
83		o-Xylene	2.135	2.087	2.2	87	0.00
84		Bromoform	1.099	1.285	-16.9	96	-0.01
85		1,1,2,2-Tetrachloroethane	1.513	1.640	-8.4	95	-0.01
86		1,2,3-Trichloropropane	1.105	1.167	-5.6	92	-0.01
87		Isopropylbenzene	2.747	2.633	4.1	84	-0.01
88		Bromobenzene	0.927	0.929	-0.2	86	-0.01
89		2-Chlorotoluene	0.679	0.667	1.8	82	-0.01
90		n-Propylbenzene	0.717	0.741	-3.3	85	-0.01
91	S	4-Bromofluorobenzene	1.313	1.338	-1.9	87	-0.01
92		4-Ethyltoluene	2.592	2.593	-0.0	86	-0.01
93		1,3,5-Trimethylbenzene	2.201	2.140	2.8	86	-0.01
94		alpha-Methylstyrene	1.016	1.019	-0.3	81	-0.01
95		tert-Butylbenzene	0.473	0.468	1.1	85	-0.01
96		1,2,4-Trimethylbenzene	2.070	2.127	-2.8	89	-0.01

SGS ACCUTEST JC52053

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1051-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26742.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.313	1.384	-5.4	89	0.00
98		Benzyl Chloride	1.329	1.629	-22.6	93	-0.01
99		1,4-Dichlorobenzene	1.281	1.323	-3.3	87	-0.01
100		sec-Butylbenzene	0.541	0.546	-0.9	87	-0.01
101		p-Isopropyltoluene	0.605	0.628	-3.8	88	-0.01
102		1,2-Dichlorobenzene	1.237	1.245	-0.6	88	-0.01
103		n-Butylbenzene	0.484	0.496	-2.5	85	-0.01
104		Hexachloroethane	0.612	0.786	-28.4	102	-0.01
105		1,2,4-Trichlorobenzene	0.429	0.366	14.7	71	-0.01
106		Naphthalene	0.959	0.714	25.5	71	0.00
107		Hexachlorobutadiene	0.567	0.496	12.5	88	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	87	0.04
109		TVHC as equiv Pentane	5.371	5.850	-8.9	94	0.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1007.M Tue Sep 19 12:12:57 2017

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1052-CC1007
Lab FileID: 5W26770.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W26770.D
Acq On : 20 Sep 2017 9:59 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20265,v5w1052,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 20 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	74	0.05
2	1,1,1-Trifluoroethane	0.000	0.000	0.0	0#	-3.81#
3	Freon 152A	0.571	0.737	-29.1	99	0.09
4	Chlorodifluoromethane	0.212	0.271	-27.8	92	0.09
5	Propene	0.652	0.730	-12.0	86	0.09
6	Chlorotrifluoroethene	1.370	1.361	0.7	73	0.09
7	Dichlorodifluoromethane	2.395	2.667	-11.4	85	0.09
8	1-Chloro-1,1-difluoroethane	0.000	0.000	0.0	0#	-3.90#
9	Chloromethane	0.818	0.967	-18.2	89	0.09
10	Dichlorotetrafluoroethane	2.485	2.623	-5.6	79	0.09
11	Vinyl Chloride	0.925	1.056	-14.2	83	0.09
12	1,3-Butadiene	0.664	0.770	-16.0	93	0.08
13	n-Butane	0.131	0.155	-18.3	87	0.08
14	Bromomethane	1.090	1.052	3.5	78	0.09
15	Chloroethane	0.450	0.499	-10.9	83	0.09
16	Dichlorofluoromethane	2.031	2.526	-24.4	96	0.09
17	Acetonitrile	0.635	0.834	-31.3#	107	0.09
18	Freon 123	2.519	2.737	-8.7	84	0.08
19	Freon 123A	1.325	1.362	-2.8	76	0.08
20	Bromoethene	0.985	0.973	1.2	73	0.08
21	Trichlorofluoromethane	2.418	3.019	-24.9	93	0.08
22	Acetone	0.420	0.462	-10.0	89	0.08
23	Pentane	0.235	0.232	1.3	74	0.07
24	1,1-Dichloro-1-fluoroethane	0.000	0.000	0.0	0#	-5.47#
25	Iodomethane	2.932	2.501	14.7	63	0.08
26	Isopropyl Alcohol	0.268	0.338	-26.1	103	0.08
27	1,1-Dichloroethene	1.479	1.621	-9.6	80	0.07
28	Freon 113	2.104	2.131	-1.3	74	0.07
29	Methylene Chloride	0.925	0.873	5.6	73	0.07
30	Carbon Disulfide	2.967	3.108	-4.8	77	0.07
31	Ethanol	0.262	0.323	-23.3	100	0.09
32	Acrylonitrile	0.648	0.740	-14.2	79	0.08
33	3-Chloropropene	0.395	0.383	3.0	67	0.07
34	trans-1,2-Dichloroethene	1.357	1.405	-3.5	75	0.07
35	tert-Butyl Alcohol	1.830	1.843	-0.7	73	0.07
36	Methyl tert-Butyl Ether	2.610	2.410	7.7	68	0.06
37	Vinyl Acetate	2.140	2.323	-8.6	81	0.06
38	1,1-Dichloroethane	1.763	1.883	-6.8	79	0.06

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1052-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26770.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.454	0.444	2.2	69	0.05
40		Hexane	1.442	1.488	-3.2	75	0.05
41		cis-1,2-Dichloroethene	1.293	1.332	-3.0	75	0.05
42		Di-isopropyl Ether	0.776	0.743	4.3	66	0.05
43		Ethyl Acetate	0.296	0.336	-13.5	76	0.05
44		Methyl Acrylate	1.647	1.798	-9.2	81	0.05
45		Chloroform	2.118	2.253	-6.4	81	0.05
46		2,4-Dimethylpentane	1.669	1.687	-1.1	74	0.04
47		Tetrahydrofuran	0.420	0.410	2.4	67	0.04
48		1,1,1-Trichloroethane	1.903	2.007	-5.5	79	0.04
49		1,2-Dichloroethane	1.186	1.415	-19.3	85	0.04
50		Benzene	3.079	2.870	6.8	69	0.03
51		Carbon Tetrachloride	1.805	2.064	-14.3	81	0.02
52		Cyclohexane	1.453	1.412	2.8	73	0.02
53		2,3-Dimethylpentane	0.634	0.626	1.3	71	0.02
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	71	0.03
55		2,2,4-Trimethylpentane	1.313	1.401	-6.7	77	0.02
56		Heptane	0.278	0.270	2.9	71	0.01
57		Trichloroethene	0.395	0.405	-2.5	74	0.02
58		1,2-Dichloropropane	0.312	0.344	-10.3	77	0.02
59		Dibromomethane	0.389	0.341	12.3	65	0.02
60		Ethyl Acrylate	0.555	0.662	-19.3	77	0.02
61		Methyl Methacrylate	0.278	0.306	-10.1	73	0.02
62		1,4-Dioxane	0.152	0.157	-3.3	70	0.02
63		Bromodichloromethane	0.586	0.686	-17.1	84	0.02
64		cis-1,3-Dichloropropene	0.464	0.471	-1.5	69	0.01
65		4-Methyl-2-pentanone	0.225	0.267	-18.7	77	0.01
66		trans-1,3-Dichloropropene	0.391	0.436	-11.5	72	0.01
67		Toluene	1.009	0.950	5.8	67	0.00
68		1,1,2-Trichloroethane	0.352	0.357	-1.4	71	0.00
69		1,3-Dichloropropane	0.452	0.502	-11.1	76	0.00
70		2-Hexanone	0.291	0.361	-24.1	76	0.00
71		Ethyl Methacrylate	0.455	0.518	-13.8	76	0.00
72		Dibromochloromethane	0.560	0.634	-13.2	80	0.00
73		Tetrachloroethene	0.542	0.485	10.5	66	0.00
74		1,2-Dibromoethane	0.547	0.570	-4.2	73	0.00
75		Octane	0.581	0.678	-16.7	81	0.00
76		1,1,1,2-Tetrachloroethane	0.416	0.463	-11.3	77	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	78	0.00
78		Chlorobenzene	1.779	1.621	8.9	72	0.00
79		Ethylbenzene	2.769	2.603	6.0	73	0.00
80		m,p-Xylene	2.123	2.065	2.7	75	-0.01
81		Styrene	1.470	1.448	1.5	69	-0.01
82		Nonane	1.321	1.440	-9.0	87	-0.01
83		o-Xylene	2.135	2.156	-1.0	78	0.00
84		Bromoform	1.099	1.312	-19.4	85	-0.01
85		1,1,2,2-Tetrachloroethane	1.513	1.695	-12.0	85	-0.01
86		1,2,3-Trichloropropane	1.105	1.218	-10.2	83	-0.01
87		Isopropylbenzene	2.747	2.798	-1.9	77	-0.01
88		Bromobenzene	0.927	0.949	-2.4	76	-0.01
89		2-Chlorotoluene	0.679	0.697	-2.7	74	-0.01
90		n-Propylbenzene	0.717	0.761	-6.1	75	-0.01
91	S	4-Bromofluorobenzene	1.313	1.341	-2.1	75	-0.01
92		4-Ethyltoluene	2.592	2.677	-3.3	77	-0.01
93		1,3,5-Trimethylbenzene	2.201	2.319	-5.4	80	-0.01
94		alpha-Methylstyrene	1.016	1.085	-6.8	75	-0.01
95		tert-Butylbenzene	0.473	0.487	-3.0	76	-0.01
96		1,2,4-Trimethylbenzene	2.070	2.252	-8.8	81	-0.01

SGS ACCUTEST JC52053

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1052-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26770.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.313	1.418	-8.0	79	0.00
98		Benzyl Chloride	1.329	1.735	-30.5#	86	0.00
99		1,4-Dichlorobenzene	1.281	1.372	-7.1	78	-0.01
100		sec-Butylbenzene	0.541	0.571	-5.5	78	-0.01
101		p-Isopropyltoluene	0.605	0.687	-13.6	83	-0.01
102		1,2-Dichlorobenzene	1.237	1.318	-6.5	80	-0.01
103		n-Butylbenzene	0.484	0.533	-10.1	79	-0.01
104		Hexachloroethane	0.612	0.857	-40.0#	96	0.00
105		1,2,4-Trichlorobenzene	0.429	0.422	1.6	71	-0.01
106		Naphthalene	0.959	0.860	10.3	75	0.00
107		Hexachlorobutadiene	0.567	0.570	-0.5	87	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	74	0.05
109		TVHC as equiv Pentane	5.371	6.191	-15.3	83	0.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1007.M Wed Sep 20 13:02:03 2017

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1053-CC1007
Lab FileID: 5W26798.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W26798.D
Acq On : 21 Sep 2017 9:44 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:58:18 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	84	0.04
2	1,1,1-Trifluoroethane	0.000	0.000	0.0	0#	-3.81#
3	Freon 152A	0.571	0.567	0.7	87	-0.01
4	Chlorodifluoromethane	0.212	0.252	-18.9	97	0.08
5	Propene	0.652	0.615	5.7	83	0.08
6	Chlorotrifluoroethene	1.370	1.345	1.8	82	0.08
7	Dichlorodifluoromethane	2.395	2.571	-7.3	93	0.08
8	1-Chloro-1,1-difluoroethane	0.000	0.000	0.0	0#	-3.90#
9	Chloromethane	0.818	0.924	-13.0	96	0.07
10	Dichlorotetrafluoroethane	2.485	2.570	-3.4	89	0.08
11	Vinyl Chloride	0.925	1.010	-9.2	91	0.07
12	1,3-Butadiene	0.664	0.689	-3.8	95	0.07
13	n-Butane	0.131	0.144	-9.9	92	0.07
14	Bromomethane	1.090	1.041	4.5	88	0.07
15	Chloroethane	0.450	0.473	-5.1	89	0.07
16	Dichlorofluoromethane	2.031	2.386	-17.5	103	0.07
17	Acetonitrile	0.635	0.734	-15.6	107	0.07
18	Freon 123	2.519	2.698	-7.1	94	0.07
19	Freon 123A	1.325	1.377	-3.9	87	0.07
20	Bromoethene	0.985	0.962	2.3	82	0.07
21	Trichlorofluoromethane	2.418	2.957	-22.3	104	0.07
22	Acetone	0.420	0.429	-2.1	94	0.07
23	Pentane	0.235	0.213	9.4	77	0.06
24	1,1-Dichloro-1-fluoroethane	0.000	0.000	0.0	0#	-5.47#
25	Iodomethane	2.932	2.474	15.6	71	0.07
26	Isopropyl Alcohol	0.268	0.322	-20.1	112	0.07
27	1,1-Dichloroethene	1.479	1.495	-1.1	84	0.07
28	Freon 113	2.104	2.154	-2.4	85	0.06
29	Methylene Chloride	0.925	0.859	7.1	82	0.07
30	Carbon Disulfide	2.967	3.024	-1.9	85	0.06
31	Ethanol	0.262	0.280	-6.9	99	0.07
32	Acrylonitrile	0.648	0.671	-3.5	82	0.07
33	3-Chloropropene	0.395	0.362	8.4	73	0.06
34	trans-1,2-Dichloroethene	1.357	1.279	5.7	77	0.05
35	tert-Butyl Alcohol	1.830	1.652	9.7	75	0.07
36	Methyl tert-Butyl Ether	2.610	2.223	14.8	71	0.05
37	Vinyl Acetate	2.140	1.992	6.9	80	0.05
38	1,1-Dichloroethane	1.763	1.736	1.5	83	0.05

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1053-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26798.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.454	0.411	9.5	73	0.05
40		Hexane	1.442	1.336	7.4	77	0.04
41		cis-1,2-Dichloroethene	1.293	1.200	7.2	77	0.04
42		Di-isopropyl Ether	0.776	0.727	6.3	74	0.04
43		Ethyl Acetate	0.296	0.306	-3.4	79	0.04
44		Methyl Acrylate	1.647	1.586	3.7	81	0.04
45		Chloroform	2.118	2.148	-1.4	88	0.04
46		2,4-Dimethylpentane	1.669	1.539	7.8	76	0.03
47		Tetrahydrofuran	0.420	0.380	9.5	71	0.04
48		1,1,1-Trichloroethane	1.903	1.942	-2.0	87	0.03
49		1,2-Dichloroethane	1.186	1.331	-12.2	91	0.03
50		Benzene	3.079	2.686	12.8	74	0.02
51		Carbon Tetrachloride	1.805	2.002	-10.9	90	0.02
52		Cyclohexane	1.453	1.269	12.7	74	0.02
53		2,3-Dimethylpentane	0.634	0.583	8.0	75	0.02
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	80	0.02
55		2,2,4-Trimethylpentane	1.313	1.290	1.8	80	0.01
56		Heptane	0.278	0.258	7.2	76	0.01
57		Trichloroethene	0.395	0.398	-0.8	81	0.02
58		1,2-Dichloropropane	0.312	0.312	0.0	78	0.02
59		Dibromomethane	0.389	0.351	9.8	75	0.02
60		Ethyl Acrylate	0.555	0.594	-7.0	77	0.02
61		Methyl Methacrylate	0.278	0.286	-2.9	76	0.01
62		1,4-Dioxane	0.152	0.154	-1.3	77	0.02
63		Bromodichloromethane	0.586	0.644	-9.9	87	0.01
64		cis-1,3-Dichloropropene	0.464	0.439	5.4	72	0.01
65		4-Methyl-2-pentanone	0.225	0.242	-7.6	78	0.01
66		trans-1,3-Dichloropropene	0.391	0.410	-4.9	76	0.00
67		Toluene	1.009	0.904	10.4	71	0.00
68		1,1,2-Trichloroethane	0.352	0.351	0.3	78	0.00
69		1,3-Dichloropropane	0.452	0.474	-4.9	80	0.00
70		2-Hexanone	0.291	0.331	-13.7	78	0.00
71		Ethyl Methacrylate	0.455	0.487	-7.0	80	0.00
72		Dibromochloromethane	0.560	0.619	-10.5	88	0.00
73		Tetrachloroethene	0.542	0.493	9.0	74	0.00
74		1,2-Dibromoethane	0.547	0.552	-0.9	79	0.00
75		Octane	0.581	0.596	-2.6	80	0.00
76		1,1,1,2-Tetrachloroethane	0.416	0.470	-13.0	88	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	83	0.00
78		Chlorobenzene	1.779	1.707	4.0	81	0.00
79		Ethylbenzene	2.769	2.618	5.5	79	0.00
80		m,p-Xylene	2.123	2.107	0.8	82	-0.01
81		Styrene	1.470	1.456	1.0	74	-0.01
82		Nonane	1.321	1.282	3.0	83	-0.01
83		o-Xylene	2.135	2.195	-2.8	85	0.00
84		Bromoform	1.099	1.384	-25.9	96	-0.01
85		1,1,2,2-Tetrachloroethane	1.513	1.679	-11.0	90	-0.01
86		1,2,3-Trichloropropane	1.105	1.188	-7.5	86	-0.01
87		Isopropylbenzene	2.747	2.814	-2.4	83	-0.01
88		Bromobenzene	0.927	0.987	-6.5	84	-0.01
89		2-Chlorotoluene	0.679	0.709	-4.4	81	-0.01
90		n-Propylbenzene	0.717	0.787	-9.8	83	-0.01
91	S	4-Bromofluorobenzene	1.313	1.377	-4.9	82	-0.01
92		4-Ethyltoluene	2.592	2.669	-3.0	82	-0.01
93		1,3,5-Trimethylbenzene	2.201	2.306	-4.8	85	-0.01
94		alpha-Methylstyrene	1.016	1.088	-7.1	80	-0.01
95		tert-Butylbenzene	0.473	0.495	-4.7	83	-0.01
96		1,2,4-Trimethylbenzene	2.070	2.236	-8.0	86	-0.01

SGS ACCUTEST JC52053

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1053-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26798.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.313	1.457	-11.0	87	0.00
98		Benzyl Chloride	1.329	1.662	-25.1	88	-0.01
99		1,4-Dichlorobenzene	1.281	1.402	-9.4	86	-0.01
100		sec-Butylbenzene	0.541	0.584	-7.9	86	-0.01
101		p-Isopropyltoluene	0.605	0.699	-15.5	91	-0.01
102		1,2-Dichlorobenzene	1.237	1.336	-8.0	87	-0.01
103		n-Butylbenzene	0.484	0.540	-11.6	86	-0.01
104		Hexachloroethane	0.612	0.871	-42.3#	104	-0.01
105		1,2,4-Trichlorobenzene	0.429	0.407	5.1	73	-0.01
106		Naphthalene	0.959	0.817	14.8	76	0.00
107		Hexachlorobutadiene	0.567	0.582	-2.6	95	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	84	0.04
109		TVHC as equiv Pentane	5.371	5.566	-3.6	85	0.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1007.M Thu Sep 21 13:01:15 2017

SGS ACCUTEST JC52053

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1054-CC1007
Lab FileID: 5W26825.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W26825.D
Acq On : 22 Sep 2017 10:09 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS19983,v5w1054,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 22 13:47:45 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	84	0.04
2	1,1,1-Trifluoroethane	0.000	0.000	0.0	0#	-3.81#
3	Freon 152A	0.571	0.561	1.8	86	-0.02
4	Chlorodifluoromethane	0.212	0.263	-24.1	102	0.07
5	Propene	0.652	0.667	-2.3	90	0.07
6	Chlorotrifluoroethene	1.370	1.352	1.3	83	0.08
7	Dichlorodifluoromethane	2.395	2.603	-8.7	94	0.07
8	1-Chloro-1,1-difluoroethane	0.000	0.000	0.0	0#	-3.90#
9	Chloromethane	0.818	0.913	-11.6	95	0.07
10	Dichlorotetrafluoroethane	2.485	2.642	-6.3	91	0.07
11	Vinyl Chloride	0.925	1.013	-9.5	91	0.07
12	1,3-Butadiene	0.664	0.720	-8.4	100	0.07
13	n-Butane	0.131	0.149	-13.7	96	0.07
14	Bromomethane	1.090	1.035	5.0	87	0.07
15	Chloroethane	0.450	0.480	-6.7	91	0.07
16	Dichlorofluoromethane	2.031	2.437	-20.0	105	0.07
17	Acetonitrile	0.635	0.797	-25.5	116	0.07
18	Freon 123	2.519	2.680	-6.4	94	0.07
19	Freon 123A	1.325	1.337	-0.9	85	0.07
20	Bromoethene	0.985	0.938	4.8	80	0.07
21	Trichlorofluoromethane	2.418	2.923	-20.9	103	0.06
22	Acetone	0.420	0.432	-2.9	95	0.07
23	Pentane	0.235	0.214	8.9	78	0.06
24	1,1-Dichloro-1-fluoroethane	0.000	0.000	0.0	0#	-5.47#
25	Iodomethane	2.932	2.357	19.6	68	0.06
26	Isopropyl Alcohol	0.268	0.340	-26.9	118	0.07
27	1,1-Dichloroethene	1.479	1.509	-2.0	85	0.06
28	Freon 113	2.104	2.091	0.6	83	0.06
29	Methylene Chloride	0.925	0.835	9.7	80	0.06
30	Carbon Disulfide	2.967	2.989	-0.7	84	0.06
31	Ethanol	0.262	0.301	-14.9	106	0.07
32	Acrylonitrile	0.648	0.697	-7.6	85	0.06
33	3-Chloropropene	0.395	0.353	10.6	71	0.06
34	trans-1,2-Dichloroethene	1.357	1.294	4.6	78	0.06
35	tert-Butyl Alcohol	1.830	1.672	8.6	76	0.06
36	Methyl tert-Butyl Ether	2.610	2.208	15.4	71	0.04
37	Vinyl Acetate	2.140	2.075	3.0	83	0.05
38	1,1-Dichloroethane	1.763	1.750	0.7	84	0.05

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1054-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26825.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.454	0.410	9.7	73	0.04
40		Hexane	1.442	1.360	5.7	79	0.04
41		cis-1,2-Dichloroethene	1.293	1.220	5.6	78	0.04
42		Di-isopropyl Ether	0.776	0.710	8.5	73	0.04
43		Ethyl Acetate	0.296	0.312	-5.4	80	0.04
44		Methyl Acrylate	1.647	1.636	0.7	84	0.04
45		Chloroform	2.118	2.138	-0.9	87	0.04
46		2,4-Dimethylpentane	1.669	1.574	5.7	78	0.03
47		Tetrahydrofuran	0.420	0.382	9.0	71	0.03
48		1,1,1-Trichloroethane	1.903	1.915	-0.6	86	0.02
49		1,2-Dichloroethane	1.186	1.337	-12.7	92	0.03
50		Benzene	3.079	2.602	15.5	71	0.02
51		Carbon Tetrachloride	1.805	1.965	-8.9	88	0.02
52		Cyclohexane	1.453	1.277	12.1	75	0.02
53		2,3-Dimethylpentane	0.634	0.586	7.6	76	0.01
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	78	0.02
55		2,2,4-Trimethylpentane	1.313	1.357	-3.4	82	0.01
56		Heptane	0.278	0.265	4.7	77	0.00
57		Trichloroethene	0.395	0.394	0.3	79	0.02
58		1,2-Dichloropropane	0.312	0.316	-1.3	78	0.02
59		Dibromomethane	0.389	0.332	14.7	70	0.02
60		Ethyl Acrylate	0.555	0.636	-14.6	82	0.01
61		Methyl Methacrylate	0.278	0.296	-6.5	78	0.01
62		1,4-Dioxane	0.152	0.157	-3.3	77	0.01
63		Bromodichloromethane	0.586	0.639	-9.0	86	0.01
64		cis-1,3-Dichloropropene	0.464	0.429	7.5	69	0.00
65		4-Methyl-2-pentanone	0.225	0.258	-14.7	81	0.00
66		trans-1,3-Dichloropropene	0.391	0.390	0.3	71	0.00
67		Toluene	1.009	0.840	16.7	65	0.00
68		1,1,2-Trichloroethane	0.352	0.326	7.4	72	0.00
69		1,3-Dichloropropane	0.452	0.447	1.1	75	0.00
70		2-Hexanone	0.291	0.349	-19.9	81	0.00
71		Ethyl Methacrylate	0.455	0.504	-10.8	81	0.00
72		Dibromochloromethane	0.560	0.543	3.0	76	0.00
73		Tetrachloroethene	0.542	0.453	16.4	67	0.00
74		1,2-Dibromoethane	0.547	0.503	8.0	71	0.00
75		Octane	0.581	0.632	-8.8	83	0.00
76		1,1,1,2-Tetrachloroethane	0.416	0.414	0.5	76	-0.01
77	I	Chlorobenzene-d5	1.000	1.000	0.0	75	0.00
78		Chlorobenzene	1.779	1.658	6.8	70	0.00
79		Ethylbenzene	2.769	2.753	0.6	74	-0.01
80		m,p-Xylene	2.123	2.259	-6.4	79	-0.01
81		Styrene	1.470	1.634	-11.2	75	-0.01
82		Nonane	1.321	1.572	-19.0	91	-0.01
83		o-Xylene	2.135	2.384	-11.7	83	-0.01
84		Bromoform	1.099	1.384	-25.9	86	-0.01
85		1,1,2,2-Tetrachloroethane	1.513	1.945	-28.6	93	-0.02
86		1,2,3-Trichloropropane	1.105	1.365	-23.5	89	-0.01
87		Isopropylbenzene	2.747	3.197	-16.4	84	-0.01
88		Bromobenzene	0.927	1.083	-16.8	83	-0.01
89		2-Chlorotoluene	0.679	0.795	-17.1	81	-0.01
90		n-Propylbenzene	0.717	0.876	-22.2	83	-0.01
91	S	4-Bromofluorobenzene	1.313	1.559	-18.7	84	-0.02
92		4-Ethyltoluene	2.592	3.054	-17.8	84	-0.01
93		1,3,5-Trimethylbenzene	2.201	2.661	-20.9	88	-0.01
94		alpha-Methylstyrene	1.016	1.236	-21.7	81	-0.01
95		tert-Butylbenzene	0.473	0.575	-21.6	87	-0.01
96		1,2,4-Trimethylbenzene	2.070	2.608	-26.0	90	-0.01

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1054-CC1007
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W26825.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.313	1.666	-26.9	89	-0.01
98		Benzyl Chloride	1.329	1.917	-44.2#	91	-0.01
99		1,4-Dichlorobenzene	1.281	1.597	-24.7	88	-0.01
100		sec-Butylbenzene	0.541	0.670	-23.8	88	-0.01
101		p-Isopropyltoluene	0.605	0.801	-32.4#	93	-0.01
102		1,2-Dichlorobenzene	1.237	1.533	-23.9	89	-0.01
103		n-Butylbenzene	0.484	0.614	-26.9	88	-0.01
104		Hexachloroethane	0.612	1.001	-63.6#	107	-0.01
105		1,2,4-Trichlorobenzene	0.429	0.466	-8.6	75	-0.01
106		Naphthalene	0.959	0.929	3.1	77	0.00
107		Hexachlorobutadiene	0.567	0.651	-14.8	96	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	84	0.04
109		TVHC as equiv Pentane	5.371	5.793	-7.9	89	0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1007.M Fri Sep 22 13:51:09 2017

Initial Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICC1065
Lab FileID: 5W27086.D

Response Factor Report Air5w

Method Path : [redacted]1\methods\
Method File : m5w1065.M
Title : TO-15 Full Scan Mode
Last Update : Sat Oct 07 09:10:30 2017
Response Via : Initial Calibration

Calibration Files
20 =5W27087.D 0.5 =5W27084.D 0.2 =5W27082.D 0.1 =5W27081.D 0.04=5W27080.D 10 =5W27086.D 5 =5W27085.D 40 =5W27

	Compound	20	0.5	0.2	0.1	0.04	10	5	40	Avg	%RSD
1) I	Bromochloromethane	----------ISTD----------									
2)	1,1,1-Trifluor...	2.125	1.526	1.794	2.496	2.418	2.323	2.369	1.530	2.073	19.32
3)	Freon 152A		0.480	0.508	0.594	0.707		0.486	0.500	0.470	0.535	16.11
4)	Chlorodifluoro...	0.189	0.183	0.196	0.186	0.168	0.194	0.198	0.181	0.187	5.32
5)	Propene	0.479	0.498	0.527	0.583	0.645	0.497	0.512	0.445	0.523	12.07
6)	Chlorotrifluor...	1.319	1.259	1.308	1.392	1.390	1.328	1.349	1.280	1.328	3.61
7)	Dichlorodifluo...	2.047	2.088	2.191	2.369	2.296	2.127	2.196	1.968	2.160	6.08
8)	1-Chloro-1,1-d...	1.345	1.384	1.436	1.589	1.633	1.389	1.428	1.254	1.432	8.70
9)	Chloromethane	0.628	0.661	0.676	0.757	0.726	0.651	0.671	0.581	0.669	8.16
10)	Dichlorotetraf...	2.046	2.083	2.114	2.365	2.368	2.127	2.174	1.856	2.142	7.83
11)	Vinyl Chloride	0.722	0.724	0.733	0.820	0.768	0.745	0.743	0.660	0.740	6.12
12)	1,3-Butadiene	0.465	0.491	0.515	0.575	0.552	0.482	0.496	0.426	0.500	9.48
13)	n-Butane	0.099	0.104	0.094	0.116		0.104	0.108	0.091	0.102	8.51
14)	Bromomethane	0.845	0.913	1.027	1.191	1.450	0.875	0.906	0.785	0.999	22.12
15)	Chloroethane	0.339	0.362	0.353	0.396	0.358	0.355	0.365	0.316	0.356	6.41
16)	Dichlorofluoro...	1.543	1.632	1.708	1.863	2.016	1.619	1.692	1.431	1.688	10.81
17)	Acetonitrile	0.393	0.436	0.435			0.420	0.450	0.365	0.417	7.67
18)	Freon 123	1.903	2.082	2.181	2.387	2.486	2.049	2.146	1.679	2.114	12.09
19)	Freon 123A	1.110	1.208	1.266	1.365	1.432	1.188	1.245	0.981	1.224	11.51
20)	Bromoethene	0.839	0.859	0.890	0.951	0.956	0.877	0.904	0.791	0.883	6.25
21)	Trichlorofluor...	1.984	2.116	2.194	2.344	2.257	2.070	2.172	1.818	2.119	7.76
22)	Acetone	0.276	0.336	0.381	0.428		0.293	0.300	0.259	0.325	18.77
23)	Pentane	0.184	0.189	0.216	0.235	0.238	0.193	0.197	0.176	0.203	11.55
24)	1,1-Dichloro-1...	1.781	1.732	1.812	2.171	2.406	1.748	1.888	1.685	1.903	13.32
25)	Iodomethane	2.651	2.587	2.703	3.030	3.056	2.678	2.746	2.578	2.754	6.80
26)	Isopropyl Alcohol	0.193	0.277	0.284			0.177	0.218	0.174	0.221	22.27
27)	1,1-Dichloroet...	1.240	1.240	1.270	1.345	1.351	1.285	1.324	1.171	1.278	4.80
28)	Freon 113	1.893	1.906	1.947	2.161	2.027	1.941	1.998	1.811	1.961	5.33
29)	Methylene Chlo...	0.755	0.795	0.897	1.056	1.409	0.777	0.803	0.728	0.903	25.44
30)	Carbon Disulfide	2.556	2.524	2.601	2.793	2.779	2.626	2.694	2.458	2.629	4.54
31)	Ethanol	0.176	0.219	0.298			0.182	0.192	0.166	0.206	23.66
32)	Acrylonitrile	0.553	0.516	0.565	0.565	0.596	0.577	0.598	0.530	0.563	5.15
33)	3-Chloropropene	0.349	0.328	0.338	0.372	0.358	0.353	0.365	0.341	0.350	4.14
34)	trans-1,2-Dich...	1.149	1.134	1.128	1.233	1.233	1.183	1.203	1.119	1.173	3.99
35)	tert-Butyl Alc...	1.512	1.713	1.806	2.239	2.149	1.543	1.579	1.448	1.749	17.05
36)	Methyl tert-Bu...	2.166	2.212	2.322			2.206	2.264	2.107	2.213	3.39
37)	Vinyl Acetate	1.660	1.625	1.862	2.083	2.263	1.693	1.715	1.605	1.813	13.24
38)	1,1-Dichloroet...	1.464	1.497	1.531	1.635	1.719	1.501	1.541	1.410	1.537	6.36
39)	2-Butanone	0.401	0.382	0.396	0.390	0.379	0.410	0.413	0.388	0.395	3.11
40)	Hexane	1.154	1.131	1.147	1.231	1.339	1.189	1.230	1.097	1.190	6.43
41)	cis-1,2-Dichlo...	1.087	1.070	1.094	1.198	1.225	1.118	1.137	1.056	1.123	5.39
42)	Di-isopropyl E...	0.694	0.667	0.697	0.670	0.734	0.700	0.727	0.677	0.696	3.56
43)	Ethyl Acetate	0.263	0.254	0.265	0.222		0.271	0.278	0.252	0.258	7.04
44)	Methyl Acrylate	1.296	1.332	1.369	1.386	1.522	1.350	1.371	1.227	1.357	6.20
45)	Chloroform	1.766	1.882	1.981	2.118	2.149	1.831	1.879	1.685	1.911	8.50
46)	2,4-Dimethylpe...	1.347	1.305	1.368	1.435	1.449	1.383	1.410	1.285	1.373	4.28

Initial Calibration Summary

Job Number: JC52053 **Sample:** V5W1065-ICC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27086.D
Project: Defense Supply Center, Philadelphia, PA

47)	Tetrahydrofuran	0.380	0.363	0.362	0.363	0.291	0.384	0.389	0.369	0.363	8.49
48)	1,1,1-Trichlor...	1.658	1.639	1.754	1.910	1.868	1.682	1.735	1.623	1.734	6.14
49)	1,2-Dichloroet...	1.000	1.059	1.078	1.110	1.113	1.041	1.063	0.955	1.052	5.10
50)	Benzene	2.548	2.620	2.775	3.125	3.119	2.619	2.694	2.475	2.747	9.04
51)	Carbon Tetrach...	1.747	1.592	1.657	1.883	1.878	1.744	1.759	1.758	1.752	5.62
52)	Cyclohexane	1.150	1.099	1.144	1.260	1.283	1.166	1.186	1.107	1.174	5.68
53)	2,3-Dimethylpe...	0.539	0.519	0.524	0.569	0.564	0.545	0.562	0.524	0.543	3.69
54) I	1,4-Difluorobenzene	----------ISTD----------									
55)	2,2,4-Trimethy...	1.061	1.059	1.076	1.139	1.183	1.104	1.134	0.949	1.088	6.51
56)	Heptane	0.233	0.224	0.228	0.247	0.228	0.238	0.244	0.224	0.233	3.84
57)	Trichloroethene	0.358	0.355	0.366	0.401	0.442	0.363	0.374	0.335	0.374	8.87
58)	1,2-Dichloropr...	0.270	0.275	0.289	0.311	0.298	0.281	0.286	0.255	0.283	6.07
59)	Dibromomethane	0.365	0.368	0.413	0.453	0.523	0.367	0.374	0.364	0.403	14.29
60)	Ethyl Acrylate	0.526	0.484	0.495	0.499	0.462	0.533	0.536	0.496	0.504	5.12
61)	Methyl Methacr...	0.266	0.254	0.252	0.250	0.260	0.270	0.272	0.253	0.260	3.35
62)	1,4-Dioxane	0.146	0.146	0.153	0.152		0.150	0.151		0.149	2.04
63)	Bromodichlorom...	0.550	0.552	0.579	0.626	0.626	0.553	0.574	0.526	0.573	6.31
64)	cis-1,3-Dichlo...	0.427	0.422	0.437	0.447	0.433	0.435	0.446	0.418	0.433	2.40
65)	4-Methyl-2-pen...	0.218	0.200	0.197	0.172	0.164	0.218	0.217	0.205	0.199	10.49
66)	trans-1,3-Dich...	0.363	0.377	0.383	0.371	0.377	0.385	0.399	0.347	0.375	4.13
67)	Toluene	0.872	0.943	1.012			0.908	0.953	0.835	0.920	6.80
68)	1,1,2-Trichlor...	0.317	0.340	0.352	0.369	0.352	0.330	0.342	0.307	0.339	5.96
69)	1,3-Dichloropr...	0.399	0.440	0.445	0.452	0.437	0.424	0.443	0.377	0.427	6.14
70)	2-Hexanone	0.292	0.267	0.244	0.203	0.160	0.293	0.292	0.272	0.253	19.13
71)	Ethyl Methacry...	0.429	0.405	0.390	0.379	0.411	0.435	0.435	0.394	0.410	5.25
72)	Dibromochlorom...	0.551	0.590	0.630	0.681	0.687	0.589	0.629	0.524	0.610	9.47
73)	Tetrachloroethene	0.511	0.518	0.570	0.627	0.687	0.513	0.537	0.506	0.559	11.82
74)	1,2-Dibromoethane	0.493	0.554	0.567	0.592	0.647	0.536	0.563	0.464	0.552	10.26
75)	Octane	0.464	0.486	0.488	0.524	0.610	0.490	0.501	0.422	0.498	10.87
76)	1,1,1,2-Tetrac...	0.381	0.445	0.456	0.480	0.500	0.433	0.447	0.351	0.437	11.28
77) I	Chlorobenzene-d5	----------ISTD----------									
78)	Chlorobenzene	1.597	1.842	1.910	2.145	2.301	1.692	1.723	1.433	1.830	15.59
79)	Ethylbenzene	2.426	3.083	3.236			2.572	2.592	2.141	2.675	15.38
80)	m,p-Xylene	1.866	2.363	2.524			1.991	1.951	1.594	2.048	16.60
81)	Styrene	1.610	1.518	1.459	1.681	1.791	1.551	1.495	1.331	1.554	9.05
82)	Nonane	1.105	1.174	1.192	1.363	1.606	1.056	1.033	0.912	1.180	18.39
83)	o-Xylene	1.884	2.396	2.514			2.018	2.018	1.520	2.058	17.44
84)	Bromoform	1.219	1.369	1.341	1.443	1.594	1.359	1.366	1.021	1.339	12.41
85)	1,1,2,2-Tetrac...	1.508	1.659	1.649	1.764	1.936	1.437	1.428	1.223	1.576	14.15
86)	1,2,3-Trichlor...	1.088	1.174	1.179	1.293	1.307	1.039	1.017	0.881	1.122	12.90
87)	Isopropylbenzene	2.756	3.313	3.504			2.735	2.686	2.227	2.870	16.16
88)	Bromobenzene	0.965	1.056	1.066	1.192	1.334	0.991	0.969	0.773	1.043	15.99
89)	2-Chlorotoluene	0.737	0.781	0.774	0.875	0.922	0.733	0.710	0.589	0.765	13.35
90)	n-Propylbenzene	0.821	0.836	0.825	0.880	0.896	0.773	0.752	0.668	0.806	9.13
91) S	4-Bromofluorob...	1.450	1.449	1.406	1.417	1.416	1.486	1.437	1.192	1.407	6.42
92)	4-Ethyltoluene	2.778	2.889	2.855	3.174	3.691	2.616	2.494	2.278	2.847	15.30
93)	1,3,5-Trimethy...	2.336	2.637	2.656	2.865	3.070	2.196	2.139	1.974	2.484	15.41
94)	alpha-Methylst...	1.214	1.150	1.104	1.221	1.252	1.104	1.057	1.058	1.145	6.66
95)	tert-Butylbenzene	0.541	0.602	0.594	0.675	0.691	0.497	0.489	0.458	0.568	15.21
96)	1,2,4-Trimethy...	2.204	2.474	2.438	2.636	2.801	2.059	2.015	1.817	2.305	14.62
97)	1,3-Dichlorobe...	1.546	1.584	1.573	1.717	1.943	1.418	1.363	1.313	1.557	13.12
98)	Benzyl Chloride	1.615	1.350	1.287	1.395	1.527	1.457	1.340	1.422	1.424	7.53
99)	1,4-Dichlorobe...	1.515	1.532	1.543	1.759	1.971	1.385	1.307	1.332	1.543	14.62
100)	sec-Butylbenzene	0.630	0.728	0.708	0.718	0.788	0.581	0.566	0.557	0.660	13.23
101)	p-Isopropyltol...	0.718	0.885	0.875	0.876	0.959	0.668	0.651	0.637	0.784	16.34
102)	1,2-Dichlorobe...	1.425	1.527	1.494	1.644	1.825	1.301	1.249	1.293	1.470	13.39
103)	n-Butylbenzene	0.607	0.671	0.613	0.639	0.672	0.548	0.516	0.577	0.605	9.26
104)	Hexachloroethane	0.920	1.097	1.085	1.107	1.127	0.854	0.808	0.780	0.972	15.13

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JC52053

Initial Calibration Summary

Job Number: JC52053
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Sample: V5W1065-ICC1065
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105)	1,2,4-Trichlor...	0.575	0.432	0.322	0.348	0.366	0.478	0.381	0.610	0.439	24.32
106)	Naphthalene	1.143	0.777	0.574	0.532	0.831	0.916	0.701	1.212	0.836	29.45
107)	Hexachlorobuta...	0.686	0.964	0.941	1.034	1.251	0.628	0.572	0.678	0.844	28.27
108) I	Bromochloromethane...	----------ISTD----------									
109)	TVHC as equiv ...	4.253	4.383	4.726			4.469	4.639	4.014	4.414	5.89

(#) = Out of Range

m5w1065.M Sat Oct 07 09:16:55 2017

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICV1065
Lab FileID: 5W27092.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	99	0.00
2	1,1,1-Trifluoroethane	2.073	0.000	100.0#	0#	-3.92#
3	Freon 152A	0.535	0.517	3.4	105	0.00
4	Chlorodifluoromethane	0.187	0.204	-9.1	104	0.00
5	Propene	0.523	0.521	0.4	104	0.00
6	Chlorotrifluoroethene	1.328	1.381	-4.0	103	0.00
7	Dichlorodifluoromethane	2.160	2.241	-3.7	105	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.416	1.1	101	0.00
9	Chloromethane	0.669	0.671	-0.3	102	0.00
10	Dichlorotetrafluoroethane	2.142	2.275	-6.2	106	0.00
11	Vinyl Chloride	0.740	0.756	-2.2	101	0.00
12	1,3-Butadiene	0.500	0.487	2.6	100	0.00
13	n-Butane	0.102	0.110	-7.8	105	0.00
14	Bromomethane	0.999	0.920	7.9	104	0.00
15	Chloroethane	0.356	0.364	-2.2	102	0.00
16	Dichlorofluoromethane	1.688	1.751	-3.7	107	0.00
17	Acetonitrile	0.417	0.451	-8.2	106	0.00
18	Freon 123	2.114	2.155	-1.9	104	0.00
19	Freon 123A	1.224	1.203	1.7	100	0.00
20	Bromoethene	0.883	0.891	-0.9	101	0.00
21	Trichlorofluoromethane	2.119	2.211	-4.3	106	0.00
22	Acetone	0.325	0.318	2.2	107	0.00
23	Pentane	0.203	0.214	-5.4	110	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	0.000	100.0#	0#	-5.57#
25	Iodomethane	2.754	2.763	-0.3	102	0.00
26	Isopropyl Alcohol	0.221	0.240	-8.6	135	0.00
27	1,1-Dichloroethene	1.278	1.294	-1.3	100	0.00
28	Freon 113	1.961	1.932	1.5	99	0.00
29	Methylene Chloride	0.903	0.784	13.2	100	0.00
30	Carbon Disulfide	2.629	2.603	1.0	98	0.00
31	Ethanol	0.206	0.248	-20.4	135	0.00
32	Acrylonitrile	0.563	0.649	-15.3	112	0.00
33	3-Chloropropene	0.350	0.399	-14.0	112	0.00
34	trans-1,2-Dichloroethene	1.173	1.249	-6.5	105	0.00
35	tert-Butyl Alcohol	1.749	1.555	11.1	100	0.00
36	Methyl tert-Butyl Ether	2.213	2.380	-7.5	107	0.00
37	Vinyl Acetate	1.813	2.033	-12.1	119	0.00
38	1,1-Dichloroethane	1.537	1.564	-1.8	103	0.00

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Lab FileID: 5W27092.D

39		2-Butanone	0.395	0.424	-7.3	103	0.00
40		Hexane	1.190	1.262	-6.1	105	0.00
41		cis-1,2-Dichloroethene	1.123	1.156	-2.9	103	0.00
42		Di-isopropyl Ether	0.696	0.754	-8.3	107	0.00
43		Ethyl Acetate	0.258	0.289	-12.0	106	0.00
44		Methyl Acrylate	1.357	1.445	-6.5	106	0.00
45		Chloroform	1.911	1.872	2.0	101	0.00
46		2,4-Dimethylpentane	1.373	1.498	-9.1	107	0.00
47		Tetrahydrofuran	0.363	0.427	-17.6	110	0.00
48		1,1,1-Trichloroethane	1.734	1.842	-6.2	109	0.00
49		1,2-Dichloroethane	1.052	1.076	-2.3	103	0.00
50		Benzene	2.747	2.625	4.4	99	0.00
51		Carbon Tetrachloride	1.752	1.813	-3.5	103	0.00
52		Cyclohexane	1.174	1.237	-5.4	105	0.00
53		2,3-Dimethylpentane	0.543	0.578	-6.4	105	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	98	0.00
55		2,2,4-Trimethylpentane	1.088	1.209	-11.1	107	0.00
56		Heptane	0.233	0.251	-7.7	103	0.00
57		Trichloroethene	0.374	0.374	0.0	101	0.00
58		1,2-Dichloropropane	0.283	0.279	1.4	97	0.00
59		Dibromomethane	0.403	0.369	8.4	98	0.00
60		Ethyl Acrylate	0.504	0.576	-14.3	106	0.00
61		Methyl Methacrylate	0.260	0.290	-11.5	105	0.00
62		1,4-Dioxane	0.149	0.193	-29.5	126	0.00
63		Bromodichloromethane	0.573	0.562	1.9	99	0.00
64		cis-1,3-Dichloropropene	0.433	0.466	-7.6	105	0.00
65		4-Methyl-2-pentanone	0.199	0.234	-17.6	105	0.00
66		trans-1,3-Dichloropropene	0.375	0.396	-5.6	100	0.00
67		Toluene	0.920	0.864	6.1	93	0.00
68		1,1,2-Trichloroethane	0.339	0.318	6.2	94	0.00
69		1,3-Dichloropropane	0.427	0.407	4.7	94	0.00
70		2-Hexanone	0.253	0.325	-28.5	109	0.00
71		Ethyl Methacrylate	0.410	0.474	-15.6	107	0.00
72		Dibromochloromethane	0.610	0.554	9.2	92	0.00
73		Tetrachloroethene	0.559	0.477	14.7	91	0.00
74		1,2-Dibromoethane	0.552	0.521	5.6	95	0.00
75		Octane	0.498	0.517	-3.8	103	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.406	7.1	92	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
78		Chlorobenzene	1.830	1.728	5.6	92	0.00
79		Ethylbenzene	2.675	2.795	-4.5	98	0.00
80		m,p-Xylene	2.048	2.171	-6.0	98	0.02
81		Styrene	1.554	1.818	-17.0	106	0.00
82		Nonane	1.180	1.226	-3.9	105	0.00
83		o-Xylene	2.058	2.207	-7.2	99	0.00
84		Bromoform	1.339	1.452	-8.4	96	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.634	-3.7	103	0.00
86		1,2,3-Trichloropropane	1.122	1.211	-7.9	105	0.00
87		Isopropylbenzene	2.870	3.325	-15.9	110	0.00
88		Bromobenzene	1.043	1.121	-7.5	102	0.00
89		2-Chlorotoluene	0.765	0.840	-9.8	103	0.00
90		n-Propylbenzene	0.806	0.874	-8.4	102	0.00
91	S	4-Bromofluorobenzene	1.407	1.702	-21.0	103	0.00
92		4-Ethyltoluene	2.847	3.036	-6.6	105	0.00
93		1,3,5-Trimethylbenzene	2.484	2.487	-0.1	102	0.00
94		alpha-Methylstyrene	1.145	1.266	-10.6	103	0.00
95		tert-Butylbenzene	0.568	0.572	-0.7	104	0.00
96		1,2,4-Trimethylbenzene	2.305	2.356	-2.2	103	0.00

Initial Calibration Verification

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICV1065
Lab FileID: 5W27092.D

97		1,3-Dichlorobenzene	1.557	1.665	-6.9	106	0.00
98		Benzyl Chloride	1.424	1.690	-18.7	105	0.00
99		1,4-Dichlorobenzene	1.543	1.638	-6.2	107	0.00
100		sec-Butylbenzene	0.660	0.691	-4.7	107	0.00
101		p-Isopropyltoluene	0.784	0.745	5.0	101	0.00
102		1,2-Dichlorobenzene	1.470	1.485	-1.0	103	0.00
103		n-Butylbenzene	0.605	0.623	-3.0	103	0.00
104		Hexachloroethane	0.972	0.941	3.2	100	0.00
105		1,2,4-Trichlorobenzene	0.439	0.509	-15.9	96	0.00
106		Naphthalene	0.836	0.971	-16.1	96	0.00
107		Hexachlorobutadiene	0.844	0.645	23.6	93	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	99	0.00
109		TVHC as equiv Pentane	4.414	5.013	-13.6	111	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Sat Oct 07 09:19:37 2017

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1066-CC1065
Lab FileID: 5W27093.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27093.D
Acq On : 7 Oct 2017 9:34 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:00 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2	1,1,1-Trifluoroethane	2.073	2.338	-12.8	100	0.00
3	Freon 152A	0.535	0.502	6.2	103	0.00
4	Chlorodifluoromethane	0.187	0.197	-5.3	101	0.00
5	Propene	0.523	0.508	2.9	102	0.00
6	Chlorotrifluoroethene	1.328	1.381	-4.0	104	0.00
7	Dichlorodifluoromethane	2.160	2.175	-0.7	102	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.391	2.9	100	0.00
9	Chloromethane	0.669	0.646	3.4	99	0.00
10	Dichlorotetrafluoroethane	2.142	2.113	1.4	99	0.00
11	Vinyl Chloride	0.740	0.722	2.4	96	0.00
12	1,3-Butadiene	0.500	0.481	3.8	99	0.00
13	n-Butane	0.102	0.105	-2.9	100	0.00
14	Bromomethane	0.999	0.883	11.6	101	0.00
15	Chloroethane	0.356	0.347	2.5	97	0.00
16	Dichlorofluoromethane	1.688	1.621	4.0	100	0.00
17	Acetonitrile	0.417	0.418	-0.2	99	0.00
18	Freon 123	2.114	2.046	3.2	99	0.00
19	Freon 123A	1.224	1.186	3.1	99	0.00
20	Bromoethene	0.883	0.883	0.0	100	0.00
21	Trichlorofluoromethane	2.119	2.079	1.9	100	0.00
22	Acetone	0.325	0.292	10.2	99	0.00
23	Pentane	0.203	0.195	3.9	101	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	1.729	9.1	99	0.00
25	Iodomethane	2.754	2.724	1.1	101	0.00
26	Isopropyl Alcohol	0.221	0.177	19.9	100	0.00
27	1,1-Dichloroethene	1.278	1.306	-2.2	101	0.00
28	Freon 113	1.961	1.979	-0.9	102	0.00
29	Methylene Chloride	0.903	0.794	12.1	102	0.00
30	Carbon Disulfide	2.629	2.667	-1.4	101	0.00
31	Ethanol	0.206	0.185	10.2	101	0.00
32	Acrylonitrile	0.563	0.588	-4.4	102	0.00
33	3-Chloropropene	0.350	0.365	-4.3	103	0.00
34	trans-1,2-Dichloroethene	1.173	1.198	-2.1	101	0.00
35	tert-Butyl Alcohol	1.749	1.597	8.7	103	0.00
36	Methyl tert-Butyl Ether	2.213	2.265	-2.3	102	0.00
37	Vinyl Acetate	1.813	1.735	4.3	102	0.00
38	1,1-Dichloroethane	1.537	1.521	1.0	101	0.00

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1066-CC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27093.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.395	0.417	-5.6	101	0.00
40		Hexane	1.190	1.207	-1.4	101	0.00
41		cis-1,2-Dichloroethene	1.123	1.117	0.5	100	0.00
42		Di-isopropyl Ether	0.696	0.719	-3.3	102	0.00
43		Ethyl Acetate	0.258	0.278	-7.8	102	0.00
44		Methyl Acrylate	1.357	1.373	-1.2	101	0.00
45		Chloroform	1.911	1.797	6.0	98	0.00
46		2,4-Dimethylpentane	1.373	1.408	-2.5	101	0.00
47		Tetrahydrofuran	0.363	0.391	-7.7	101	0.00
48		1,1,1-Trichloroethane	1.734	1.671	3.6	99	0.00
49		1,2-Dichloroethane	1.052	1.023	2.8	98	0.00
50		Benzene	2.747	2.516	8.4	96	0.00
51		Carbon Tetrachloride	1.752	1.752	0.0	100	0.00
52		Cyclohexane	1.174	1.165	0.8	100	0.00
53		2,3-Dimethylpentane	0.543	0.549	-1.1	100	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	98	0.00
55		2,2,4-Trimethylpentane	1.088	1.122	-3.1	100	0.00
56		Heptane	0.233	0.242	-3.9	100	0.00
57		Trichloroethene	0.374	0.354	5.3	96	0.00
58		1,2-Dichloropropane	0.283	0.267	5.7	93	0.00
59		Dibromomethane	0.403	0.352	12.7	94	0.00
60		Ethyl Acrylate	0.504	0.550	-9.1	101	0.00
61		Methyl Methacrylate	0.260	0.281	-8.1	102	0.00
62		1,4-Dioxane	0.149	0.157	-5.4	103	0.00
63		Bromodichloromethane	0.573	0.531	7.3	94	0.00
64		cis-1,3-Dichloropropene	0.433	0.418	3.5	94	0.00
65		4-Methyl-2-pentanone	0.199	0.226	-13.6	101	0.00
66		trans-1,3-Dichloropropene	0.375	0.378	-0.8	96	0.00
67		Toluene	0.920	0.818	11.1	88	0.00
68		1,1,2-Trichloroethane	0.339	0.305	10.0	91	0.00
69		1,3-Dichloropropane	0.427	0.394	7.7	91	0.00
70		2-Hexanone	0.253	0.307	-21.3	103	0.00
71		Ethyl Methacrylate	0.410	0.450	-9.8	102	0.00
72		Dibromochloromethane	0.610	0.527	13.6	88	0.00
73		Tetrachloroethene	0.559	0.458	18.1	88	0.00
74		1,2-Dibromoethane	0.552	0.493	10.7	90	0.00
75		Octane	0.498	0.492	1.2	98	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.394	9.8	89	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	89	0.00
78		Chlorobenzene	1.830	1.707	6.7	89	0.00
79		Ethylbenzene	2.675	2.796	-4.5	96	0.00
80		m,p-Xylene	2.048	2.186	-6.7	97	0.02
81		Styrene	1.554	1.757	-13.1	100	0.00
82		Nonane	1.180	1.225	-3.8	103	0.00
83		o-Xylene	2.058	2.235	-8.6	98	0.00
84		Bromoform	1.339	1.468	-9.6	96	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.641	-4.1	101	0.00
86		1,2,3-Trichloropropane	1.122	1.195	-6.5	102	0.00
87		Isopropylbenzene	2.870	3.102	-8.1	101	0.00
88		Bromobenzene	1.043	1.107	-6.1	99	0.00
89		2-Chlorotoluene	0.765	0.828	-8.2	100	0.00
90		n-Propylbenzene	0.806	0.872	-8.2	100	0.00
91	S	4-Bromofluorobenzene	1.407	1.679	-19.3	100	0.00
92		4-Ethyltoluene	2.847	2.984	-4.8	101	0.00
93		1,3,5-Trimethylbenzene	2.484	2.490	-0.2	101	0.00
94		alpha-Methylstyrene	1.145	1.252	-9.3	100	0.00
95		tert-Butylbenzene	0.568	0.572	-0.7	102	0.00
96		1,2,4-Trimethylbenzene	2.305	2.359	-2.3	102	0.00

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1066-CC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27093.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.557	1.620	-4.0	101	0.00
98		Benzyl Chloride	1.424	1.659	-16.5	101	0.00
99		1,4-Dichlorobenzene	1.543	1.567	-1.6	100	0.00
100		sec-Butylbenzene	0.660	0.663	-0.5	101	0.00
101		p-Isopropyltoluene	0.784	0.767	2.2	102	0.00
102		1,2-Dichlorobenzene	1.470	1.492	-1.5	102	0.00
103		n-Butylbenzene	0.605	0.625	-3.3	101	0.00
104		Hexachloroethane	0.972	0.968	0.4	100	0.00
105		1,2,4-Trichlorobenzene	0.439	0.534	-21.6	99	0.00
106		Naphthalene	0.836	1.040	-24.4	101	0.00
107		Hexachlorobutadiene	0.844	0.704	16.6	99	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	100	0.00
109		TVHC as equiv Pentane	4.414	4.533	-2.7	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Sun Oct 08 11:20:58 2017

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220 of 609
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JC52053

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1066-ECC1065
Lab FileID: 5W27111.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27111.D
Acq On : 8 Oct 2017 1:04 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20781,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 09:09:38 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	90	0.00
2	1,1,1-Trifluoroethane	2.073	2.421	-16.8	94	0.00
3	Freon 152A	0.535	0.499	6.7	92	0.00
4	Chlorodifluoromethane	0.187	0.203	-8.6	94	0.00
5	Propene	0.523	0.543	-3.8	98	0.00
6	Chlorotrifluoroethene	1.328	1.294	2.6	88	0.00
7	Dichlorodifluoromethane	2.160	2.174	-0.6	92	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.494	-4.3	97	0.00
9	Chloromethane	0.669	0.736	-10.0	102	0.00
10	Dichlorotetrafluoroethane	2.142	2.299	-7.3	97	0.00
11	Vinyl Chloride	0.740	0.857	-15.8	103	0.00
12	1,3-Butadiene	0.500	0.567	-13.4	106	0.00
13	n-Butane	0.102	0.122	-19.6	106	0.00
14	Bromomethane	0.999	0.961	3.8	99	0.00
15	Chloroethane	0.356	0.396	-11.2	100	0.00
16	Dichlorofluoromethane	1.688	1.804	-6.9	100	0.00
17	Acetonitrile	0.417	0.491	-17.7	105	0.00
18	Freon 123	2.114	2.264	-7.1	99	0.00
19	Freon 123A	1.224	1.273	-4.0	96	0.00
20	Bromoethene	0.883	0.936	-6.0	96	0.00
21	Trichlorofluoromethane	2.119	2.258	-6.6	98	0.00
22	Acetone	0.325	0.328	-0.9	101	0.00
23	Pentane	0.203	0.196	3.4	91	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	1.843	3.2	95	0.00
25	Iodomethane	2.754	2.516	8.6	85	0.00
26	Isopropyl Alcohol	0.221	0.234	-5.9	119	0.00
27	1,1-Dichloroethene	1.278	1.313	-2.7	92	0.00
28	Freon 113	1.961	1.951	0.5	90	0.00
29	Methylene Chloride	0.903	0.781	13.5	90	0.00
30	Carbon Disulfide	2.629	2.684	-2.1	92	0.00
31	Ethanol	0.206	0.210	-1.9	104	0.00
32	Acrylonitrile	0.563	0.601	-6.7	94	0.00
33	3-Chloropropene	0.350	0.352	-0.6	90	0.00
34	trans-1,2-Dichloroethene	1.173	1.196	-2.0	91	0.00
35	tert-Butyl Alcohol	1.749	1.556	11.0	91	0.00
36	Methyl tert-Butyl Ether	2.213	2.192	0.9	89	0.00
37	Vinyl Acetate	1.813	1.750	3.5	93	0.00
38	1,1-Dichloroethane	1.537	1.552	-1.0	93	0.00

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1066-ECC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27111.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.395	0.410	-3.8	90	0.00
40		Hexane	1.190	1.247	-4.8	94	0.00
41		cis-1,2-Dichloroethene	1.123	1.138	-1.3	92	0.00
42		Di-isopropyl Ether	0.696	0.707	-1.6	91	0.00
43		Ethyl Acetate	0.258	0.283	-9.7	94	0.00
44		Methyl Acrylate	1.357	1.426	-5.1	95	0.00
45		Chloroform	1.911	1.862	2.6	92	0.00
46		2,4-Dimethylpentane	1.373	1.442	-5.0	94	0.00
47		Tetrahydrofuran	0.363	0.386	-6.3	90	0.00
48		1,1,1-Trichloroethane	1.734	1.676	3.3	90	0.00
49		1,2-Dichloroethane	1.052	1.062	-1.0	92	0.00
50		Benzene	2.747	2.629	4.3	90	0.00
51		Carbon Tetrachloride	1.752	1.766	-0.8	91	0.00
52		Cyclohexane	1.174	1.191	-1.4	92	0.00
53		2,3-Dimethylpentane	0.543	0.559	-2.9	92	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	90	0.00
55		2,2,4-Trimethylpentane	1.088	1.182	-8.6	96	0.00
56		Heptane	0.233	0.246	-5.6	93	0.00
57		Trichloroethene	0.374	0.367	1.9	91	0.00
58		1,2-Dichloropropane	0.283	0.289	-2.1	93	0.00
59		Dibromomethane	0.403	0.348	13.6	85	0.00
60		Ethyl Acrylate	0.504	0.558	-10.7	94	0.00
61		Methyl Methacrylate	0.260	0.277	-6.5	92	0.00
62		1,4-Dioxane	0.149	0.153	-2.7	91	0.00
63		Bromodichloromethane	0.573	0.561	2.1	91	0.00
64		cis-1,3-Dichloropropene	0.433	0.429	0.9	89	0.00
65		4-Methyl-2-pentanone	0.199	0.228	-14.6	94	0.00
66		trans-1,3-Dichloropropene	0.375	0.379	-1.1	88	0.00
67		Toluene	0.920	0.869	5.5	86	0.00
68		1,1,2-Trichloroethane	0.339	0.321	5.3	87	0.00
69		1,3-Dichloropropane	0.427	0.419	1.9	89	0.00
70		2-Hexanone	0.253	0.309	-22.1	95	0.00
71		Ethyl Methacrylate	0.410	0.454	-10.7	94	0.00
72		Dibromochloromethane	0.610	0.552	9.5	84	0.00
73		Tetrachloroethene	0.559	0.480	14.1	84	0.00
74		1,2-Dibromoethane	0.552	0.510	7.6	85	0.00
75		Octane	0.498	0.526	-5.6	96	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.411	5.9	85	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
78		Chlorobenzene	1.830	1.605	12.3	85	0.00
79		Ethylbenzene	2.675	2.575	3.7	90	0.00
80		m,p-Xylene	2.048	2.012	1.8	91	0.02
81		Styrene	1.554	1.562	-0.5	90	0.00
82		Nonane	1.180	1.172	0.7	100	0.00
83		o-Xylene	2.058	2.073	-0.7	92	0.00
84		Bromoform	1.339	1.321	1.3	87	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.557	1.2	97	0.00
86		1,2,3-Trichloropropane	1.122	1.107	1.3	96	0.00
87		Isopropylbenzene	2.870	2.844	0.9	93	0.00
88		Bromobenzene	1.043	0.999	4.2	91	0.00
89		2-Chlorotoluene	0.765	0.751	1.8	92	0.00
90		n-Propylbenzene	0.806	0.802	0.5	93	0.00
91	S	4-Bromofluorobenzene	1.407	1.669	-18.6	101	0.00
92		4-Ethyltoluene	2.847	2.713	4.7	93	0.00
93		1,3,5-Trimethylbenzene	2.484	2.313	6.9	95	0.00
94		alpha-Methylstyrene	1.145	1.134	1.0	92	0.00
95		tert-Butylbenzene	0.568	0.529	6.9	96	0.00
96		1,2,4-Trimethylbenzene	2.305	2.209	4.2	96	0.00

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1066-ECC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27111.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.557	1.467	5.8	93	0.00
98		Benzyl Chloride	1.424	1.530	-7.4	94	0.00
99		1,4-Dichlorobenzene	1.543	1.409	8.7	91	0.00
100		sec-Butylbenzene	0.660	0.608	7.9	94	0.00
101		p-Isopropyltoluene	0.784	0.699	10.8	94	0.00
102		1,2-Dichlorobenzene	1.470	1.361	7.4	94	0.00
103		n-Butylbenzene	0.605	0.568	6.1	93	0.00
104		Hexachloroethane	0.972	0.865	11.0	91	0.00
105		1,2,4-Trichlorobenzene	0.439	0.461	-5.0	87	0.00
106		Naphthalene	0.836	0.873	-4.4	86	0.00
107		Hexachlorobutadiene	0.844	0.632	25.1	90	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	90	0.00
109		TVHC as equiv Pentane	4.414	4.766	-8.0	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Sun Oct 08 11:27:23 2017

6.9.14 6
SGS 223 of 609 ACCUTEST JC52053

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1067-CC1065
Lab FileID: 5W27112.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27112.D
Acq On : 8 Oct 2017 9:31 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:54:11 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	90	-0.04
2	1,1,1-Trifluoroethane	2.073	2.311	-11.5	90	-0.05
3	Freon 152A	0.535	0.491	8.2	91	-0.06
4	Chlorodifluoromethane	0.187	0.196	-4.8	91	-0.06
5	Propene	0.523	0.514	1.7	93	-0.05
6	Chlorotrifluoroethene	1.328	1.327	0.1	90	-0.05
7	Dichlorodifluoromethane	2.160	2.122	1.8	90	-0.06
8	1-Chloro-1,1-difluoroethane	1.432	1.374	4.1	89	-0.05
9	Chloromethane	0.669	0.622	7.0	86	-0.05
10	Dichlorotetrafluoroethane	2.142	2.032	5.1	86	-0.06
11	Vinyl Chloride	0.740	0.734	0.8	89	-0.05
12	1,3-Butadiene	0.500	0.494	1.2	92	-0.06
13	n-Butane	0.102	0.106	-3.9	92	-0.06
14	Bromomethane	0.999	0.896	10.3	92	-0.06
15	Chloroethane	0.356	0.361	-1.4	92	-0.06
16	Dichlorofluoromethane	1.688	1.667	1.2	93	-0.05
17	Acetonitrile	0.417	0.447	-7.2	96	-0.05
18	Freon 123	2.114	2.108	0.3	93	-0.05
19	Freon 123A	1.224	1.204	1.6	91	-0.05
20	Bromoethene	0.883	0.902	-2.2	93	-0.06
21	Trichlorofluoromethane	2.119	2.121	-0.1	92	-0.05
22	Acetone	0.325	0.305	6.2	94	-0.05
23	Pentane	0.203	0.191	5.9	89	-0.05
24	1,1-Dichloro-1-fluoroethane	1.903	1.818	4.5	94	-0.05
25	Iodomethane	2.754	2.593	5.8	87	-0.05
26	Isopropyl Alcohol	0.221	0.210	5.0	107	-0.05
27	1,1-Dichloroethene	1.278	1.285	-0.5	90	-0.05
28	Freon 113	1.961	1.913	2.4	89	-0.05
29	Methylene Chloride	0.903	0.774	14.3	90	-0.05
30	Carbon Disulfide	2.629	2.630	-0.0	90	-0.05
31	Ethanol	0.206	0.194	5.8	96	-0.05
32	Acrylonitrile	0.563	0.588	-4.4	92	-0.05
33	3-Chloropropene	0.350	0.356	-1.7	91	-0.05
34	trans-1,2-Dichloroethene	1.173	1.183	-0.9	90	-0.04
35	tert-Butyl Alcohol	1.749	1.551	11.3	91	-0.05
36	Methyl tert-Butyl Ether	2.213	2.175	1.7	89	-0.04
37	Vinyl Acetate	1.813	1.744	3.8	93	-0.04
38	1,1-Dichloroethane	1.537	1.503	2.2	90	-0.04

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1067-CC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27112.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.395	0.406	-2.8	89	-0.04
40		Hexane	1.190	1.187	0.3	90	-0.04
41		cis-1,2-Dichloroethene	1.123	1.114	0.8	90	-0.04
42		Di-isopropyl Ether	0.696	0.696	0.0	90	-0.04
43		Ethyl Acetate	0.258	0.271	-5.0	90	-0.04
44		Methyl Acrylate	1.357	1.373	-1.2	92	-0.03
45		Chloroform	1.911	1.811	5.2	89	-0.04
46		2,4-Dimethylpentane	1.373	1.399	-1.9	91	-0.03
47		Tetrahydrofuran	0.363	0.380	-4.7	89	-0.03
48		1,1,1-Trichloroethane	1.734	1.661	4.2	89	-0.03
49		1,2-Dichloroethane	1.052	1.040	1.1	90	-0.04
50		Benzene	2.747	2.576	6.2	89	-0.02
51		Carbon Tetrachloride	1.752	1.746	0.3	90	-0.02
52		Cyclohexane	1.174	1.169	0.4	90	-0.02
53		2,3-Dimethylpentane	0.543	0.544	-0.2	90	-0.02
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	91	-0.02
55		2,2,4-Trimethylpentane	1.088	1.110	-2.0	91	-0.02
56		Heptane	0.233	0.239	-2.6	91	-0.02
57		Trichloroethene	0.374	0.355	5.1	89	-0.02
58		1,2-Dichloropropane	0.283	0.279	1.4	90	-0.02
59		Dibromomethane	0.403	0.348	13.6	86	-0.02
60		Ethyl Acrylate	0.504	0.535	-6.2	91	-0.02
61		Methyl Methacrylate	0.260	0.265	-1.9	89	-0.02
62		1,4-Dioxane	0.149	0.148	0.7	89	-0.02
63		Bromodichloromethane	0.573	0.551	3.8	90	-0.02
64		cis-1,3-Dichloropropene	0.433	0.425	1.8	89	-0.01
65		4-Methyl-2-pentanone	0.199	0.219	-10.1	91	-0.02
66		trans-1,3-Dichloropropene	0.375	0.370	1.3	87	-0.01
67		Toluene	0.920	0.874	5.0	87	-0.01
68		1,1,2-Trichloroethane	0.339	0.318	6.2	87	-0.01
69		1,3-Dichloropropane	0.427	0.412	3.5	88	-0.01
70		2-Hexanone	0.253	0.298	-17.8	92	-0.01
71		Ethyl Methacrylate	0.410	0.434	-5.9	90	0.00
72		Dibromochloromethane	0.610	0.551	9.7	85	-0.01
73		Tetrachloroethene	0.559	0.481	14.0	85	0.00
74		1,2-Dibromoethane	0.552	0.503	8.9	85	-0.01
75		Octane	0.498	0.504	-1.2	93	-0.01
76		1,1,1,2-Tetrachloroethane	0.437	0.395	9.6	83	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	86	0.00
78		Chlorobenzene	1.830	1.617	11.6	82	0.00
79		Ethylbenzene	2.675	2.564	4.1	86	0.00
80		m,p-Xylene	2.048	1.990	2.8	86	0.01
81		Styrene	1.554	1.567	-0.8	87	0.00
82		Nonane	1.180	1.167	1.1	95	0.00
83		o-Xylene	2.058	2.024	1.7	87	0.00
84		Bromoform	1.339	1.291	3.6	82	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.537	2.5	92	0.00
86		1,2,3-Trichloropropane	1.122	1.109	1.2	92	0.00
87		Isopropylbenzene	2.870	2.813	2.0	89	0.00
88		Bromobenzene	1.043	0.982	5.8	86	0.00
89		2-Chlorotoluene	0.765	0.740	3.3	87	0.00
90		n-Propylbenzene	0.806	0.797	1.1	89	0.00
91	S	4-Bromofluorobenzene	1.407	1.658	-17.8	96	0.00
92		4-Ethyltoluene	2.847	2.705	5.0	89	0.00
93		1,3,5-Trimethylbenzene	2.484	2.267	8.7	89	0.00
94		alpha-Methylstyrene	1.145	1.140	0.4	89	0.00
95		tert-Butylbenzene	0.568	0.529	6.9	92	0.00
96		1,2,4-Trimethylbenzene	2.305	2.197	4.7	92	0.00

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1067-CC1065
Lab FileID: 5W27112.D

97		1,3-Dichlorobenzene	1.557	1.472	5.5	90	0.00
98		Benzyl Chloride	1.424	1.548	-8.7	92	0.00
99		1,4-Dichlorobenzene	1.543	1.413	8.4	88	0.00
100		sec-Butylbenzene	0.660	0.614	7.0	91	0.00
101		p-Isopropyltoluene	0.784	0.702	10.5	91	0.00
102		1,2-Dichlorobenzene	1.470	1.356	7.8	90	0.00
103		n-Butylbenzene	0.605	0.567	6.3	89	0.00
104		Hexachloroethane	0.972	0.852	12.3	86	0.00
105		1,2,4-Trichlorobenzene	0.439	0.506	-15.3	91	0.00
106		Naphthalene	0.836	1.018	-21.8	96	0.00
107		Hexachlorobutadiene	0.844	0.638	24.4	88	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	90	-0.04
109		TVHC as equiv Pentane	4.414	4.570	-3.5	92	-0.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Sun Oct 08 13:54:35 2017

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ACCUTEST
JC52053

Continuing Calibration Summary

Job Number: JC52053
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1067-ECC1065
Lab FileID: 5W27133.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27133.D
Acq On : 9 Oct 2017 3:55 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1067,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 09 08:20:59 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	97	0.00
2	1,1,1-Trifluoroethane	2.073	2.601	-25.5	108	0.00
3	Freon 152A	0.535	0.525	1.9	104	0.00
4	Chlorodifluoromethane	0.187	0.214	-14.4	106	0.00
5	Propene	0.523	0.572	-9.4	111	0.00
6	Chlorotrifluoroethene	1.328	1.379	-3.8	100	0.00
7	Dichlorodifluoromethane	2.160	2.309	-6.9	105	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.564	-9.2	109	0.00
9	Chloromethane	0.669	0.764	-14.2	114	0.00
10	Dichlorotetrafluoroethane	2.142	2.405	-12.3	109	0.00
11	Vinyl Chloride	0.740	0.900	-21.6	117	0.00
12	1,3-Butadiene	0.500	0.593	-18.6	119	0.00
13	n-Butane	0.102	0.127	-24.5	118	0.00
14	Bromomethane	0.999	1.003	-0.4	111	0.00
15	Chloroethane	0.356	0.414	-16.3	113	0.00
16	Dichlorofluoromethane	1.688	1.858	-10.1	111	0.00
17	Acetonitrile	0.417	0.517	-24.0	119	0.00
18	Freon 123	2.114	2.371	-12.2	112	0.00
19	Freon 123A	1.224	1.312	-7.2	107	0.00
20	Bromoethene	0.883	0.990	-12.1	109	0.00
21	Trichlorofluoromethane	2.119	2.312	-9.1	108	0.00
22	Acetone	0.325	0.344	-5.8	113	0.00
23	Pentane	0.203	0.203	0.0	102	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	1.944	-2.2	108	0.00
25	Iodomethane	2.754	2.625	4.7	95	0.00
26	Isopropyl Alcohol	0.221	0.220	0.5	120	0.00
27	1,1-Dichloroethene	1.278	1.367	-7.0	103	0.00
28	Freon 113	1.961	1.991	-1.5	99	0.00
29	Methylene Chloride	0.903	0.799	11.5	99	0.00
30	Carbon Disulfide	2.629	2.731	-3.9	101	0.00
31	Ethanol	0.206	0.225	-9.2	119	0.00
32	Acrylonitrile	0.563	0.615	-9.2	103	0.00
33	3-Chloropropene	0.350	0.365	-4.3	100	0.00
34	trans-1,2-Dichloroethene	1.173	1.226	-4.5	100	0.00
35	tert-Butyl Alcohol	1.749	1.626	7.0	102	0.00
36	Methyl tert-Butyl Ether	2.213	2.265	-2.3	99	0.00
37	Vinyl Acetate	1.813	1.849	-2.0	106	0.00
38	1,1-Dichloroethane	1.537	1.587	-3.3	102	0.00

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1067-ECC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27133.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.395	0.424	-7.3	100	0.00
40		Hexane	1.190	1.295	-8.8	105	0.00
41		cis-1,2-Dichloroethene	1.123	1.167	-3.9	101	0.00
42		Di-isopropyl Ether	0.696	0.729	-4.7	101	0.00
43		Ethyl Acetate	0.258	0.294	-14.0	105	0.00
44		Methyl Acrylate	1.357	1.481	-9.1	106	0.00
45		Chloroform	1.911	1.911	0.0	101	0.00
46		2,4-Dimethylpentane	1.373	1.495	-8.9	104	0.00
47		Tetrahydrofuran	0.363	0.398	-9.6	100	0.00
48		1,1,1-Trichloroethane	1.734	1.722	0.7	99	0.00
49		1,2-Dichloroethane	1.052	1.111	-5.6	103	0.00
50		Benzene	2.747	2.707	1.5	100	0.00
51		Carbon Tetrachloride	1.752	1.753	-0.1	97	0.00
52		Cyclohexane	1.174	1.233	-5.0	102	0.00
53		2,3-Dimethylpentane	0.543	0.581	-7.0	103	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	96	0.00
55		2,2,4-Trimethylpentane	1.088	1.218	-11.9	106	0.00
56		Heptane	0.233	0.257	-10.3	104	0.00
57		Trichloroethene	0.374	0.399	-6.7	106	0.00
58		1,2-Dichloropropane	0.283	0.303	-7.1	104	0.00
59		Dibromomethane	0.403	0.349	13.4	91	0.00
60		Ethyl Acrylate	0.504	0.580	-15.1	105	0.00
61		Methyl Methacrylate	0.260	0.289	-11.2	103	0.00
62		1,4-Dioxane	0.149	0.156	-4.7	100	0.00
63		Bromodichloromethane	0.573	0.587	-2.4	102	0.00
64		cis-1,3-Dichloropropene	0.433	0.450	-3.9	99	0.00
65		4-Methyl-2-pentanone	0.199	0.240	-20.6	106	0.00
66		trans-1,3-Dichloropropene	0.375	0.397	-5.9	99	0.00
67		Toluene	0.920	0.918	0.2	97	0.00
68		1,1,2-Trichloroethane	0.339	0.335	1.2	97	0.00
69		1,3-Dichloropropane	0.427	0.444	-4.0	101	0.00
70		2-Hexanone	0.253	0.323	-27.7	106	0.00
71		Ethyl Methacrylate	0.410	0.474	-15.6	105	0.00
72		Dibromochloromethane	0.610	0.583	4.4	95	0.00
73		Tetrachloroethene	0.559	0.489	12.5	92	0.00
74		1,2-Dibromoethane	0.552	0.535	3.1	96	0.00
75		Octane	0.498	0.557	-11.8	109	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.427	2.3	95	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
78		Chlorobenzene	1.830	1.624	11.3	95	0.00
79		Ethylbenzene	2.675	2.580	3.6	99	0.00
80		m,p-Xylene	2.048	2.005	2.1	99	0.02
81		Styrene	1.554	1.512	2.7	96	0.00
82		Nonane	1.180	1.207	-2.3	113	0.00
83		o-Xylene	2.058	2.075	-0.8	102	0.00
84		Bromoform	1.339	1.295	3.3	94	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.554	1.4	107	0.00
86		1,2,3-Trichloropropane	1.122	1.102	1.8	105	0.00
87		Isopropylbenzene	2.870	2.781	3.1	100	0.00
88		Bromobenzene	1.043	0.947	9.2	94	0.00
89		2-Chlorotoluene	0.765	0.717	6.3	97	0.00
90		n-Propylbenzene	0.806	0.776	3.7	99	0.00
91	S	4-Bromofluorobenzene	1.407	1.579	-12.2	105	0.00
92		4-Ethyltoluene	2.847	2.650	6.9	100	0.00
93		1,3,5-Trimethylbenzene	2.484	2.244	9.7	101	0.00
94		alpha-Methylstyrene	1.145	1.097	4.2	98	0.00
95		tert-Butylbenzene	0.568	0.512	9.9	102	0.00
96		1,2,4-Trimethylbenzene	2.305	2.172	5.8	104	0.00

SGS ACCUTEST JC52053

Continuing Calibration Summary

Job Number: JC52053 **Sample:** V5W1067-ECC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27133.D
Project: Defense Supply Center, Philadelphia, PA

97		1,3-Dichlorobenzene	1.557	1.394	10.5	97	0.00
98		Benzyl Chloride	1.424	1.506	-5.8	102	0.00
99		1,4-Dichlorobenzene	1.543	1.322	14.3	94	0.00
100		sec-Butylbenzene	0.660	0.577	12.6	98	0.00
101		p-Isopropyltoluene	0.784	0.679	13.4	100	0.00
102		1,2-Dichlorobenzene	1.470	1.277	13.1	97	0.00
103		n-Butylbenzene	0.605	0.535	11.6	96	0.00
104		Hexachloroethane	0.972	0.807	17.0	93	0.00
105		1,2,4-Trichlorobenzene	0.439	0.409	6.8	84	0.00
106		Naphthalene	0.836	0.803	3.9	87	0.00
107		Hexachlorobutadiene	0.844	0.550	34.8#	87	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	97	0.00
109		TVHC as equiv Pentane	4.414	4.860	-10.1	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Mon Oct 09 09:31:34 2017

6.9.16
6
SGS ACCUTEST
229 of 609
JC52053

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27098.D
Acq On : 7 Oct 2017 1:40 pm
Operator : [redacted]
Sample : jc52053-1
Misc : MS20561,v5w1066,400,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 08 11:40:18 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

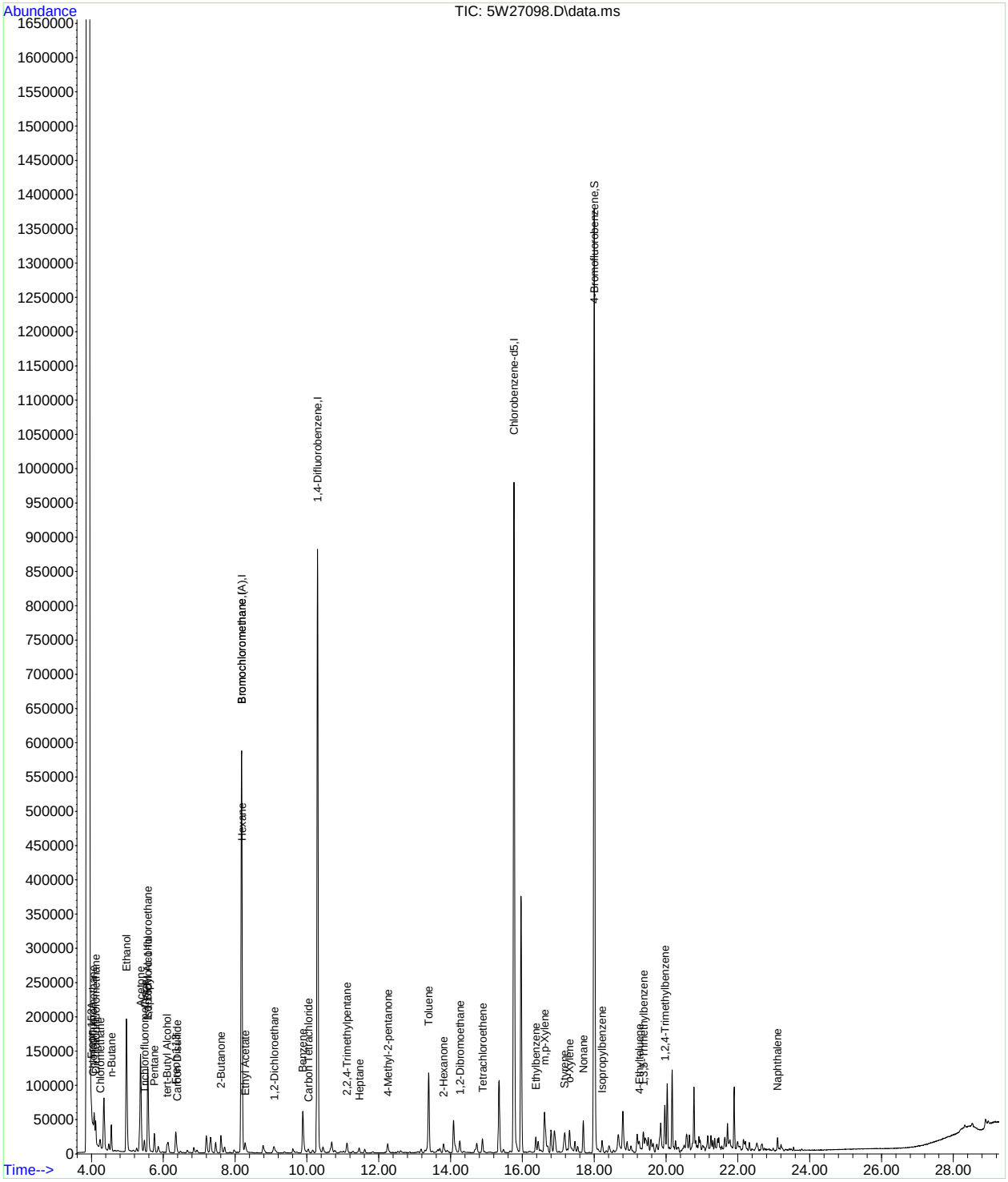
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	282719	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	962115	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	412550	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	282719	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	661815	11.41	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 114.10%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	5968	0.39	ppb(v#	74
4) Chlorodifluoromethane	4.046	67	2140	0.40	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	29285	0.48	ppb(v	99
9) Chloromethane	4.248	50	10960	0.58	ppb(v	97
13) n-Butane	4.554	58	4499	1.56	ppb(v#	87
21) Trichlorofluoromethane	5.477	101	16670	0.28	ppb(v	95
22) Acetone	5.367	58	72289	7.87	ppb(v	96
23) Pentane	5.753	57	3264	0.57	ppb(v	96
24) 1,1-Dichloro-1-fluoroe...	5.569	81	6520	0.12	ppb(v	99
26) Isopropyl Alcohol	5.569	43	33791	5.42	ppb(v	52
28) Freon 113	6.352	101	16395	0.30	ppb(v	95
30) Carbon Disulfide	6.389	76	8484	0.11	ppb(v	97
31) Ethanol	4.976	45	269115	46.29	ppb(v	98
35) tert-Butyl Alcohol	6.101	59	17512	0.35	ppb(v#	93
39) 2-Butanone	7.606	72	10526	0.94	ppb(v	97
40) Hexane	8.194	57	11533	0.34	ppb(v	89
43) Ethyl Acetate	8.279	61	2857	0.39	ppb(v	98
49) 1,2-Dichloroethane	9.093	62	4078	0.14	ppb(v	97
50) Benzene	9.876	78	10841	0.14	ppb(v	97
51) Carbon Tetrachloride	10.041	117	3685	0.07	ppb(v	91
55) 2,2,4-Trimethylpentane	11.112	57	14782	0.14	ppb(v#	92
56) Heptane	11.460	71	2240	0.10	ppb(v	97
65) 4-Methyl-2-pentanone	12.256	58	3489	0.18	ppb(v	93
67) Toluene	13.387	91	117684	1.33	ppb(v	99
70) 2-Hexanone	13.804	58	8267	0.34	ppb(v	95
73) Tetrachloroethene	14.892	166	8401	0.16	ppb(v	95
74) 1,2-Dibromoethane	14.262	107	12613	0.24	ppb(v	98
79) Ethylbenzene	16.373	91	24159	0.22	ppb(v	98
80) m,p-Xylene	16.618	91	67748	0.80	ppb(v	99
81) Styrene	17.168	104	9106	0.14	ppb(v	97
82) Nonane	17.694	43	22411	0.46	ppb(v	98
83) o-Xylene	17.315	91	27967	0.33	ppb(v	99
87) Isopropylbenzene	18.220	105	16734	0.14	ppb(v	95
92) 4-Ethyltoluene	19.254	105	12524	0.11	ppb(v	96
93) 1,3,5-Trimethylbenzene	19.377	105	13828	0.13	ppb(v	98
96) 1,2,4-Trimethylbenzene	19.970	105	31708	0.33	ppb(v#	70
106) Naphthalene	23.102	128	18385	0.53	ppb(v	99

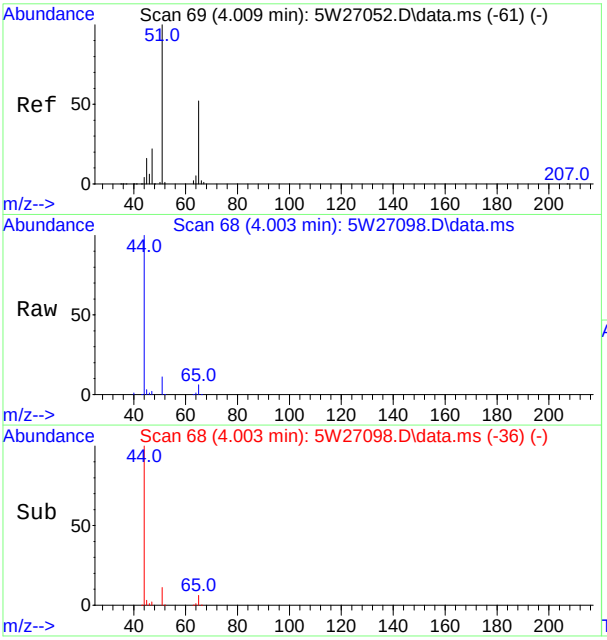
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27098.D
Acq On : 7 Oct 2017 1:40 pm
Operator : [redacted]
Sample : jc52053-1
Misc : MS20561,v5w1066,400,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 08 11:40:18 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

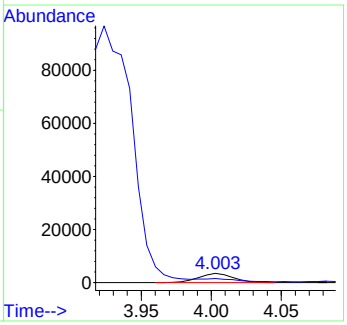


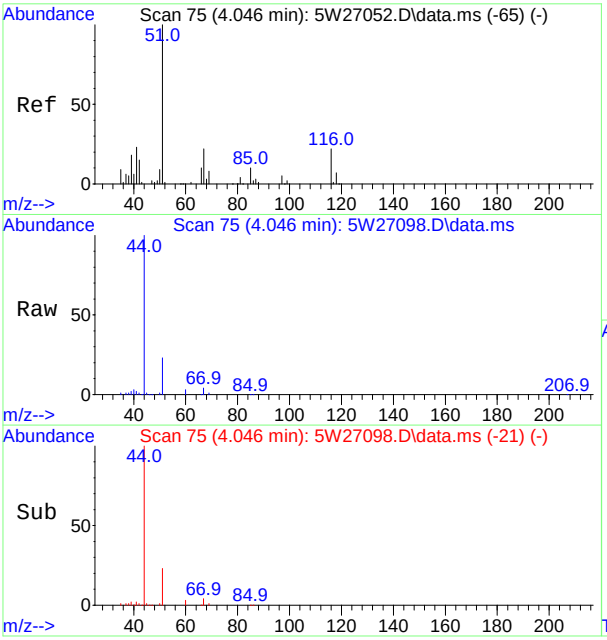


#3
Freon 152A
Concen: 0.39 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 65 Resp: 5968

Ion	Ratio	Lower	Upper
65	100		
45	44.8	21.4	39.8#

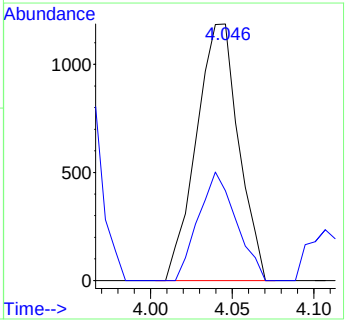


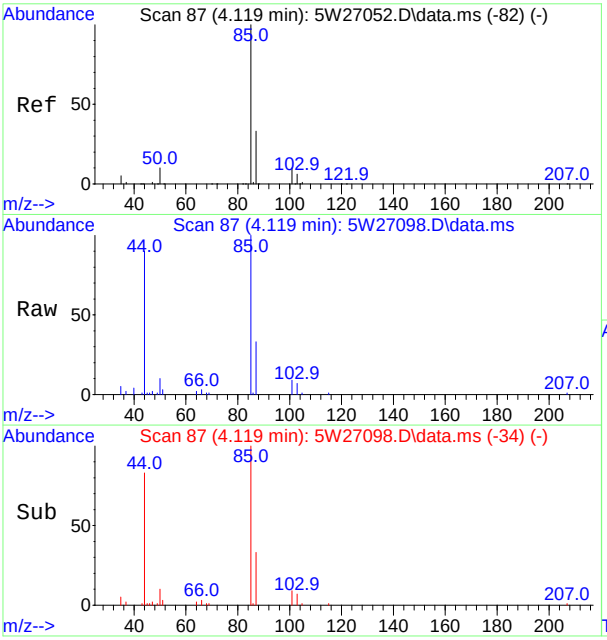


#4
Chlorodifluoromethane
Concen: 0.40 ppb(v)
RT: 4.046 min Scan# 75
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 67 Resp: 2140

Ion	Ratio	Lower	Upper
67	100		
69	35.0	24.1	44.7

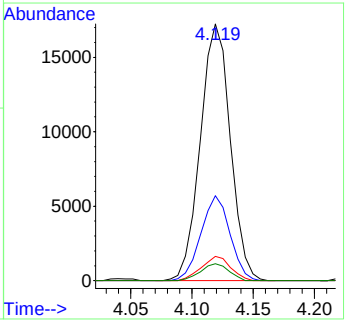


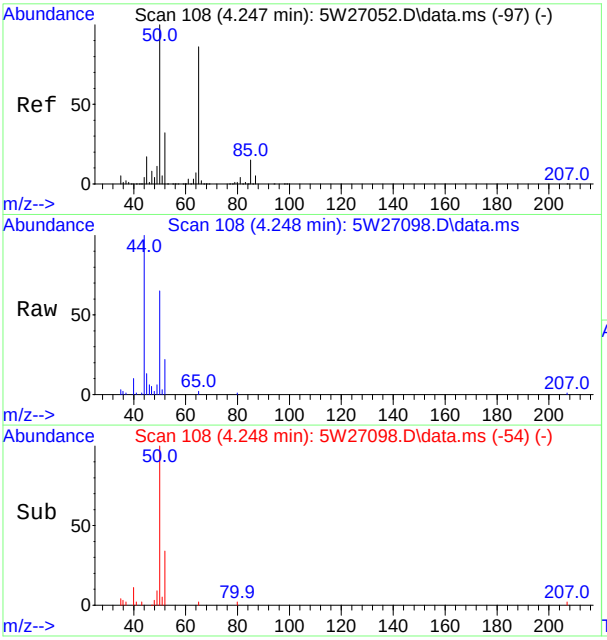


#7
Dichlorodifluoromethane
Concen: 0.48 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 85 Resp: 29285

Ion	Ratio	Lower	Upper
85	100		
87	33.1	23.0	42.6
101	9.4	6.6	12.2
103	6.6	4.2	7.8

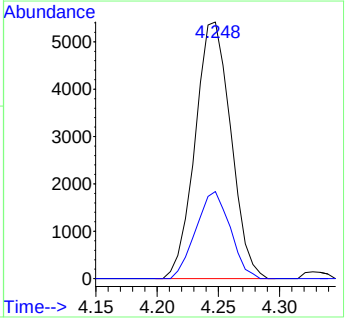


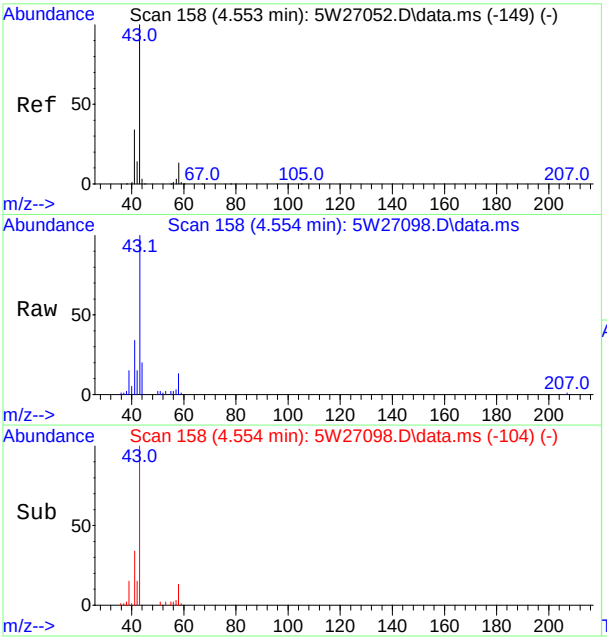


#9
Chloromethane
Concen: 0.58 ppb(v)
RT: 4.248 min Scan# 108
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 50 Resp: 10960

Ion	Ratio	Lower	Upper
50	100		
52	33.9	22.7	42.1

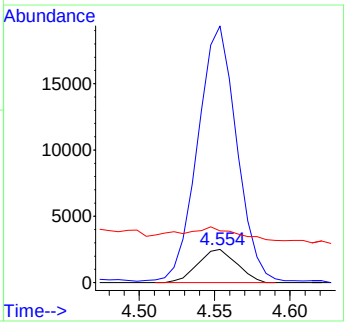


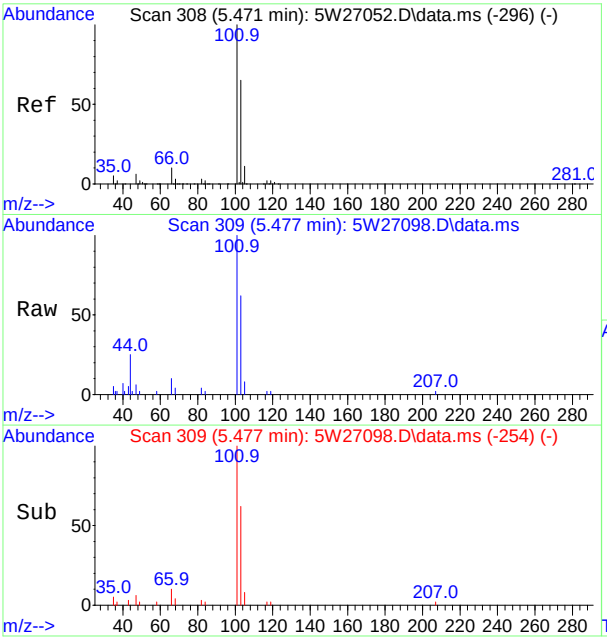


#13
n-Butane
Concen: 1.56 ppb(v)
RT: 4.554 min Scan# 158
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 58 Resp: 4499

Ion	Ratio	Lower	Upper
58	100		
43	769.8	527.9	980.5
44	155.0	25.1	46.7#

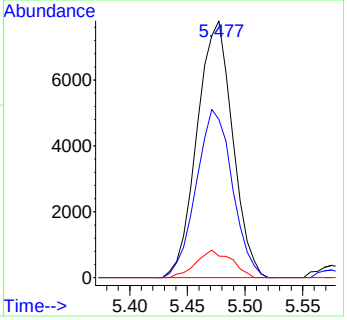


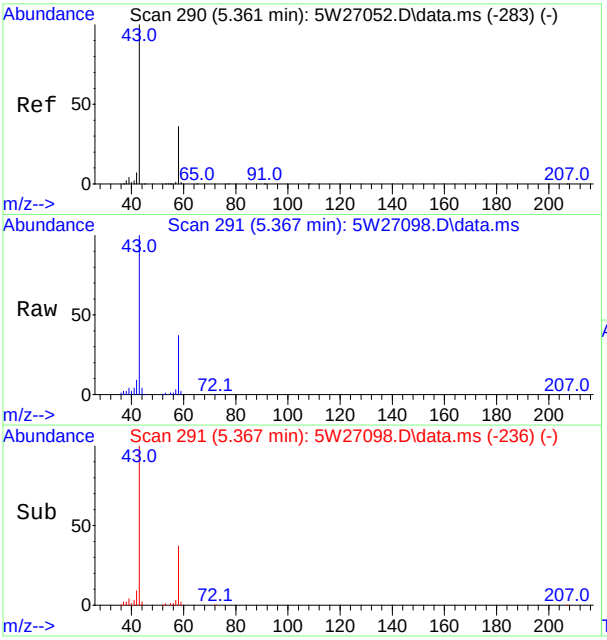


#21
Trichlorofluoromethane
Concen: 0.28 ppb(v)
RT: 5.477 min Scan# 309
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:101 Resp: 16670

Ion	Ratio	Lower	Upper
101	100		
103	61.6	45.6	84.6
105	8.4	7.5	13.9

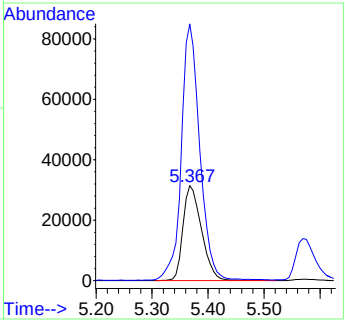


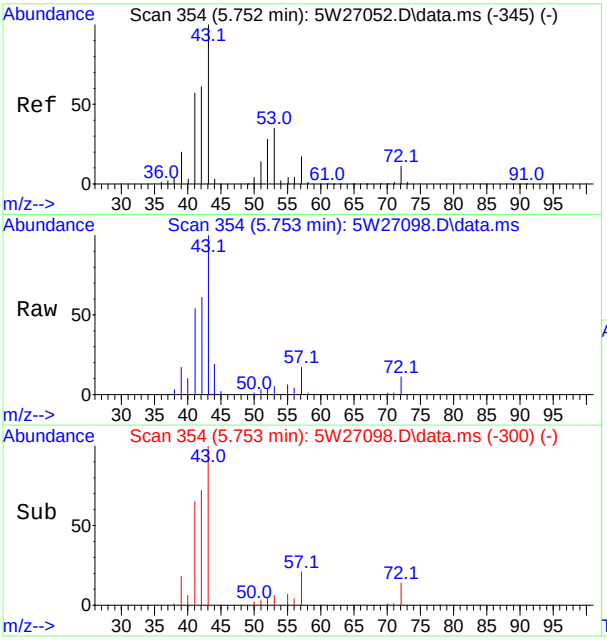


#22
Acetone
Concen: 7.87 ppb(v)
RT: 5.367 min Scan# 291
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 58 Resp: 72289

Ion	Ratio	Lower	Upper
58	100		
43	269.9	194.7	361.5

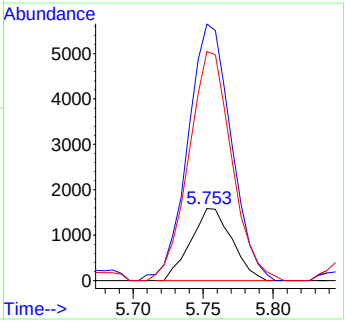


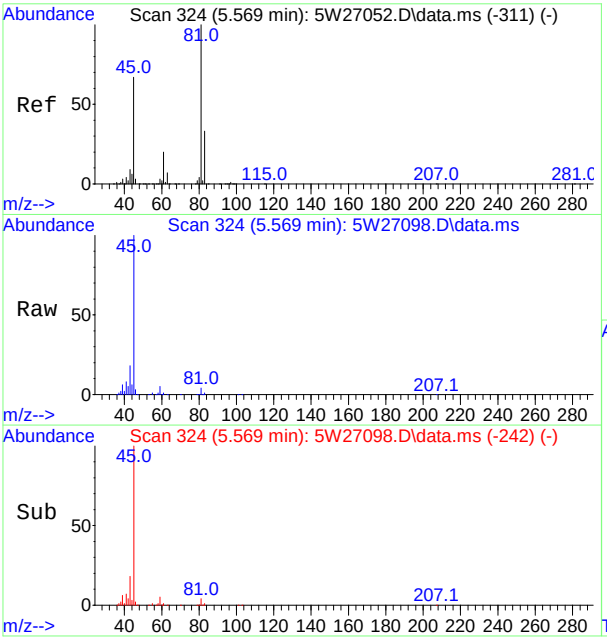


#23
Pentane
Concen: 0.57 ppb(v)
RT: 5.753 min Scan# 354
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 57 Resp: 3264

Ion	Ratio	Lower	Upper
57	100		
42	356.2	249.9	464.1
41	317.9	233.0	432.6

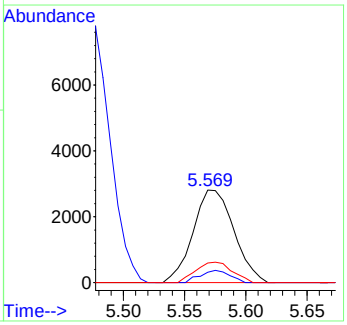


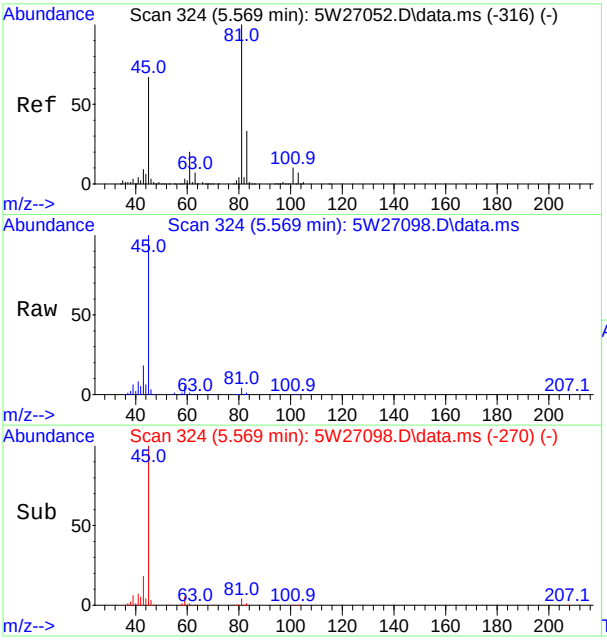


#24
1,1-Dichloro-1-fluoroethane
Concen: 0.12 ppb(v)
RT: 5.569 min Scan# 324
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 81 Resp: 6520

Ion	Ratio	Lower	Upper
81	100		
101	9.6	8.3	12.5
61	19.6	15.9	23.9

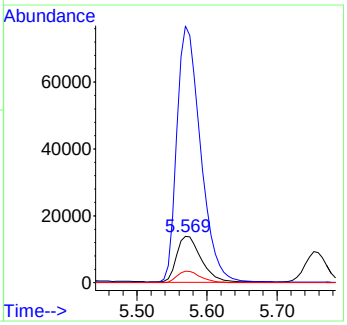


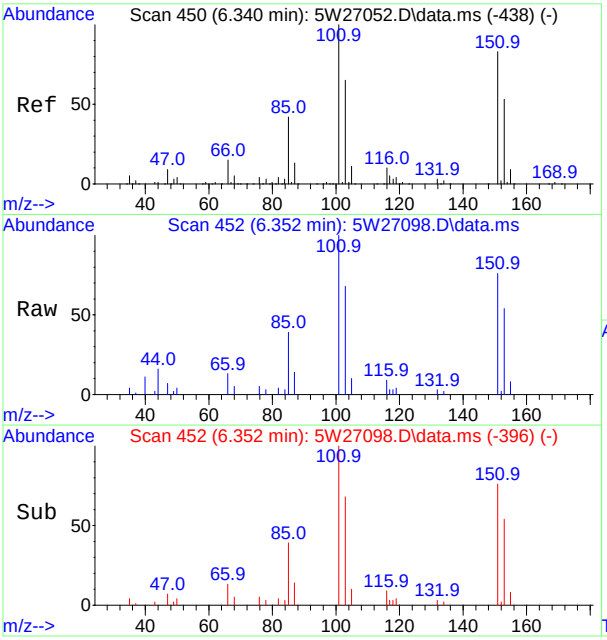


#26
Isopropyl Alcohol
Concen: 5.42 ppb(v)
RT: 5.569 min Scan# 324
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 43 Resp: 33791

Ion	Ratio	Lower	Upper
43	100		
45	553.1	512.5	951.7
59	24.9	20.9	38.7

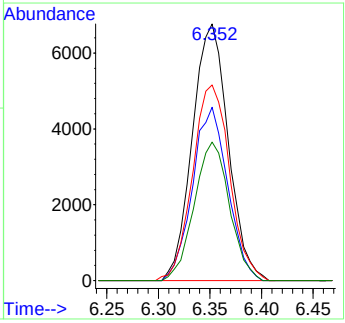


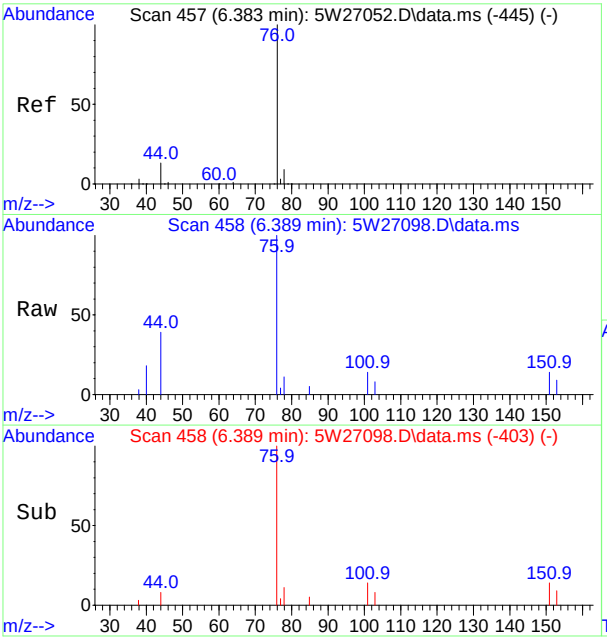


#28
Freon 113
Concen: 0.30 ppb(v)
RT: 6.352 min Scan# 452
Delta R.T. 0.012 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:101 Resp: 16395

Ion	Ratio	Lower	Upper
101	100		
103	67.5	45.3	84.1
151	76.3	58.1	107.9
153	54.0	37.1	68.9

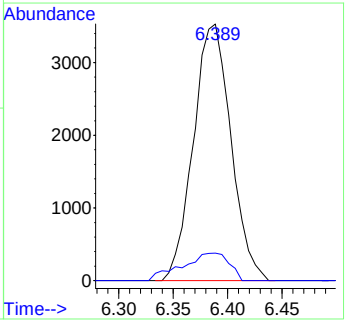




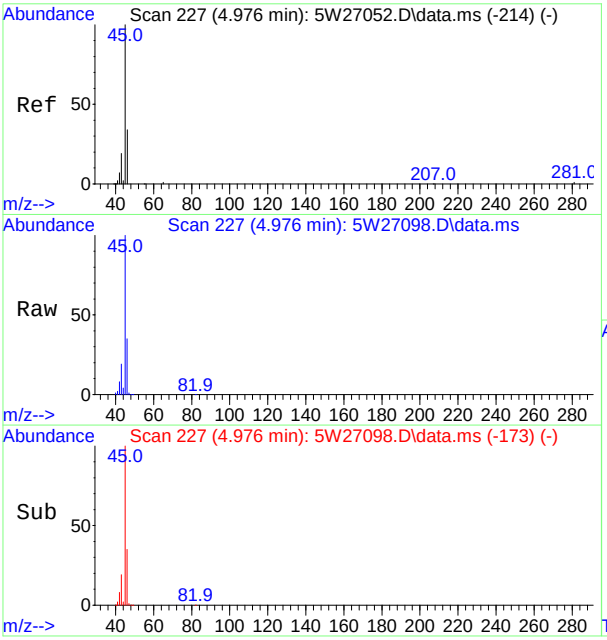
#30
Carbon Disulfide
Concen: 0.11 ppb(v)
RT: 6.389 min Scan# 458
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 76 Resp: 8484

Ion	Ratio	Lower	Upper
76	100		
78	10.7	6.6	12.4



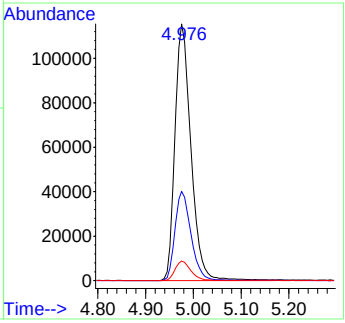
SGS ACCUTEST JC52053

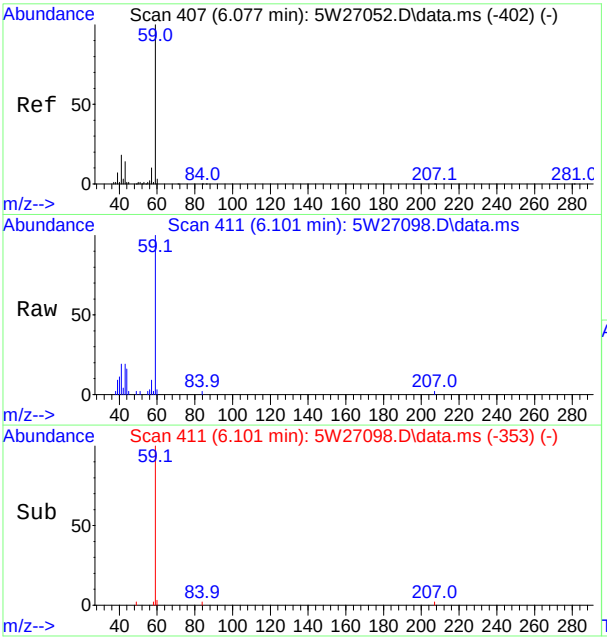


#31
Ethanol
Concen: 46.29 ppb(v)
RT: 4.976 min Scan# 227
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 45 Resp: 269115

Ion	Ratio	Lower	Upper
45	100		
46	34.8	23.5	43.7
42	7.7	5.5	10.3

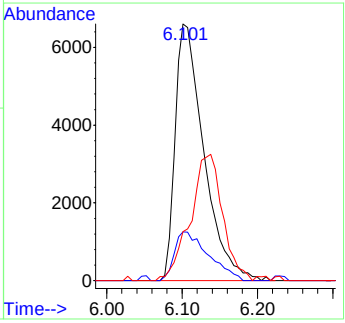


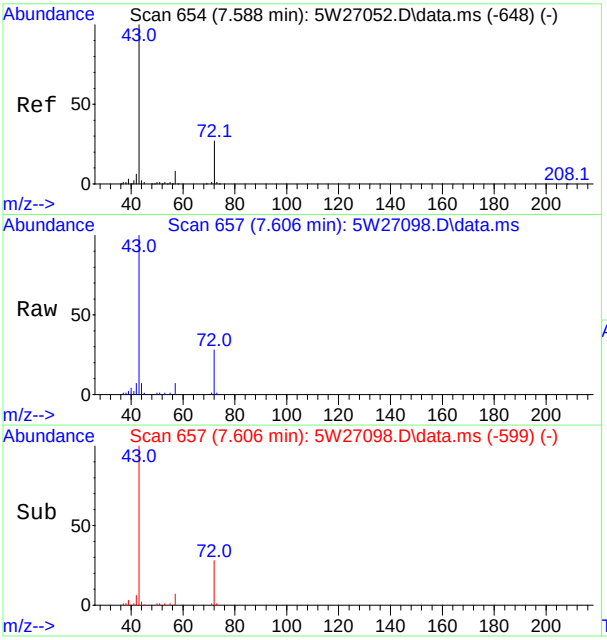


#35
tert-Butyl Alcohol
Concen: 0.35 ppb(v)
RT: 6.101 min Scan# 411
Delta R.T. 0.025 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 59 Resp: 17512

Ion	Ratio	Lower	Upper
59	100		
41	19.0	12.5	23.1
43	19.1	9.7	17.9#

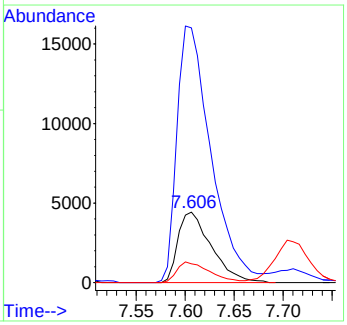


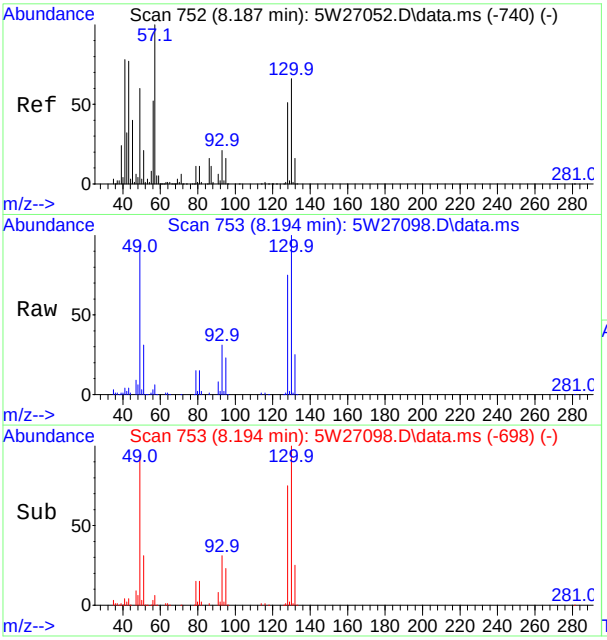


#39
2-Butanone
Concen: 0.94 ppb(v)
RT: 7.606 min Scan# 657
Delta R.T. 0.025 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 72 Resp: 10526

Ion	Ratio	Lower	Upper
72	100		
43	361.1	256.8	476.8
57	26.8	20.4	37.8

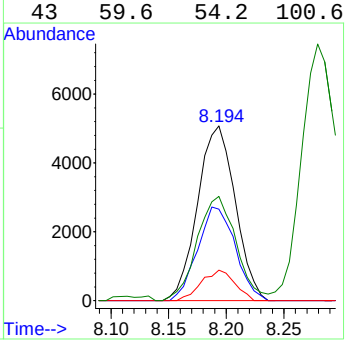


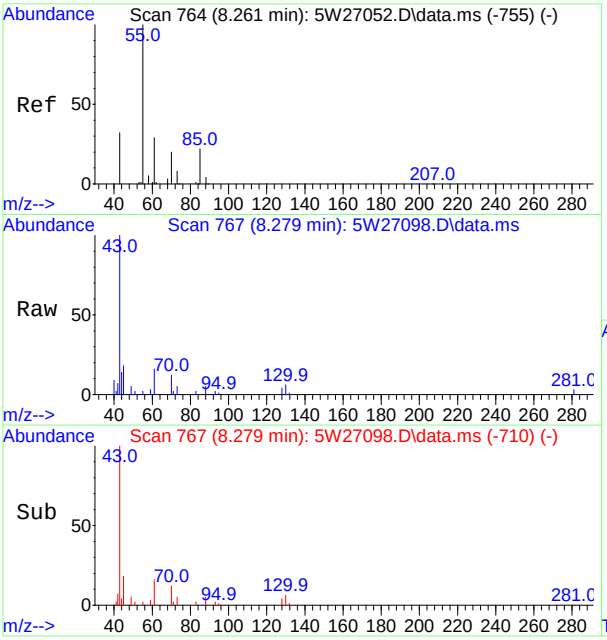


#40
Hexane
Concen: 0.34 ppb(v)
RT: 8.194 min Scan# 753
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 57 Resp: 11533

Ion	Ratio	Lower	Upper
57	100		
56	52.4	36.6	68.0
86	17.4	11.1	20.5
43	59.6	54.2	100.6

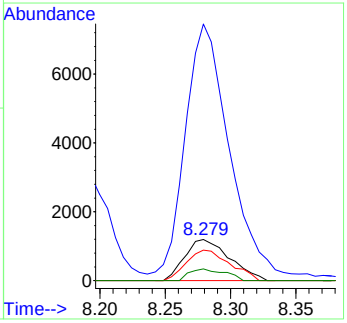


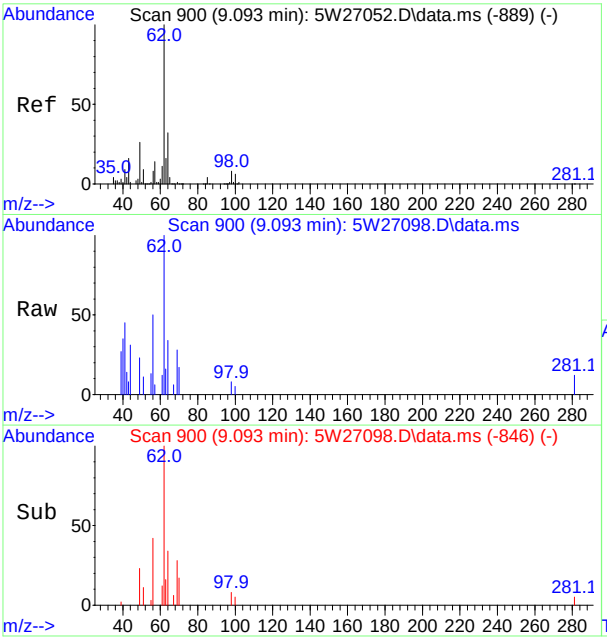


#43
Ethyl Acetate
Concen: 0.39 ppb(v)
RT: 8.279 min Scan# 767
Delta R.T. 0.019 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 61 Resp: 2857

Ion	Ratio	Lower	Upper
61	100		
43	623.7	440.8	818.6
70	74.4	51.7	95.9
88	28.8	19.4	36.0

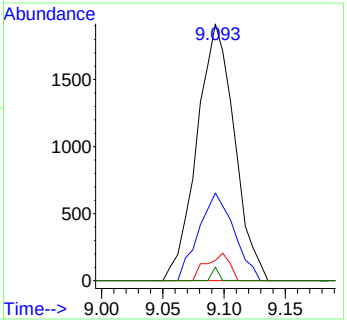




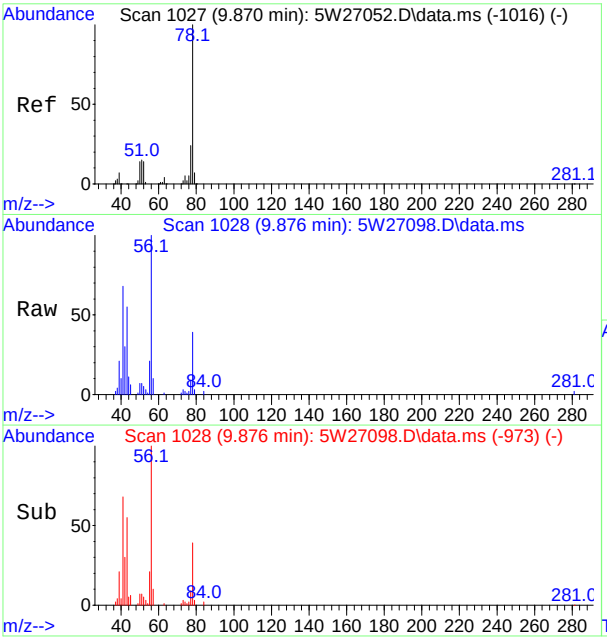
#49
1,2-Dichloroethane
Concen: 0.14 ppb(v)
RT: 9.093 min Scan# 900
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 62 Resp: 4078

Ion	Ratio	Lower	Upper
62	100		
64	34.1	22.5	41.7
98	7.9	5.9	10.9
100	5.4	4.2	7.8



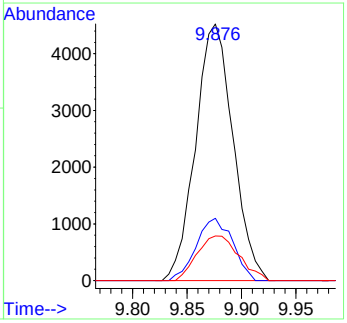
SGS ACCUTEST
JC52053

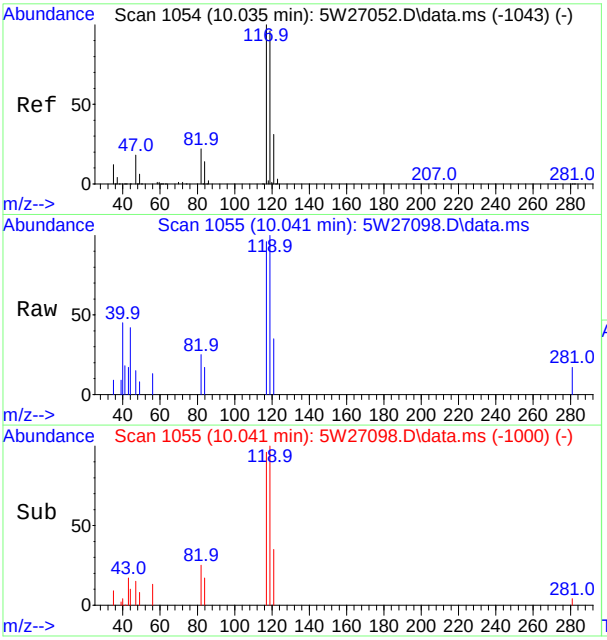


#50
Benzene
Concen: 0.14 ppb(v)
RT: 9.876 min Scan# 1028
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 78 Resp: 10841

Ion	Ratio	Lower	Upper
78	100		
77	24.2	16.8	31.2
51	17.4	10.4	19.4

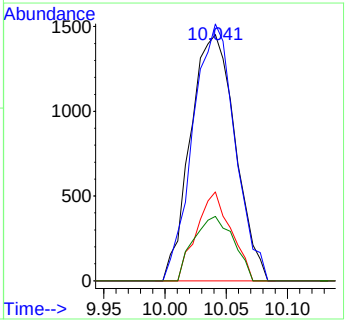




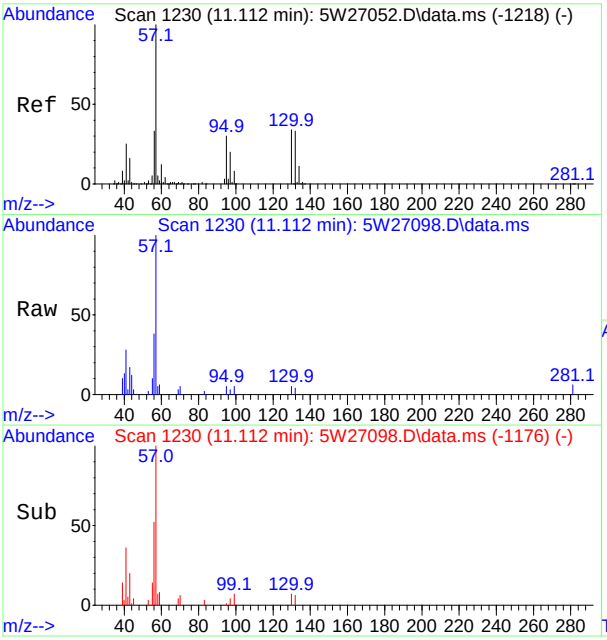
#51
Carbon Tetrachloride
Concen: 0.07 ppb(v)
RT: 10.041 min Scan# 1055
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:117 Resp: 3685

Ion	Ratio	Lower	Upper
117	100		
119	104.4	67.0	124.4
121	36.1	21.4	39.8
82	26.2	15.4	28.6



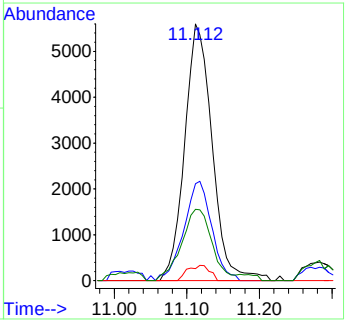
SGS ACCUTEST
JC52053

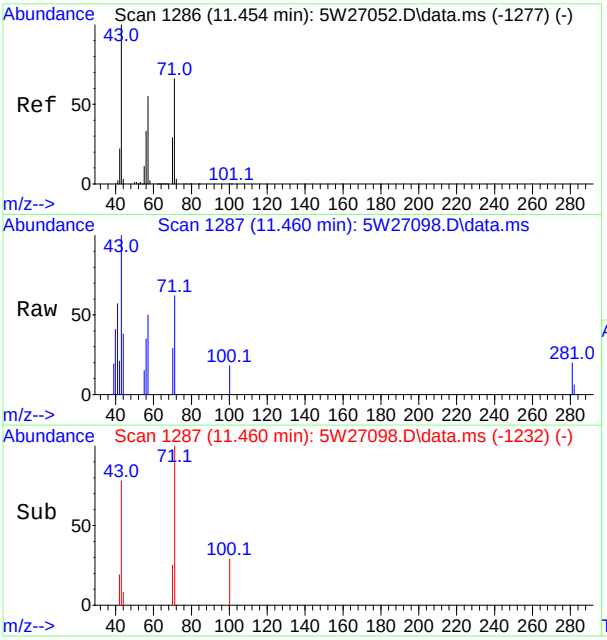


#55
2,2,4-Trimethylpentane
Concen: 0.14 ppb(v)
RT: 11.112 min Scan# 1230
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 57 Resp: 14782

Ion	Ratio	Lower	Upper
57	100		
56	37.8	23.0	42.6
99	4.7	5.8	10.8#
41	27.8	17.7	32.9

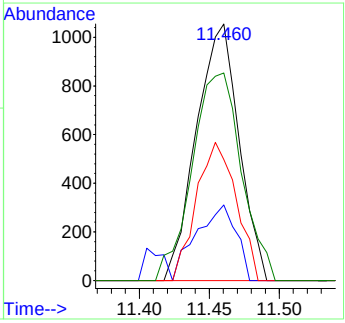


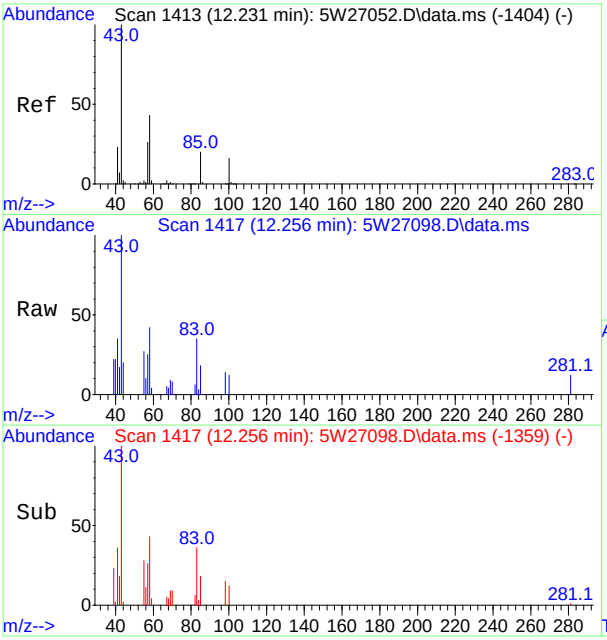


#56
Heptane
Concen: 0.10 ppb(v)
RT: 11.460 min Scan# 1287
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 71 Resp: 2240

Ion	Ratio	Lower	Upper
71	100		
100	29.5	20.1	37.3
70	47.2	34.1	63.3
57	80.9	59.4	110.4

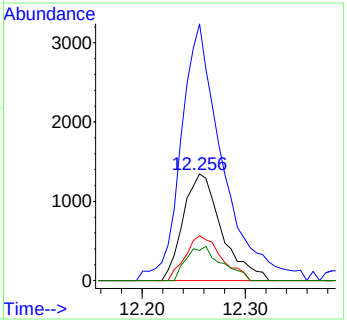


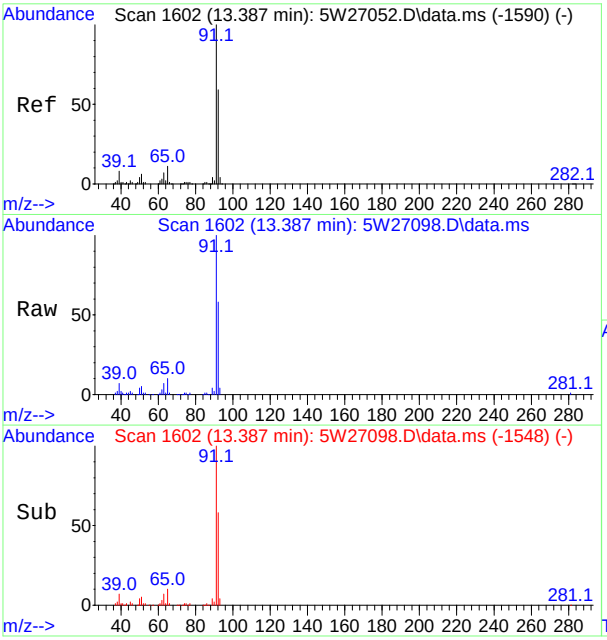


#65
4-Methyl-2-pentanone
Concen: 0.18 ppb(v)
RT: 12.256 min Scan# 1417
Delta R.T. 0.025 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 58 Resp: 3489

Ion	Ratio	Lower	Upper
58	100		
43	240.4	162.8	302.3
85	42.1	33.8	62.8
100	28.4	26.7	49.5

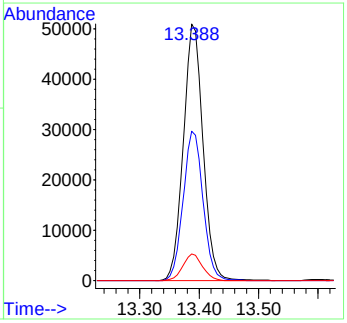


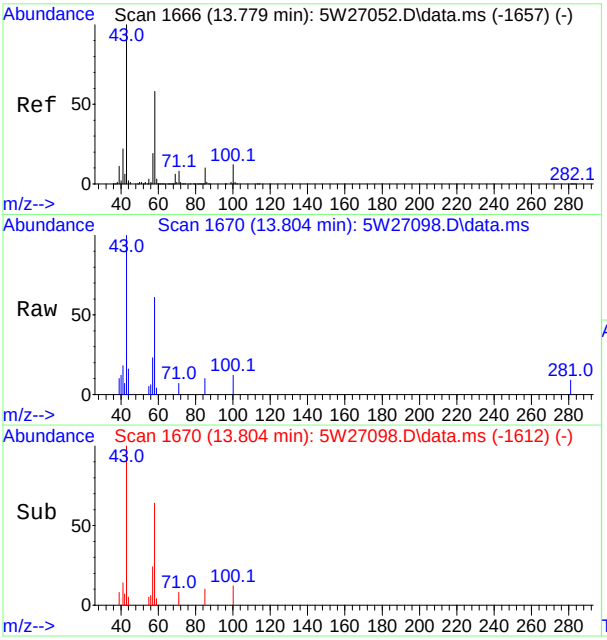


#67
Toluene
Concen: 1.33 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 91 Resp: 117684

Ion	Ratio	Lower	Upper
91	100		
92	58.2	41.4	76.8
65	10.4	7.3	13.7

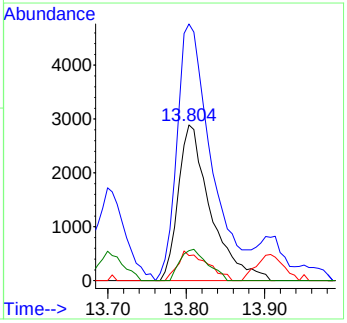


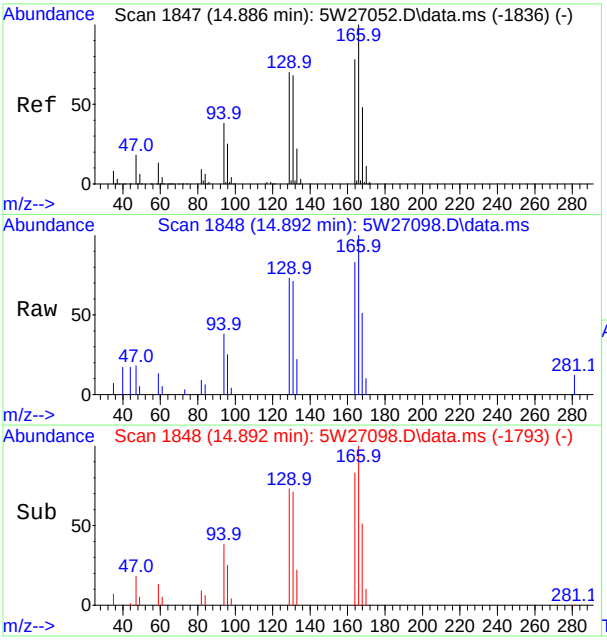


#70
2-Hexanone
Concen: 0.34 ppb(v)
RT: 13.804 min Scan# 1670
Delta R.T. 0.025 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 58 Resp: 8267

Ion	Ratio	Lower	Upper
58	100		
43	164.8	120.2	223.2
85	16.2	12.0	22.2
100	19.2	14.7	27.3

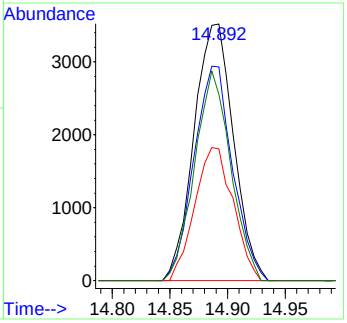


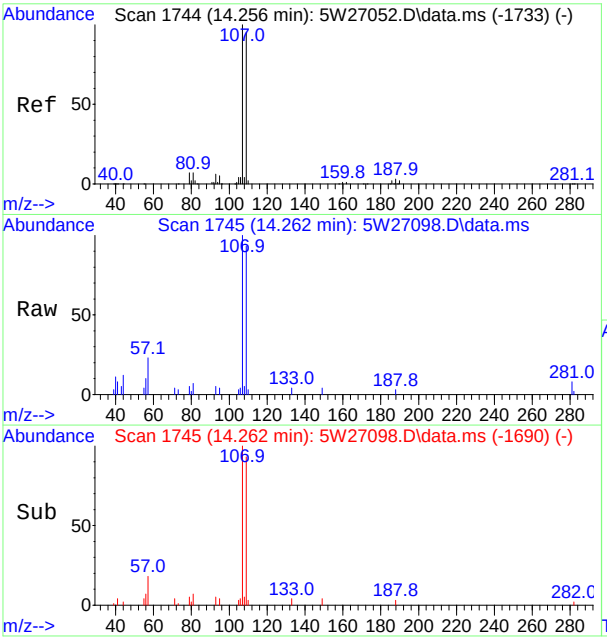


#73
Tetrachloroethene
Concen: 0.16 ppb(v)
RT: 14.892 min Scan# 1848
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:166 Resp: 8401

Ion	Ratio	Lower	Upper
166	100		
164	83.2	54.5	101.3
168	51.3	33.6	62.4
129	72.5	49.2	91.4

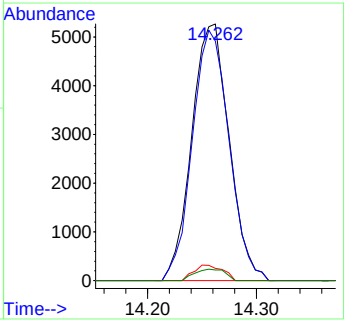


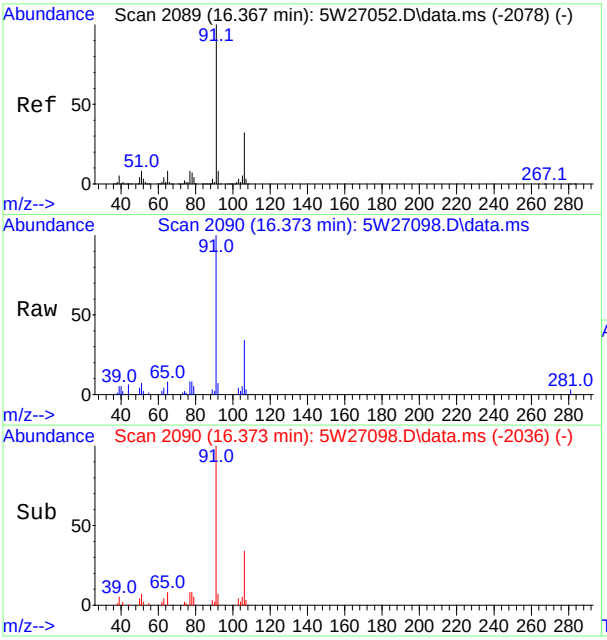


#74
1,2-Dibromoethane
Concen: 0.24 ppb(v)
RT: 14.262 min Scan# 1745
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:107 Resp: 12613

Ion	Ratio	Lower	Upper
107	100		
109	93.3	66.6	123.8
93	4.8	4.1	7.5
95	4.1	3.2	6.0

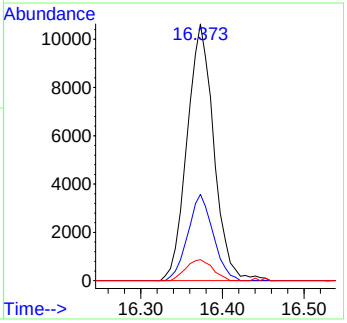


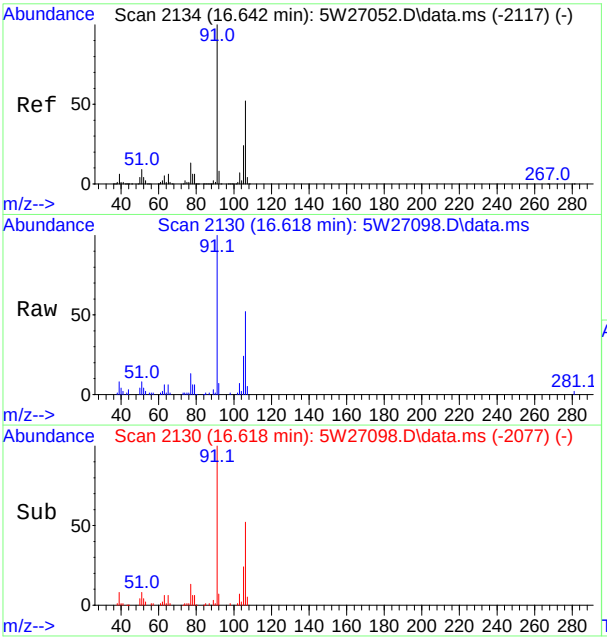


#79
Ethylbenzene
Concen: 0.22 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 91 Resp: 24159

Ion	Ratio	Lower	Upper
91	100		
106	33.6	22.4	41.6
77	8.2	5.7	10.7

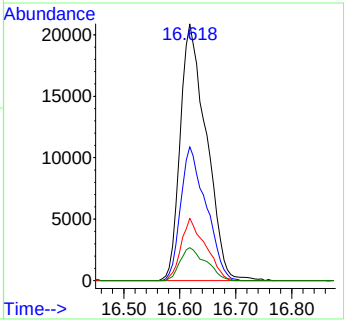


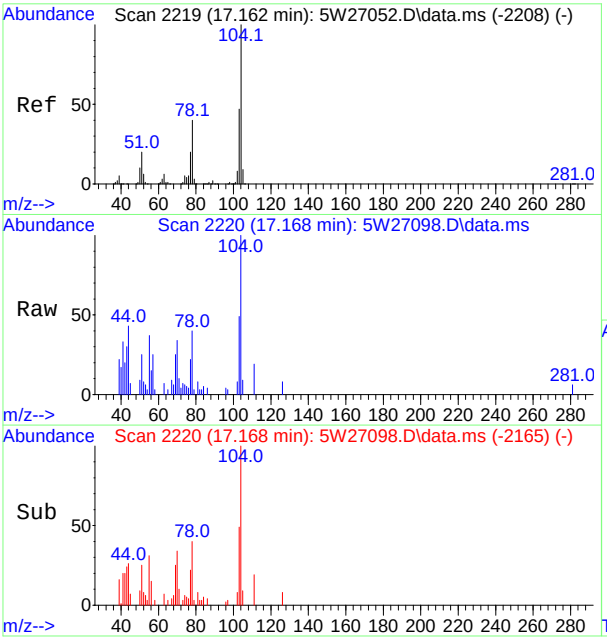


#80
m,p-Xylene
Concen: 0.80 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 91 Resp: 67748

Ion	Ratio	Lower	Upper
91	100		
106	52.2	36.3	67.5
105	24.3	16.4	30.6
77	12.9	8.9	16.5

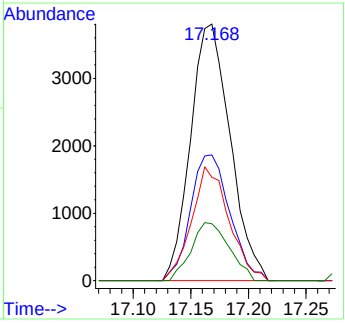


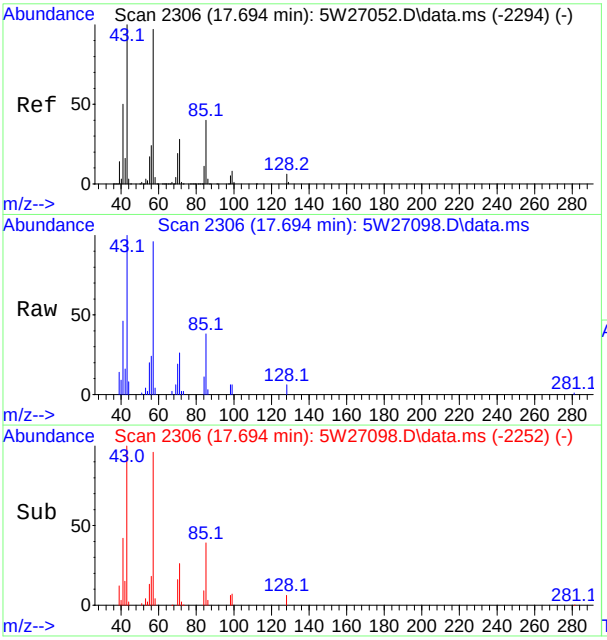


#81
Styrene
Concen: 0.14 ppb(v)
RT: 17.168 min Scan# 2220
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:104 Resp: 9106

Ion	Ratio	Lower	Upper
104	100		
103	49.0	32.8	61.0
78	40.3	28.1	52.1
77	22.2	13.7	25.5

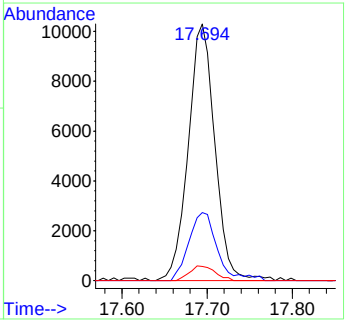


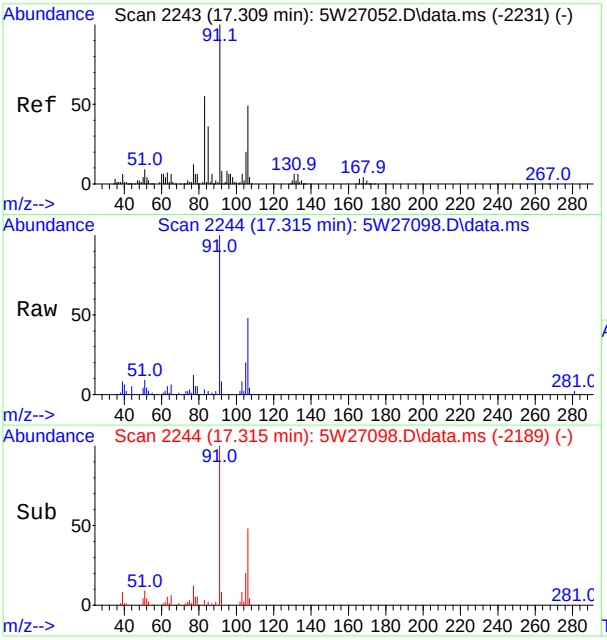


#82
Nonane
Concen: 0.46 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 43 Resp: 22411

Ion	Ratio	Lower	Upper
43	100		
71	26.5	19.3	35.9
128	5.6	4.5	8.3

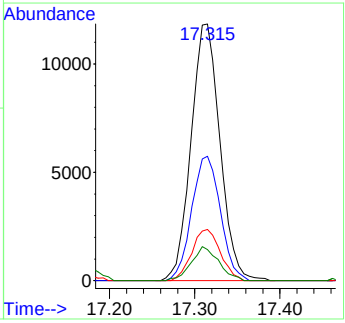


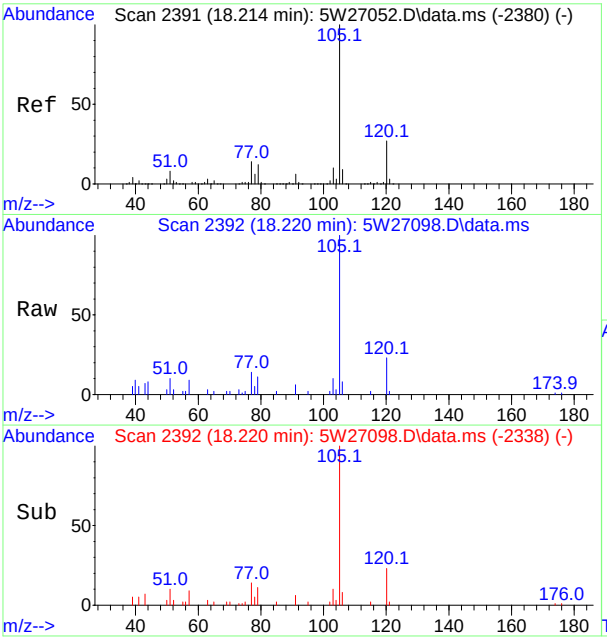


#83
o-Xylene
Concen: 0.33 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion: 91 Resp: 27967

Ion	Ratio	Lower	Upper
91	100		
106	48.4	34.4	64.0
105	19.9	13.7	25.5
77	12.1	8.5	15.7

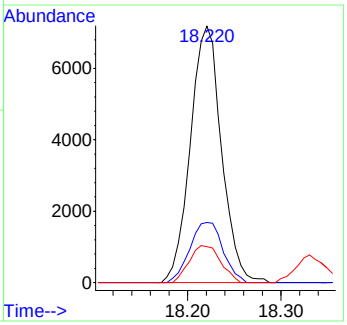


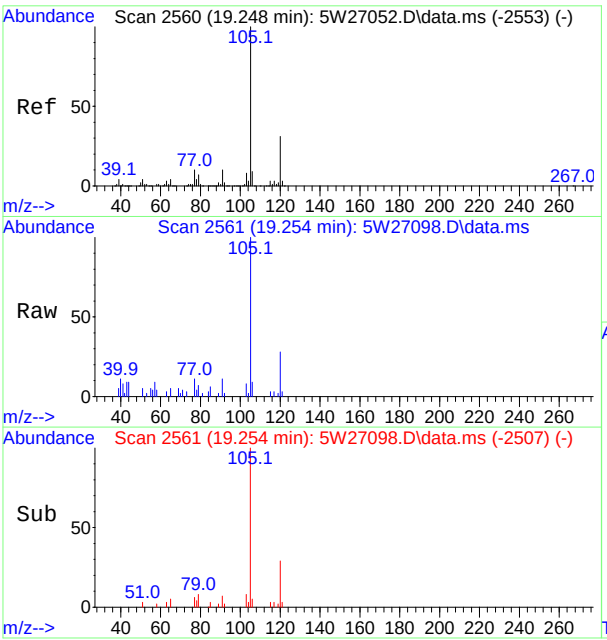


#87
Isopropylbenzene
Concen: 0.14 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:105 Resp: 16734

Ion	Ratio	Lower	Upper
105	100		
120	23.4	19.0	35.2
77	14.0	10.1	18.9

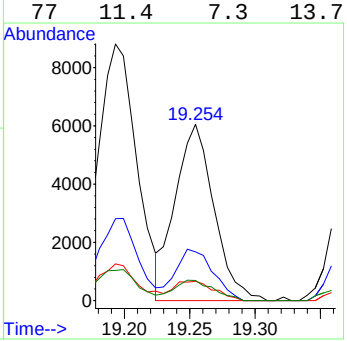


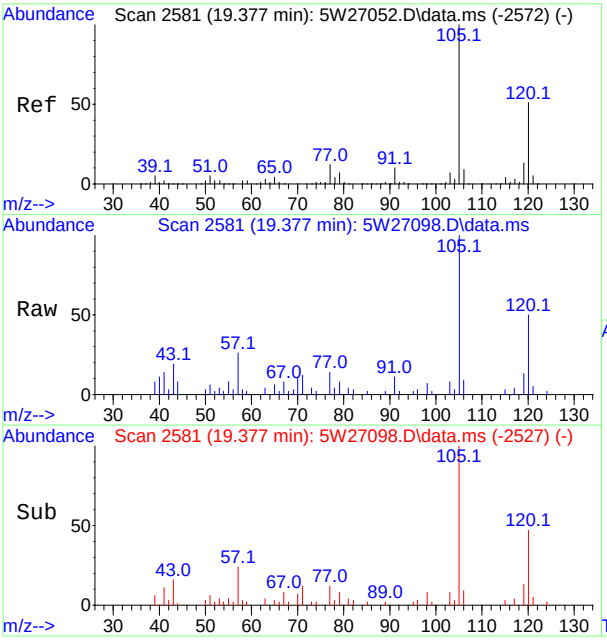


#92
4-Ethyltoluene
Concen: 0.11 ppb(v)
RT: 19.254 min Scan# 2561
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:105 Resp: 12524

Ion	Ratio	Lower	Upper
105	100		
120	27.6	21.4	39.8
91	10.9	7.3	13.7
77	11.4	7.3	13.7

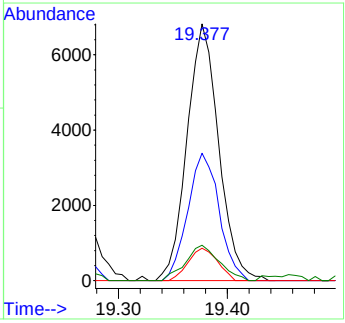


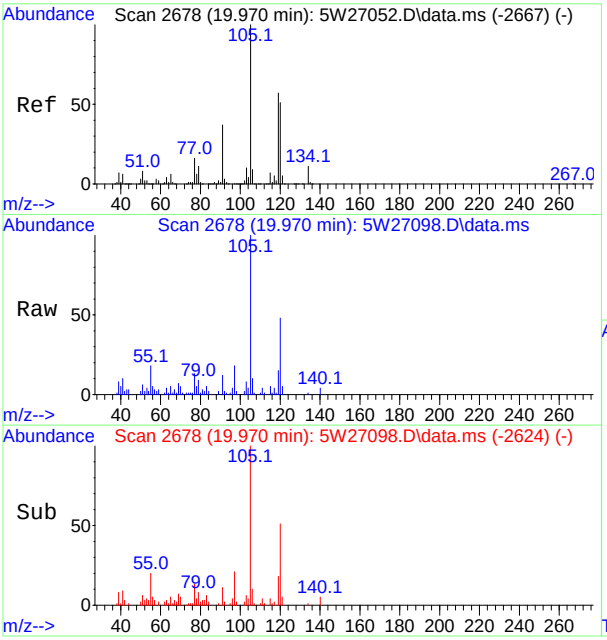


#93
1,3,5-Trimethylbenzene
Concen: 0.13 ppb(v)
RT: 19.377 min Scan# 2581
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:105 Resp: 13828

Ion	Ratio	Lower	Upper
105	100		
120	49.6	35.4	65.8
119	12.7	8.9	16.5
77	13.8	8.3	15.3

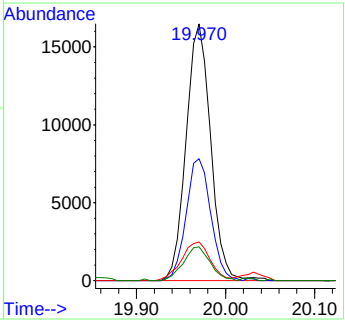


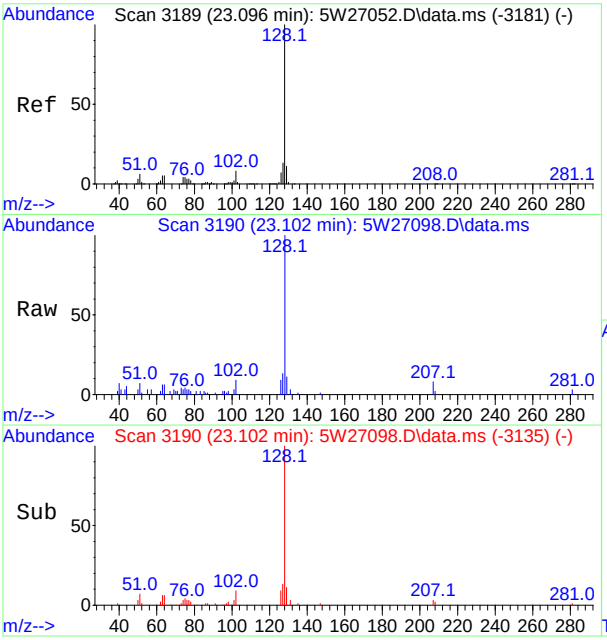


#96
1,2,4-Trimethylbenzene
Concen: 0.33 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:105 Resp: 31708

Ion	Ratio	Lower	Upper
105	100		
120	47.5	36.0	66.8
119	15.0	40.3	74.8#
77	13.2	11.3	21.1

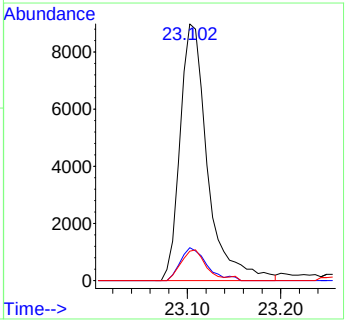




#106
Naphthalene
Concen: 0.53 ppb(v)
RT: 23.102 min Scan# 3190
Delta R.T. 0.006 min
Lab File: 5W27098.D
Acq: 7 Oct 2017 1:40 pm

Tgt Ion:128 Resp: 18385

Ion	Ratio	Lower	Upper
128	100		
127	12.9	8.9	16.5
129	11.5	7.7	14.3



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27099.D
Acq On : 7 Oct 2017 2:28 pm
Operator : [redacted]
Sample : jc52053-2
Misc : MS20561,v5w1066,200,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 11:42:29 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

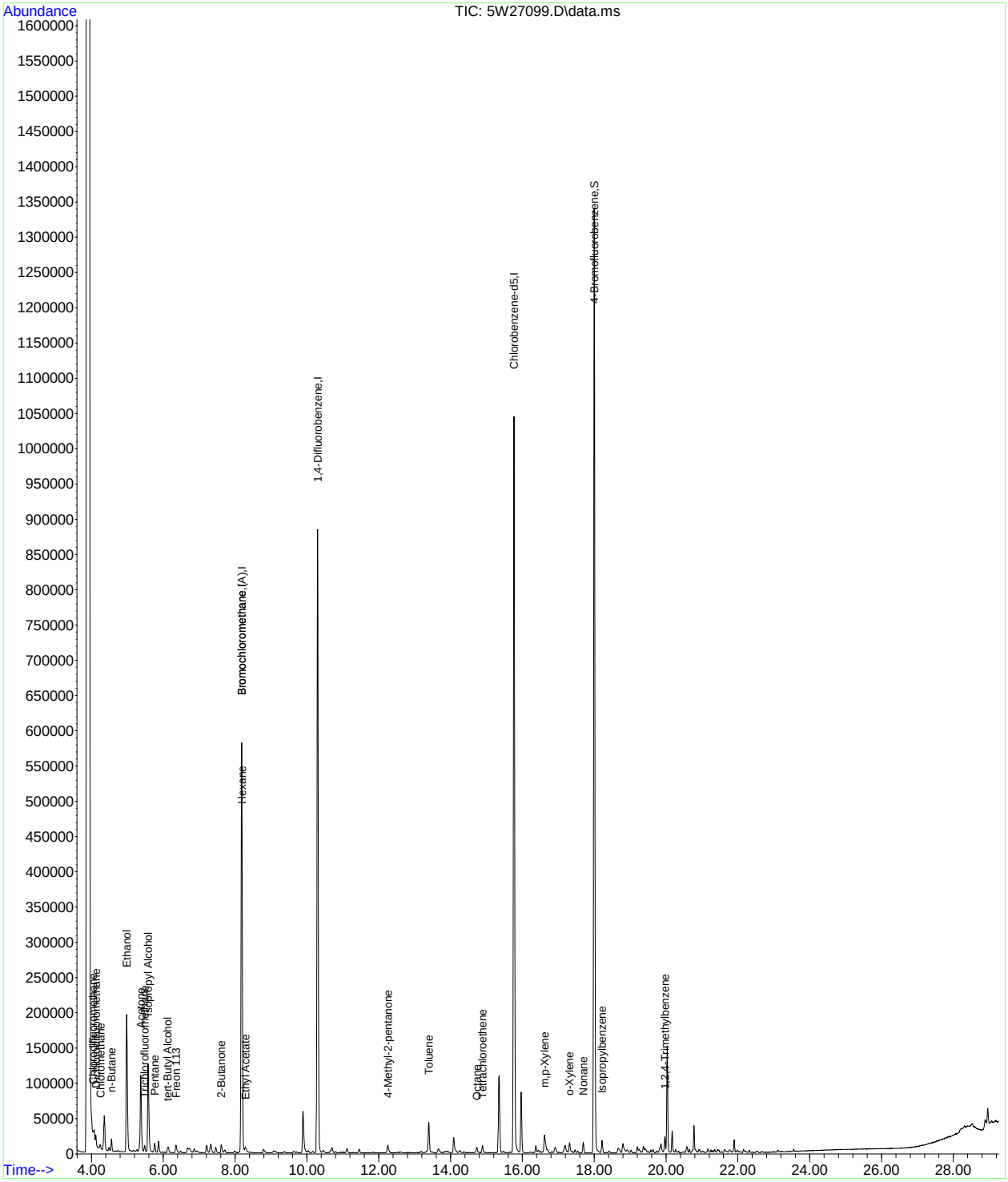
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	284006	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.298	114	983879	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	441747	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	284006	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	647747	10.43	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.30%			
Target Compounds						Qvalue
4) Chlorodifluoromethane	4.046	67	1112	0.21	ppb(v	96
7) Dichlorodifluoromethane	4.125	85	14317	0.23	ppb(v	99
9) Chloromethane	4.254	50	5790	0.30	ppb(v	97
13) n-Butane	4.560	58	2162	0.74	ppb(v#	66
21) Trichlorofluoromethane	5.483	101	8361	0.14	ppb(v	98
22) Acetone	5.373	58	54468	5.90	ppb(v	95
23) Pentane	5.765	57	1574	0.27	ppb(v	89
26) Isopropyl Alcohol	5.575	43	36957	5.90	ppb(v	45
28) Freon 113	6.358	101	6033	0.11	ppb(v	96
31) Ethanol	4.982	45	284255	48.67	ppb(v	98
35) tert-Butyl Alcohol	6.120	59	7802	0.16	ppb(v#	77
39) 2-Butanone	7.612	72	5062	0.45	ppb(v	100
40) Hexane	8.194	57	4812	0.14	ppb(v	86
43) Ethyl Acetate	8.285	61	1294	0.18	ppb(v	88
65) 4-Methyl-2-pentanone	12.256	58	3740	0.19	ppb(v	90
67) Toluene	13.394	91	44870	0.50	ppb(v	99
73) Tetrachloroethene	14.886	166	4412	0.08	ppb(v	98
75) Octane	14.733	43	6092	0.12	ppb(v	82
80) m,p-Xylene	16.618	91	29457	0.33	ppb(v	98
82) Nonane	17.694	43	7247	0.14	ppb(v	96
83) o-Xylene	17.315	91	12041	0.13	ppb(v	97
87) Isopropylbenzene	18.220	105	17097	0.13	ppb(v	98
96) 1,2,4-Trimethylbenzene	19.970	105	12877	0.13	ppb(v#	71

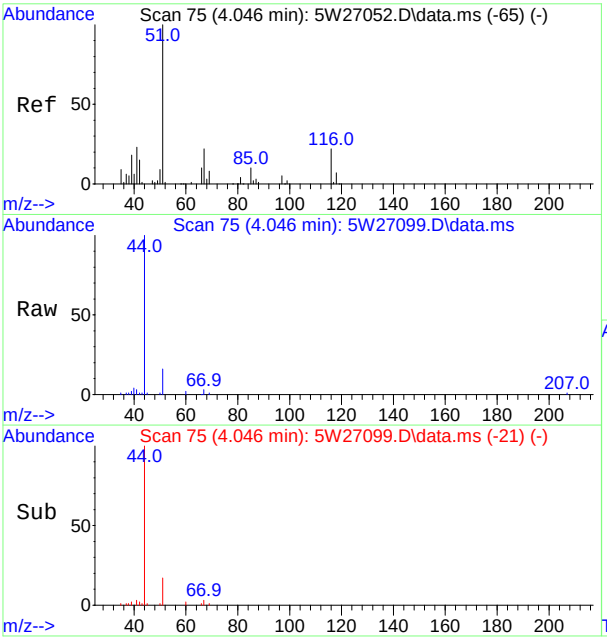
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27099.D
Acq On : 7 Oct 2017 2:28 pm
Operator : [redacted]
Sample : jc52053-2
Misc : MS20561,v5w1066,200,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 11:42:29 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

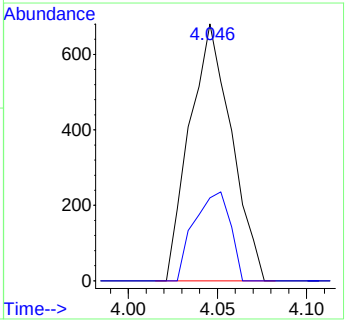


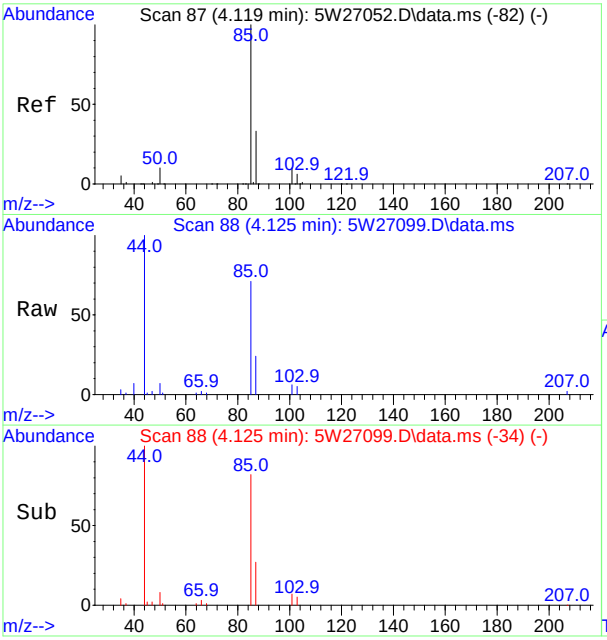


#4
Chlorodifluoromethane
Concen: 0.21 ppb(v)
RT: 4.046 min Scan# 75
Delta R.T. 0.000 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 67 Resp: 1112

Ion	Ratio	Lower	Upper
67	100		
69	32.3	24.1	44.7

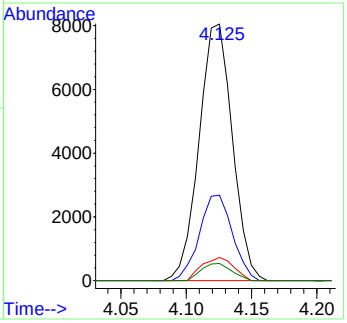


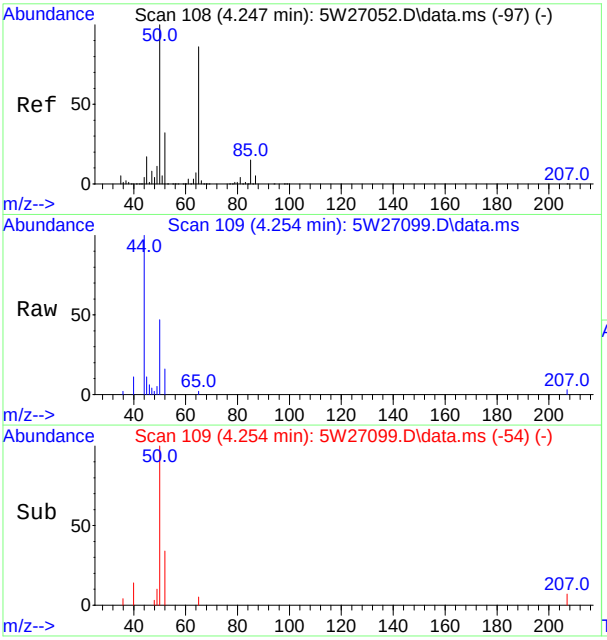


#7
Dichlorodifluoromethane
Concen: 0.23 ppb(v)
RT: 4.125 min Scan# 88
Delta R.T. 0.000 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 85 Resp: 14317

Ion	Ratio	Lower	Upper
85	100		
87	33.3	23.0	42.6
101	9.0	6.6	12.2
103	6.7	4.2	7.8

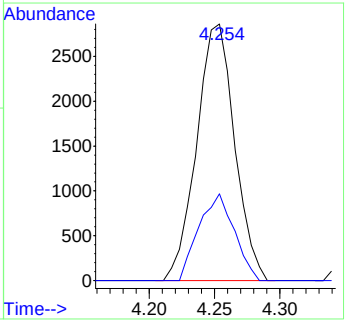


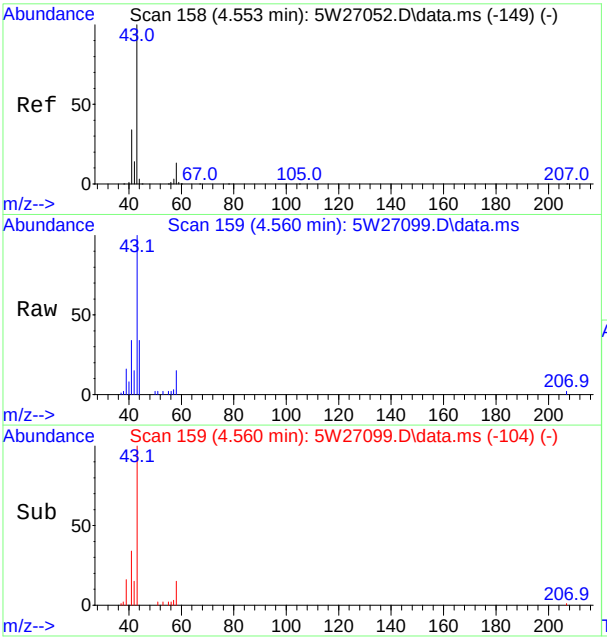


#9
Chloromethane
Concen: 0.30 ppb(v)
RT: 4.254 min Scan# 109
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 50 Resp: 5790

Ion	Ratio	Lower	Upper
50	100		
52	33.8	22.7	42.1

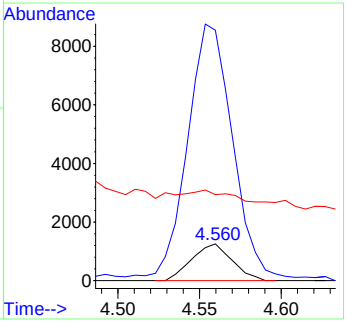


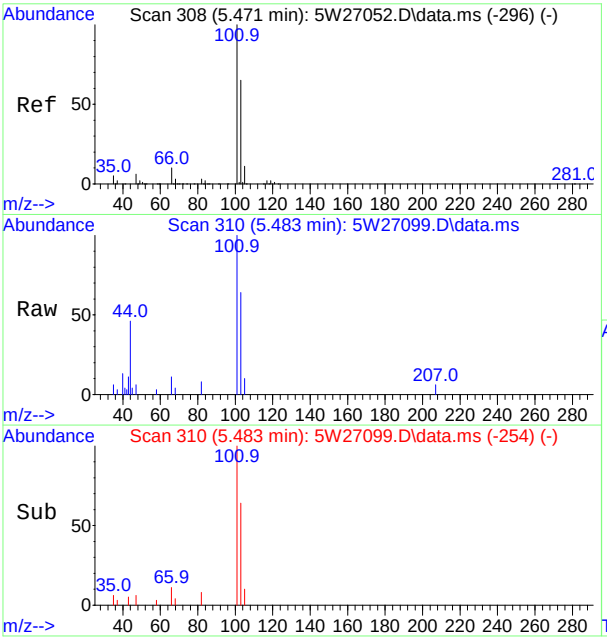


#13
n-Butane
Concen: 0.74 ppb(v)
RT: 4.560 min Scan# 159
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 58 Resp: 2162

Ion	Ratio	Lower	Upper
58	100		
43	682.0	527.9	980.5
44	234.7	25.1	46.7#

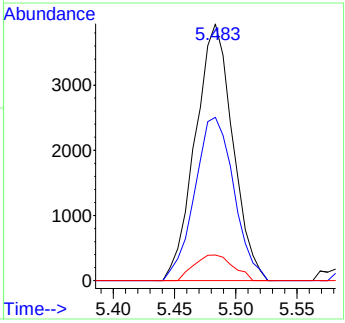


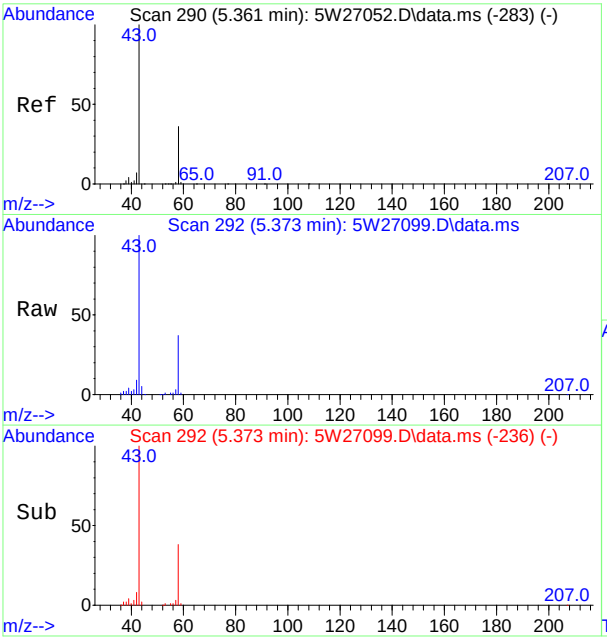


#21
Trichlorofluoromethane
Concen: 0.14 ppb(v)
RT: 5.483 min Scan# 310
Delta R.T. 0.012 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion:101 Resp: 8361

Ion	Ratio	Lower	Upper
101	100		
103	63.6	45.6	84.6
105	10.0	7.5	13.9

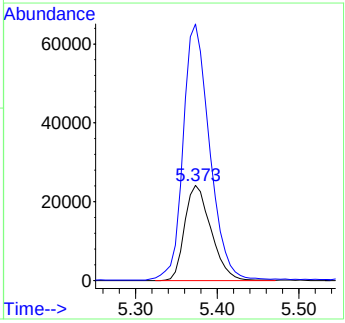


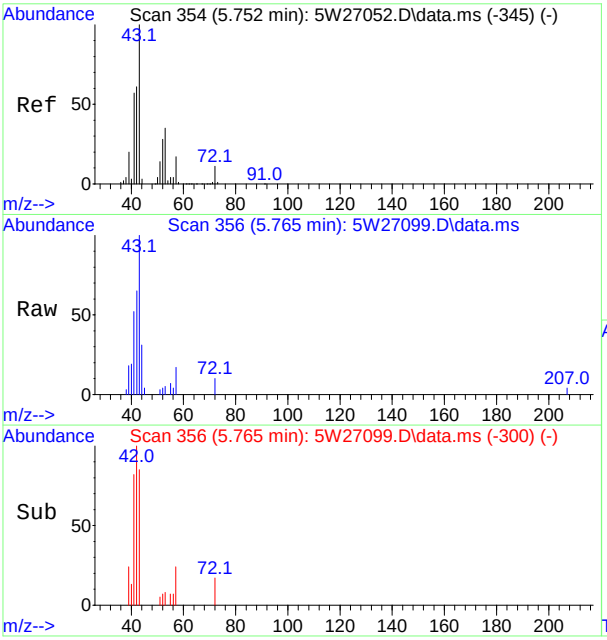


#22
Acetone
Concen: 5.90 ppb(v)
RT: 5.373 min Scan# 292
Delta R.T. 0.012 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 58 Resp: 54468

Ion	Ratio	Lower	Upper
58	100		
43	269.6	194.7	361.5

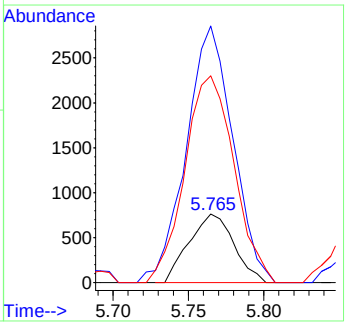


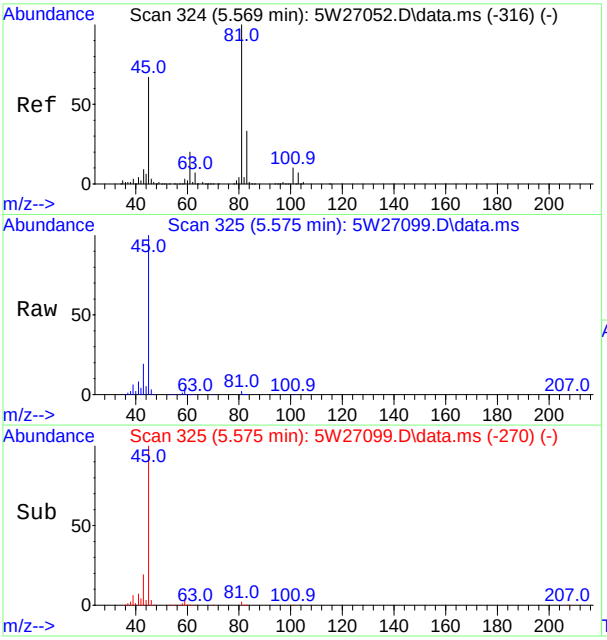


#23
Pentane
Concen: 0.27 ppb(v)
RT: 5.765 min Scan# 356
Delta R.T. 0.012 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 57 Resp: 1574

Ion	Ratio	Lower	Upper
57	100		
42	374.9	249.9	464.1
41	302.1	233.0	432.6

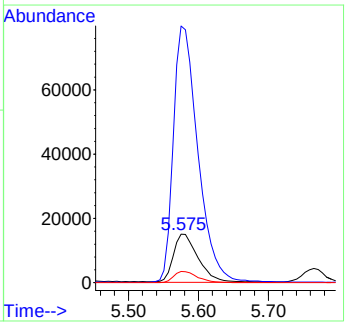


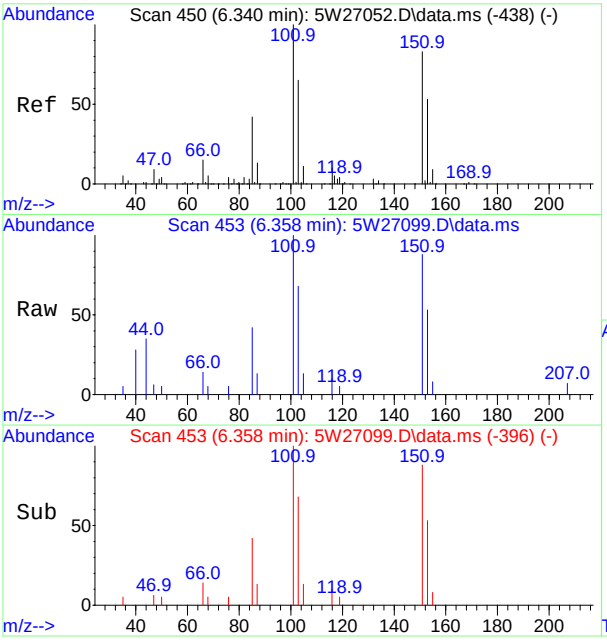


#26
Isopropyl Alcohol
Concen: 5.90 ppb(v)
RT: 5.575 min Scan# 325
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 43 Resp: 36957

Ion	Ratio	Lower	Upper
43	100		
45	529.0	512.5	951.7
59	23.1	20.9	38.7

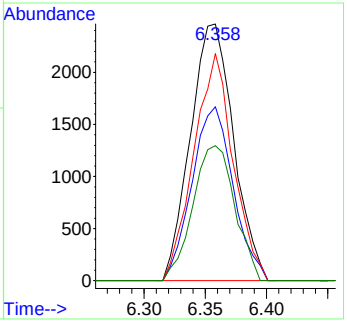


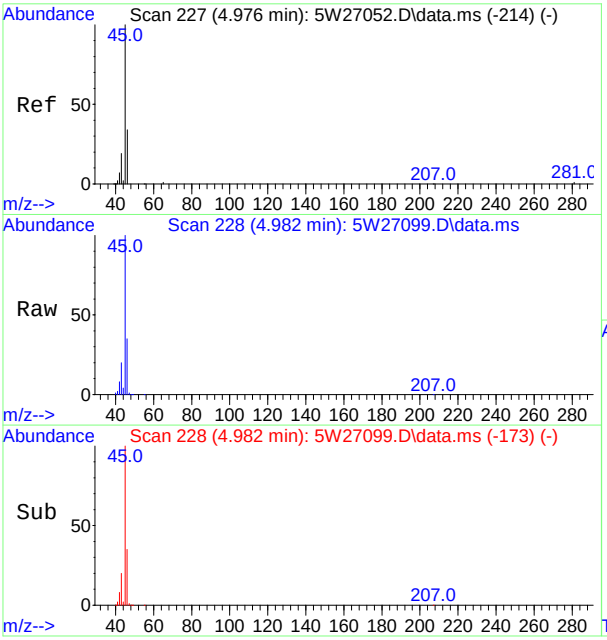


#28
Freon 113
Concen: 0.11 ppb(v)
RT: 6.358 min Scan# 453
Delta R.T. 0.019 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion:101 Resp: 6033

Ion	Ratio	Lower	Upper
101	100		
103	67.7	45.3	84.1
151	88.4	58.1	107.9
153	52.6	37.1	68.9

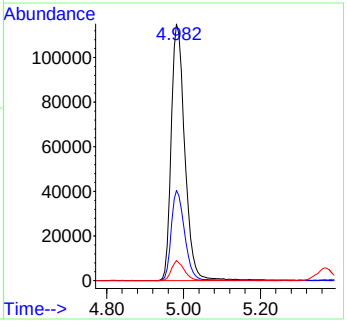


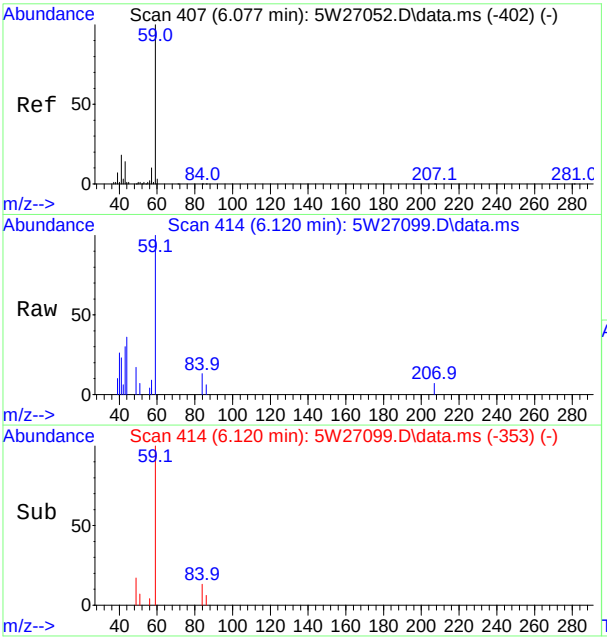


#31
Ethanol
Concen: 48.67 ppb(v)
RT: 4.982 min Scan# 228
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 45 Resp: 284255

Ion	Ratio	Lower	Upper
45	100		
46	35.1	23.5	43.7
42	7.8	5.5	10.3

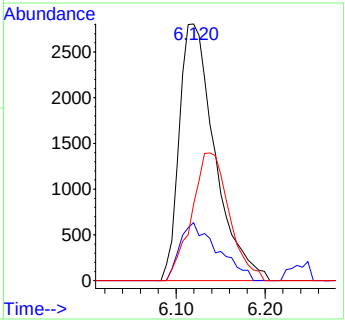


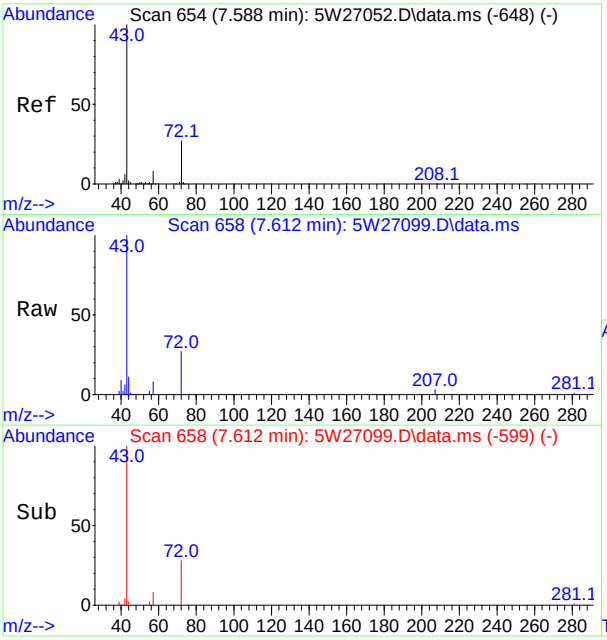


#35
tert-Butyl Alcohol
Concen: 0.16 ppb(v)
RT: 6.120 min Scan# 414
Delta R.T. 0.043 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 59 Resp: 7802

Ion	Ratio	Lower	Upper
59	100		
41	22.6	12.5	23.1
43	29.9	9.7	17.9#

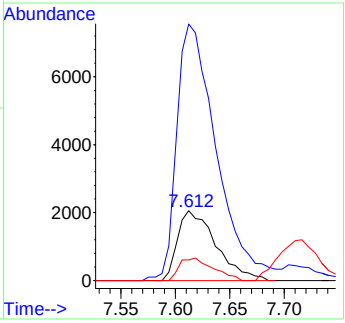


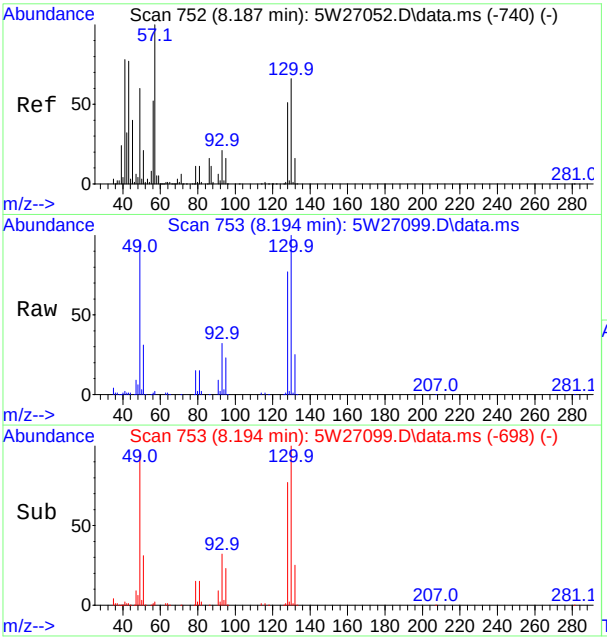


#39
2-Butanone
Concen: 0.45 ppb(v)
RT: 7.612 min Scan# 658
Delta R.T. 0.031 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 72 Resp: 5062

Ion	Ratio	Lower	Upper
72	100		
43	367.3	256.8	476.8
57	29.7	20.4	37.8

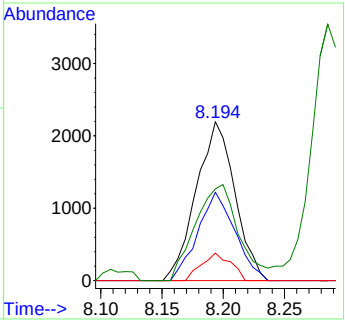


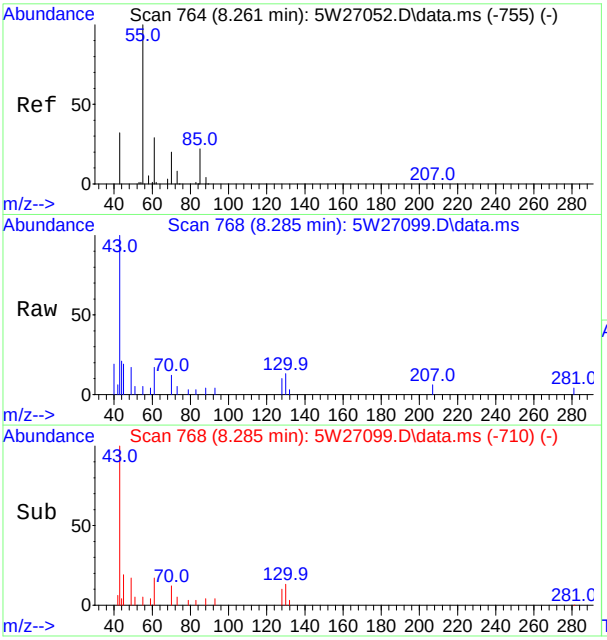


#40
Hexane
Concen: 0.14 ppb(v)
RT: 8.194 min Scan# 753
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 57 Resp: 4812

Ion	Ratio	Lower	Upper
57	100		
56	55.7	36.6	68.0
86	17.4	11.1	20.5
43	57.7	54.2	100.6

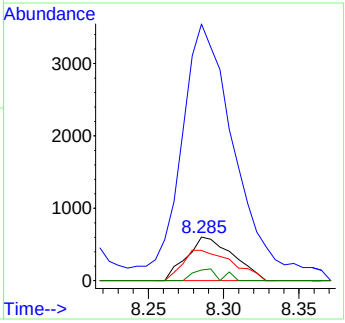




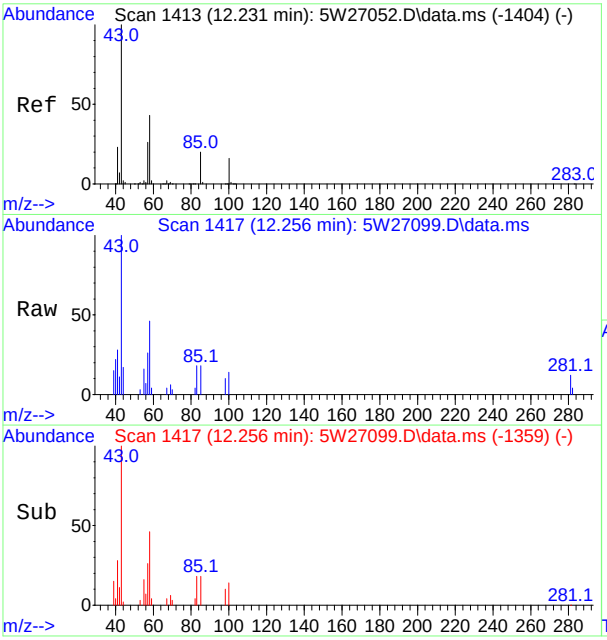
#43
Ethyl Acetate
Concen: 0.18 ppb(v)
RT: 8.285 min Scan# 768
Delta R.T. 0.025 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 61 Resp: 1294

Ion	Ratio	Lower	Upper
61	100		
43	589.4	440.8	818.6
70	69.3	51.7	95.9
88	24.4	19.4	36.0



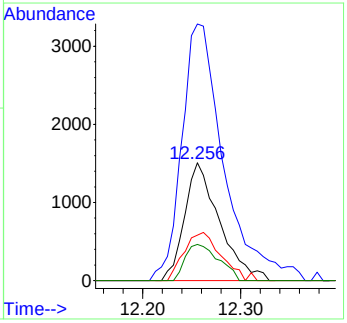
260 of 609
ACCUTEST
JC52053

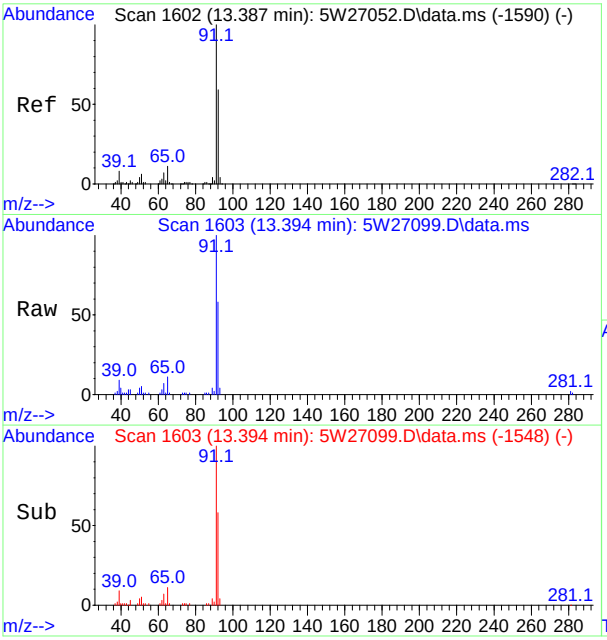


#65
4-Methyl-2-pentanone
Concen: 0.19 ppb(v)
RT: 12.256 min Scan# 1417
Delta R.T. 0.025 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 58 Resp: 3740

Ion	Ratio	Lower	Upper
58	100		
43	218.0	162.8	302.3
85	38.7	33.8	62.8
100	30.8	26.7	49.5

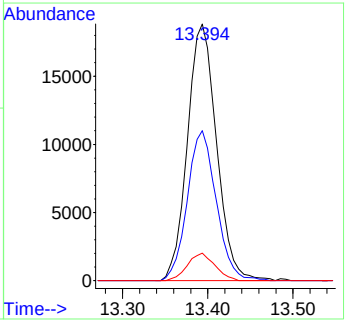


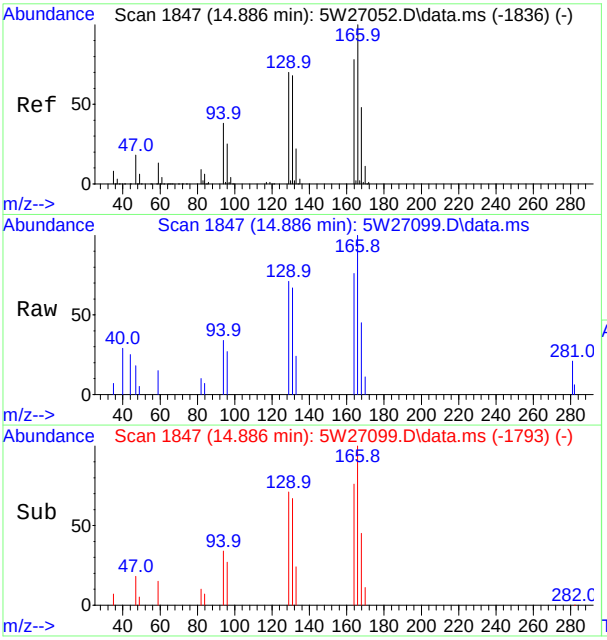


#67
Toluene
Concen: 0.50 ppb(v)
RT: 13.394 min Scan# 1603
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 91 Resp: 44870

Ion	Ratio	Lower	Upper
91	100		
92	58.4	41.4	76.8
65	10.7	7.3	13.7

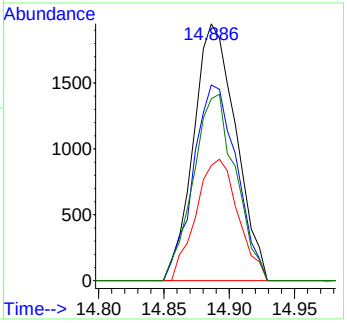


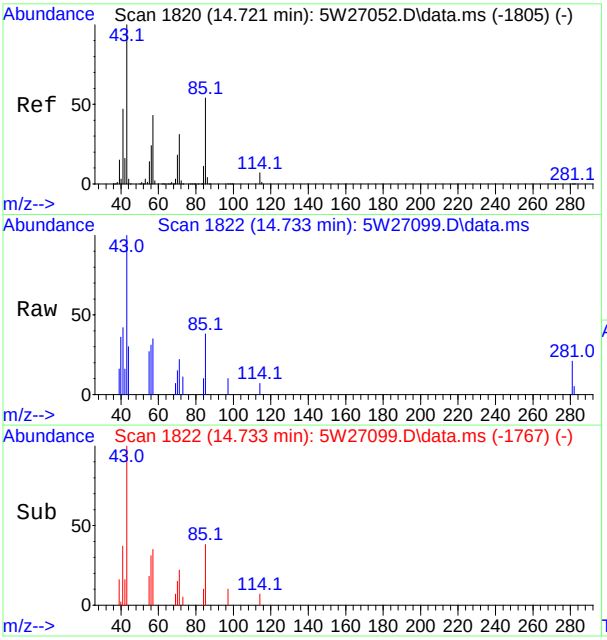


#73
Tetrachloroethene
Concen: 0.08 ppb(v)
RT: 14.886 min Scan# 1847
Delta R.T. 0.000 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion:166 Resp: 4412

Ion	Ratio	Lower	Upper
166	100		
164	76.2	54.5	101.3
168	44.9	33.6	62.4
129	70.9	49.2	91.4

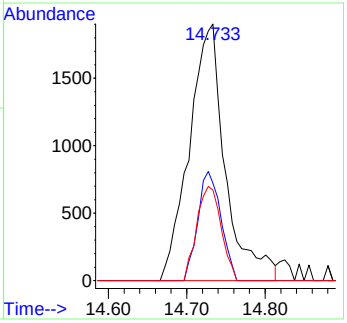


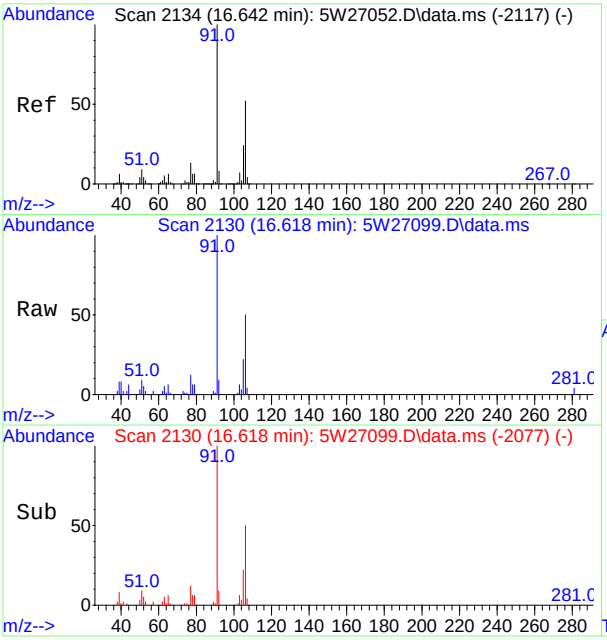


#75
Octane
Concen: 0.12 ppb(v)
RT: 14.733 min Scan# 1822
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 43 Resp: 6092

Ion	Ratio	Lower	Upper
43	100		
85	37.9	37.8	70.2
57	35.3	30.3	56.3

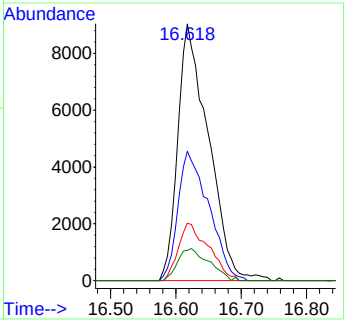


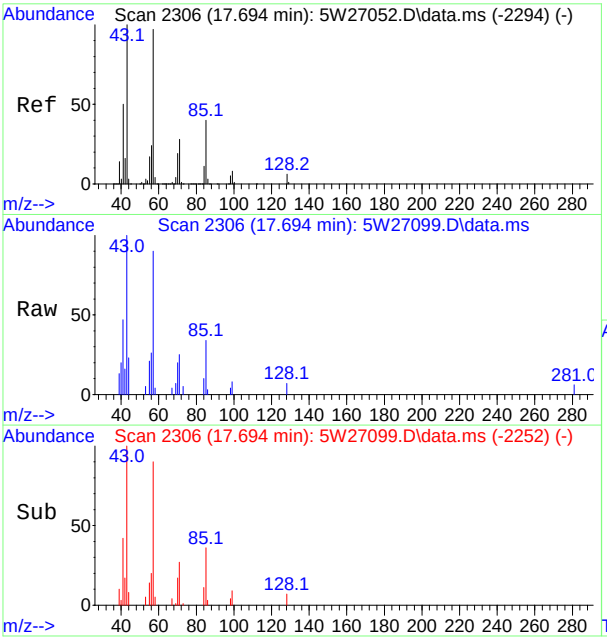


#80
m,p-Xylene
Concen: 0.33 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 91 Resp: 29457

Ion	Ratio	Lower	Upper
91	100		
106	50.3	36.3	67.5
105	22.4	16.4	30.6
77	11.8	8.9	16.5

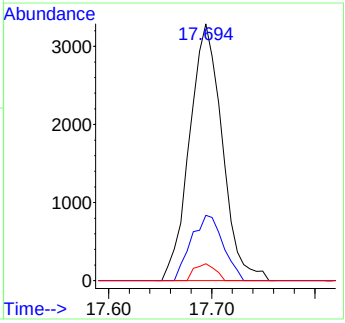




#82
Nonane
Concen: 0.14 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 43 Resp: 7247

Ion	Ratio	Lower	Upper
43	100		
71	25.4	19.3	35.9
128	6.6	4.5	8.3



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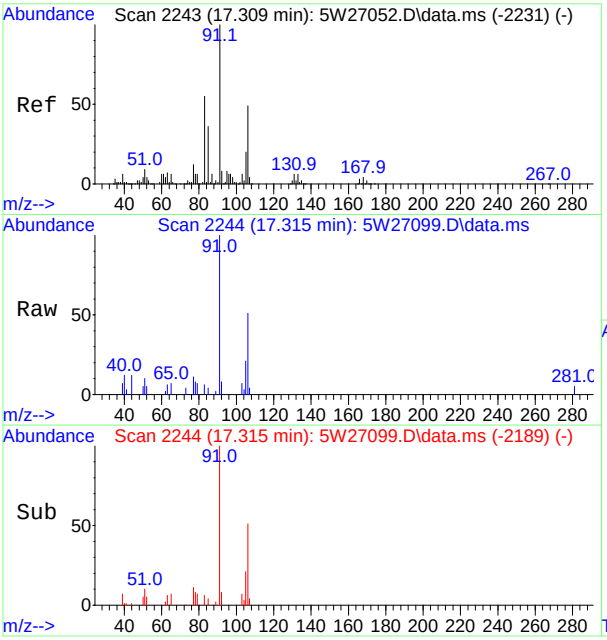
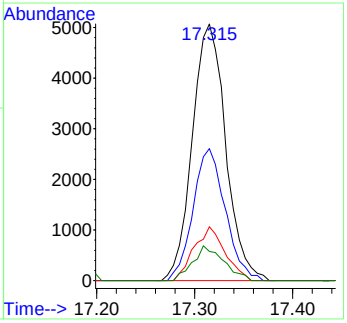
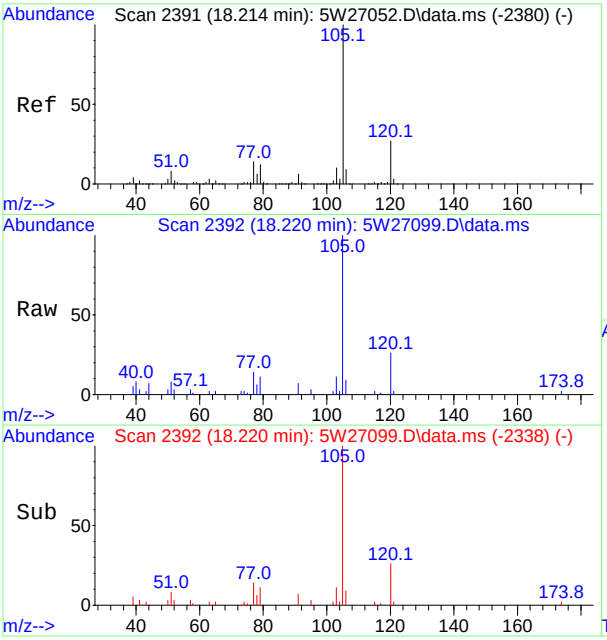


#83
o-Xylene
Concen: 0.13 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion: 91 Resp: 12041

Ion	Ratio	Lower	Upper
91	100		
106	51.4	34.4	64.0
105	21.0	13.7	25.5
77	11.4	8.5	15.7

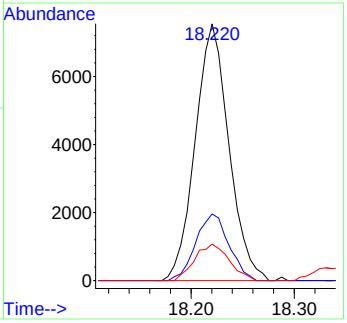


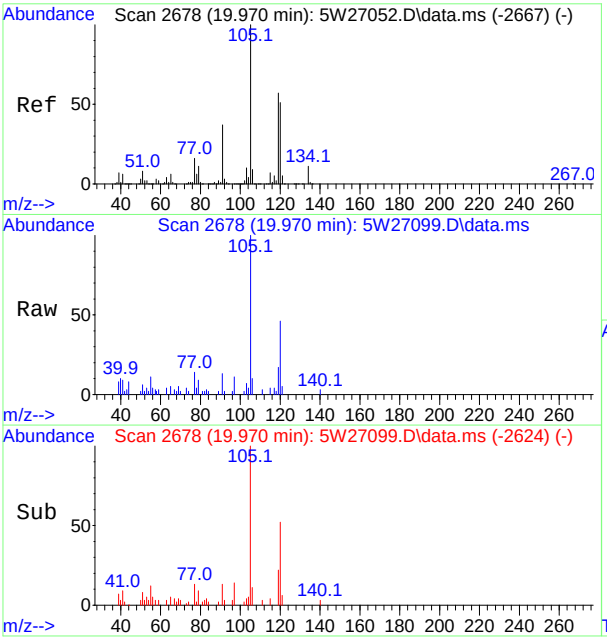


#87
Isopropylbenzene
Concen: 0.13 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion:105 Resp: 17097

Ion	Ratio	Lower	Upper
105	100		
120	26.0	19.0	35.2
77	14.2	10.1	18.9

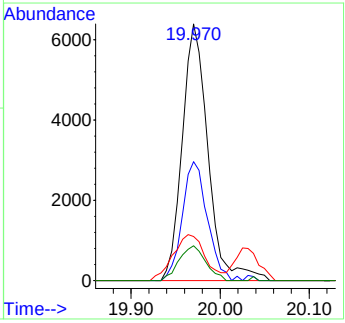




#96
1,2,4-Trimethylbenzene
Concen: 0.13 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27099.D
Acq: 7 Oct 2017 2:28 pm

Tgt Ion:105 Resp: 12877

Ion	Ratio	Lower	Upper
105	100		
120	46.3	36.0	66.8
119	17.2	40.3	74.8#
77	13.6	11.3	21.1



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27100.D
Acq On : 7 Oct 2017 3:22 pm
Operator : [redacted]
Sample : jc52053-3
Misc : MS20561,v5w1066,608,,,,1.52
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 11:44:44 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

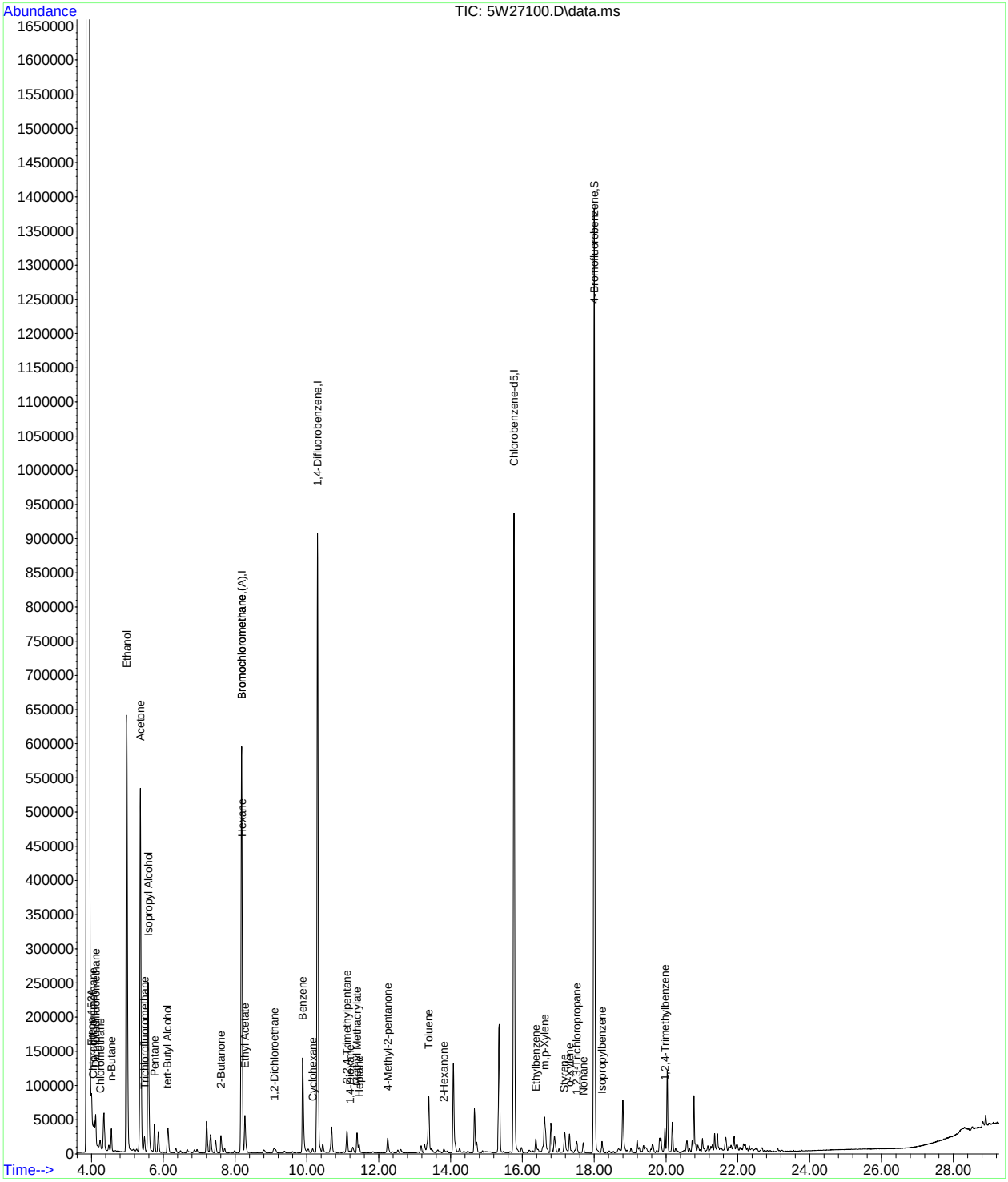
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	286077	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	984527	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	395143	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	286077	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	658216	11.84	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 118.40%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	18988	1.24	ppb(v	98
4) Chlorodifluoromethane	4.046	67	2117	0.40	ppb(v	88
7) Dichlorodifluoromethane	4.119	85	29097	0.47	ppb(v	99
9) Chloromethane	4.248	50	11362	0.59	ppb(v	100
13) n-Butane	4.554	58	3707	1.27	ppb(v#	78
21) Trichlorofluoromethane	5.477	101	21420	0.35	ppb(v	97
22) Acetone	5.361	58	252470	27.16	ppb(v	98
23) Pentane	5.759	57	4938	0.85	ppb(v	95
26) Isopropyl Alcohol	5.581	43	74430	11.79	ppb(v	45
31) Ethanol	4.982	45	997680	169.59	ppb(v	98
35) tert-Butyl Alcohol	6.114	59	24996	0.50	ppb(v#	29
39) 2-Butanone	7.606	72	10599	0.94	ppb(v	95
40) Hexane	8.194	57	6029	0.18	ppb(v#	84
43) Ethyl Acetate	8.273	61	11955	1.62	ppb(v	97
49) 1,2-Dichloroethane	9.093	62	4117	0.14	ppb(v#	95
50) Benzene	9.876	78	12415	0.16	ppb(v#	91
52) Cyclohexane	10.163	56	3682	0.11	ppb(v	93
55) 2,2,4-Trimethylpentane	11.112	57	36717	0.34	ppb(v	97
56) Heptane	11.454	71	3594	0.16	ppb(v	90
61) Methyl Methacrylate	11.399	69	16313	0.64	ppb(v	93
62) 1,4-Dioxane	11.197	88	2259	0.15	ppb(v#	92
65) 4-Methyl-2-pentanone	12.250	58	6101	0.31	ppb(v	81
67) Toluene	13.387	91	84415	0.93	ppb(v	96
70) 2-Hexanone	13.810	58	3457	0.14	ppb(v	94
79) Ethylbenzene	16.373	91	20548	0.19	ppb(v	96
80) m,p-Xylene	16.618	91	60494	0.75	ppb(v	98
81) Styrene	17.162	104	9141	0.15	ppb(v	98
82) Nonane	17.694	43	8295	0.18	ppb(v	99
83) o-Xylene	17.315	91	23747	0.29	ppb(v	100
86) 1,2,3-Trichloropropane	17.517	75	11426	0.26	ppb(v	96
87) Isopropylbenzene	18.220	105	15976	0.14	ppb(v	97
96) 1,2,4-Trimethylbenzene	19.970	105	22180	0.24	ppb(v#	69

(#) = qualifier out of range (m) = manual integration (+) = signals summed

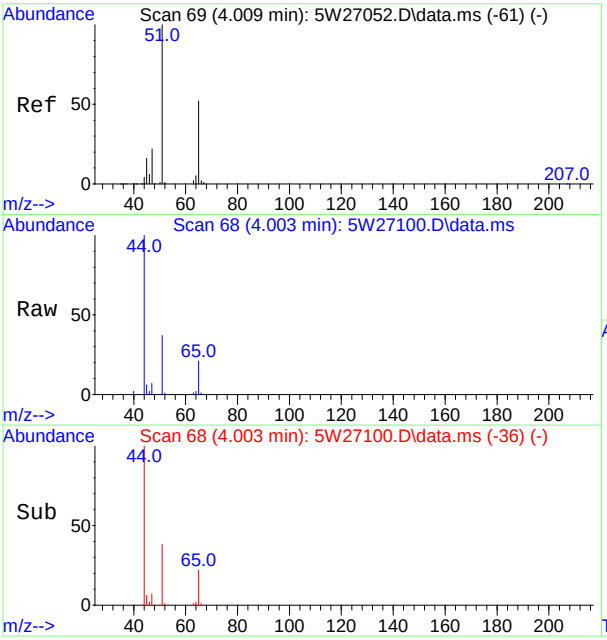
Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27100.D
Acq On : 7 Oct 2017 3:22 pm
Operator : [redacted]
Sample : jc52053-3
Misc : MS20561,v5w1066,608,,,,1.52
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 11:44:44 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



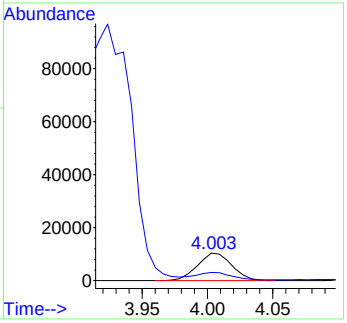
SGS ACCUTEST JC52053

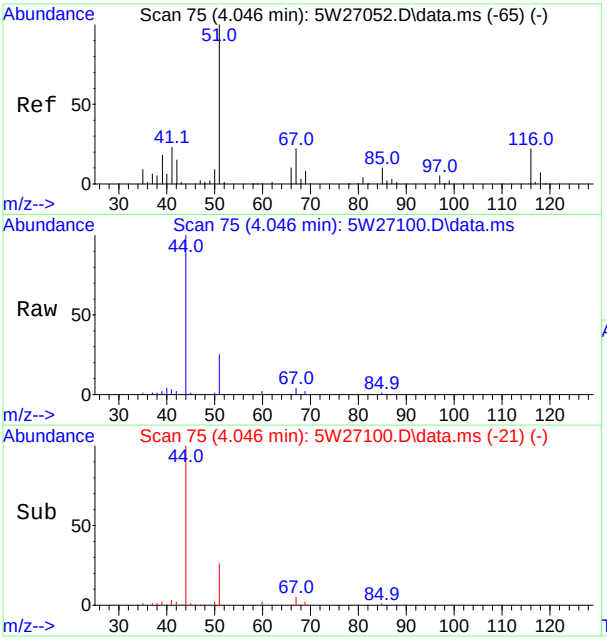


#3
Freon 152A
Concen: 1.24 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 65 Resp: 18988

Ion	Ratio	Lower	Upper
65	100		
45	29.8	21.4	39.8

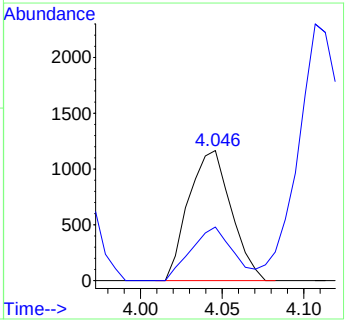


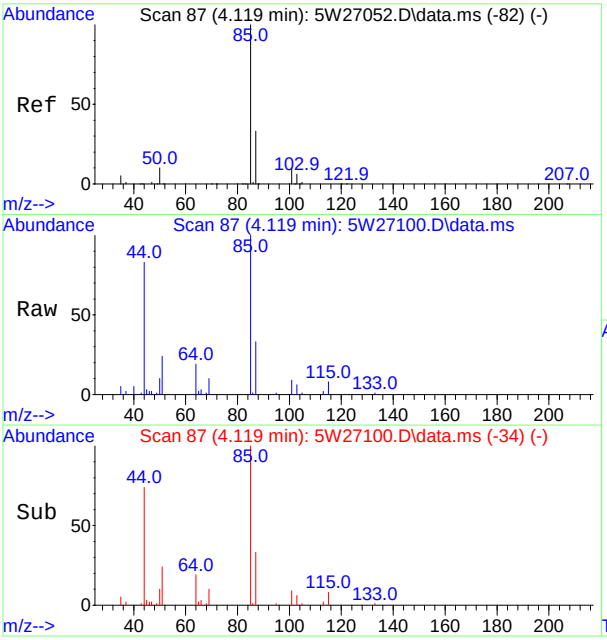


#4
Chlorodifluoromethane
Concen: 0.40 ppb(v)
RT: 4.046 min Scan# 75
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 67 Resp: 2117

Ion	Ratio	Lower	Upper
67	100		
69	41.4	24.1	44.7

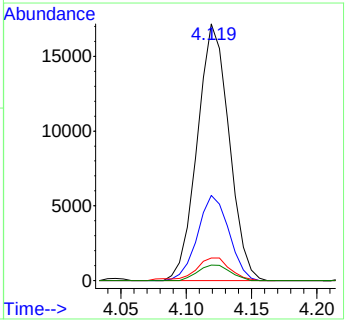


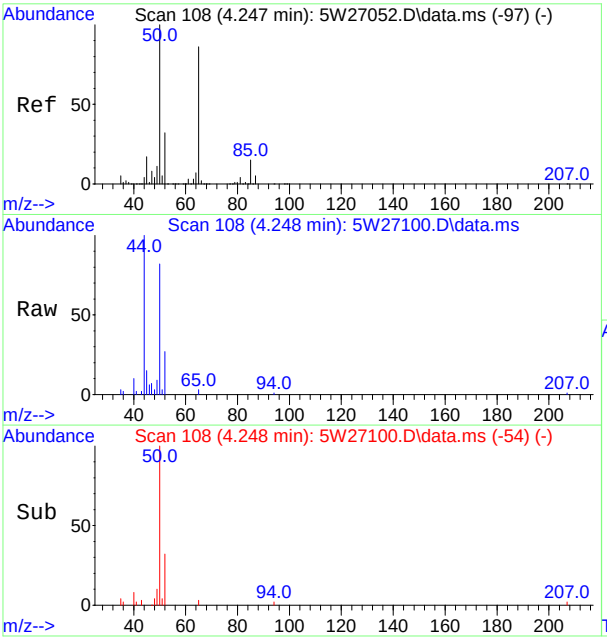


#7
Dichlorodifluoromethane
Concen: 0.47 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 85 Resp: 29097

Ion	Ratio	Lower	Upper
85	100		
87	33.2	23.0	42.6
101	8.8	6.6	12.2
103	6.0	4.2	7.8

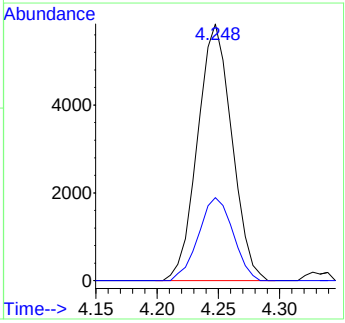




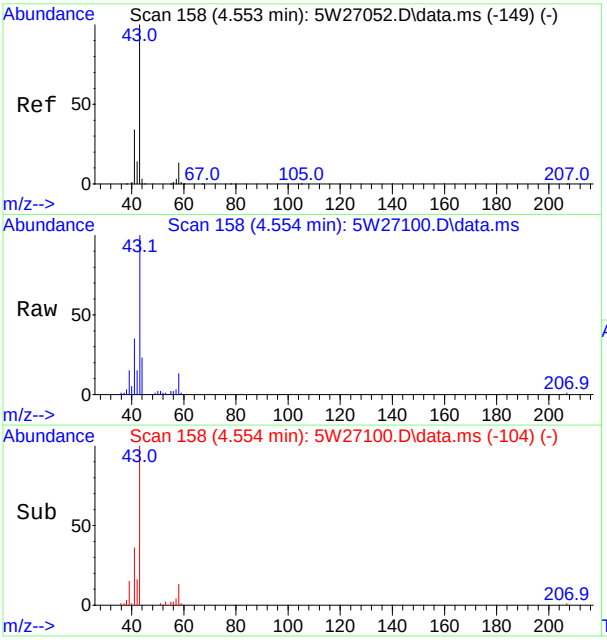
#9
Chloromethane
Concen: 0.59 ppb(v)
RT: 4.248 min Scan# 108
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 50 Resp: 11362

Ion	Ratio	Lower	Upper
50	100		
52	32.3	22.7	42.1



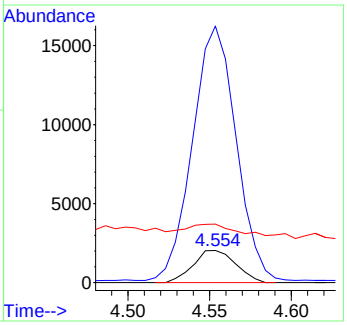
SGS ACCUTEST JC52053

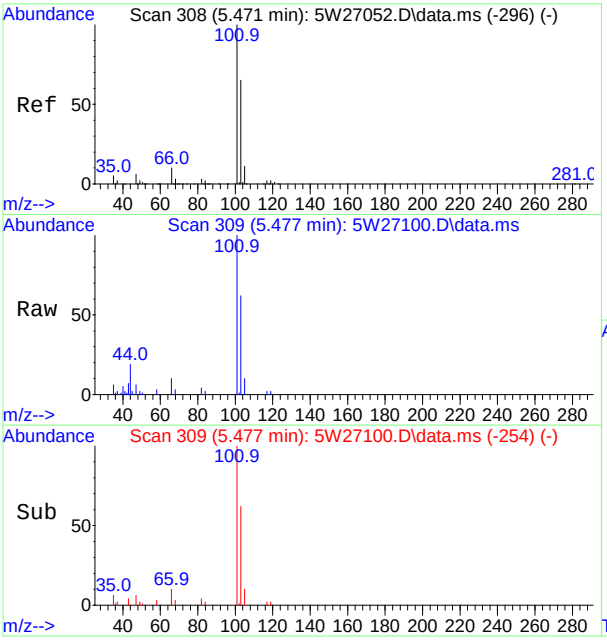


#13
n-Butane
Concen: 1.27 ppb(v)
RT: 4.554 min Scan# 158
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 58 Resp: 3707

Ion	Ratio	Lower	Upper
58	100		
43	796.8	527.9	980.5
44	181.6	25.1	46.7#

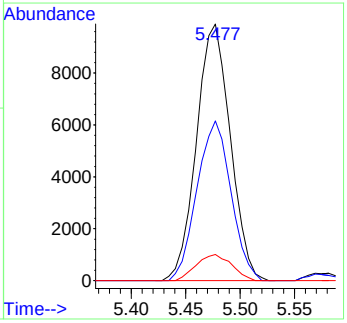


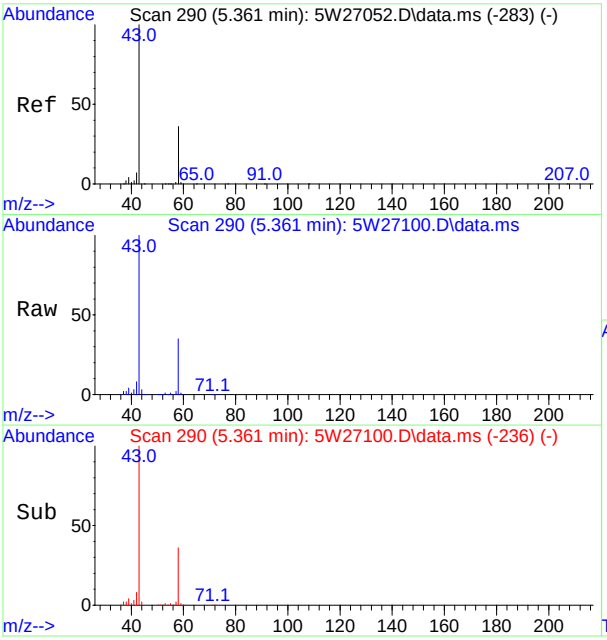


#21
Trichlorofluoromethane
Concen: 0.35 ppb(v)
RT: 5.477 min Scan# 309
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion:101 Resp: 21420

Ion	Ratio	Lower	Upper
101	100		
103	62.2	45.6	84.6
105	10.2	7.5	13.9

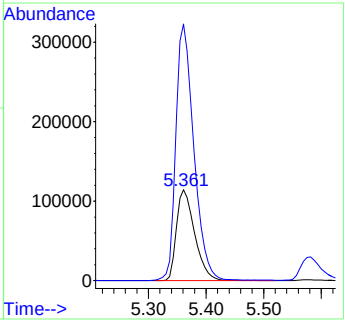


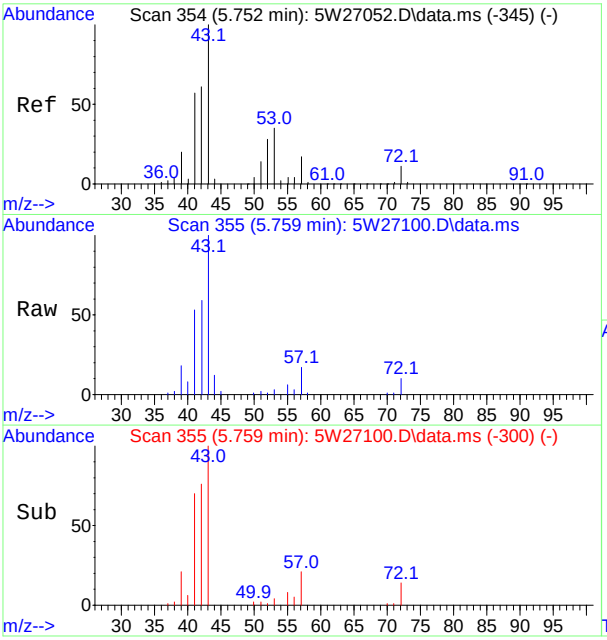


#22
Acetone
Concen: 27.16 ppb(v)
RT: 5.361 min Scan# 290
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 58 Resp: 252470

Ion	Ratio	Lower	Upper
58	100		
43	282.4	194.7	361.5

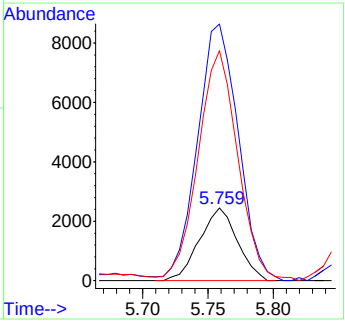


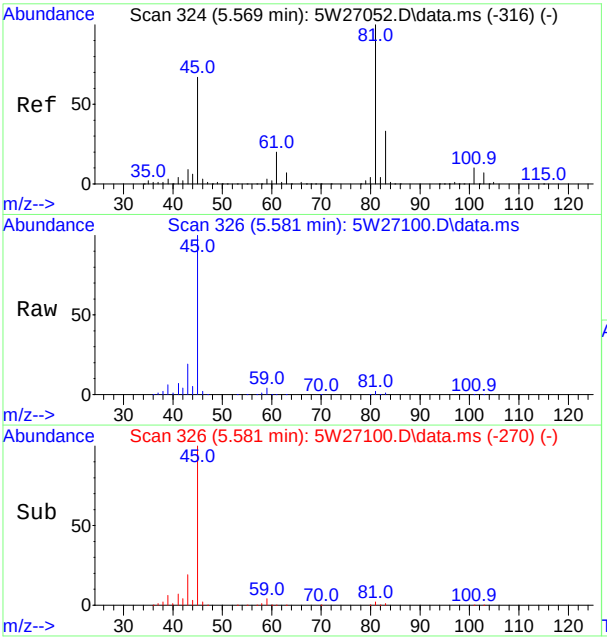


#23
Pentane
Concen: 0.85 ppb(v)
RT: 5.759 min Scan# 355
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 57 Resp: 4938

Ion	Ratio	Lower	Upper
57	100		
42	352.9	249.9	464.1
41	316.1	233.0	432.6

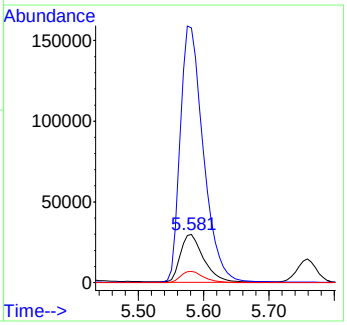


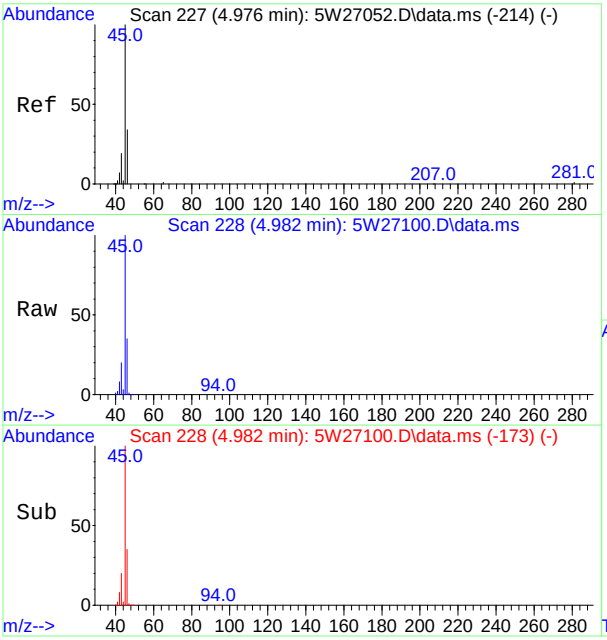


#26
Isopropyl Alcohol
Concen: 11.79 ppb(v)
RT: 5.581 min Scan# 326
Delta R.T. 0.012 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 43 Resp: 74430

Ion	Ratio	Lower	Upper
43	100		
45	527.3	512.5	951.7
59	23.3	20.9	38.7

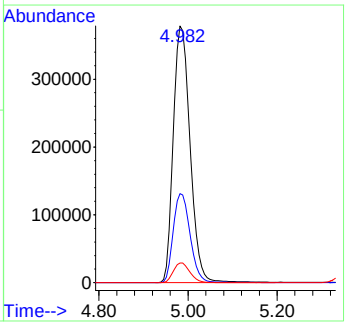


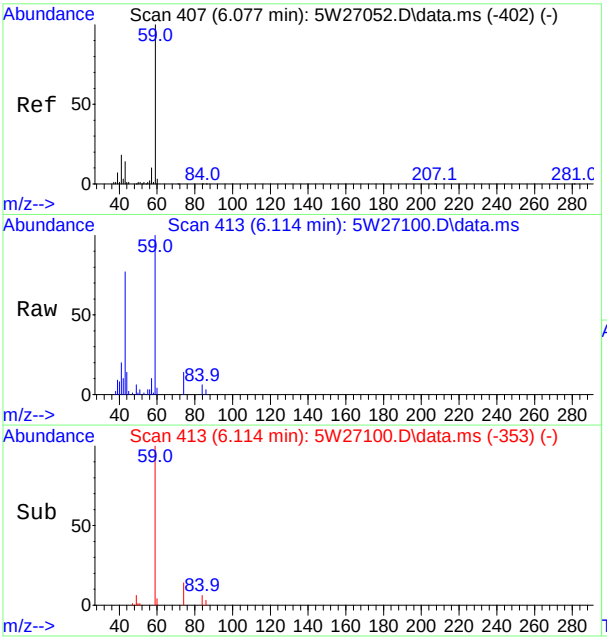


#31
Ethanol
Concen: 169.59 ppb(v)
RT: 4.982 min Scan# 228
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 45 Resp: 997680

Ion	Ratio	Lower	Upper
45	100		
46	34.7	23.5	43.7
42	7.6	5.5	10.3

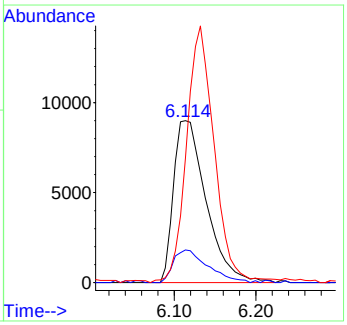


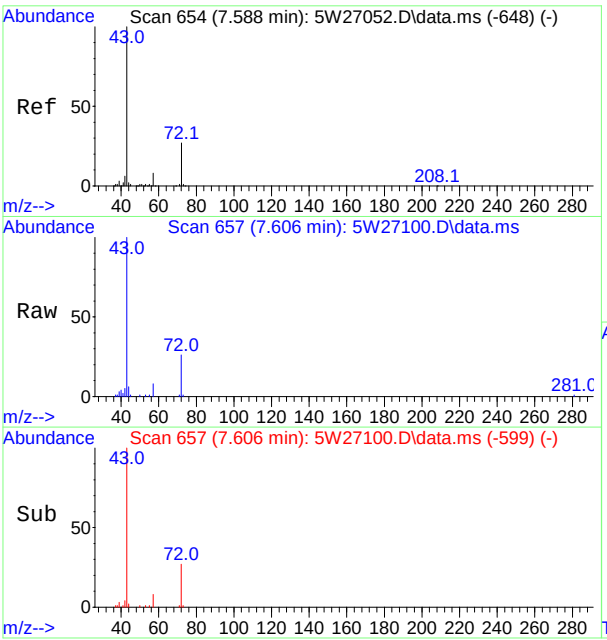


#35
tert-Butyl Alcohol
Concen: 0.50 ppb(v)
RT: 6.114 min Scan# 413
Delta R.T. 0.037 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 59 Resp: 24996

Ion	Ratio	Lower	Upper
59	100		
41	20.2	12.5	23.1
43	76.8	9.7	17.9#

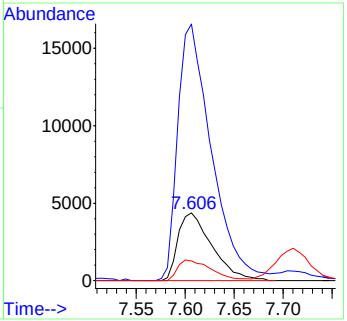


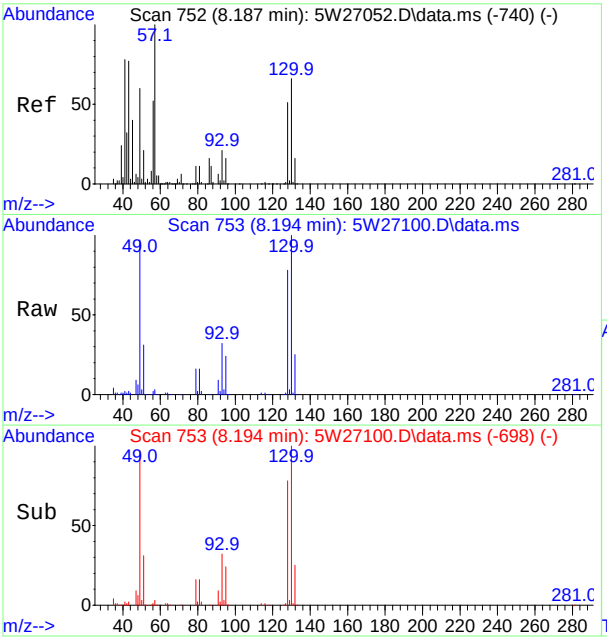


#39
2-Butanone
Concen: 0.94 ppb(v)
RT: 7.606 min Scan# 657
Delta R.T. 0.025 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 72 Resp: 10599

Ion	Ratio	Lower	Upper
72	100		
43	377.9	256.8	476.8
57	28.8	20.4	37.8

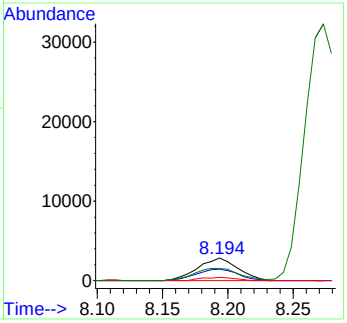


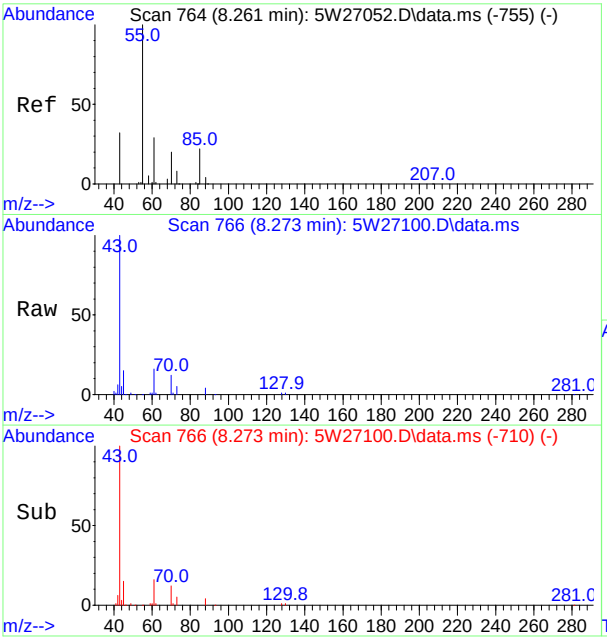


#40
Hexane
Concen: 0.18 ppb(v)
RT: 8.194 min Scan# 753
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 57 Resp: 6029

Ion	Ratio	Lower	Upper
57	100		
56	51.2	36.6	68.0
86	14.2	11.1	20.5
43	53.0	54.2	100.6#

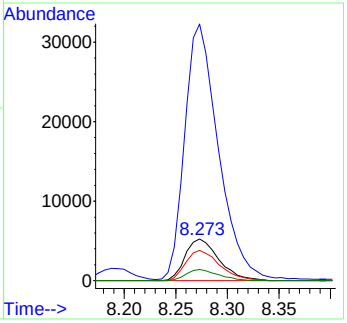


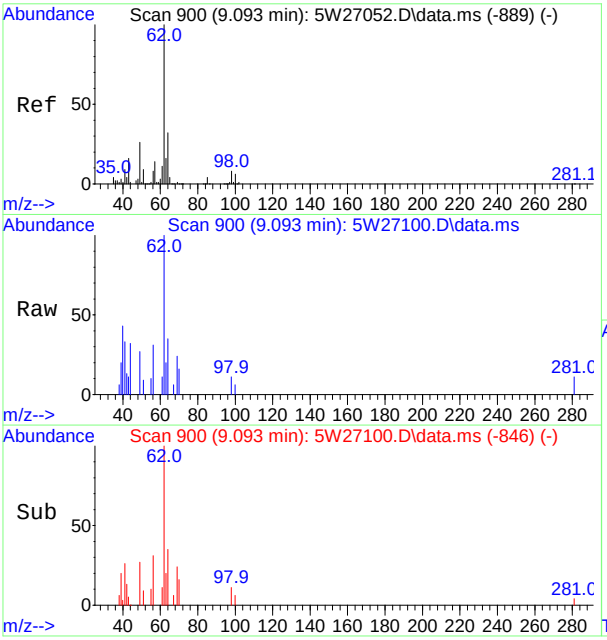


#43
Ethyl Acetate
Concen: 1.62 ppb(v)
RT: 8.273 min Scan# 766
Delta R.T. 0.012 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 61 Resp: 11955

Ion	Ratio	Lower	Upper
61	100		
43	617.8	440.8	818.6
70	73.1	51.7	95.9
88	27.0	19.4	36.0

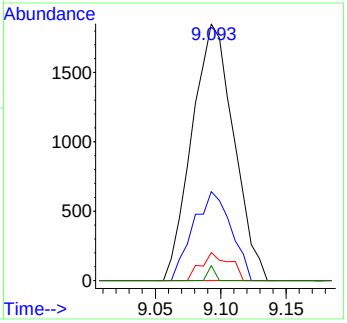


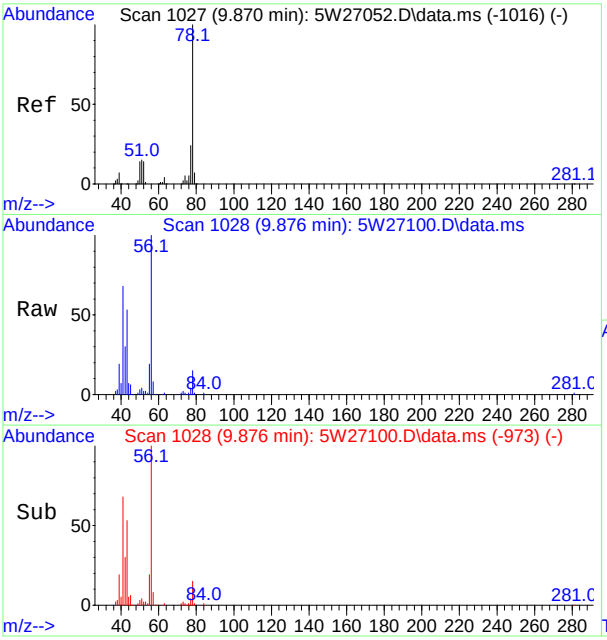


#49
1,2-Dichloroethane
Concen: 0.14 ppb(v)
RT: 9.093 min Scan# 900
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 62 Resp: 4117

Ion	Ratio	Lower	Upper
62	100		
64	34.7	22.5	41.7
98	11.0	5.9	10.9#
100	5.8	4.2	7.8

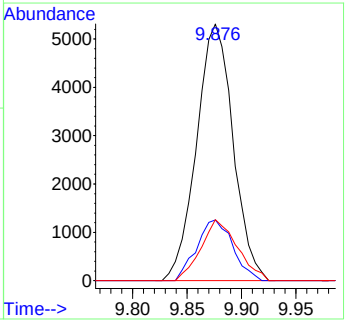


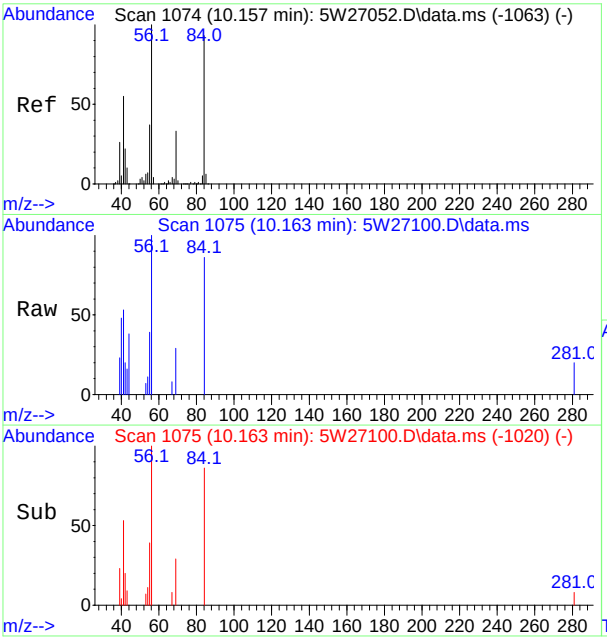


#50
Benzene
Concen: 0.16 ppb(v)
RT: 9.876 min Scan# 1028
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 78 Resp: 12415

Ion	Ratio	Lower	Upper
78	100		
77	23.6	16.8	31.2
51	23.8	10.4	19.4#

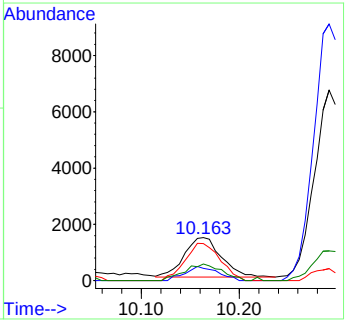


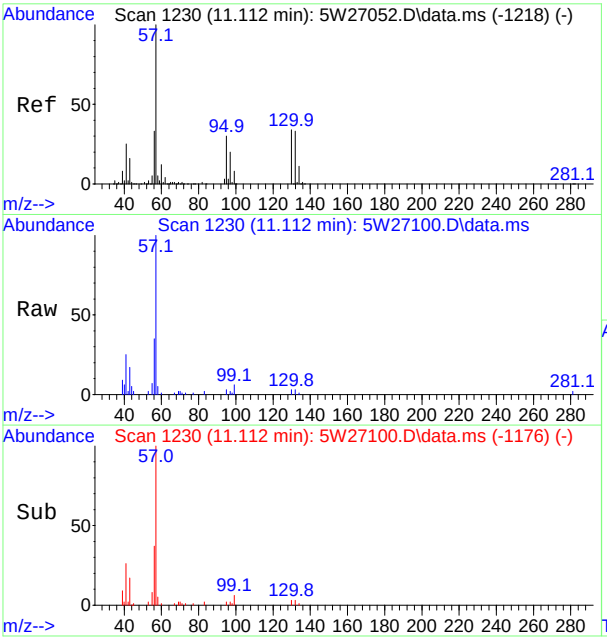


#52
Cyclohexane
Concen: 0.11 ppb(v)
RT: 10.163 min Scan# 1075
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 56 Resp: 3682

Ion	Ratio	Lower	Upper
56	100		
69	28.6	23.2	43.0
84	86.0	65.4	121.4
55	38.9	25.8	48.0

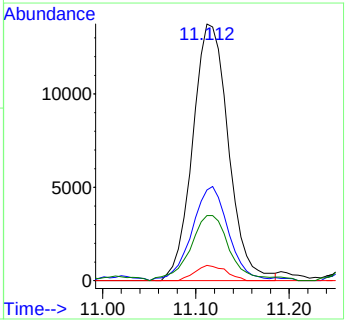


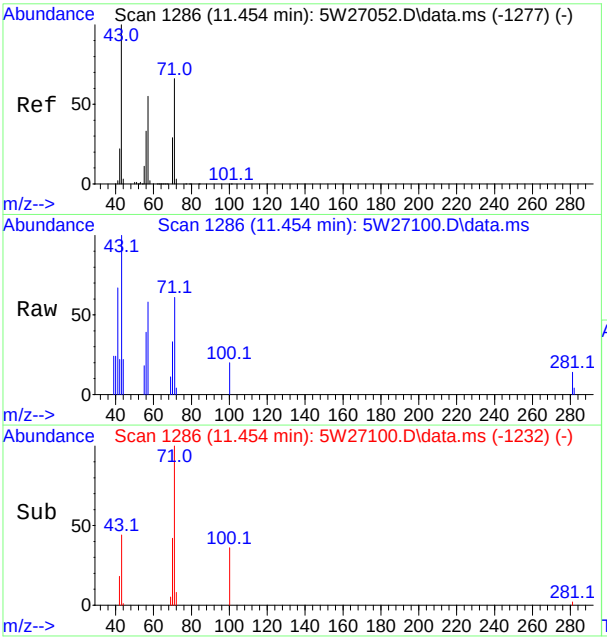


#55
2,2,4-Trimethylpentane
Concen: 0.34 ppb(v)
RT: 11.112 min Scan# 1230
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 57 Resp: 36717

Ion	Ratio	Lower	Upper
57	100		
56	35.3	23.0	42.6
99	6.0	5.8	10.8
41	25.3	17.7	32.9

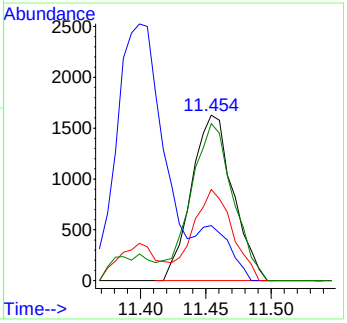


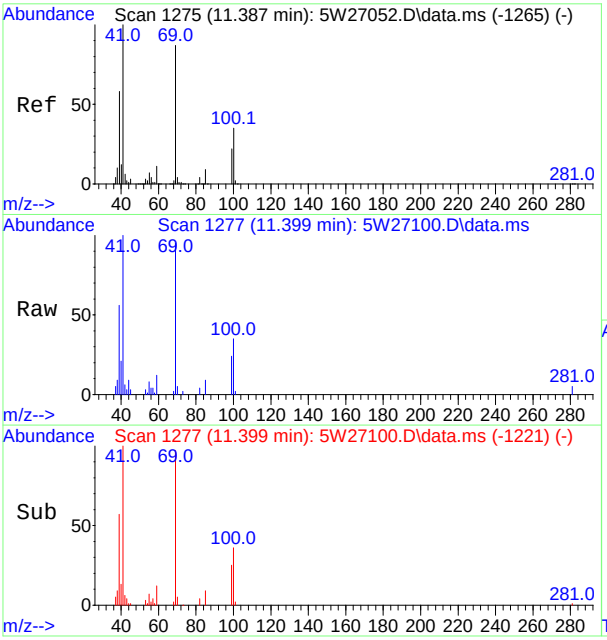


#56
Heptane
Concen: 0.16 ppb(v)
RT: 11.454 min Scan# 1286
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 71 Resp: 3594

Ion	Ratio	Lower	Upper
71	100		
100	33.2	20.1	37.3
70	55.0	34.1	63.3
57	94.8	59.4	110.4

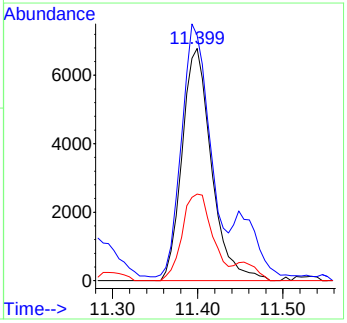


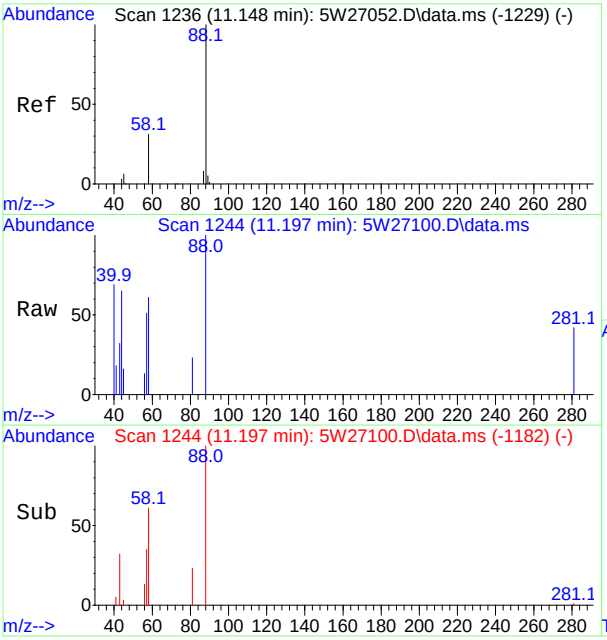


#61
Methyl Methacrylate
Concen: 0.64 ppb(v)
RT: 11.399 min Scan# 1277
Delta R.T. 0.012 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 69 Resp: 16313

Ion	Ratio	Lower	Upper
69	100		
41	105.6	80.2	148.9
100	37.2	27.9	51.9

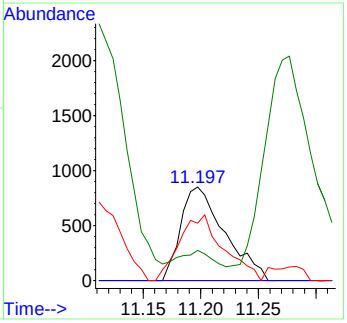


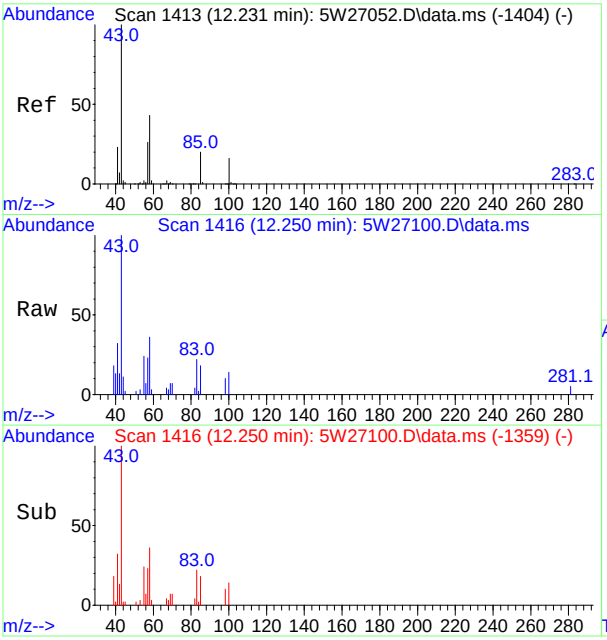


#62
1,4-Dioxane
Concen: 0.15 ppb(v)
RT: 11.197 min Scan# 1244
Delta R.T. 0.049 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 88 Resp: 2259

Ion	Ratio	Lower	Upper
88	100		
87	0.0	6.4	12.0#
58	61.3	41.7	77.5
43	32.2	27.6	51.4

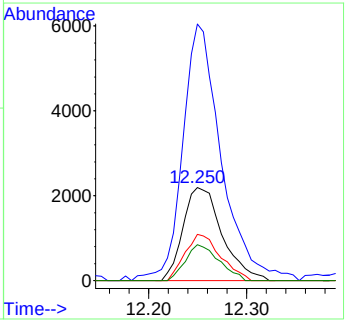


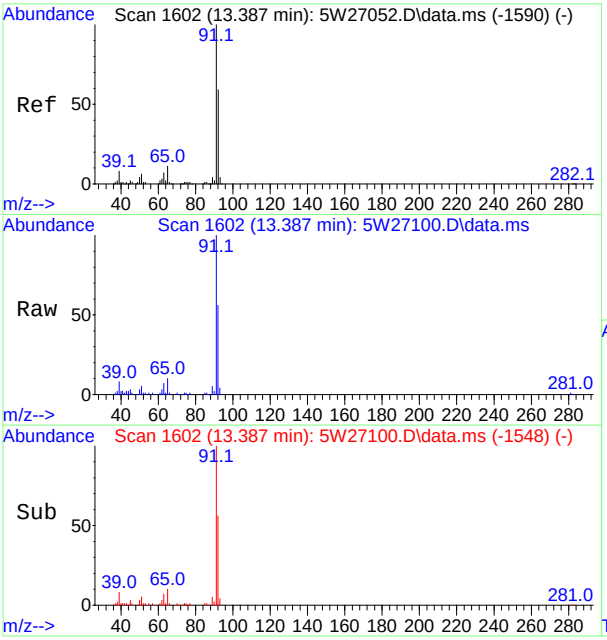


#65
4-Methyl-2-pentanone
Concen: 0.31 ppb(v)
RT: 12.250 min Scan# 1416
Delta R.T. 0.019 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 58 Resp: 6101

Ion	Ratio	Lower	Upper
58	100		
43	275.4	162.8	302.3
85	49.7	33.8	62.8
100	38.6	26.7	49.5

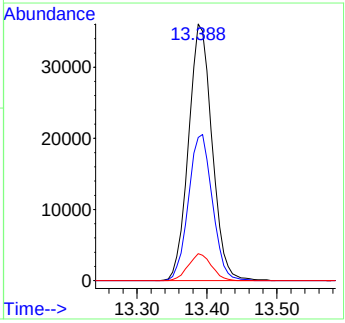


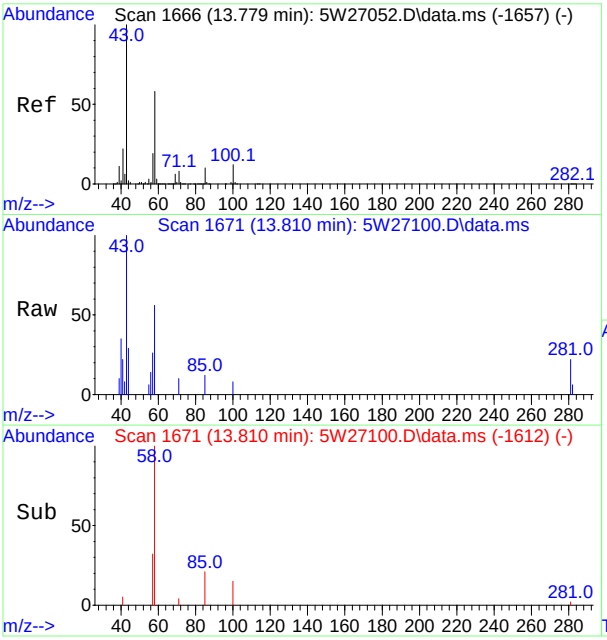


#67
Toluene
Concen: 0.93 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 91 Resp: 84415

Ion	Ratio	Lower	Upper
91	100		
92	55.7	41.4	76.8
65	10.5	7.3	13.7

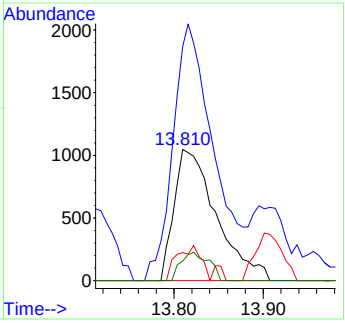


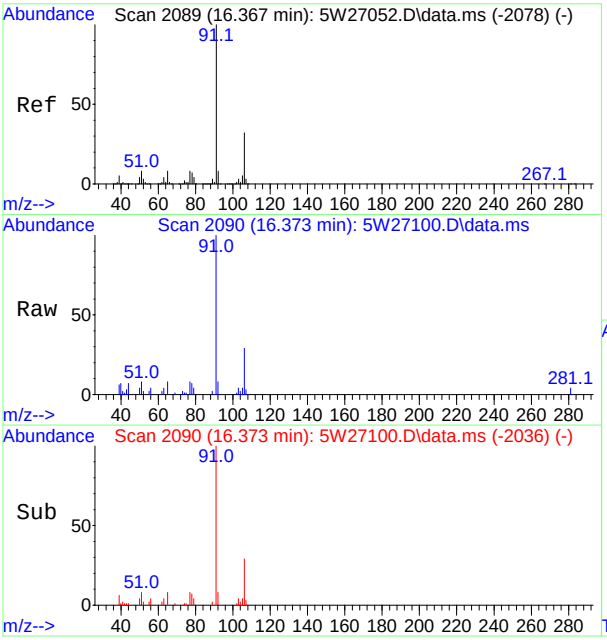


#70
2-Hexanone
Concen: 0.14 ppb(v)
RT: 13.810 min Scan# 1671
Delta R.T. 0.031 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 58 Resp: 3457

Ion	Ratio	Lower	Upper
58	100		
43	178.6	120.2	223.2
85	21.4	12.0	22.2
100	15.1	14.7	27.3

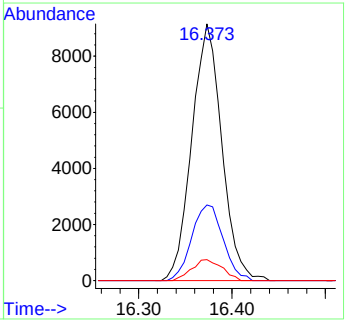


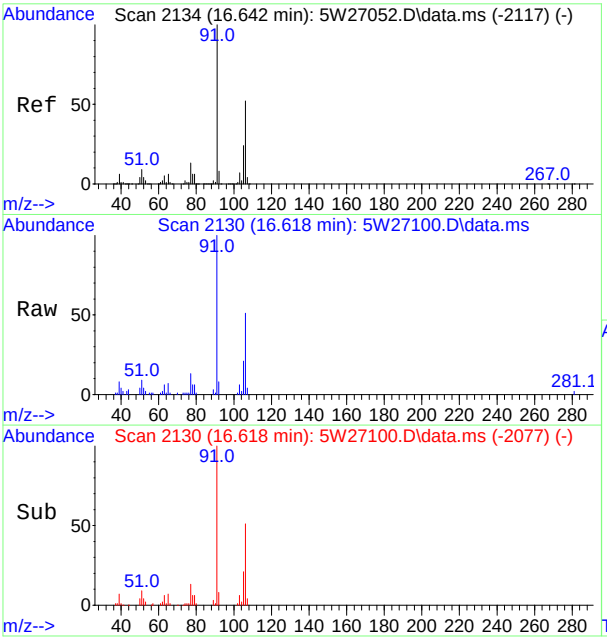


#79
Ethylbenzene
Concen: 0.19 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 91 Resp: 20548

Ion	Ratio	Lower	Upper
91	100		
106	29.5	22.4	41.6
77	8.2	5.7	10.7

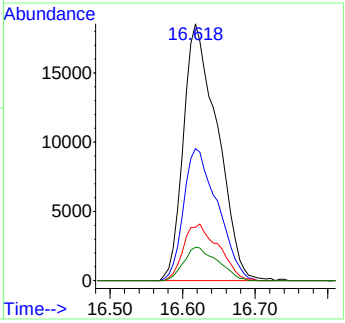


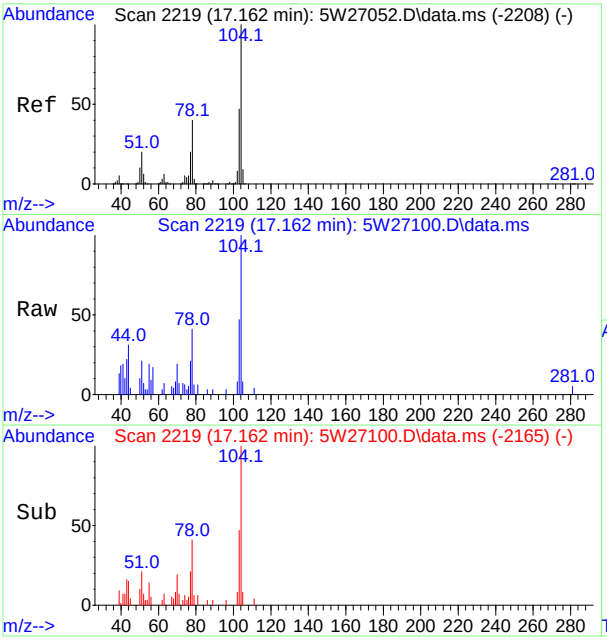


#80
m,p-Xylene
Concen: 0.75 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 91 Resp: 60494

Ion	Ratio	Lower	Upper
91	100		
106	51.4	36.3	67.5
105	20.8	16.4	30.6
77	13.1	8.9	16.5

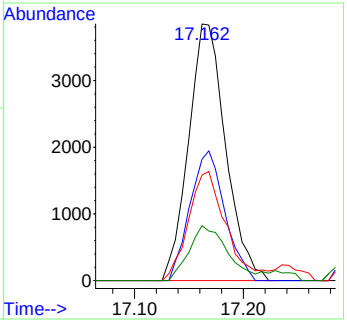


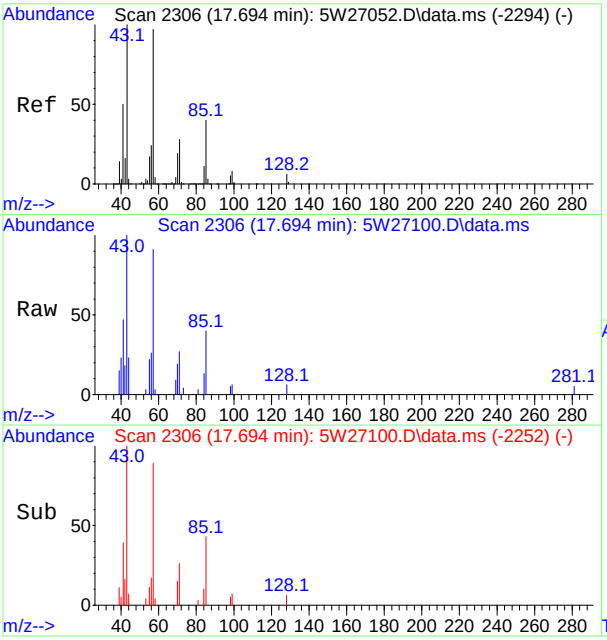


#81
Styrene
Concen: 0.15 ppb(v)
RT: 17.162 min Scan# 2219
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion:104 Resp: 9141

Ion	Ratio	Lower	Upper
104	100		
103	47.3	32.8	61.0
78	41.1	28.1	52.1
77	21.5	13.7	25.5

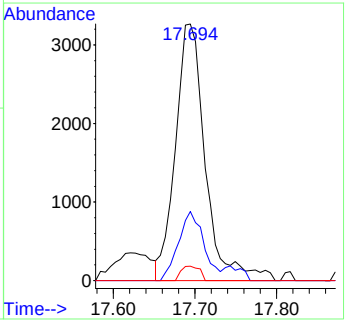


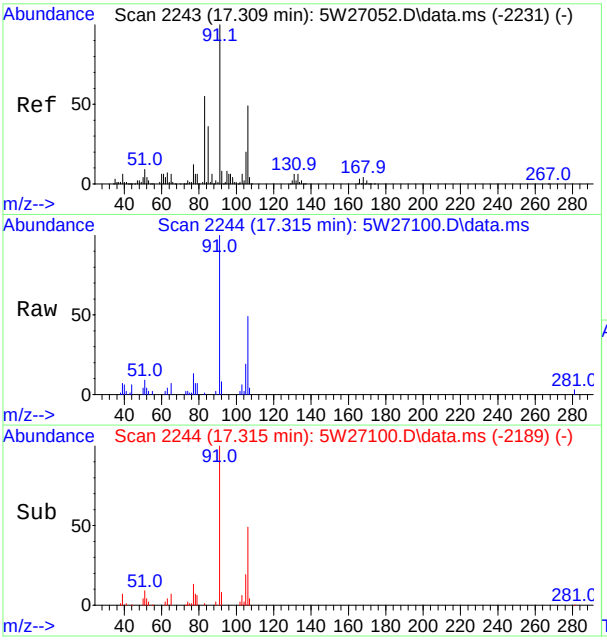


#82
Nonane
Concen: 0.18 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 43 Resp: 8295

Ion	Ratio	Lower	Upper
43	100		
71	27.0	19.3	35.9
128	5.7	4.5	8.3

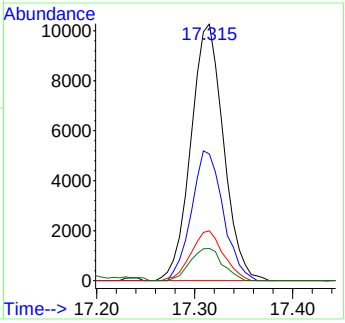


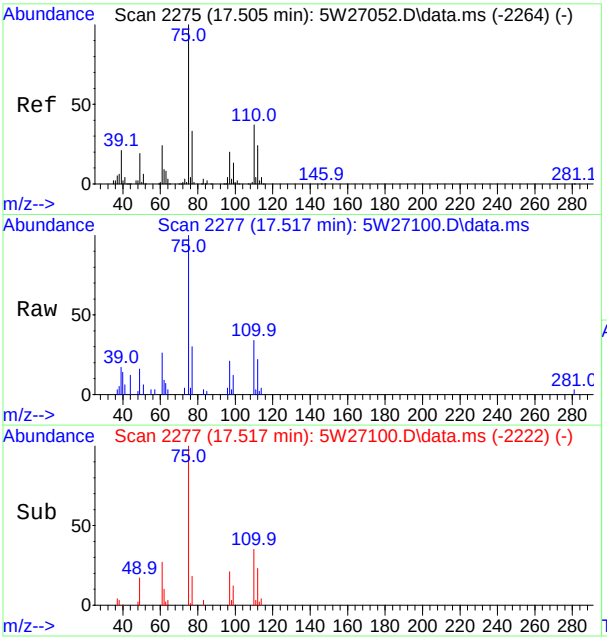


#83
o-Xylene
Concen: 0.29 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 91 Resp: 23747

Ion	Ratio	Lower	Upper
91	100		
106	49.3	34.4	64.0
105	19.4	13.7	25.5
77	12.6	8.5	15.7

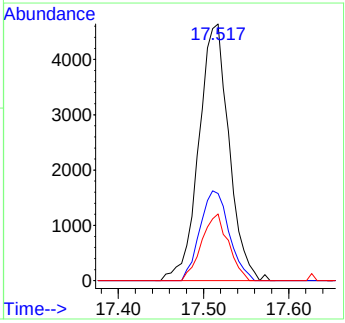


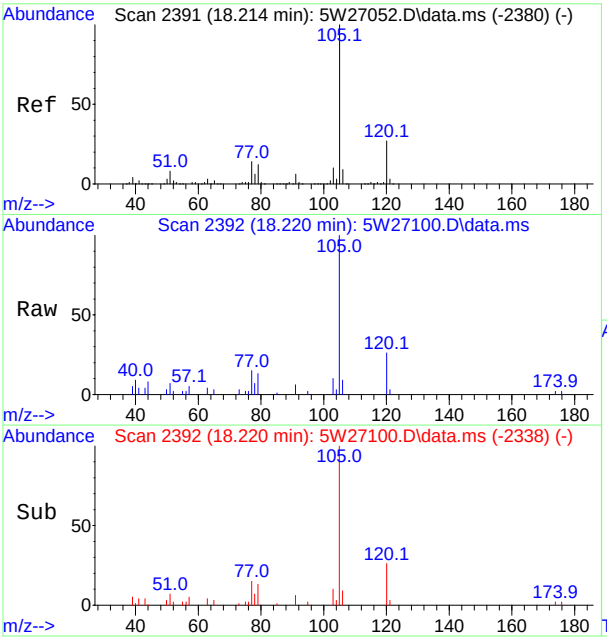


#86
1,2,3-Trichloropropane
Concen: 0.26 ppb(v)
RT: 17.517 min Scan# 2277
Delta R.T. 0.006 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion: 75 Resp: 11426

Ion	Ratio	Lower	Upper
75	100		
110	33.9	25.8	47.8
61	26.0	17.1	31.9

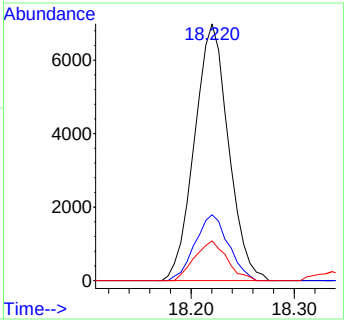


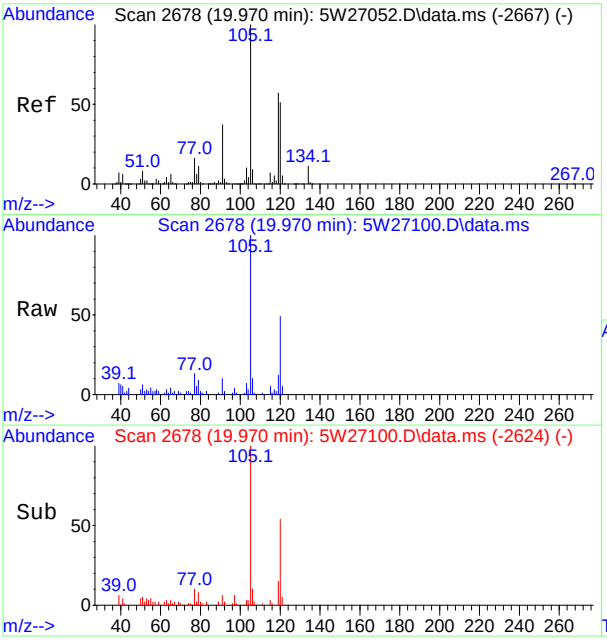


#87
Isopropylbenzene
Concen: 0.14 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion:105 Resp: 15976

Ion	Ratio	Lower	Upper
105	100		
120	25.7	19.0	35.2
77	15.4	10.1	18.9

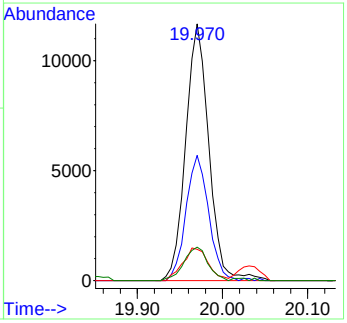




#96
1,2,4-Trimethylbenzene
Concen: 0.24 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27100.D
Acq: 7 Oct 2017 3:22 pm

Tgt Ion:105 Resp: 22180

Ion	Ratio	Lower	Upper
105	100		
120	48.8	36.0	66.8
119	12.2	40.3	74.8#
77	13.1	11.3	21.1



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27103.D
Acq On : 7 Oct 2017 6:03 pm
Operator : [redacted]
Sample : jc52053-4
Misc : MS20561,v5w1066,640,,,,1.60
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 11:55:34 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

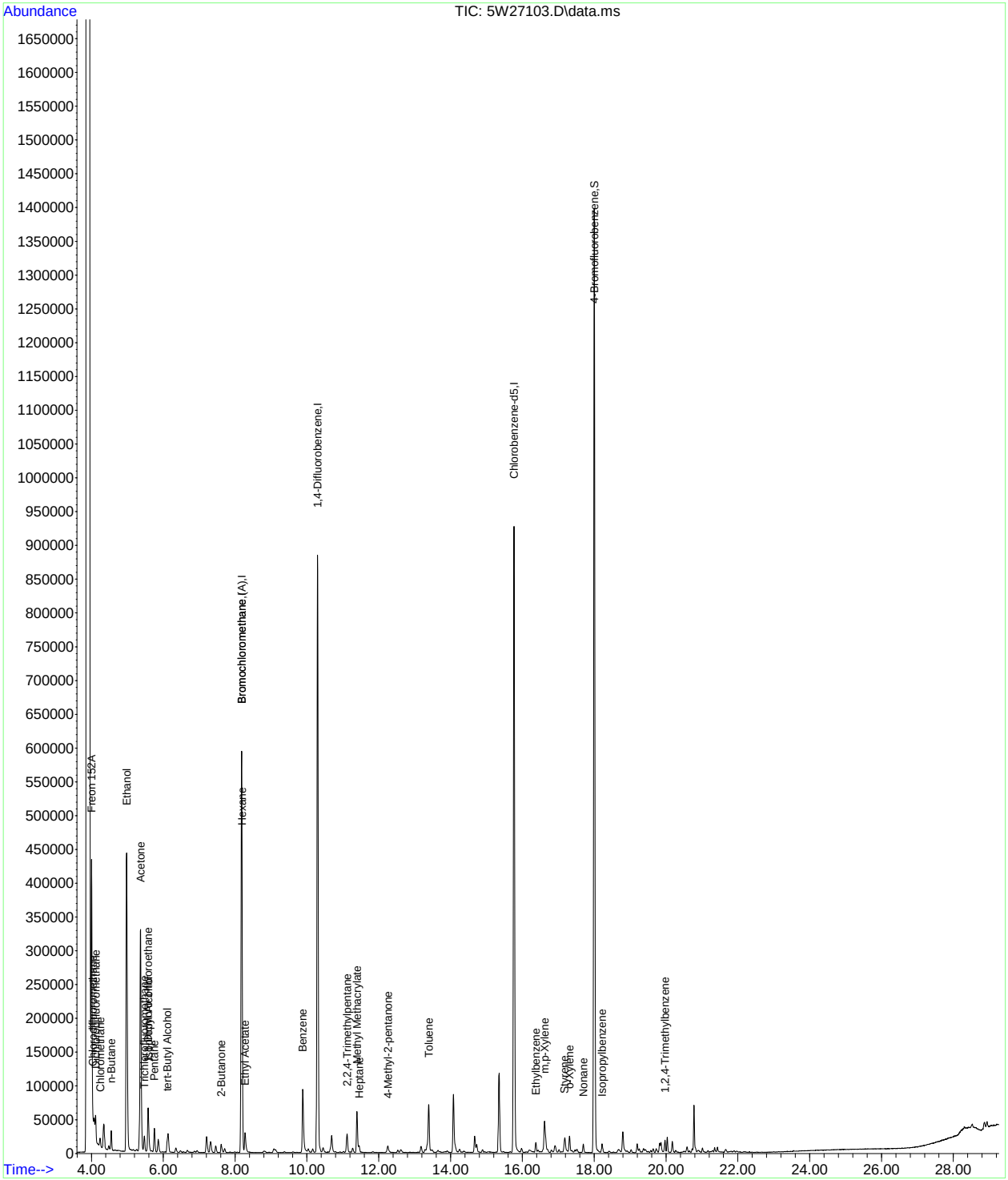
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	282483	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	958377	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	387438	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	282483	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	671588	12.32	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 123.20%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	183780	12.16	ppb(v	90
4) Chlorodifluoromethane	4.040	67	2068	0.39	ppb(v	100
7) Dichlorodifluoromethane	4.119	85	29172	0.48	ppb(v	97
9) Chloromethane	4.248	50	10493	0.56	ppb(v	96
13) n-Butane	4.547	58	3593	1.24	ppb(v#	81
21) Trichlorofluoromethane	5.471	101	22047	0.37	ppb(v	97
22) Acetone	5.367	58	157761	17.19	ppb(v	99
23) Pentane	5.753	57	4185	0.73	ppb(v	96
24) 1,1-Dichloro-1-fluoroe...	5.575	81	5565	0.10	ppb(v#	89
26) Isopropyl Alcohol	5.581	43	18005	2.89	ppb(v#	37
31) Ethanol	4.982	45	641359	110.41	ppb(v	98
35) tert-Butyl Alcohol	6.114	59	23775	0.48	ppb(v#	66
39) 2-Butanone	7.612	72	4933	0.44	ppb(v	93
40) Hexane	8.194	57	5598	0.17	ppb(v	92
43) Ethyl Acetate	8.273	61	6374	0.87	ppb(v	94
50) Benzene	9.876	78	10639	0.14	ppb(v	95
55) 2,2,4-Trimethylpentane	11.118	57	31605	0.30	ppb(v#	96
56) Heptane	11.454	71	2818	0.13	ppb(v	97
61) Methyl Methacrylate	11.393	69	33238	1.34	ppb(v	98
65) 4-Methyl-2-pentanone	12.256	58	2568	0.13	ppb(v	94
67) Toluene	13.394	91	72237	0.82	ppb(v	100
79) Ethylbenzene	16.373	91	16118	0.16	ppb(v	99
80) m,p-Xylene	16.618	91	51991	0.66	ppb(v	97
81) Styrene	17.168	104	8369	0.14	ppb(v	96
82) Nonane	17.694	43	6195	0.14	ppb(v	97
83) o-Xylene	17.309	91	21018	0.26	ppb(v	98
87) Isopropylbenzene	18.220	105	12584	0.11	ppb(v	95
96) 1,2,4-Trimethylbenzene	19.970	105	11142	0.12	ppb(v#	68

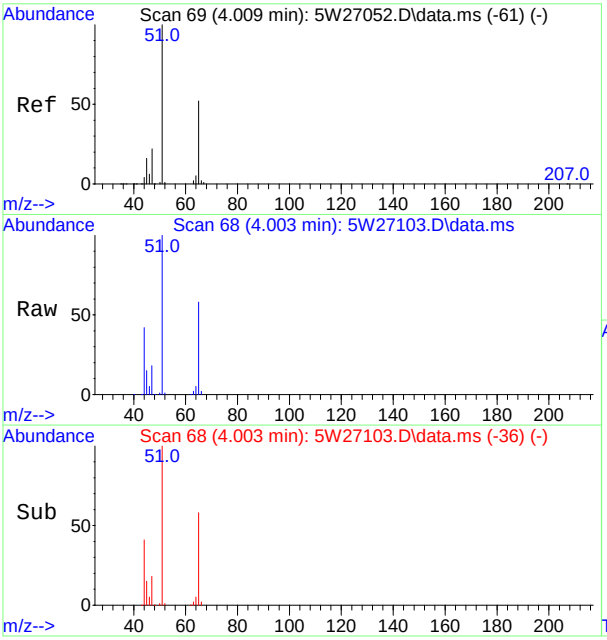
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27103.D
Acq On : 7 Oct 2017 6:03 pm
Operator : [redacted]
Sample : jc52053-4
Misc : MS20561,v5w1066,640,,,,1.60
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 11:55:34 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

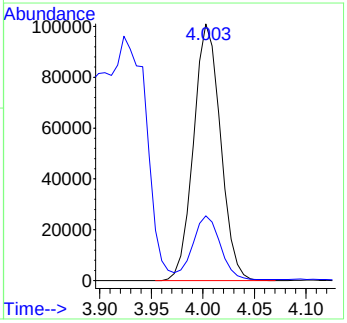


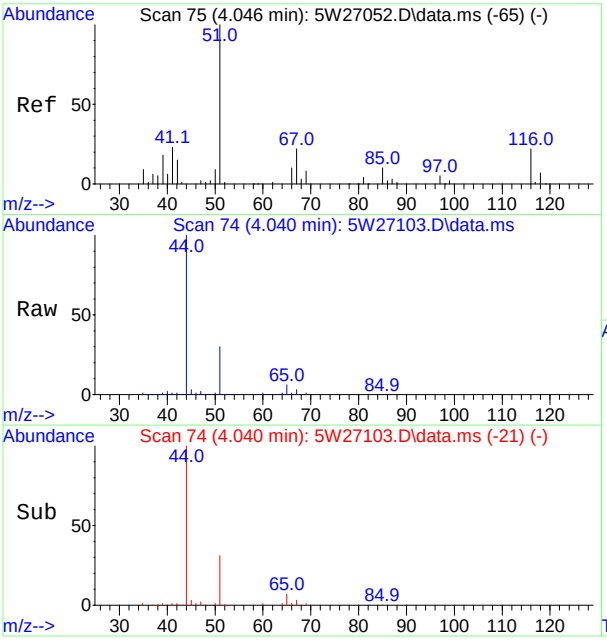


#3
Freon 152A
Concen: 12.16 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 65 Resp: 183780

Ion	Ratio	Lower	Upper
65	100		
45	25.3	21.4	39.8

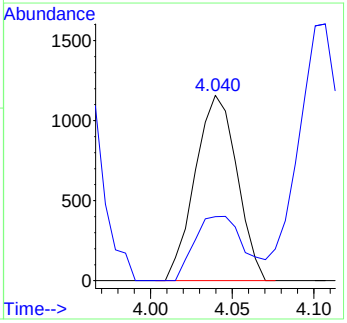


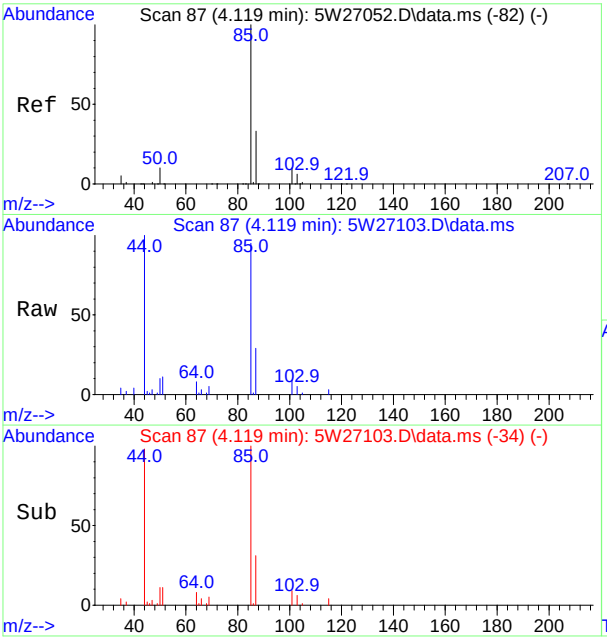


#4
Chlorodifluoromethane
Concen: 0.39 ppb(v)
RT: 4.040 min Scan# 74
Delta R.T. -0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 67 Resp: 2068

Ion	Ratio	Lower	Upper
67	100		
69	34.6	24.1	44.7

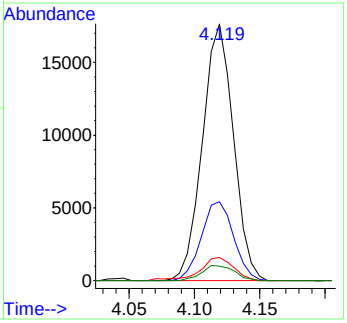


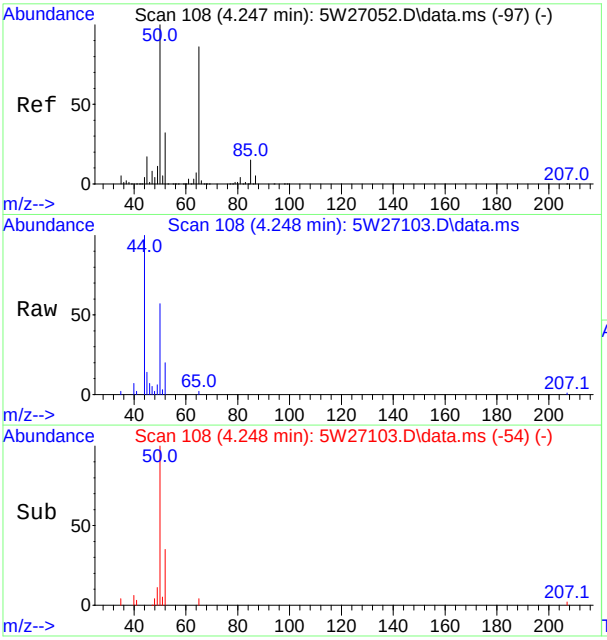


#7
Dichlorodifluoromethane
Concen: 0.48 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 85 Resp: 29172

Ion	Ratio	Lower	Upper
85	100		
87	30.8	23.0	42.6
101	9.0	6.6	12.2
103	5.6	4.2	7.8

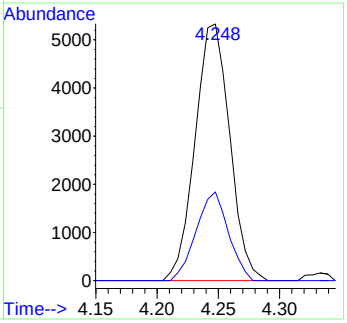


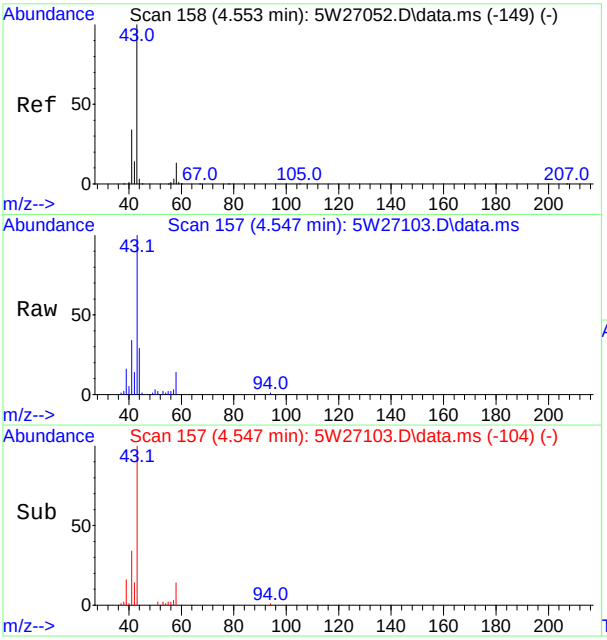


#9
Chloromethane
Concen: 0.56 ppb(v)
RT: 4.248 min Scan# 108
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 50 Resp: 10493

Ion	Ratio	Lower	Upper
50	100		
52	34.5	22.7	42.1

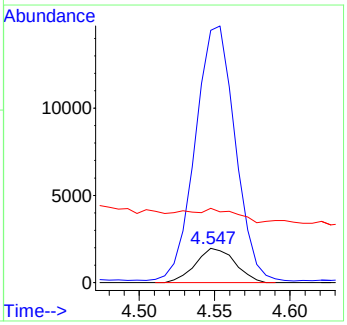


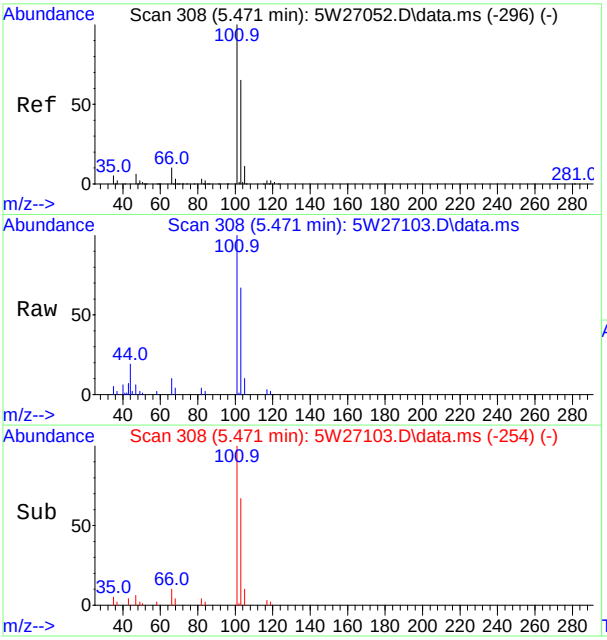


#13
n-Butane
Concen: 1.24 ppb(v)
RT: 4.547 min Scan# 157
Delta R.T. -0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 58 Resp: 3593

Ion	Ratio	Lower	Upper
58	100		
43	733.4	527.9	980.5
44	216.2	25.1	46.7#

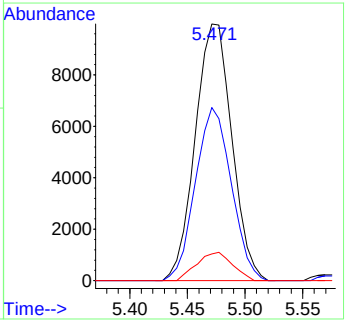


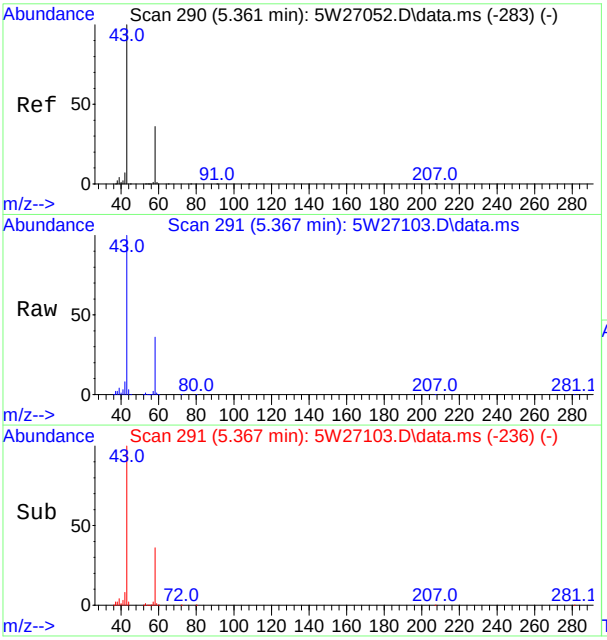


#21
Trichlorofluoromethane
Concen: 0.37 ppb(v)
RT: 5.471 min Scan# 308
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion:101 Resp: 22047

Ion	Ratio	Lower	Upper
101	100		
103	67.4	45.6	84.6
105	10.4	7.5	13.9

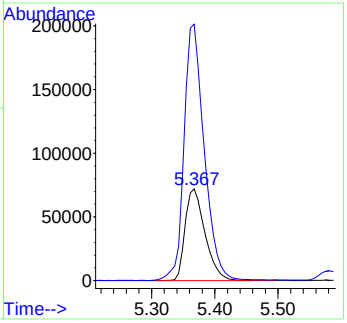


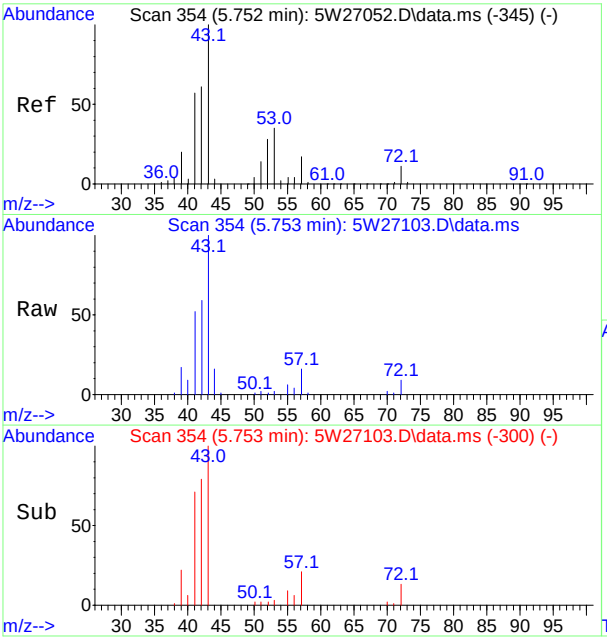


#22
Acetone
Concen: 17.19 ppb(v)
RT: 5.367 min Scan# 291
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 58 Resp: 157761

Ion	Ratio	Lower	Upper
58	100		
43	279.8	194.7	361.5

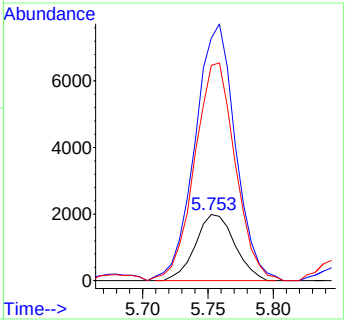


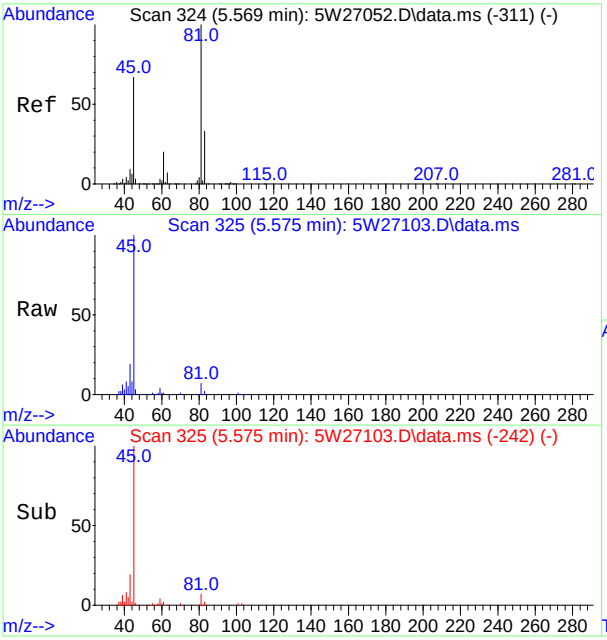


#23
Pentane
Concen: 0.73 ppb(v)
RT: 5.753 min Scan# 354
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 57 Resp: 4185

Ion	Ratio	Lower	Upper
57	100		
42	366.5	249.9	464.1
41	325.4	233.0	432.6

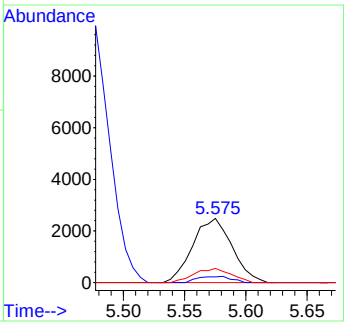


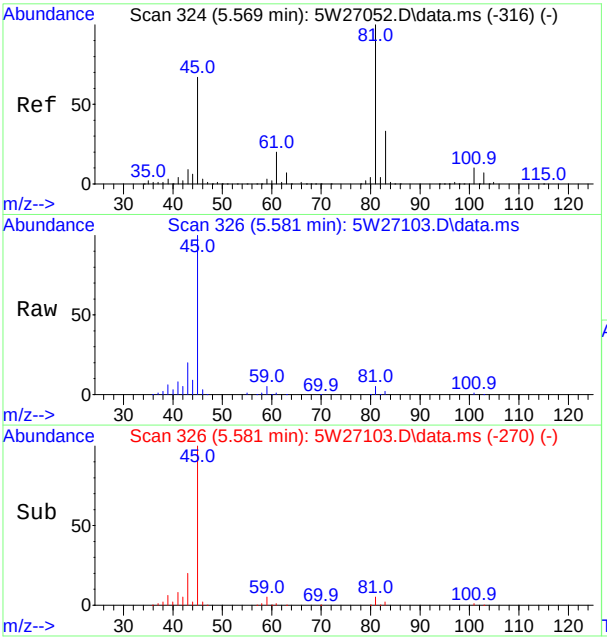


#24
1,1-Dichloro-1-fluoroethane
Concen: 0.10 ppb(v)
RT: 5.575 min Scan# 325
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 81 Resp: 5565

Ion	Ratio	Lower	Upper
81	100		
101	0.0	8.3	12.5#
61	20.8	15.9	23.9

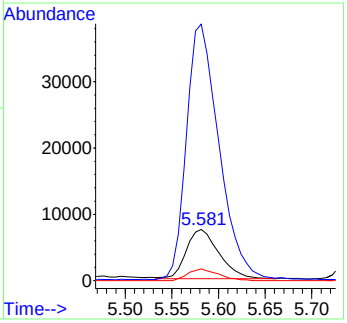


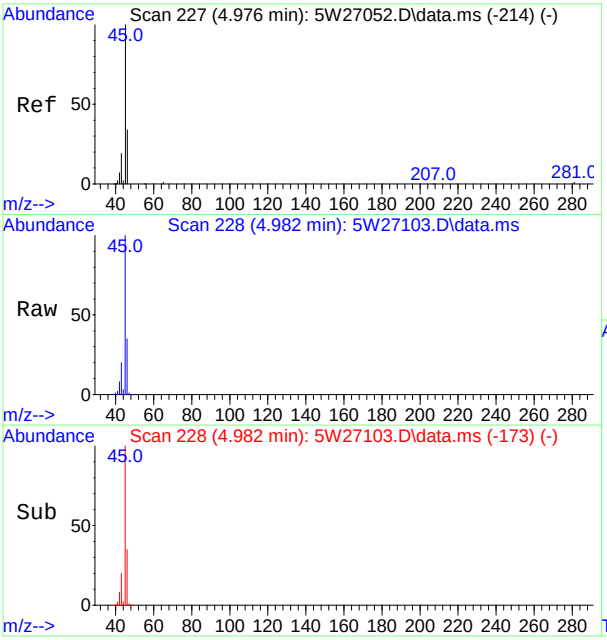


#26
Isopropyl Alcohol
Concen: 2.89 ppb(v)
RT: 5.581 min Scan# 326
Delta R.T. 0.012 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 43 Resp: 18005

Ion	Ratio	Lower	Upper
43	100		
45	500.2	512.5	951.7#
59	22.7	20.9	38.7

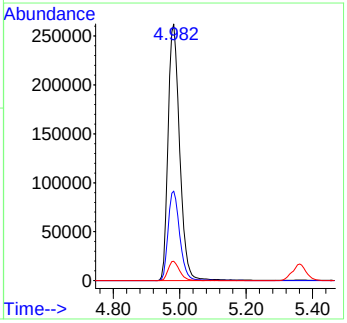


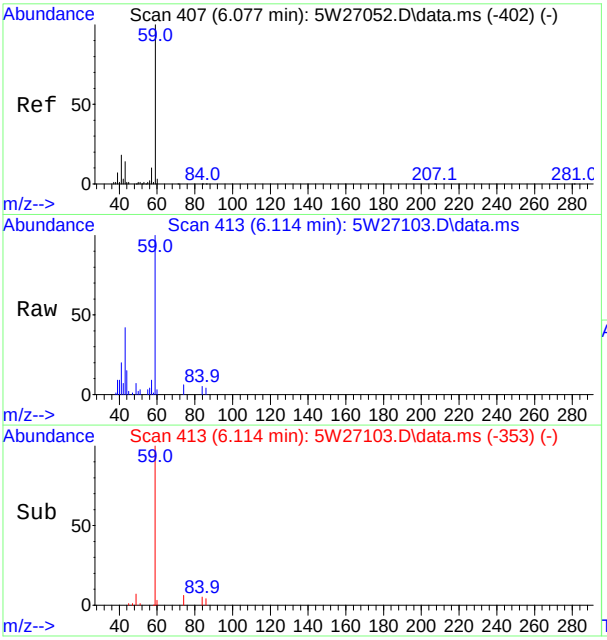


#31
Ethanol
Concen: 110.41 ppb(v)
RT: 4.982 min Scan# 228
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 45 Resp: 641359

Ion	Ratio	Lower	Upper
45	100		
46	34.9	23.5	43.7
42	7.6	5.5	10.3

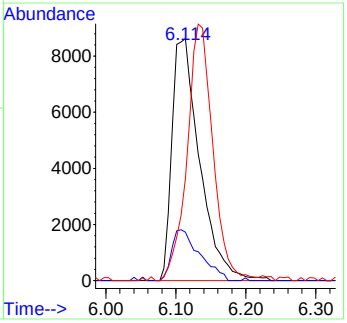


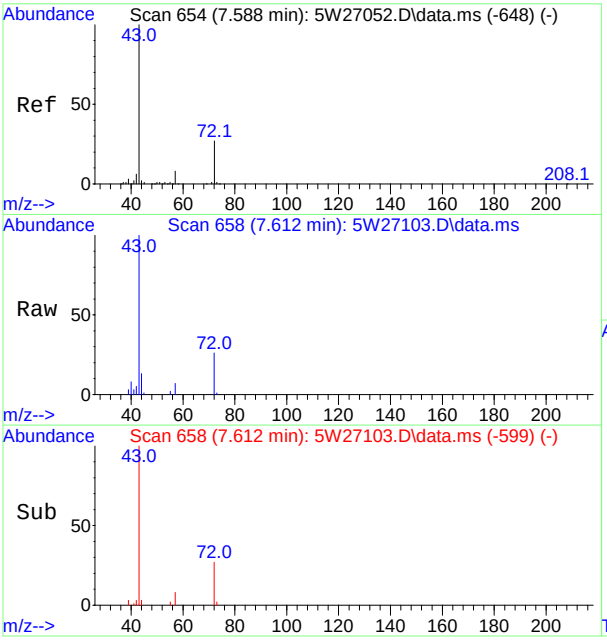


#35
tert-Butyl Alcohol
Concen: 0.48 ppb(v)
RT: 6.114 min Scan# 413
Delta R.T. 0.037 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 59 Resp: 23775

Ion	Ratio	Lower	Upper
59	100		
41	20.1	12.5	23.1
43	42.3	9.7	17.9#

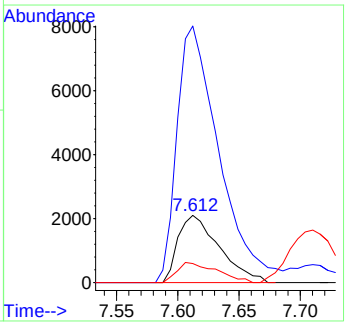


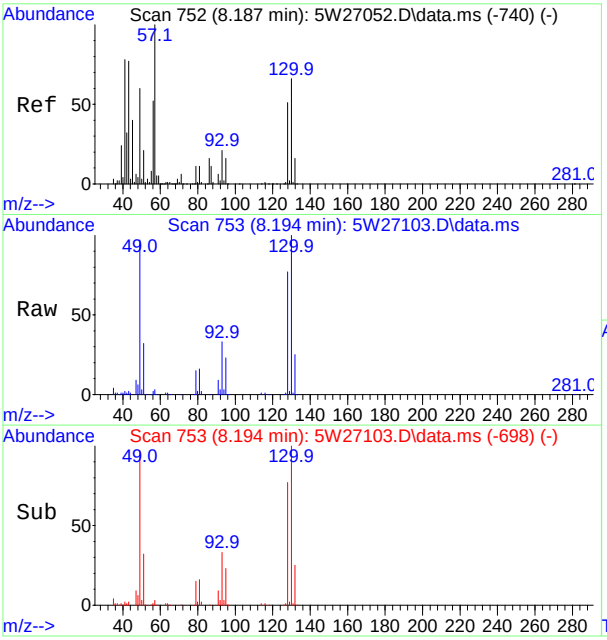


#39
2-Butanone
Concen: 0.44 ppb(v)
RT: 7.612 min Scan# 658
Delta R.T. 0.031 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 72 Resp: 4933

Ion	Ratio	Lower	Upper
72	100		
43	382.4	256.8	476.8
57	28.6	20.4	37.8

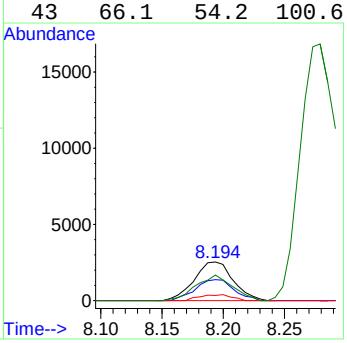




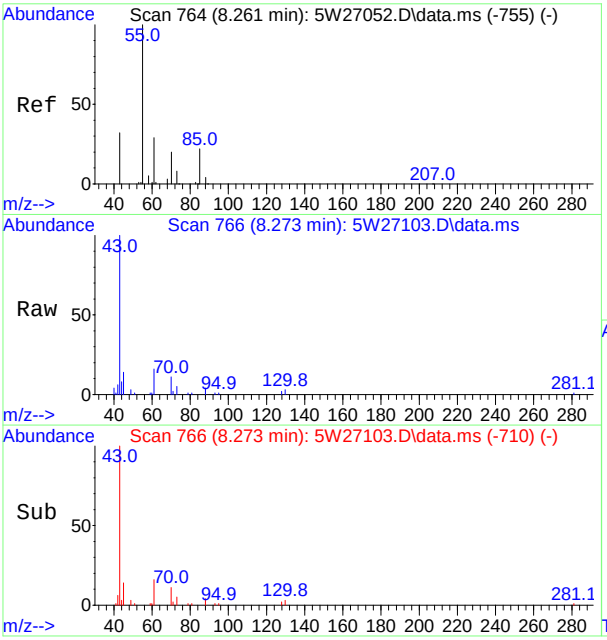
#40
Hexane
Concen: 0.17 ppb(v)
RT: 8.194 min Scan# 753
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 57 Resp: 5598

Ion	Ratio	Lower	Upper
57	100		
56	54.1	36.6	68.0
86	13.8	11.1	20.5
43	66.1	54.2	100.6



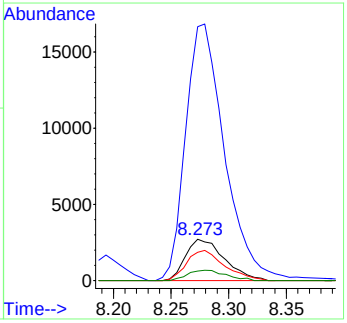
SGS ACCUTEST JC52053

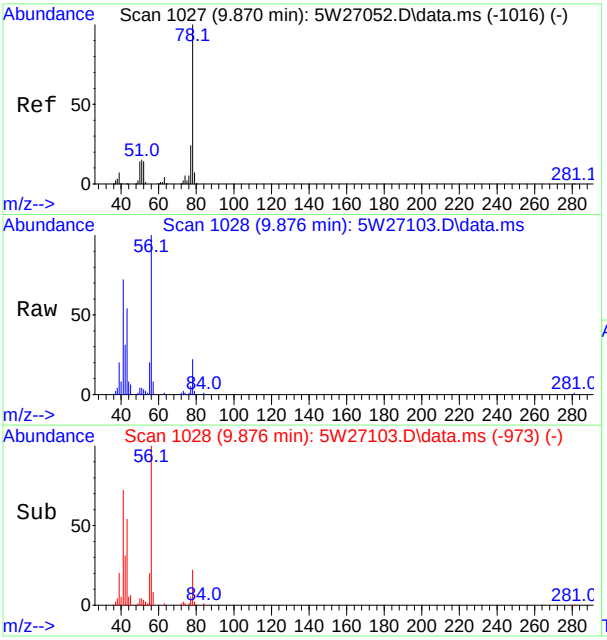


#43
Ethyl Acetate
Concen: 0.87 ppb(v)
RT: 8.273 min Scan# 766
Delta R.T. 0.012 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 61 Resp: 6374

Ion	Ratio	Lower	Upper
61	100		
43	611.4	440.8	818.6
70	68.6	51.7	95.9
88	23.2	19.4	36.0

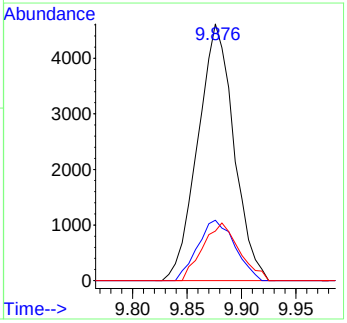


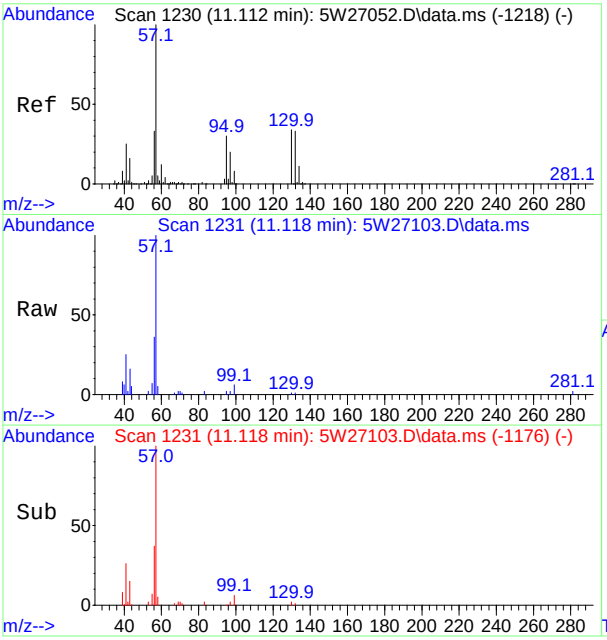


#50
Benzene
Concen: 0.14 ppb(v)
RT: 9.876 min Scan# 1028
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 78 Resp: 10639

Ion	Ratio	Lower	Upper
78	100		
77	23.6	16.8	31.2
51	19.3	10.4	19.4

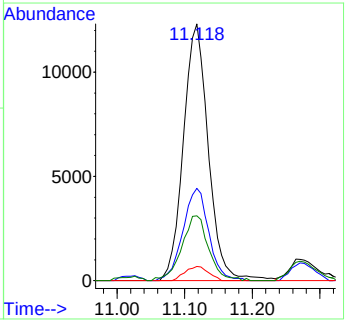


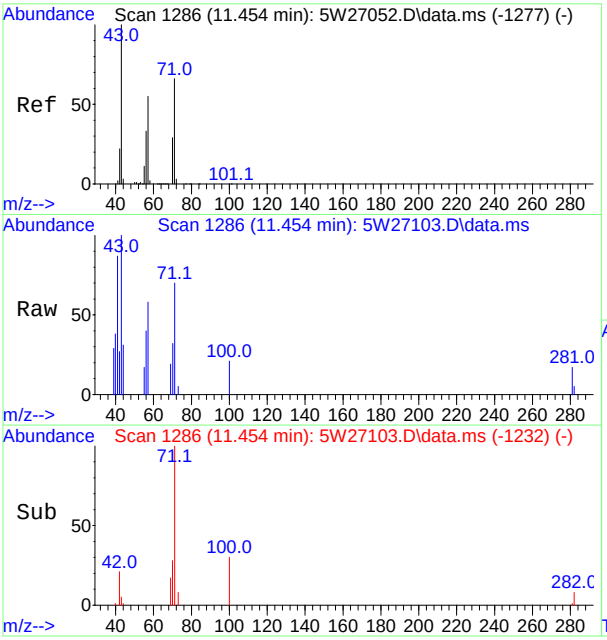


#55
2,2,4-Trimethylpentane
Concen: 0.30 ppb(v)
RT: 11.118 min Scan# 1231
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 57 Resp: 31605

Ion	Ratio	Lower	Upper
57	100		
56	35.9	23.0	42.6
99	5.5	5.8	10.8#
41	25.3	17.7	32.9

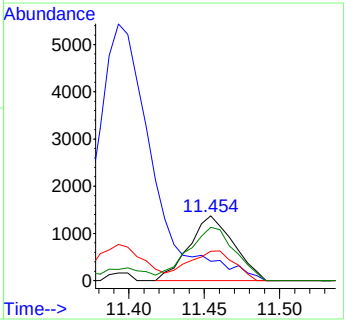


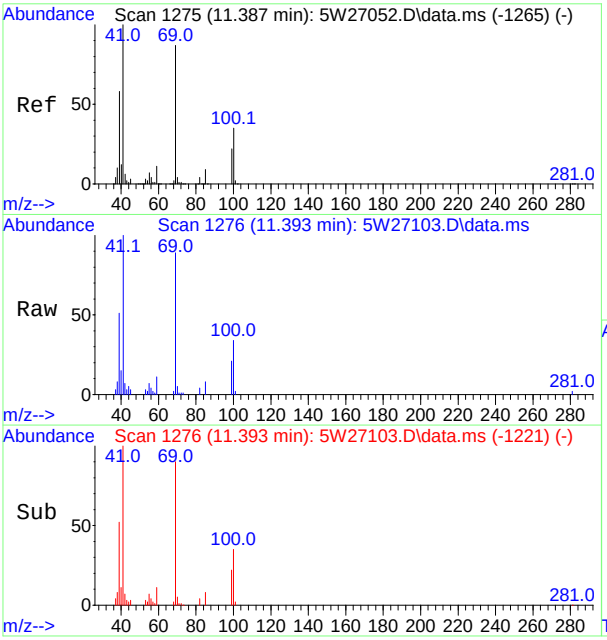


#56
Heptane
Concen: 0.13 ppb(v)
RT: 11.454 min Scan# 1286
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 71 Resp: 2818

Ion	Ratio	Lower	Upper
71	100		
100	29.9	20.1	37.3
70	45.7	34.1	63.3
57	82.6	59.4	110.4

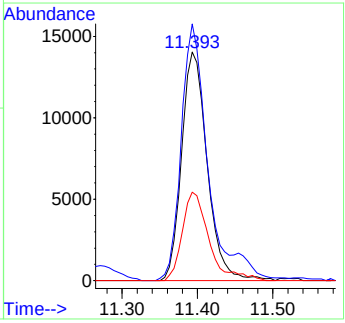


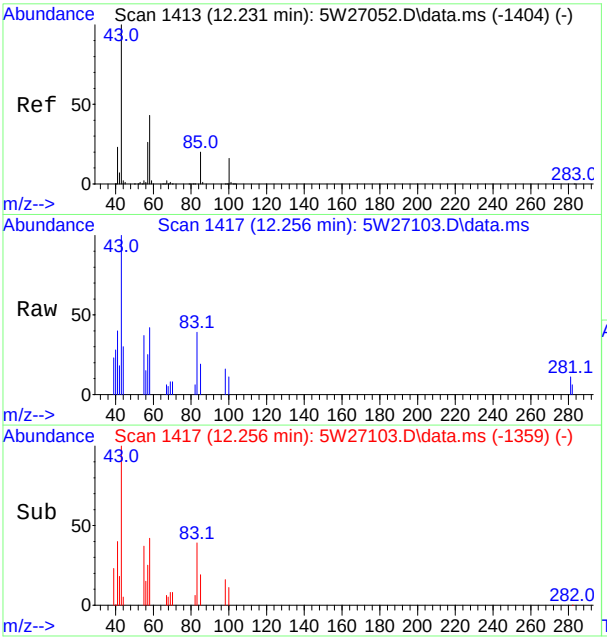


#61
Methyl Methacrylate
Concen: 1.34 ppb(v)
RT: 11.393 min Scan# 1276
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 69 Resp: 33238

Ion	Ratio	Lower	Upper
69	100		
41	112.3	80.2	148.9
100	38.7	27.9	51.9

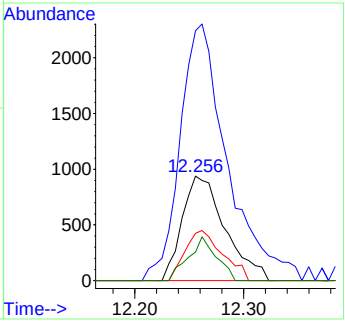


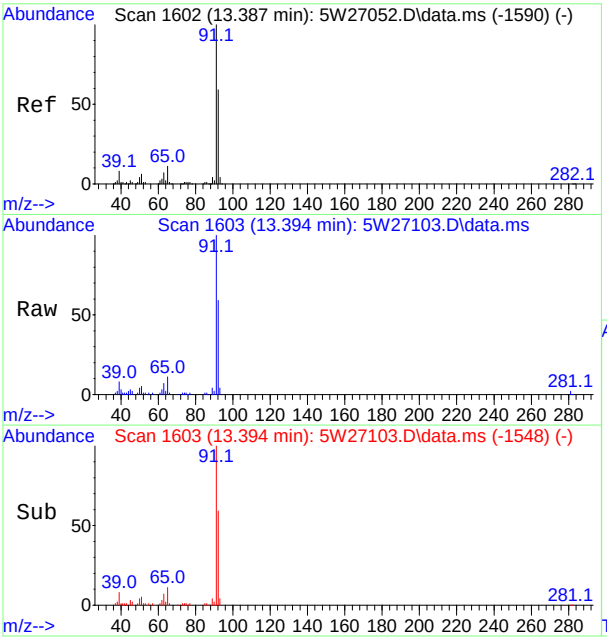


#65
4-Methyl-2-pentanone
Concen: 0.13 ppb(v)
RT: 12.256 min Scan# 1417
Delta R.T. 0.025 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 58 Resp: 2568

Ion	Ratio	Lower	Upper
58	100		
43	239.3	162.8	302.3
85	45.5	33.8	62.8
100	27.3	26.7	49.5

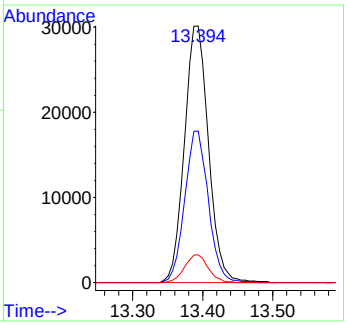


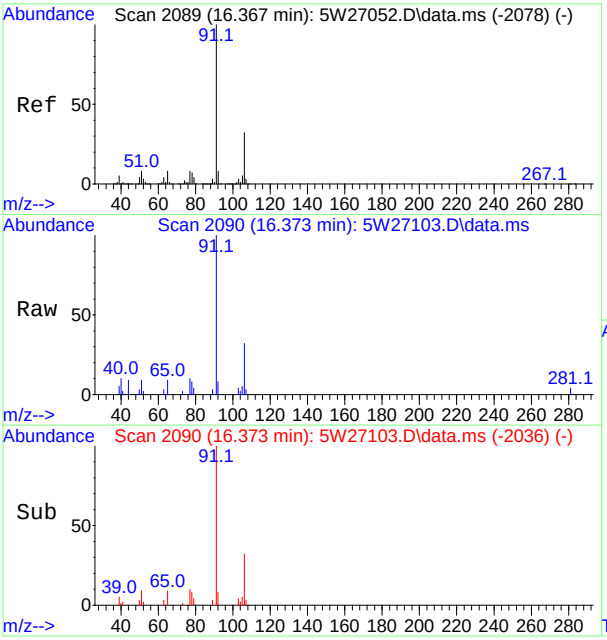


#67
Toluene
Concen: 0.82 ppb(v)
RT: 13.394 min Scan# 1603
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 91 Resp: 72237

Ion	Ratio	Lower	Upper
91	100		
92	59.1	41.4	76.8
65	10.8	7.3	13.7

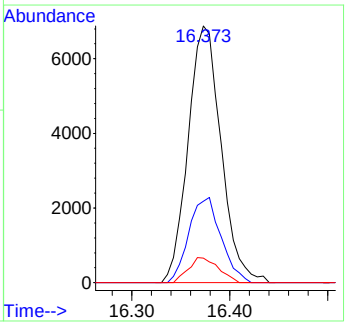


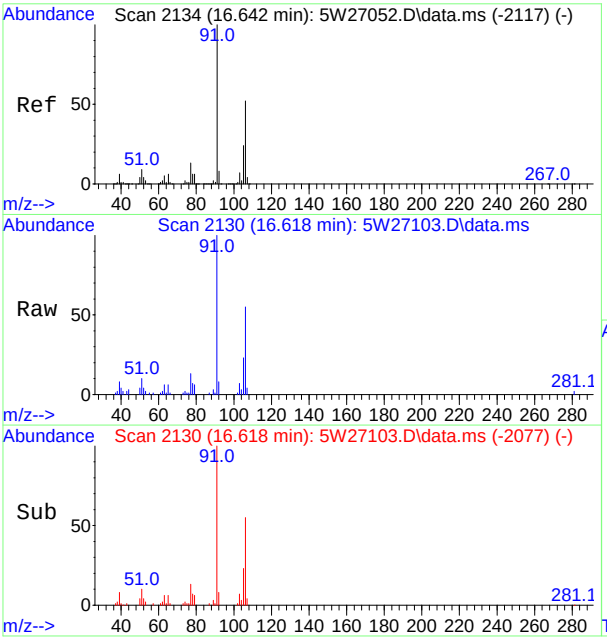


#79
Ethylbenzene
Concen: 0.16 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 91 Resp: 16118

Ion	Ratio	Lower	Upper
91	100		
106	31.7	22.4	41.6
77	9.6	5.7	10.7

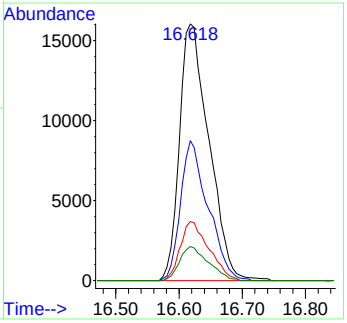


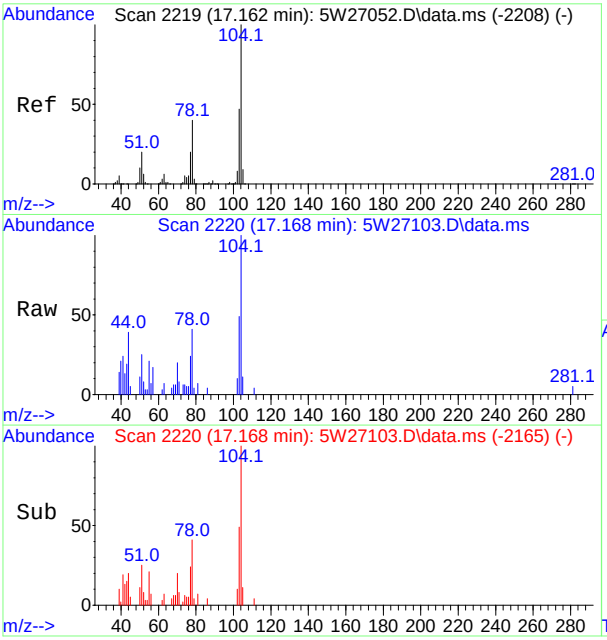


#80
m,p-Xylene
Concen: 0.66 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 91 Resp: 51991

Ion	Ratio	Lower	Upper
91	100		
106	54.5	36.3	67.5
105	23.1	16.4	30.6
77	13.3	8.9	16.5

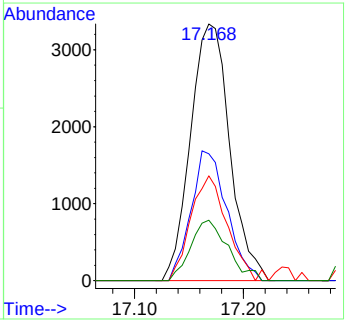


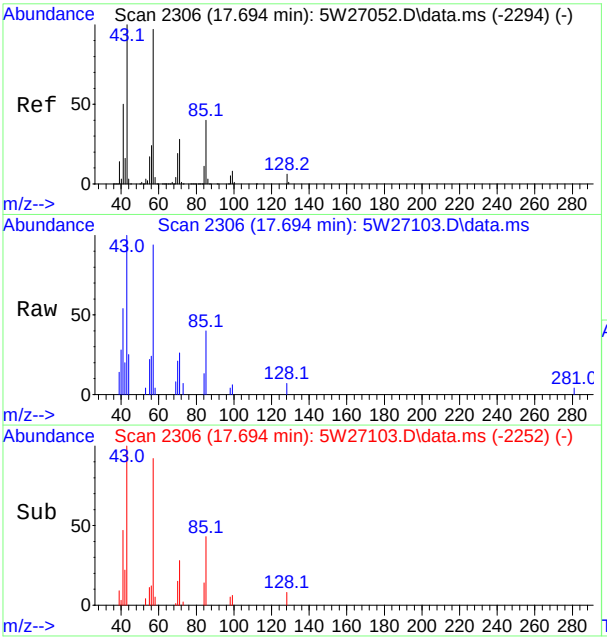


#81
Styrene
Concen: 0.14 ppb(v)
RT: 17.168 min Scan# 2220
Delta R.T. 0.006 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion:104 Resp: 8369

Ion	Ratio	Lower	Upper
104	100		
103	49.4	32.8	61.0
78	40.8	28.1	52.1
77	23.5	13.7	25.5

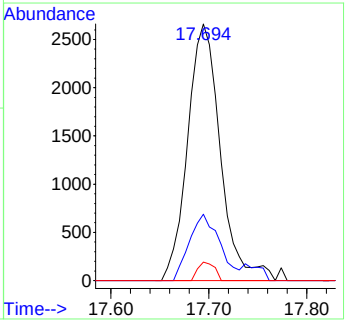


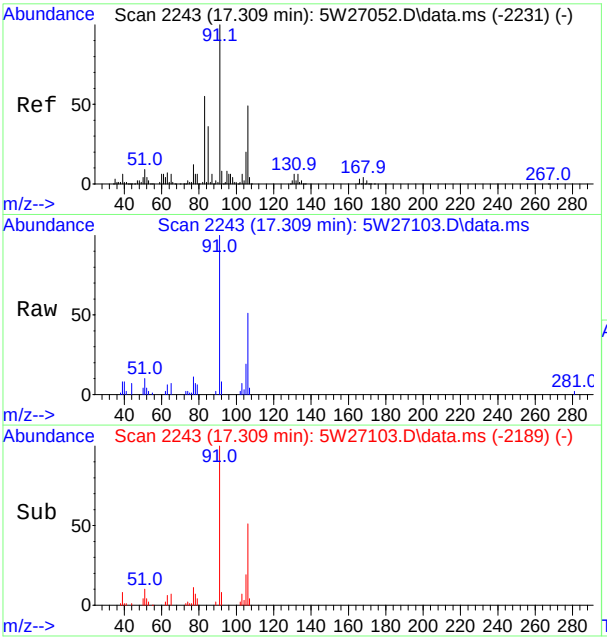


#82
Nonane
Concen: 0.14 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 43 Resp: 6195

Ion	Ratio	Lower	Upper
43	100		
71	25.9	19.3	35.9
128	7.3	4.5	8.3

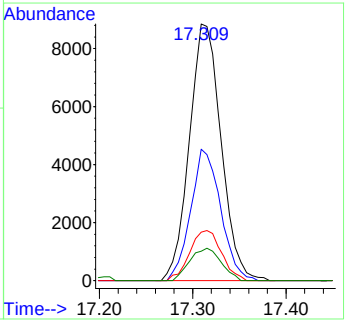


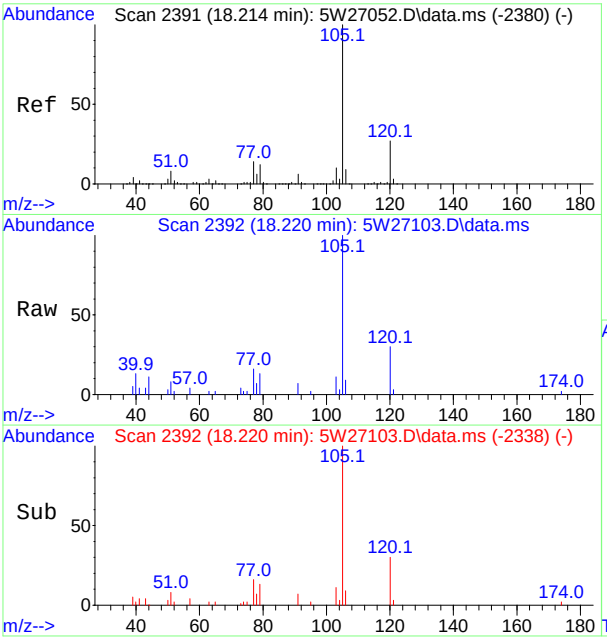


#83
o-Xylene
Concen: 0.26 ppb(v)
RT: 17.309 min Scan# 2243
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion: 91 Resp: 21018

Ion	Ratio	Lower	Upper
91	100		
106	51.2	34.4	64.0
105	18.9	13.7	25.5
77	11.5	8.5	15.7

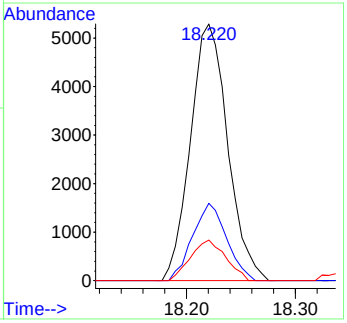


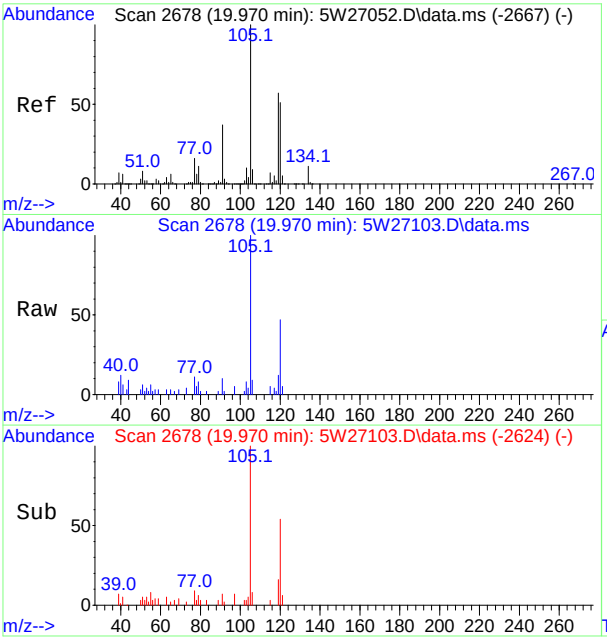


#87
Isopropylbenzene
Concen: 0.11 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion:105 Resp: 12584

Ion	Ratio	Lower	Upper
105	100		
120	30.1	19.0	35.2
77	15.8	10.1	18.9

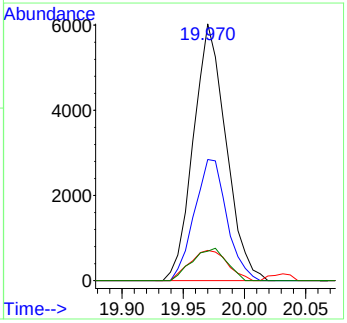




#96
1,2,4-Trimethylbenzene
Concen: 0.12 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27103.D
Acq: 7 Oct 2017 6:03 pm

Tgt Ion:105 Resp: 11142

Ion	Ratio	Lower	Upper
105	100		
120	47.1	36.0	66.8
119	11.8	40.3	74.8#
77	11.5	11.3	21.1



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27104.D
Acq On : 7 Oct 2017 6:57 pm
Operator : [redacted]
Sample : jc52053-5
Misc : MS20561,v5w1066,608,,,,1.52
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 08 11:57:48 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

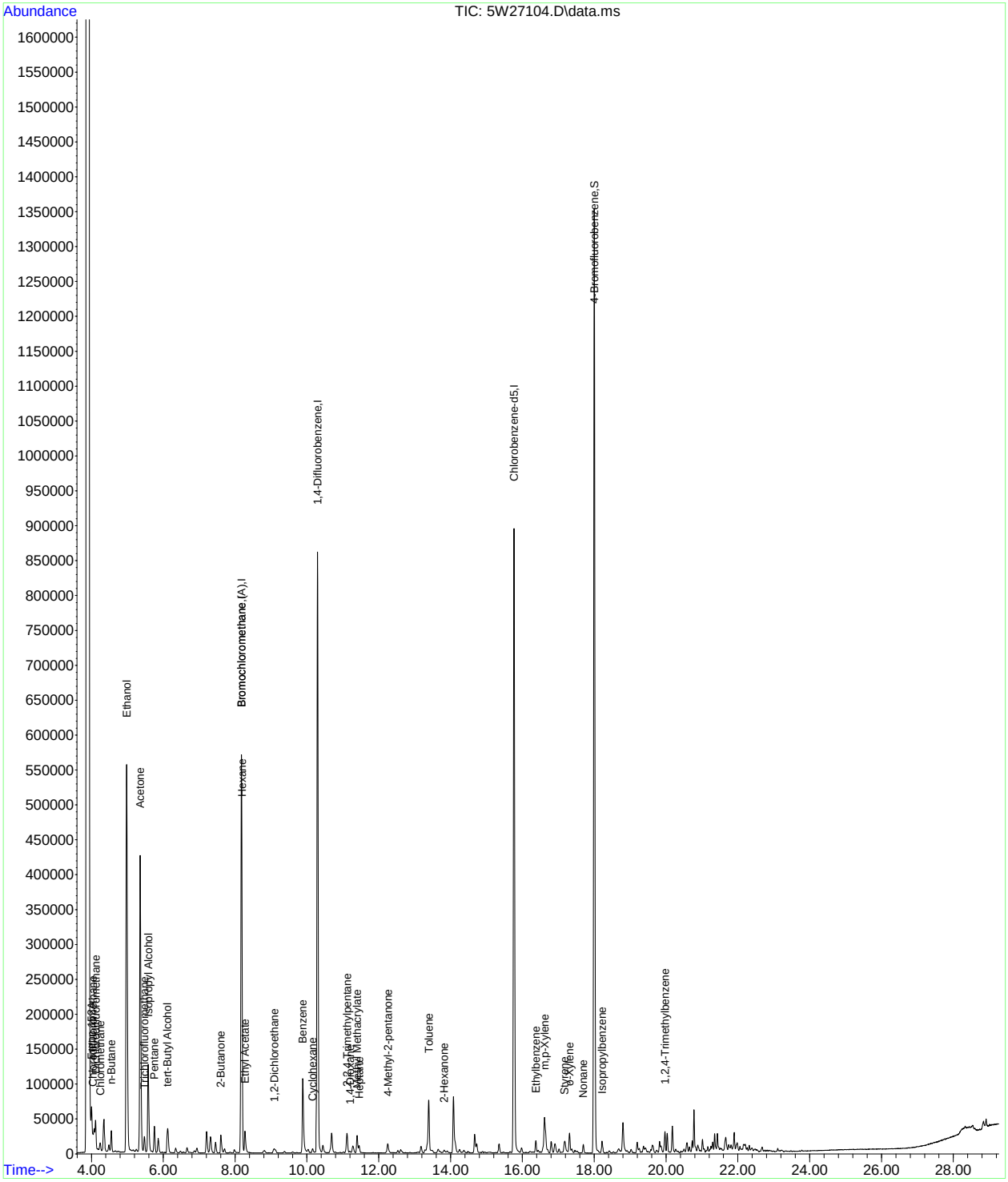
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	272591	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	928226	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	381039	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	272591	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	654524	12.21	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 122.10%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	21853	1.50	ppb(v	96
4) Chlorodifluoromethane	4.040	67	2098	0.41	ppb(v	95
7) Dichlorodifluoromethane	4.119	85	28513	0.48	ppb(v	99
9) Chloromethane	4.248	50	10554	0.58	ppb(v	97
13) n-Butane	4.547	58	3838	1.38	ppb(v#	88
21) Trichlorofluoromethane	5.471	101	21264	0.37	ppb(v	97
22) Acetone	5.355	58	199157	22.48	ppb(v	96
23) Pentane	5.753	57	4587	0.83	ppb(v	90
26) Isopropyl Alcohol	5.581	43	35632	5.92	ppb(v	48
31) Ethanol	4.982	45	859774	153.38	ppb(v	97
35) tert-Butyl Alcohol	6.107	59	31921	0.67	ppb(v#	66
39) 2-Butanone	7.600	72	10496	0.97	ppb(v	99
40) Hexane	8.187	57	5181	0.16	ppb(v	95
43) Ethyl Acetate	8.273	61	6538	0.93	ppb(v	91
49) 1,2-Dichloroethane	9.093	62	3696	0.13	ppb(v#	94
50) Benzene	9.876	78	10803	0.14	ppb(v#	93
52) Cyclohexane	10.157	56	3395	0.11	ppb(v	93
55) 2,2,4-Trimethylpentane	11.118	57	33095	0.33	ppb(v#	97
56) Heptane	11.454	71	2984	0.14	ppb(v	97
61) Methyl Methacrylate	11.399	69	14206	0.59	ppb(v	99
62) 1,4-Dioxane	11.197	88	2196	0.16	ppb(v#	94
65) 4-Methyl-2-pentanone	12.256	58	3456	0.19	ppb(v	94
67) Toluene	13.394	91	76446	0.89	ppb(v	100
70) 2-Hexanone	13.822	58	2255	0.10	ppb(v#	90
79) Ethylbenzene	16.373	91	18548	0.18	ppb(v	100
80) m,p-Xylene	16.618	91	58051	0.74	ppb(v	96
81) Styrene	17.168	104	8518	0.14	ppb(v	98
82) Nonane	17.688	43	6504	0.14	ppb(v	94
83) o-Xylene	17.315	91	24864	0.32	ppb(v	100
87) Isopropylbenzene	18.220	105	16637	0.15	ppb(v	99
96) 1,2,4-Trimethylbenzene	19.970	105	18690	0.21	ppb(v#	70

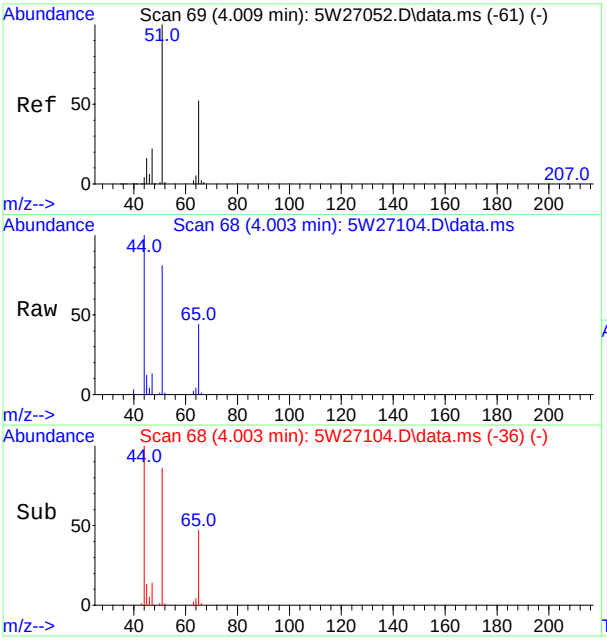
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27104.D
Acq On : 7 Oct 2017 6:57 pm
Operator : [redacted]
Sample : jc52053-5
Misc : MS20561,v5w1066,608,,,,1.52
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 08 11:57:48 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

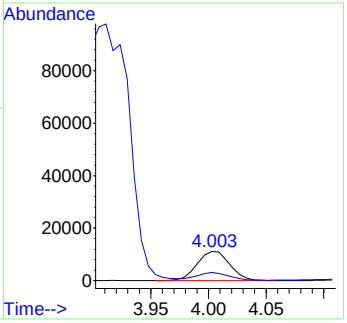


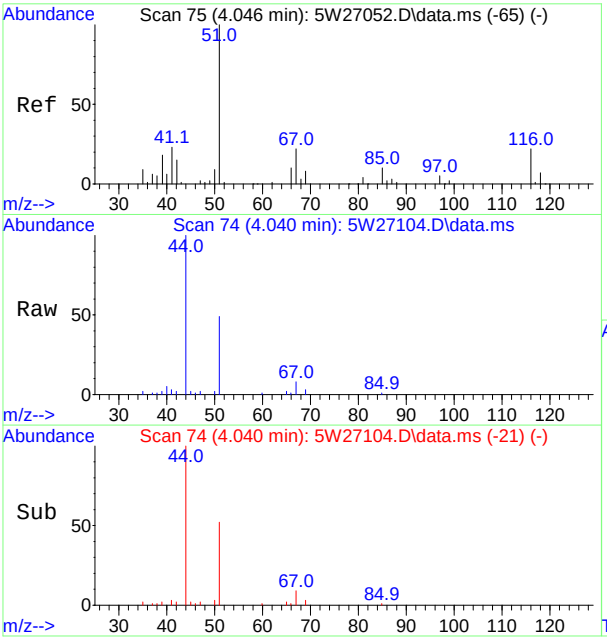


#3
Freon 152A
Concen: 1.50 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 65 Resp: 21853

Ion	Ratio	Lower	Upper
65	100		
45	28.2	21.4	39.8

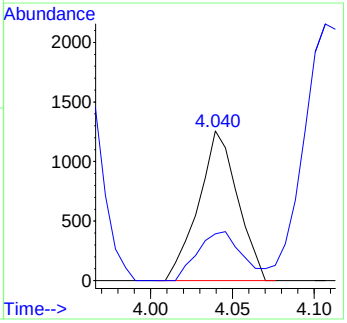


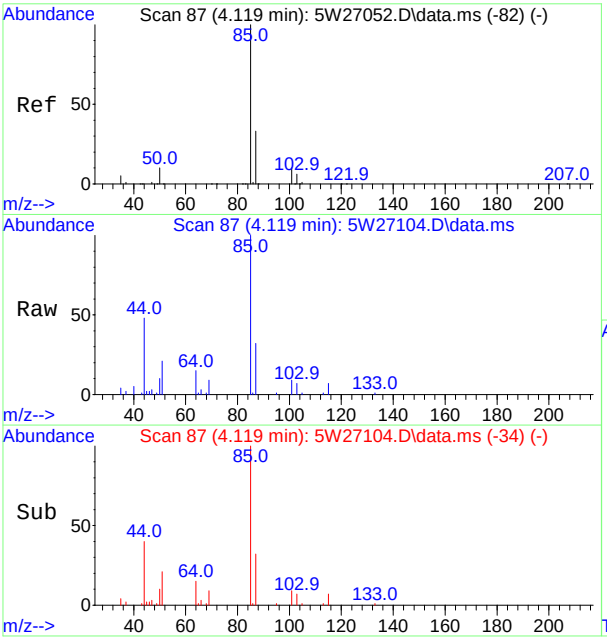


#4
Chlorodifluoromethane
Concen: 0.41 ppb(v)
RT: 4.040 min Scan# 74
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 67 Resp: 2098

Ion	Ratio	Lower	Upper
67	100		
69	31.3	24.1	44.7

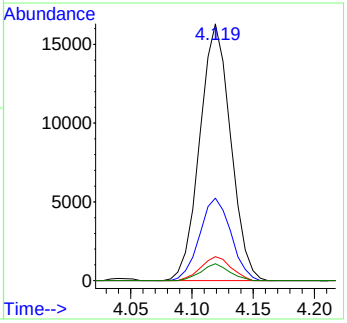


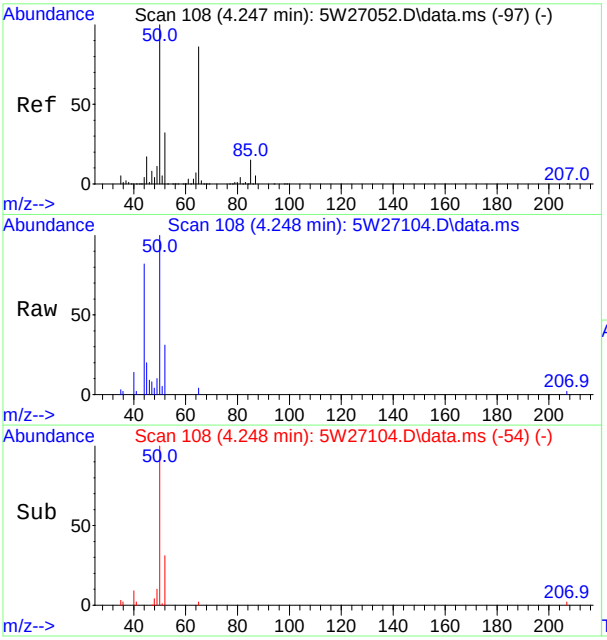


#7
Dichlorodifluoromethane
Concen: 0.48 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 85 Resp: 28513

Ion	Ratio	Lower	Upper
85	100		
87	32.1	23.0	42.6
101	9.3	6.6	12.2
103	6.6	4.2	7.8

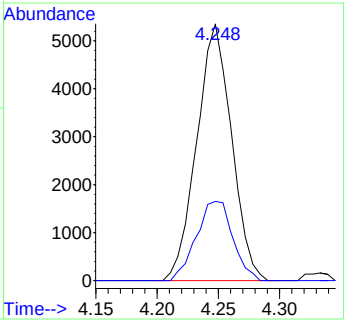


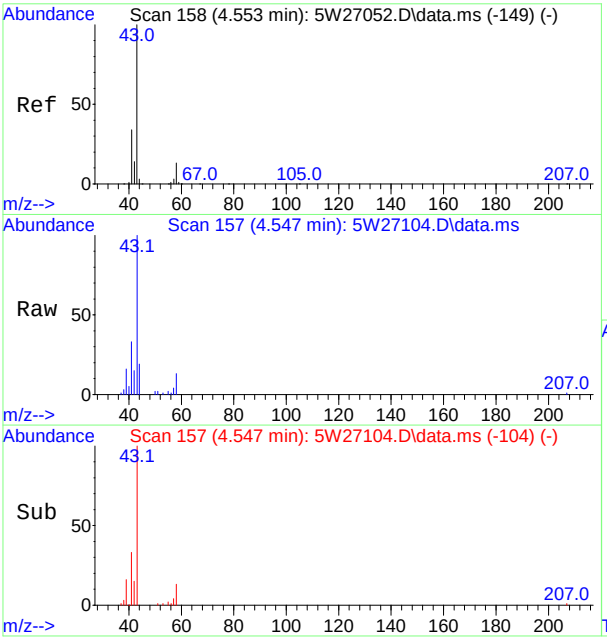


#9
Chloromethane
Concen: 0.58 ppb(v)
RT: 4.248 min Scan# 108
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 50 Resp: 10554

Ion	Ratio	Lower	Upper
50	100		
52	30.9	22.7	42.1

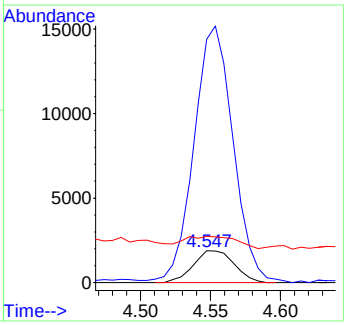


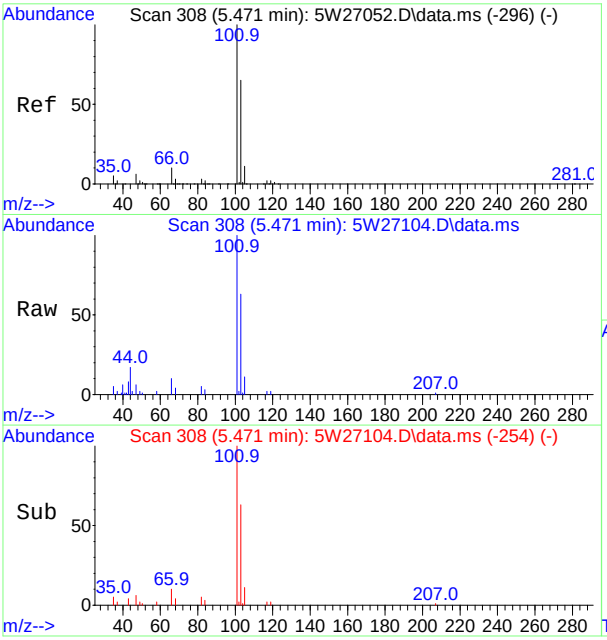


#13
n-Butane
Concen: 1.38 ppb(v)
RT: 4.547 min Scan# 157
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 58 Resp: 3838

Ion	Ratio	Lower	Upper
58	100		
43	765.8	527.9	980.5
44	145.5	25.1	46.7#

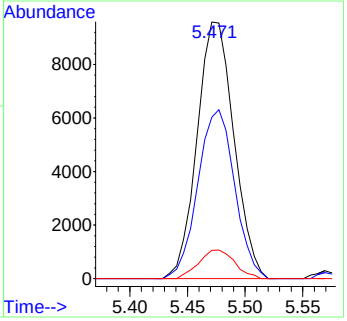


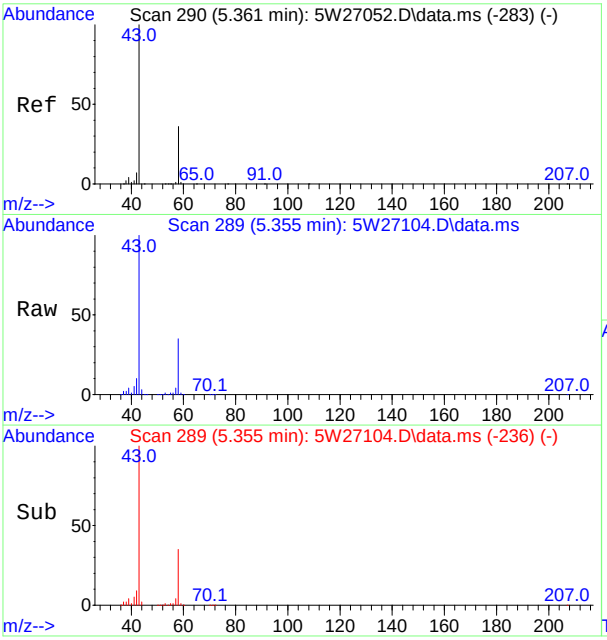


#21
Trichlorofluoromethane
Concen: 0.37 ppb(v)
RT: 5.471 min Scan# 308
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion:101 Resp: 21264

Ion	Ratio	Lower	Upper
101	100		
103	62.9	45.6	84.6
105	11.1	7.5	13.9

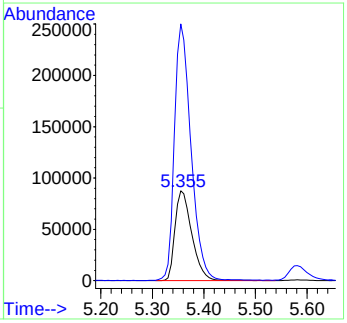


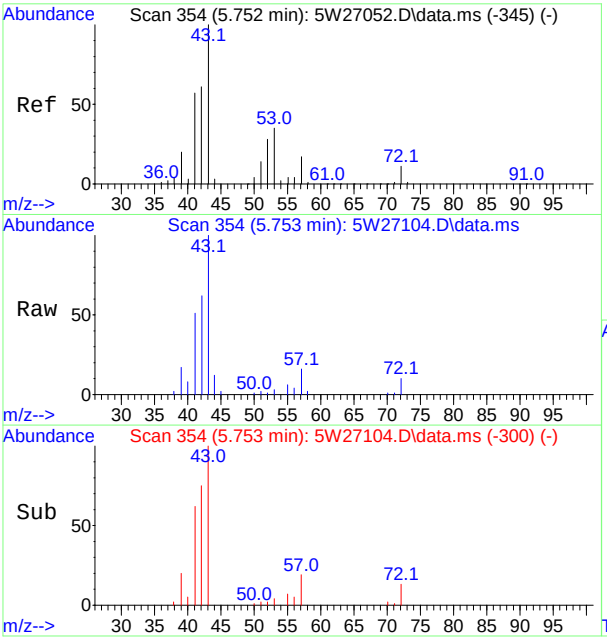


#22
Acetone
Concen: 22.48 ppb(v)
RT: 5.355 min Scan# 289
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 58 Resp: 199157

Ion	Ratio	Lower	Upper
58	100		
43	286.2	194.7	361.5

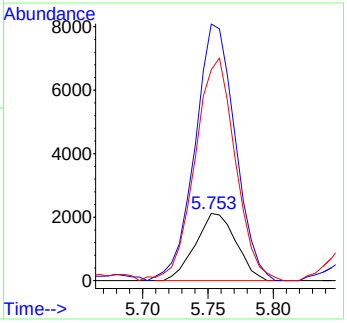


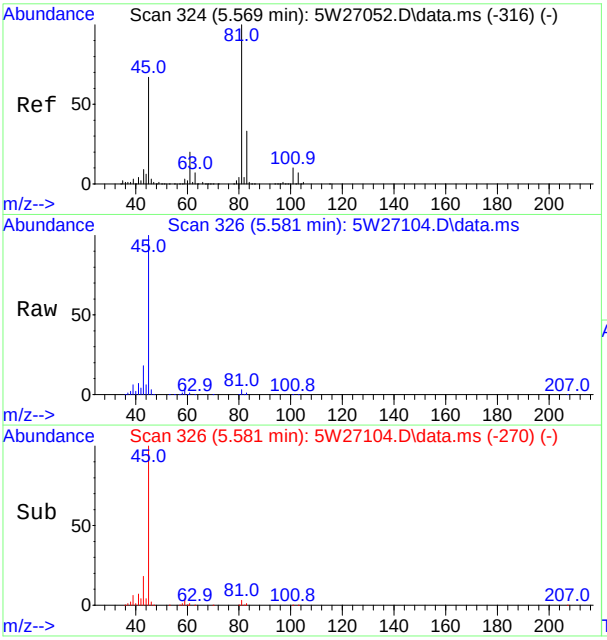


#23
Pentane
Concen: 0.83 ppb(v)
RT: 5.753 min Scan# 354
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 57 Resp: 4587

Ion	Ratio	Lower	Upper
57	100		
42	382.4	249.9	464.1
41	314.1	233.0	432.6

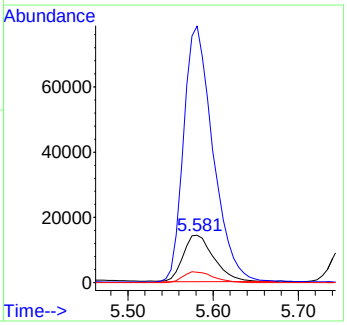


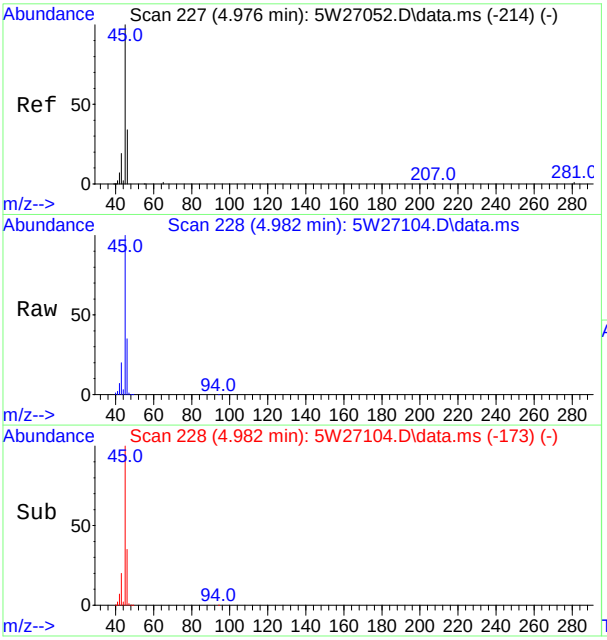


#26
Isopropyl Alcohol
Concen: 5.92 ppb(v)
RT: 5.581 min Scan# 326
Delta R.T. 0.012 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 43 Resp: 35632

Ion	Ratio	Lower	Upper
43	100		
45	542.0	512.5	951.7
59	22.2	20.9	38.7

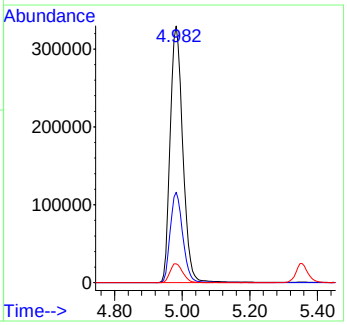


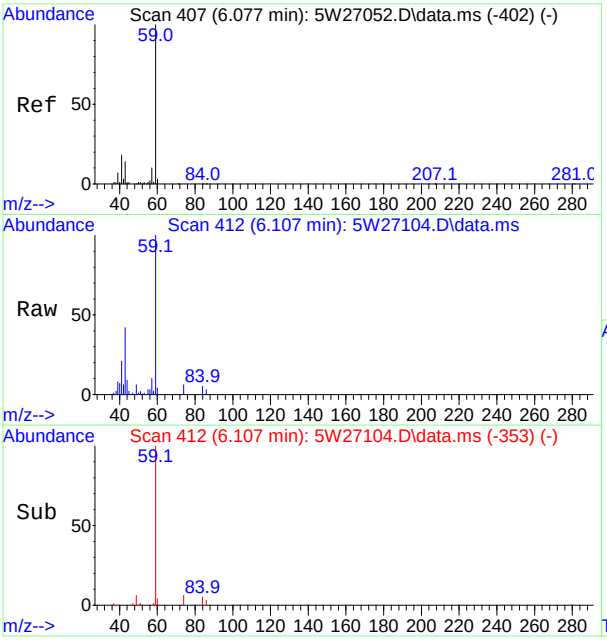


#31
Ethanol
Concen: 153.38 ppb(v)
RT: 4.982 min Scan# 228
Delta R.T. 0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 45 Resp: 859774

Ion	Ratio	Lower	Upper
45	100		
46	35.2	23.5	43.7
42	7.4	5.5	10.3

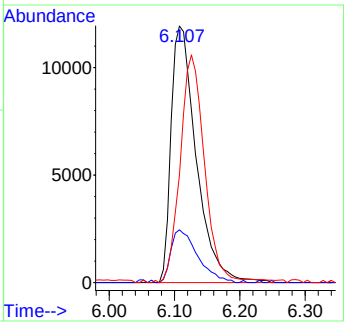


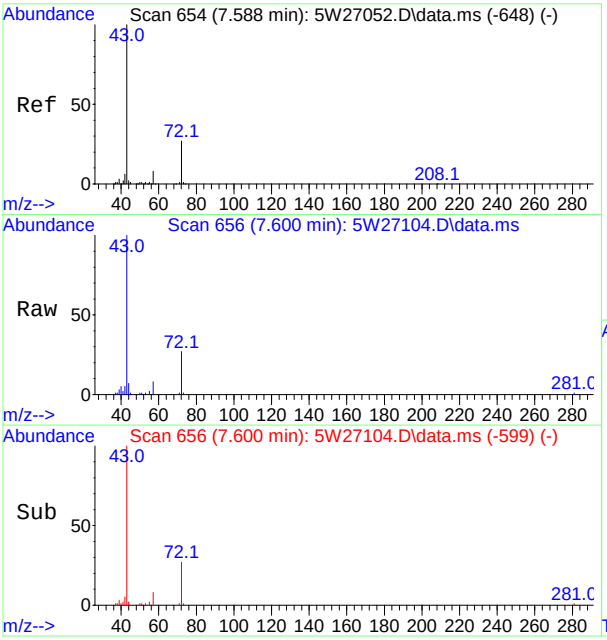


#35
tert-Butyl Alcohol
Concen: 0.67 ppb(v)
RT: 6.107 min Scan# 412
Delta R.T. 0.031 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 59 Resp: 31921

Ion	Ratio	Lower	Upper
59	100		
41	20.5	12.5	23.1
43	41.9	9.7	17.9#

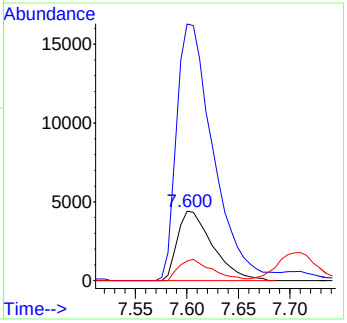


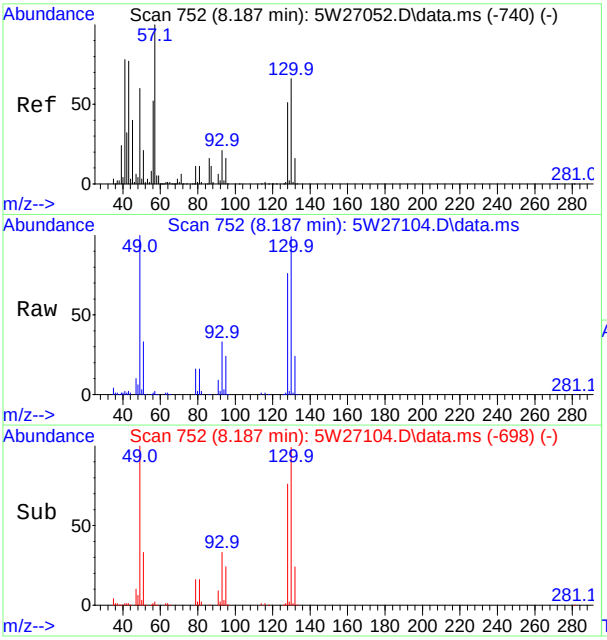


#39
2-Butanone
Concen: 0.97 ppb(v)
RT: 7.600 min Scan# 656
Delta R.T. 0.019 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 72 Resp: 10496

Ion	Ratio	Lower	Upper
72	100		
43	369.3	256.8	476.8
57	28.3	20.4	37.8

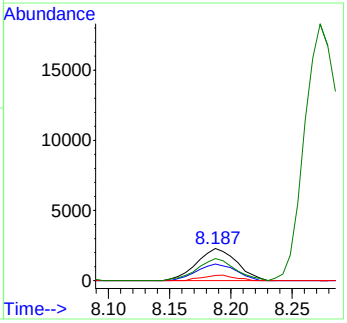


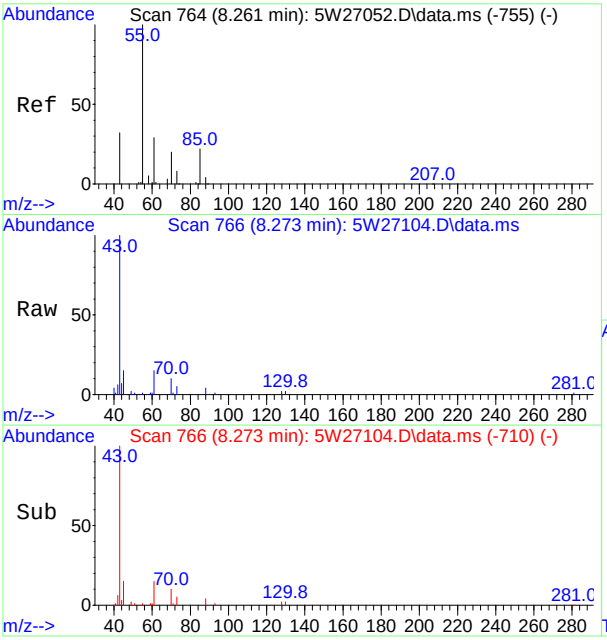


#40
Hexane
Concen: 0.16 ppb(v)
RT: 8.187 min Scan# 752
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 57 Resp: 5181

Ion	Ratio	Lower	Upper
57	100		
56	52.2	36.6	68.0
86	16.0	11.1	20.5
43	69.1	54.2	100.6

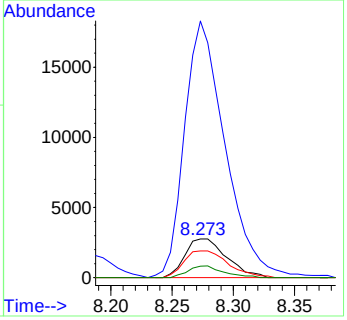


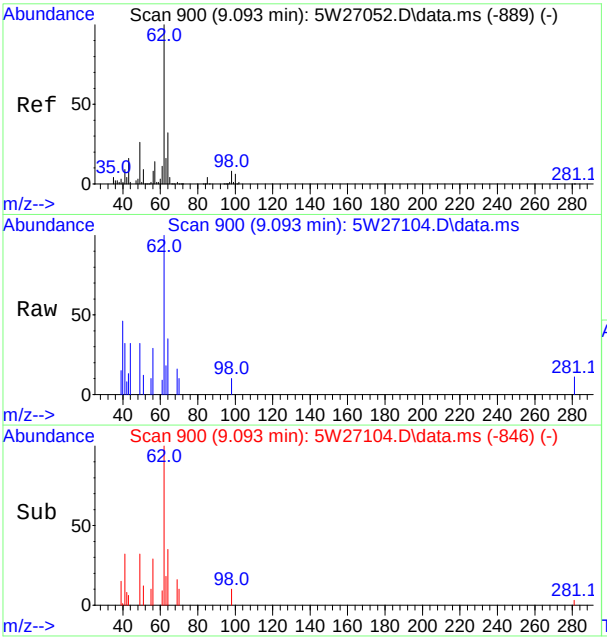


#43
Ethyl Acetate
Concen: 0.93 ppb(v)
RT: 8.273 min Scan# 766
Delta R.T. 0.012 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 61 Resp: 6538

Ion	Ratio	Lower	Upper
61	100		
43	661.3	440.8	818.6
70	68.8	51.7	95.9
88	29.3	19.4	36.0

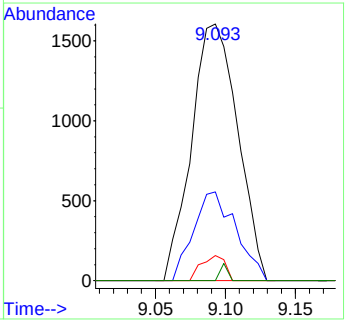


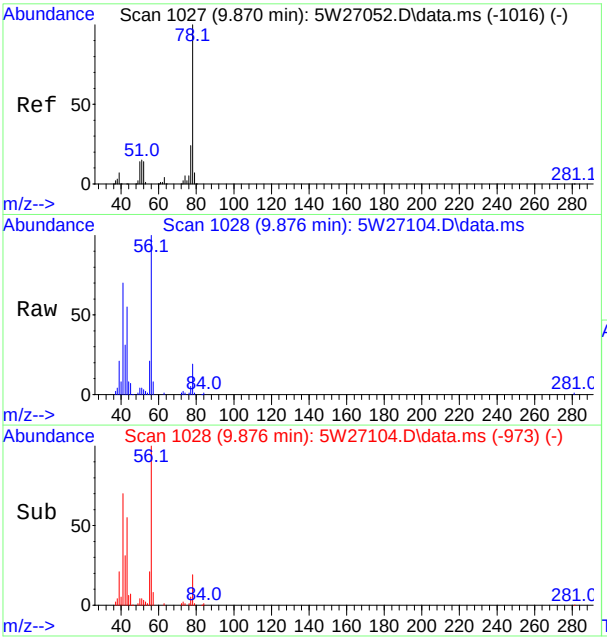


#49
1,2-Dichloroethane
Concen: 0.13 ppb(v)
RT: 9.093 min Scan# 900
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 62 Resp: 3696

Ion	Ratio	Lower	Upper
62	100		
64	34.6	22.5	41.7
98	9.8	5.9	10.9
100	0.0	4.2	7.8#

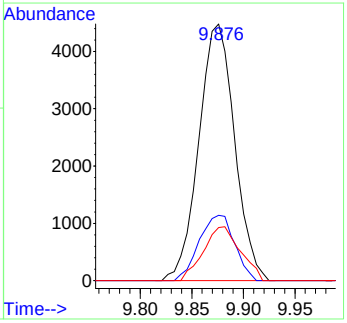


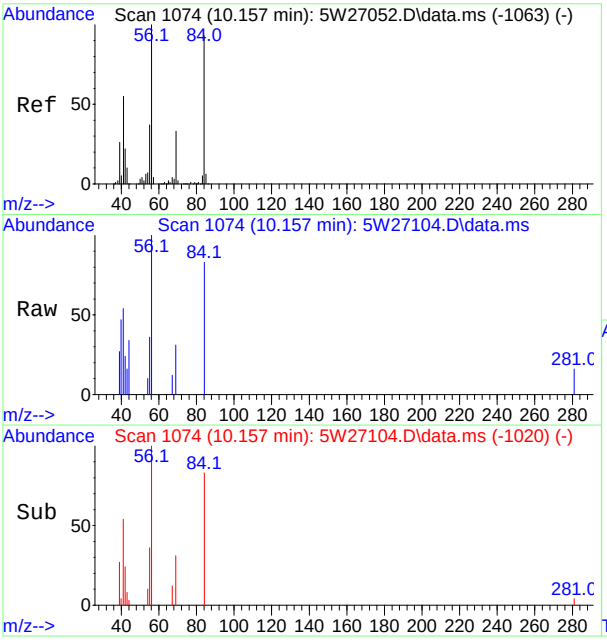


#50
Benzene
Concen: 0.14 ppb(v)
RT: 9.876 min Scan# 1028
Delta R.T. 0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 78 Resp: 10803

Ion	Ratio	Lower	Upper
78	100		
77	25.4	16.8	31.2
51	20.7	10.4	19.4#

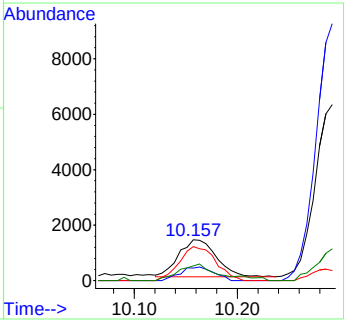


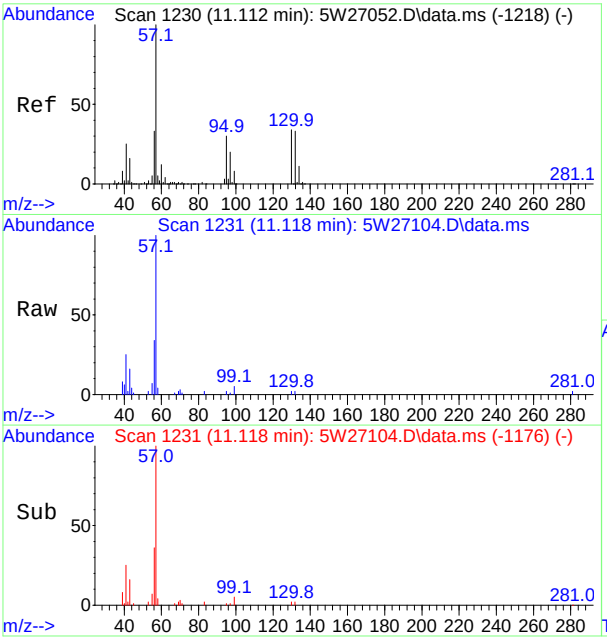


#52
Cyclohexane
Concen: 0.11 ppb(v)
RT: 10.157 min Scan# 1074
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 56 Resp: 3395

Ion	Ratio	Lower	Upper
56	100		
69	30.7	23.2	43.0
84	83.0	65.4	121.4
55	36.1	25.8	48.0

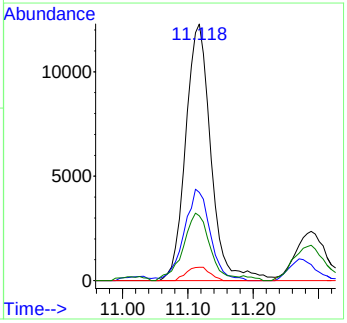


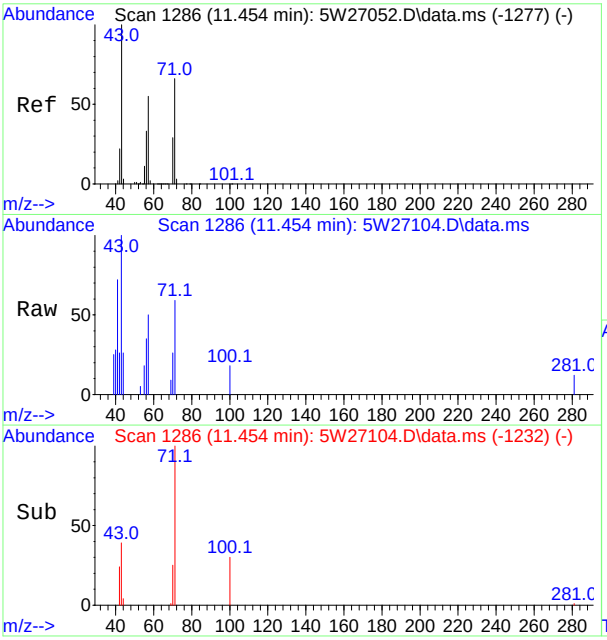


#55
2,2,4-Trimethylpentane
Concen: 0.33 ppb(v)
RT: 11.118 min Scan# 1231
Delta R.T. 0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 57 Resp: 33095

Ion	Ratio	Lower	Upper
57	100		
56	34.4	23.0	42.6
99	5.2	5.8	10.8#
41	25.2	17.7	32.9

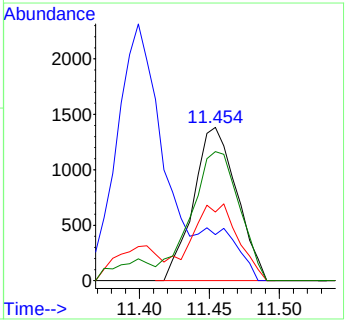


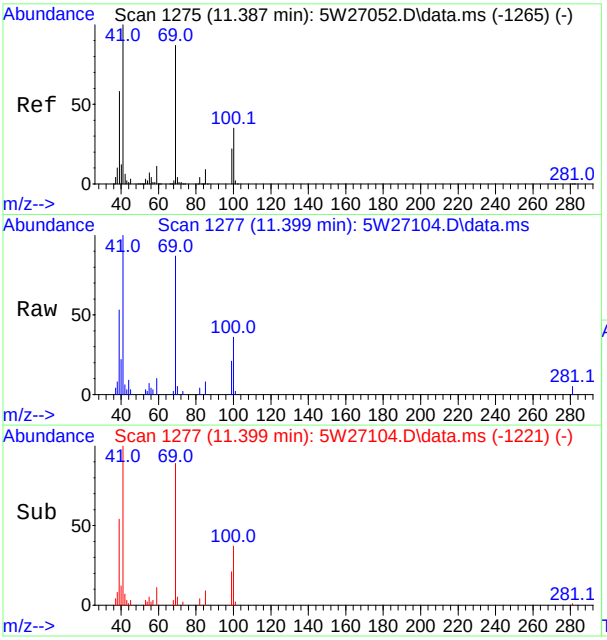


#56
Heptane
Concen: 0.14 ppb(v)
RT: 11.454 min Scan# 1286
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 71 Resp: 2984

Ion	Ratio	Lower	Upper
71	100		
100	30.1	20.1	37.3
70	44.8	34.1	63.3
57	84.2	59.4	110.4

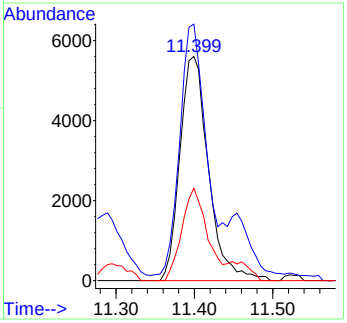


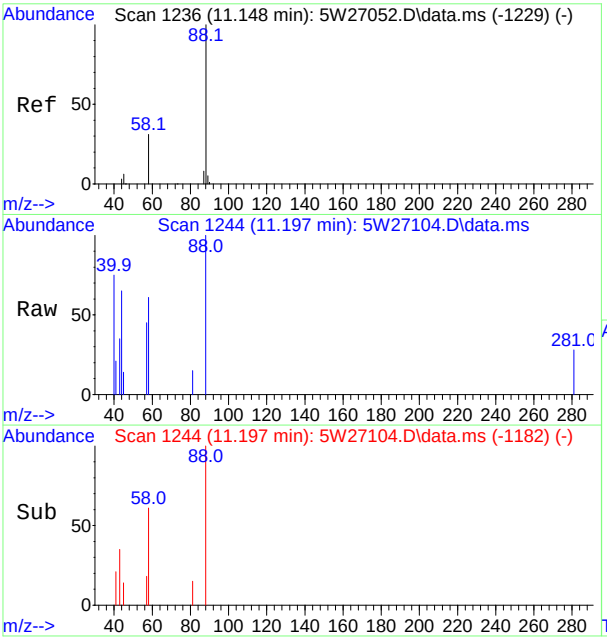


#61
Methyl Methacrylate
Concen: 0.59 ppb(v)
RT: 11.399 min Scan# 1277
Delta R.T. 0.012 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 69 Resp: 14206

Ion	Ratio	Lower	Upper
69	100		
41	114.6	80.2	148.9
100	41.3	27.9	51.9

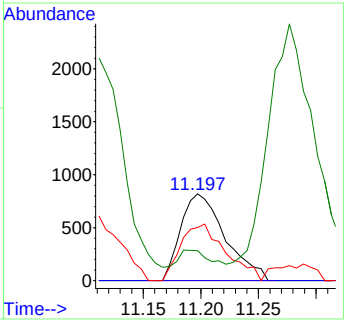


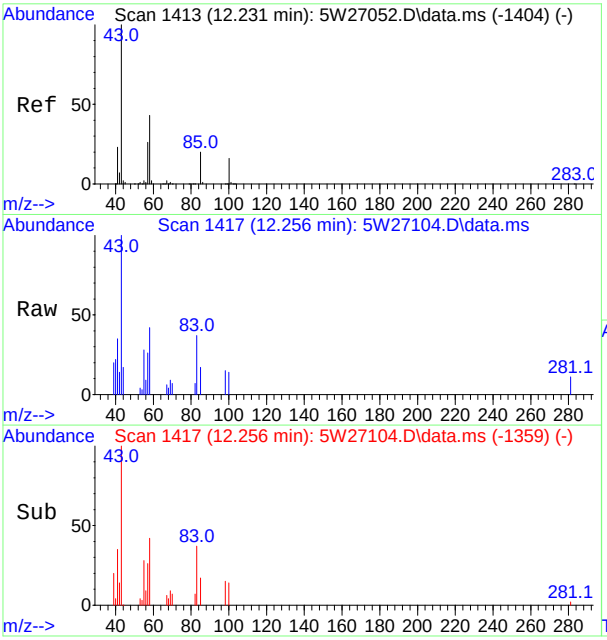


#62
1,4-Dioxane
Concen: 0.16 ppb(v)
RT: 11.197 min Scan# 1244
Delta R.T. 0.049 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 88 Resp: 2196

Ion	Ratio	Lower	Upper
88	100		
87	0.0	6.4	12.0#
58	61.2	41.7	77.5
43	34.6	27.6	51.4

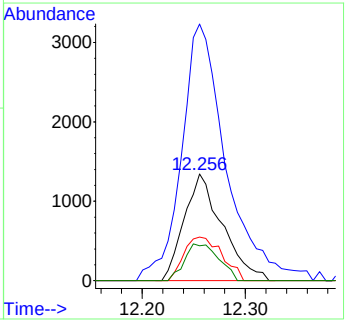


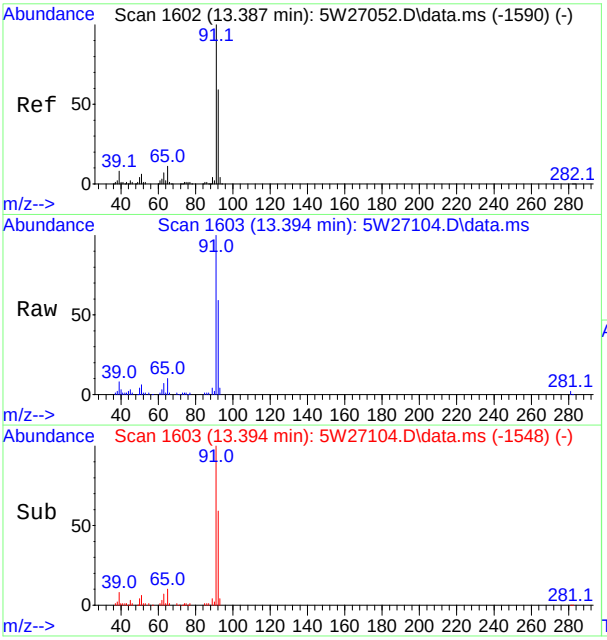


#65
4-Methyl-2-pentanone
Concen: 0.19 ppb(v)
RT: 12.256 min Scan# 1417
Delta R.T. 0.025 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 58 Resp: 3456

Ion	Ratio	Lower	Upper
58	100		
43	240.8	162.8	302.3
85	40.9	33.8	62.8
100	32.8	26.7	49.5

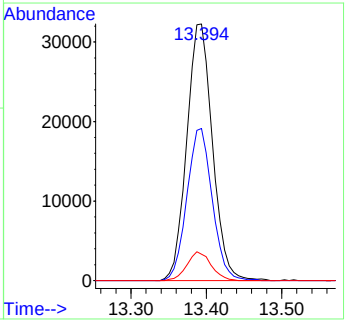


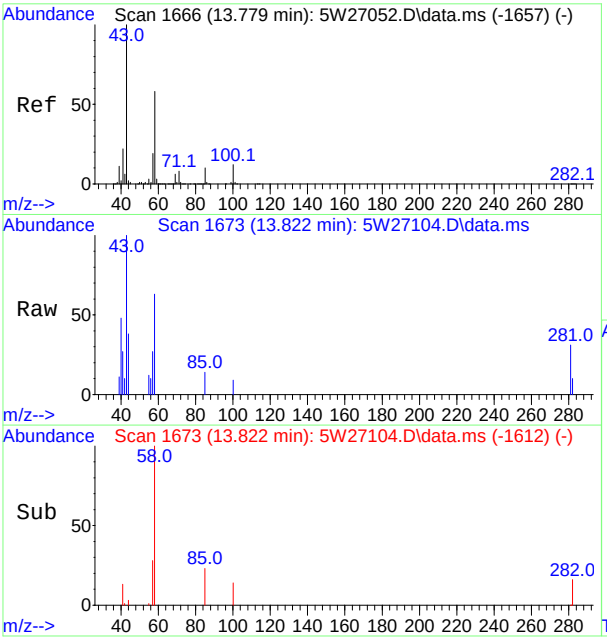


#67
Toluene
Concen: 0.89 ppb(v)
RT: 13.394 min Scan# 1603
Delta R.T. 0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 91 Resp: 76446

Ion	Ratio	Lower	Upper
91	100		
92	59.3	41.4	76.8
65	10.3	7.3	13.7

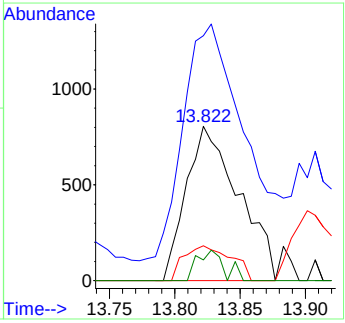


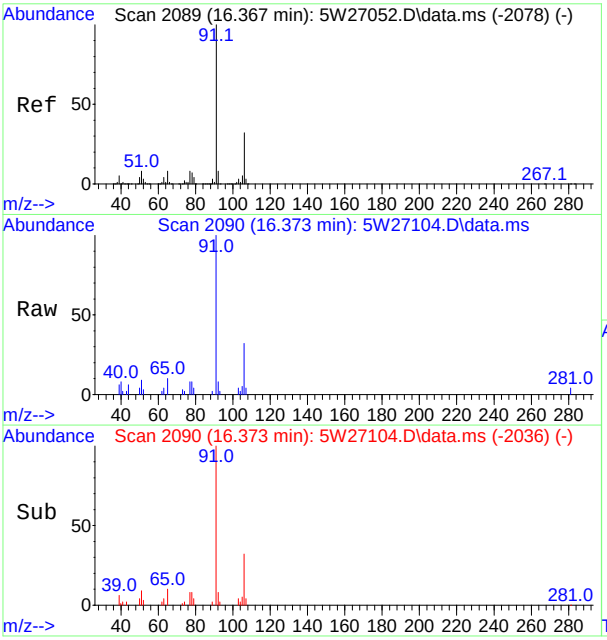


#70
2-Hexanone
Concen: 0.10 ppb(v)
RT: 13.822 min Scan# 1673
Delta R.T. 0.043 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 58 Resp: 2255

Ion	Ratio	Lower	Upper
58	100		
43	158.8	120.2	223.2
85	22.6	12.0	22.2#
100	13.5	14.7	27.3#

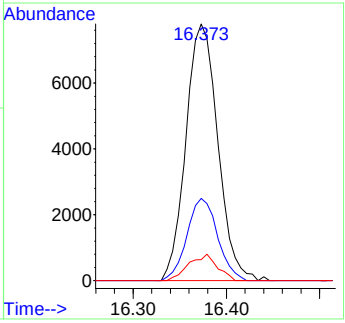


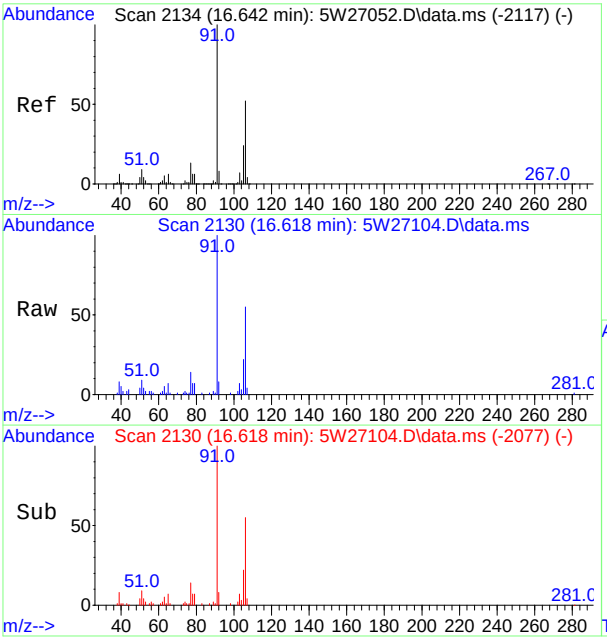


#79
Ethylbenzene
Concen: 0.18 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 91 Resp: 18548

Ion	Ratio	Lower	Upper
91	100		
106	32.0	22.4	41.6
77	8.2	5.7	10.7

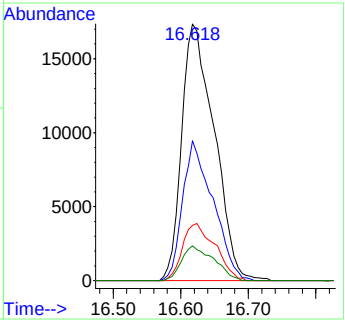


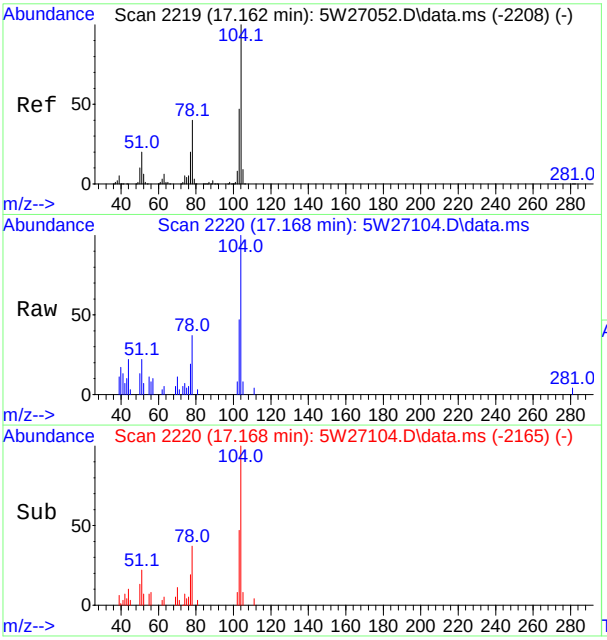


#80
m,p-Xylene
Concen: 0.74 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 91 Resp: 58051

Ion	Ratio	Lower	Upper
91	100		
106	54.5	36.3	67.5
105	21.5	16.4	30.6
77	13.6	8.9	16.5

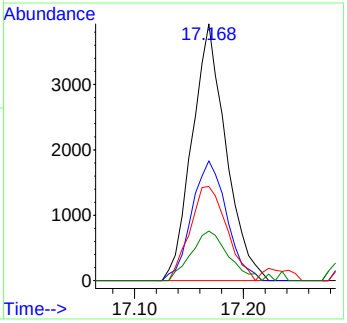


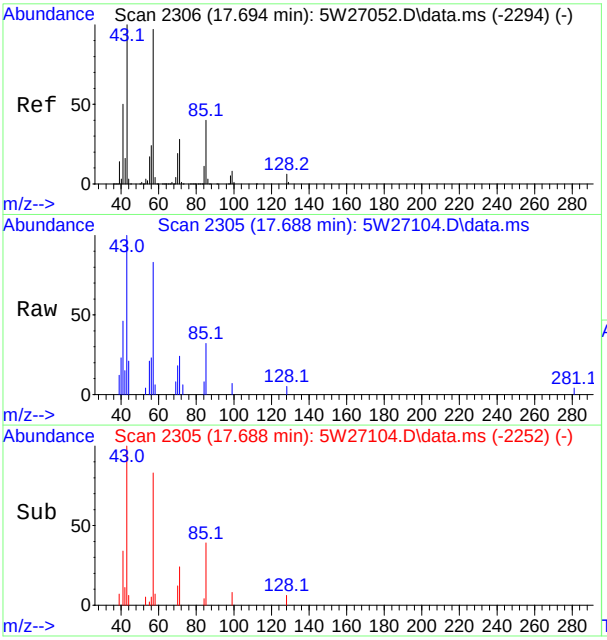


#81
Styrene
Concen: 0.14 ppb(v)
RT: 17.168 min Scan# 2220
Delta R.T. 0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion:104 Resp: 8518

Ion	Ratio	Lower	Upper
104	100		
103	46.6	32.8	61.0
78	36.7	28.1	52.1
77	19.4	13.7	25.5

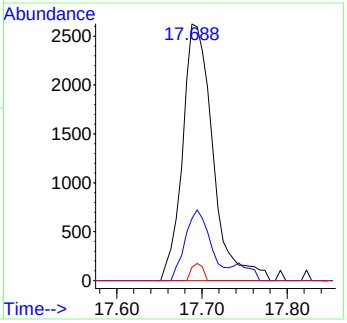


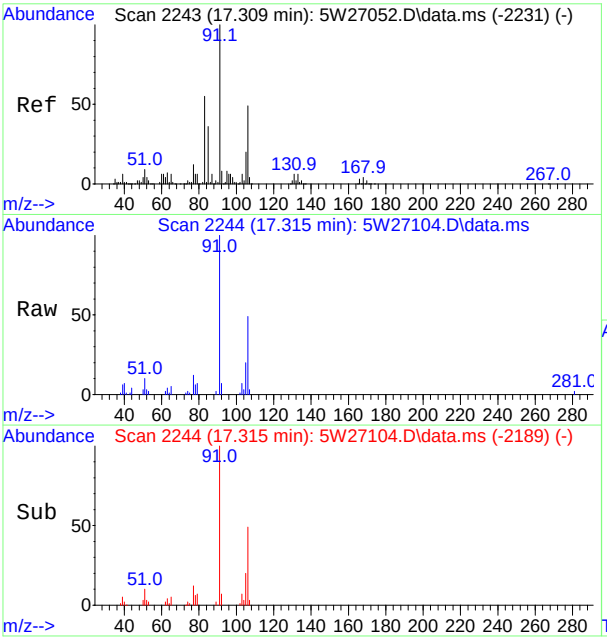


#82
Nonane
Concen: 0.14 ppb(v)
RT: 17.688 min Scan# 2305
Delta R.T. -0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 43 Resp: 6504

Ion	Ratio	Lower	Upper
43	100		
71	24.2	19.3	35.9
128	5.2	4.5	8.3

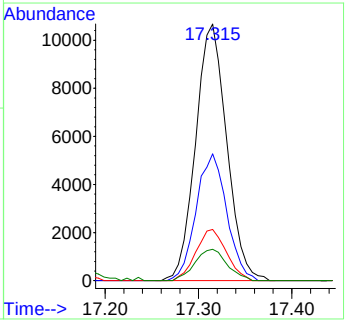


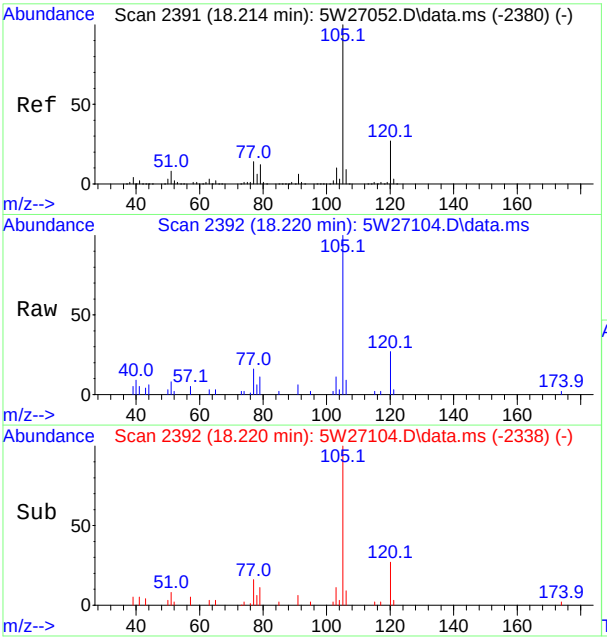


#83
o-Xylene
Concen: 0.32 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion: 91 Resp: 24864

Ion	Ratio	Lower	Upper
91	100		
106	49.4	34.4	64.0
105	20.0	13.7	25.5
77	12.2	8.5	15.7

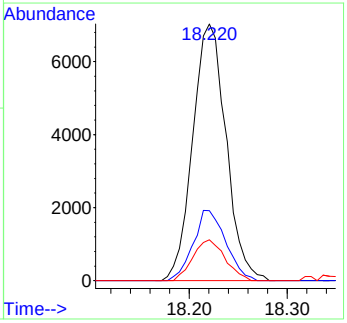


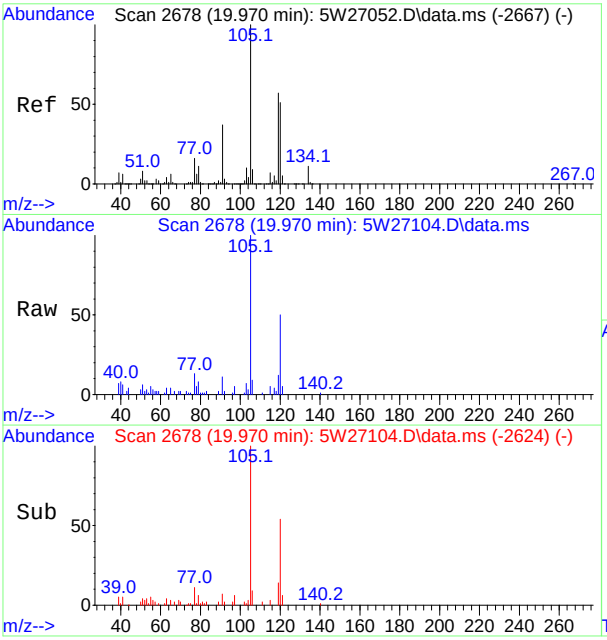


#87
Isopropylbenzene
Concen: 0.15 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion:105 Resp: 16637

Ion	Ratio	Lower	Upper
105	100		
120	27.2	19.0	35.2
77	15.9	10.1	18.9

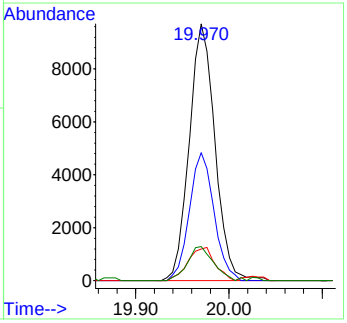




#96
1,2,4-Trimethylbenzene
Concen: 0.21 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27104.D
Acq: 7 Oct 2017 6:57 pm

Tgt Ion:105 Resp: 18690

Ion	Ratio	Lower	Upper
105	100		
120	49.8	36.0	66.8
119	12.4	40.3	74.8#
77	13.3	11.3	21.1



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27105.D
Acq On : 7 Oct 2017 7:45 pm
Operator : [redacted]
Sample : jc52053-6
Misc : MS20561,v5w1066,200,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 08 11:59:53 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

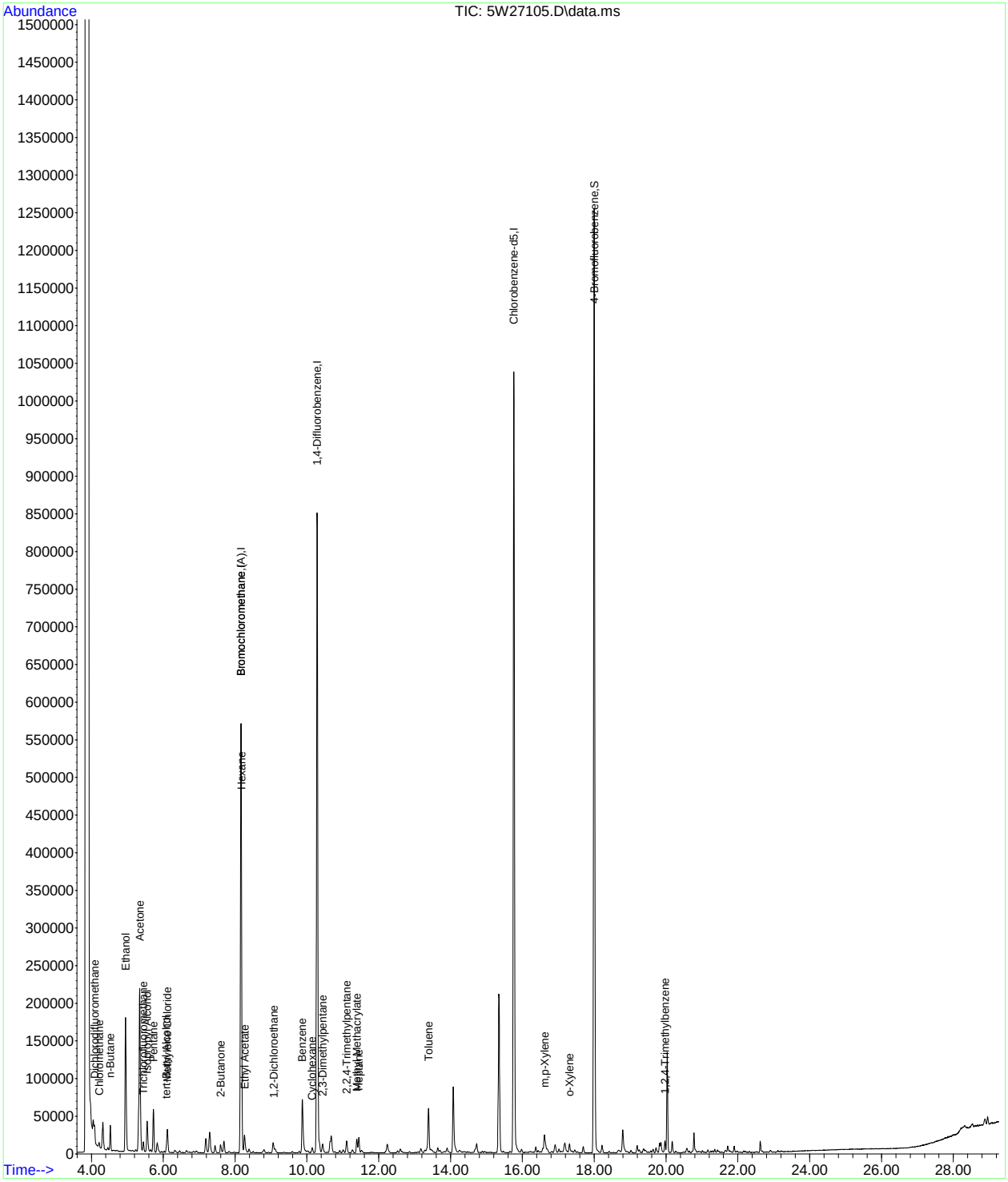
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	259759	10.00	ppb(v	-0.01
54) 1,4-Difluorobenzene	10.280	114	915350	10.00	ppb(v	-0.01
77) Chlorobenzene-d5	15.761	82	436660	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	259759	10.00	ppb(v	-0.01
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	605498	9.86	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 98.60%			
Target Compounds						Qvalue
7) Dichlorodifluoromethane	4.089	85	12919	0.23	ppb(v	97
9) Chloromethane	4.217	50	5414	0.31	ppb(v	97
13) n-Butane	4.523	58	3735	1.41	ppb(v#	89
21) Trichlorofluoromethane	5.441	101	11703	0.21	ppb(v	95
22) Acetone	5.343	58	100544	11.91	ppb(v	99
23) Pentane	5.728	57	6572	1.24	ppb(v	91
26) Isopropyl Alcohol	5.551	43	10782	1.88	ppb(v	43
29) Methylene Chloride	6.114	84	4609	0.20	ppb(v	95
31) Ethanol	4.951	45	236220	44.22	ppb(v	98
35) tert-Butyl Alcohol	6.083	59	11503	0.25	ppb(v#	72
39) 2-Butanone	7.594	72	4357	0.42	ppb(v	97
40) Hexane	8.175	57	17125	0.55	ppb(v	90
43) Ethyl Acetate	8.267	61	4983	0.74	ppb(v	86
49) 1,2-Dichloroethane	9.075	62	2789	0.10	ppb(v#	91
50) Benzene	9.864	78	9044	0.13	ppb(v	95
52) Cyclohexane	10.145	56	4465	0.15	ppb(v	92
53) 2,3-Dimethylpentane	10.439	71	2413	0.17	ppb(v#	81
55) 2,2,4-Trimethylpentane	11.106	57	13917	0.14	ppb(v#	84
56) Heptane	11.442	71	5781	0.27	ppb(v	97
61) Methyl Methacrylate	11.387	69	10782	0.45	ppb(v	96
67) Toluene	13.387	91	60983	0.72	ppb(v	99
80) m,p-Xylene	16.618	91	26697	0.30	ppb(v	99
83) o-Xylene	17.315	91	10410	0.12	ppb(v	98
96) 1,2,4-Trimethylbenzene	19.970	105	10715	0.11	ppb(v#	70

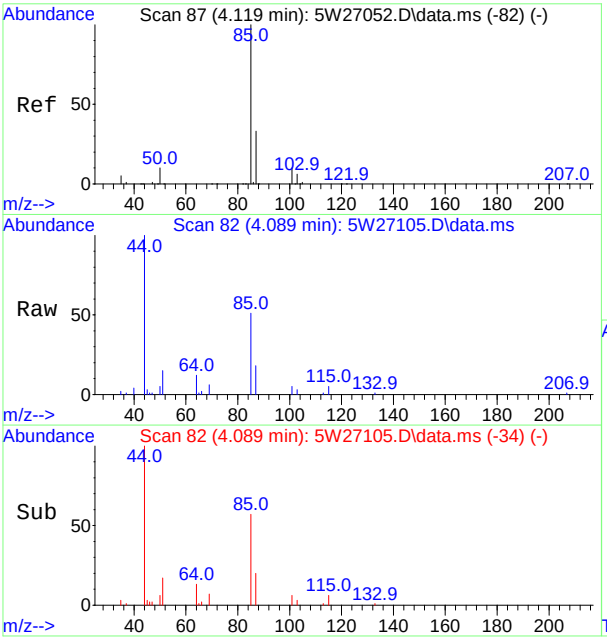
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27105.D
Acq On : 7 Oct 2017 7:45 pm
Operator : [redacted]
Sample : jc52053-6
Misc : MS20561,v5w1066,200,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 08 11:59:53 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

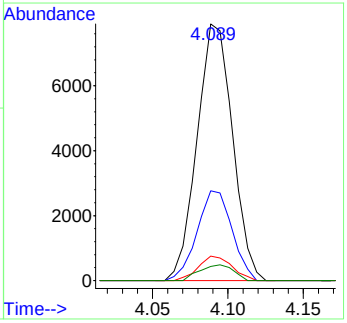


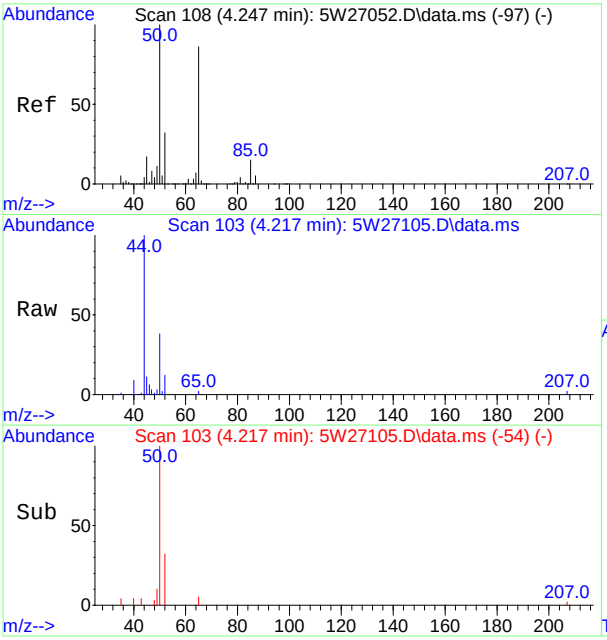


#7
Dichlorodifluoromethane
Concen: 0.23 ppb(v)
RT: 4.089 min Scan# 82
Delta R.T. -0.037 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 85 Resp: 12919

Ion	Ratio	Lower	Upper
85	100		
87	34.9	23.0	42.6
101	9.6	6.6	12.2
103	5.6	4.2	7.8

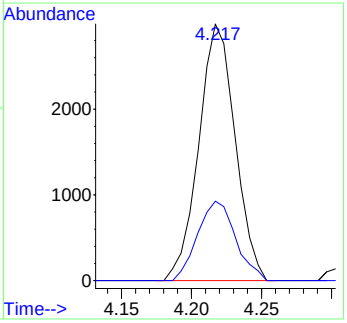


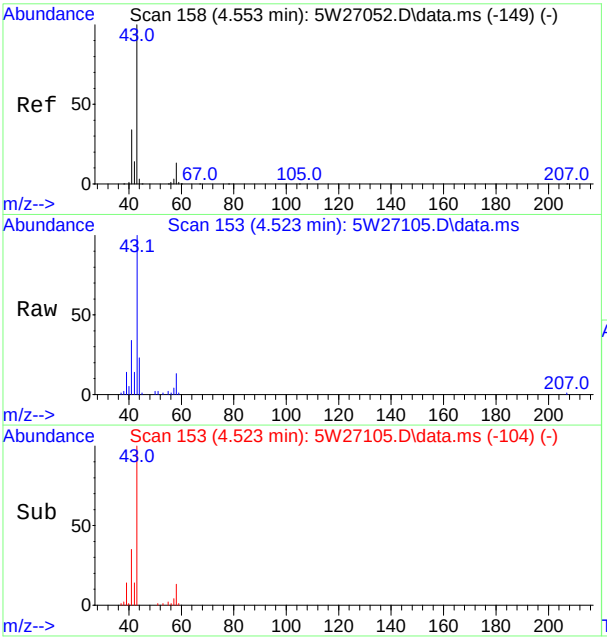


#9
Chloromethane
Concen: 0.31 ppb(v)
RT: 4.217 min Scan# 103
Delta R.T. -0.030 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 50 Resp: 5414

Ion	Ratio	Lower	Upper
50	100		
52	31.0	22.7	42.1

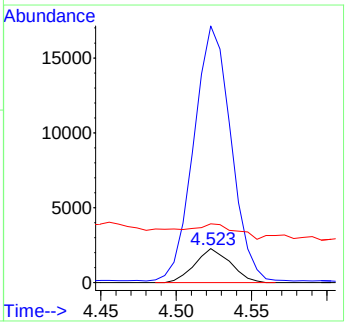


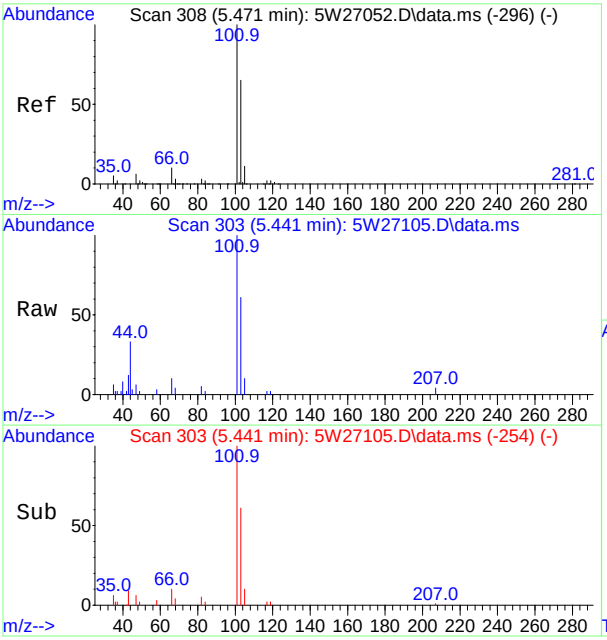


#13
n-Butane
Concen: 1.41 ppb(v)
RT: 4.523 min Scan# 153
Delta R.T. -0.030 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 58 Resp: 3735

Ion	Ratio	Lower	Upper
58	100		
43	756.2	527.9	980.5
44	173.6	25.1	46.7#

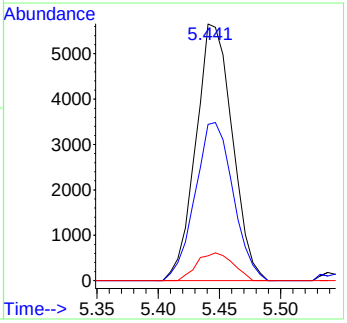


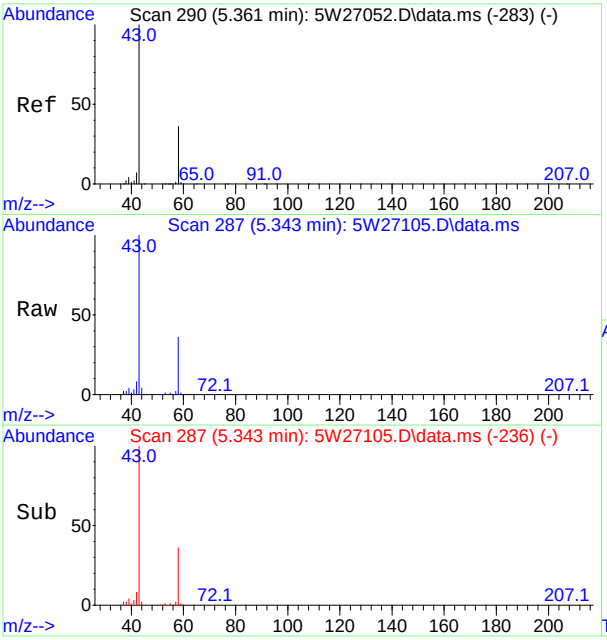


#21
Trichlorofluoromethane
Concen: 0.21 ppb(v)
RT: 5.441 min Scan# 303
Delta R.T. -0.030 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion:101 Resp: 11703

Ion	Ratio	Lower	Upper
101	100		
103	60.9	45.6	84.6
105	9.6	7.5	13.9

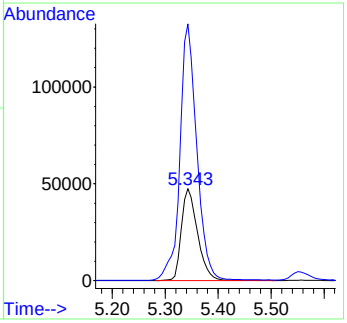


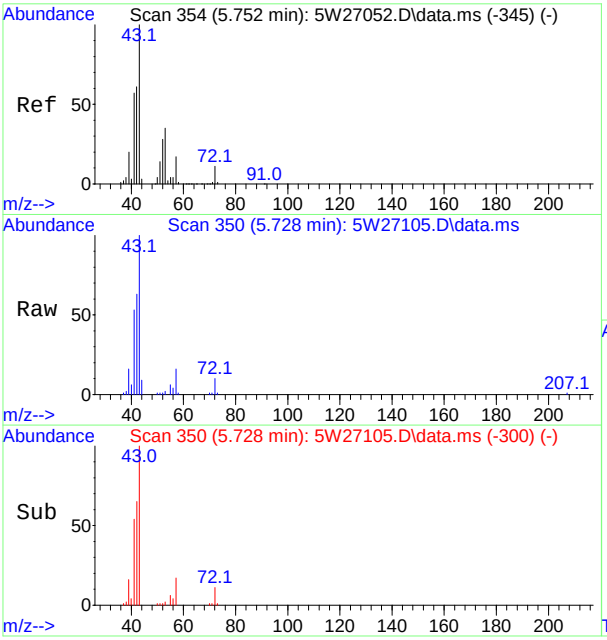


#22
Acetone
Concen: 11.91 ppb(v)
RT: 5.343 min Scan# 287
Delta R.T. -0.018 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 58 Resp: 100544

Ion	Ratio	Lower	Upper
58	100		
43	279.3	194.7	361.5

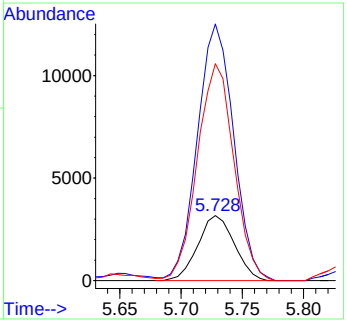


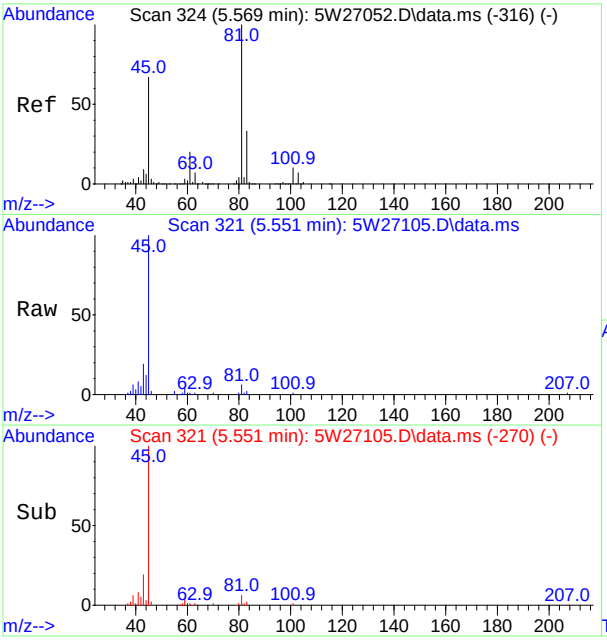


#23
Pentane
Concen: 1.24 ppb(v)
RT: 5.728 min Scan# 350
Delta R.T. -0.024 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 57 Resp: 6572

Ion	Ratio	Lower	Upper
57	100		
42	395.0	249.9	464.1
41	333.5	233.0	432.6

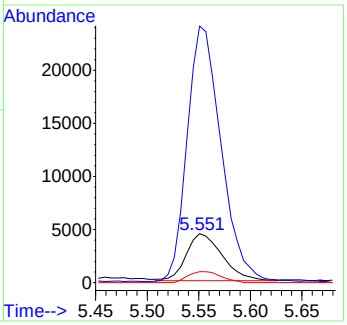


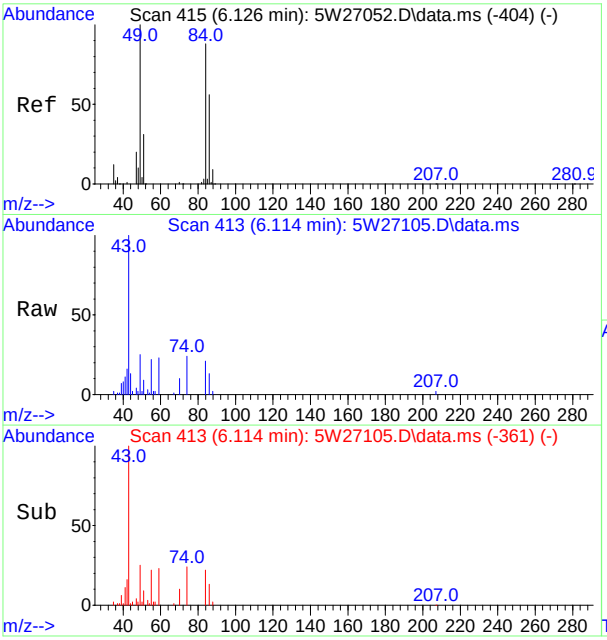


#26
Isopropyl Alcohol
Concen: 1.88 ppb(v)
RT: 5.551 min Scan# 321
Delta R.T. -0.018 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 43 Resp: 10782

Ion	Ratio	Lower	Upper
43	100		
45	522.4	512.5	951.7
59	22.0	20.9	38.7

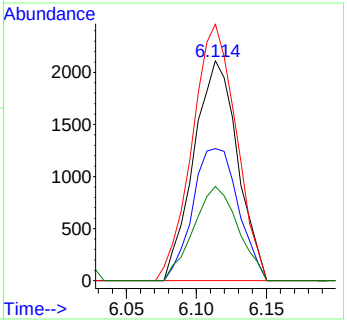


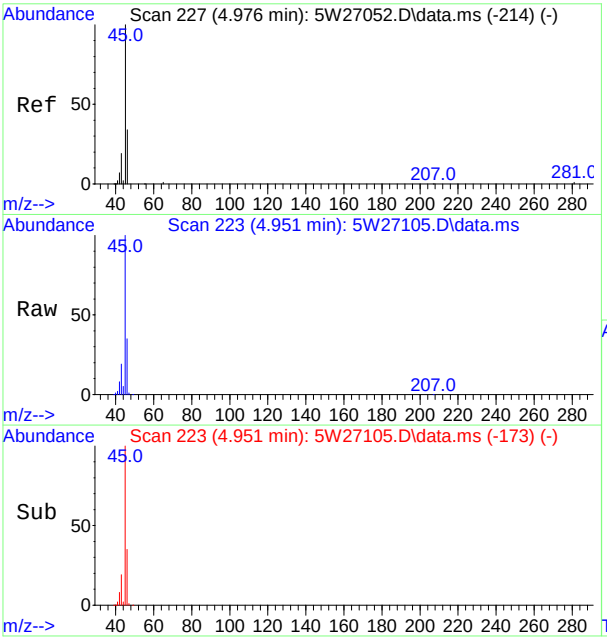


#29
Methylene Chloride
Concen: 0.20 ppb(v)
RT: 6.114 min Scan# 413
Delta R.T. -0.012 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 84 Resp: 4609

Ion	Ratio	Lower	Upper
84	100		
86	60.0	44.7	82.9
49	116.8	79.5	147.6
51	42.9	25.1	46.7

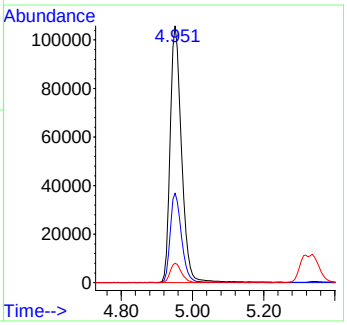


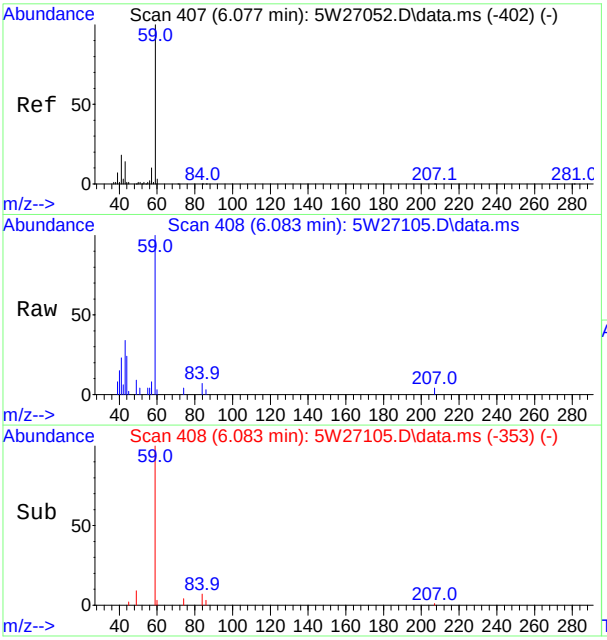


#31
Ethanol
Concen: 44.22 ppb(v)
RT: 4.951 min Scan# 223
Delta R.T. -0.024 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 45 Resp: 236220

Ion	Ratio	Lower	Upper
45	100		
46	34.9	23.5	43.7
42	7.6	5.5	10.3

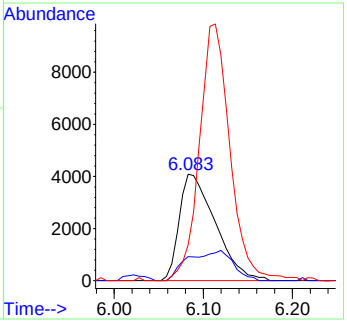


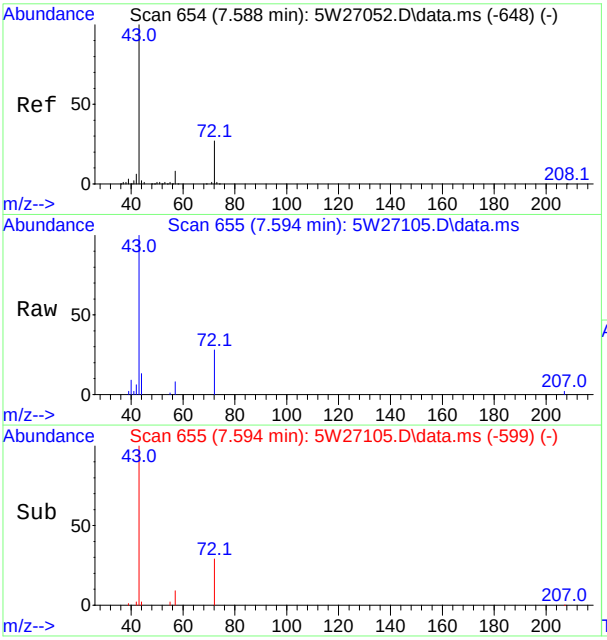


#35
tert-Butyl Alcohol
Concen: 0.25 ppb(v)
RT: 6.083 min Scan# 408
Delta R.T. 0.006 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 59 Resp: 11503

Ion	Ratio	Lower	Upper
59	100		
41	22.6	12.5	23.1
43	33.9	9.7	17.9#

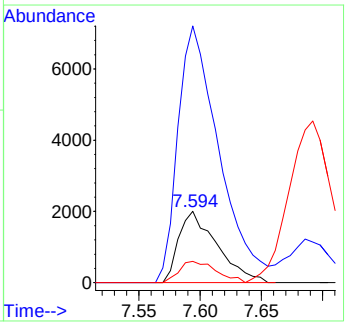


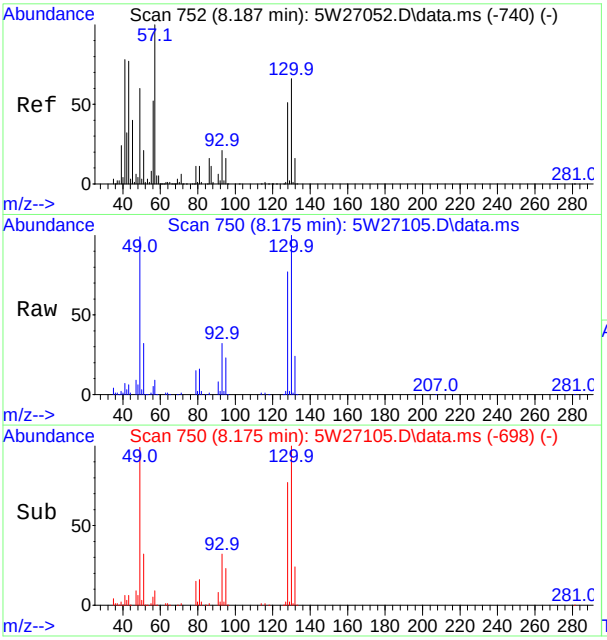


#39
2-Butanone
Concen: 0.42 ppb(v)
RT: 7.594 min Scan# 655
Delta R.T. 0.012 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 72 Resp: 4357

Ion	Ratio	Lower	Upper
72	100		
43	359.8	256.8	476.8
57	29.7	20.4	37.8

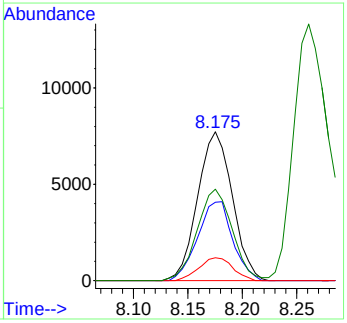




#40
Hexane
Concen: 0.55 ppb(v)
RT: 8.175 min Scan# 750
Delta R.T. -0.012 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 57 Resp: 17125

Ion	Ratio	Lower	Upper
57	100		
56	52.7	36.6	68.0
86	15.3	11.1	20.5
43	61.4	54.2	100.6



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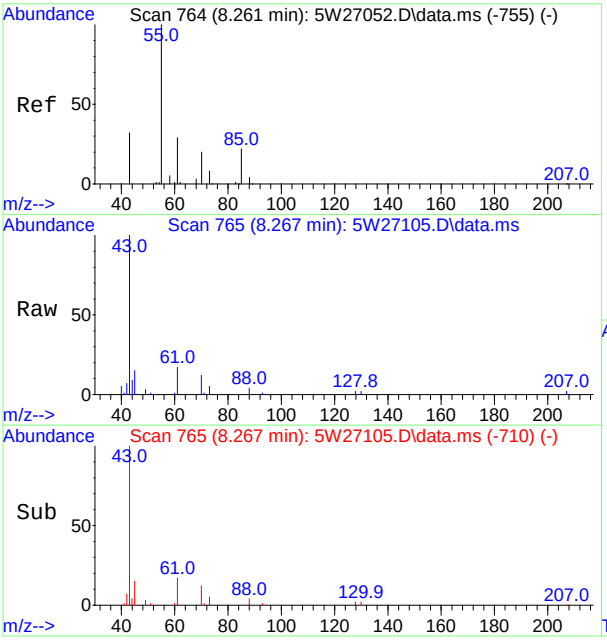
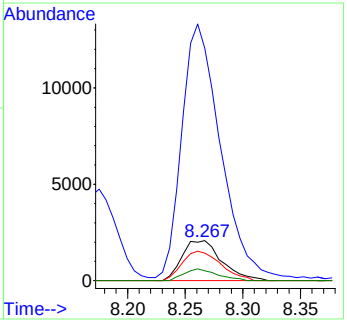
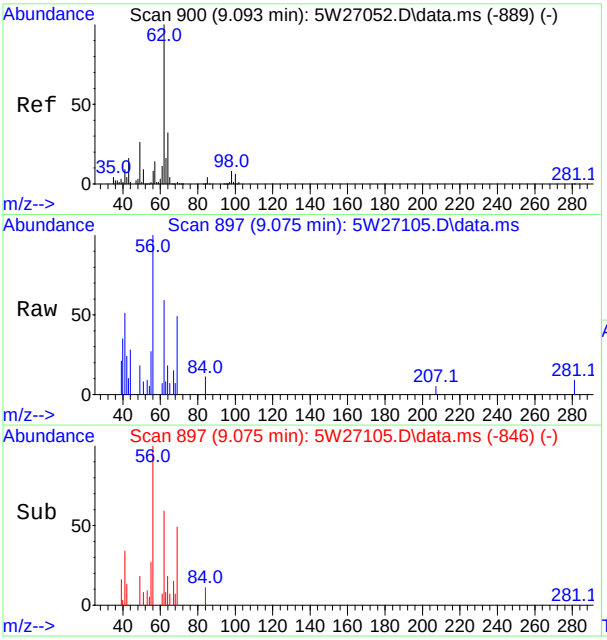


#43
Ethyl Acetate
Concen: 0.74 ppb(v)
RT: 8.267 min Scan# 765
Delta R.T. 0.006 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 61 Resp: 4983

Ion	Ratio	Lower	Upper
61	100		
43	579.8	440.8	818.6
70	68.7	51.7	95.9
88	24.5	19.4	36.0

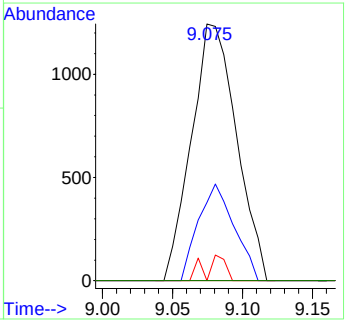


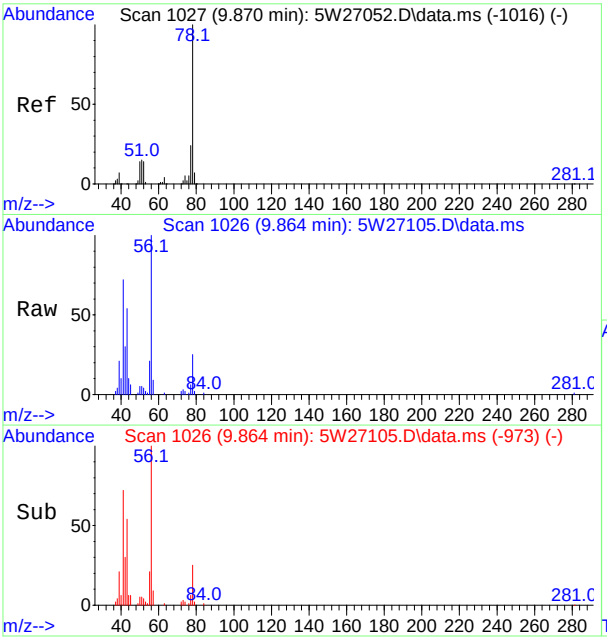


#49
1,2-Dichloroethane
Concen: 0.10 ppb(v)
RT: 9.075 min Scan# 897
Delta R.T. -0.018 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 62 Resp: 2789

Ion	Ratio	Lower	Upper
62	100		
64	30.5	22.5	41.7
98	0.0	5.9	10.9#
100	0.0	4.2	7.8#

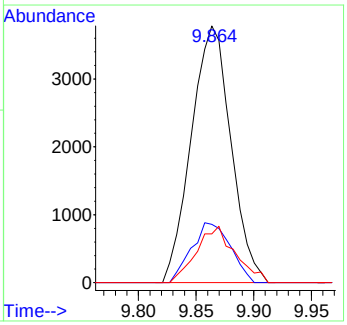


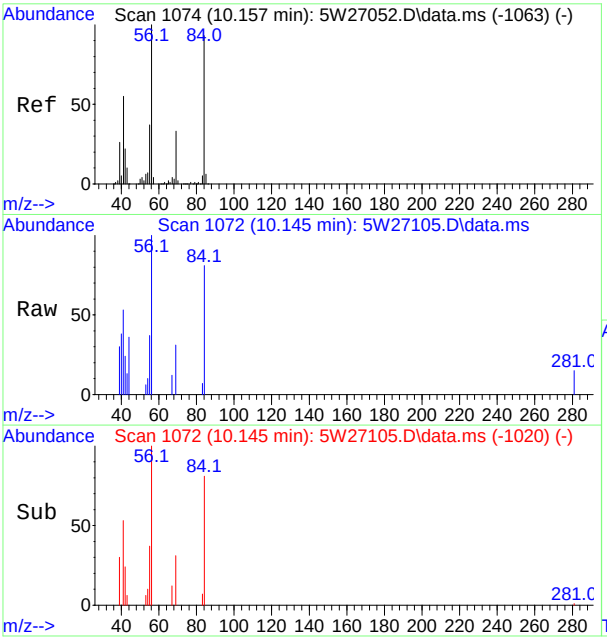


#50
Benzene
Concen: 0.13 ppb(v)
RT: 9.864 min Scan# 1026
Delta R.T. -0.006 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 78 Resp: 9044

Ion	Ratio	Lower	Upper
78	100		
77	22.7	16.8	31.2
51	19.0	10.4	19.4

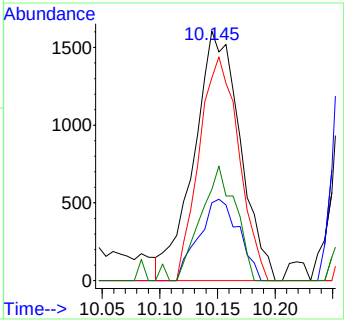


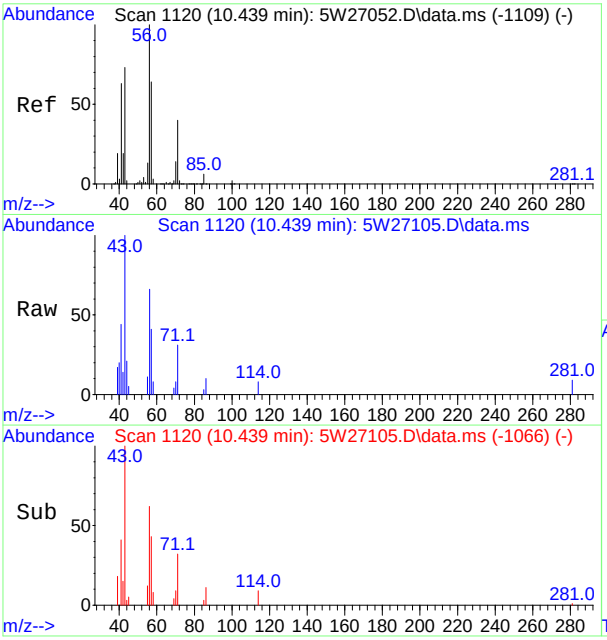


#52
Cyclohexane
Concen: 0.15 ppb(v)
RT: 10.145 min Scan# 1072
Delta R.T. -0.012 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 56 Resp: 4465

Ion	Ratio	Lower	Upper
56	100		
69	31.2	23.2	43.0
84	81.3	65.4	121.4
55	36.6	25.8	48.0

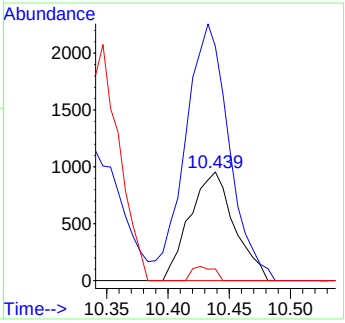


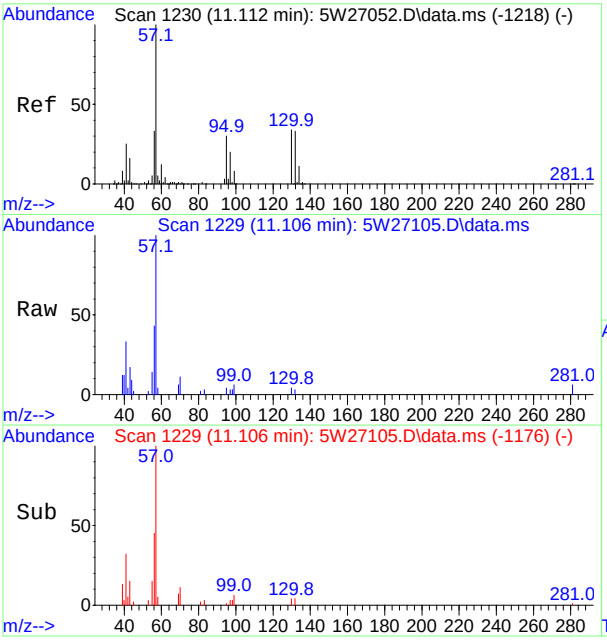


#53
2,3-Dimethylpentane
Concen: 0.17 ppb(v)
RT: 10.439 min Scan# 1120
Delta R.T. 0.000 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 71 Resp: 2413

Ion	Ratio	Lower	Upper
71	100		
56	215.4	174.6	324.2
85	10.8	11.1	20.5#

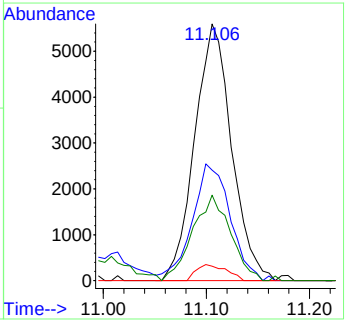




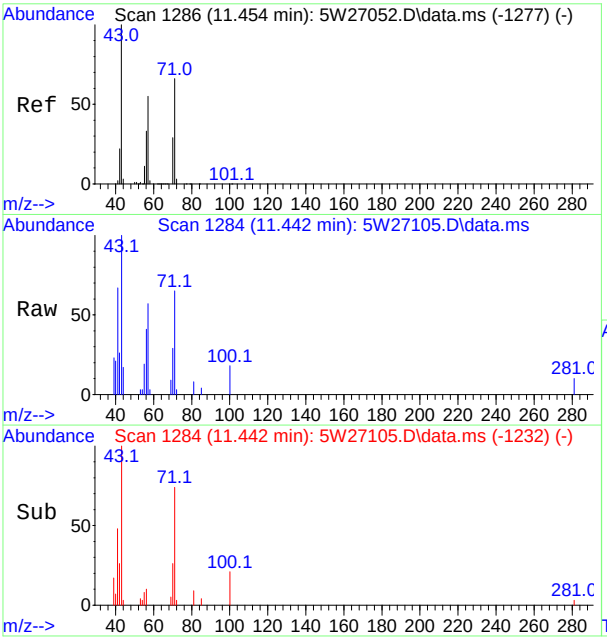
#55
2,2,4-Trimethylpentane
Concen: 0.14 ppb(v)
RT: 11.106 min Scan# 1229
Delta R.T. -0.006 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 57 Resp: 13917

Ion	Ratio	Lower	Upper
57	100		
56	43.0	23.0	42.6#
99	5.7	5.8	10.8#
41	33.3	17.7	32.9#



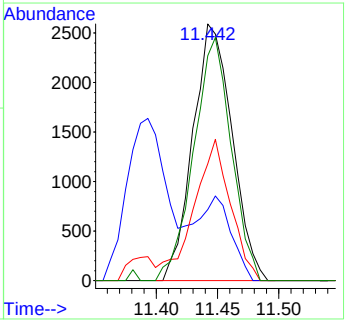
SGS ACCUTEST JC52053

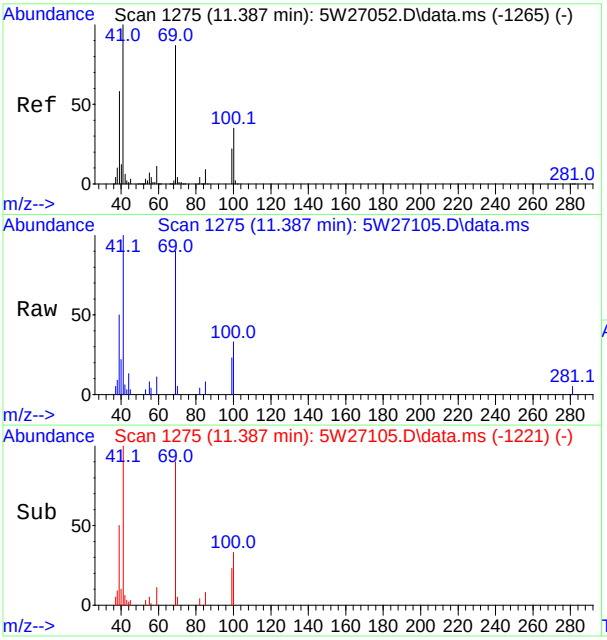


#56
Heptane
Concen: 0.27 ppb(v)
RT: 11.442 min Scan# 1284
Delta R.T. -0.012 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 71 Resp: 5781

Ion	Ratio	Lower	Upper
71	100		
100	27.7	20.1	37.3
70	45.5	34.1	63.3
57	87.5	59.4	110.4

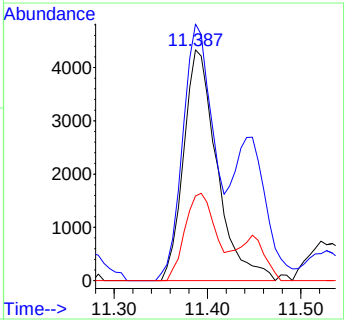


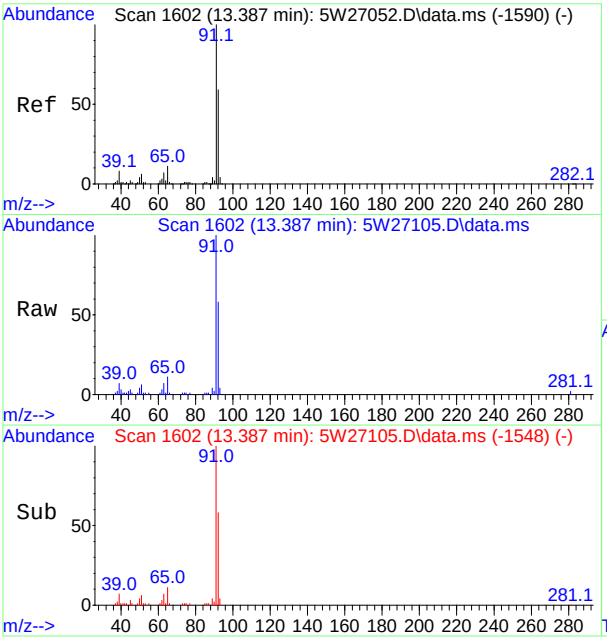


#61
Methyl Methacrylate
Concen: 0.45 ppb(v)
RT: 11.387 min Scan# 1275
Delta R.T. -0.000 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 69 Resp: 10782

Ion	Ratio	Lower	Upper
69	100		
41	111.3	80.2	148.9
100	36.7	27.9	51.9

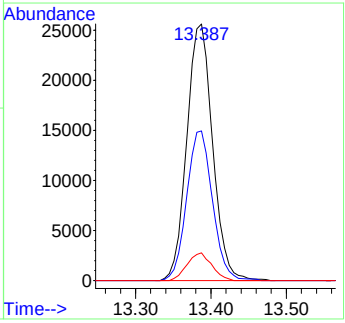


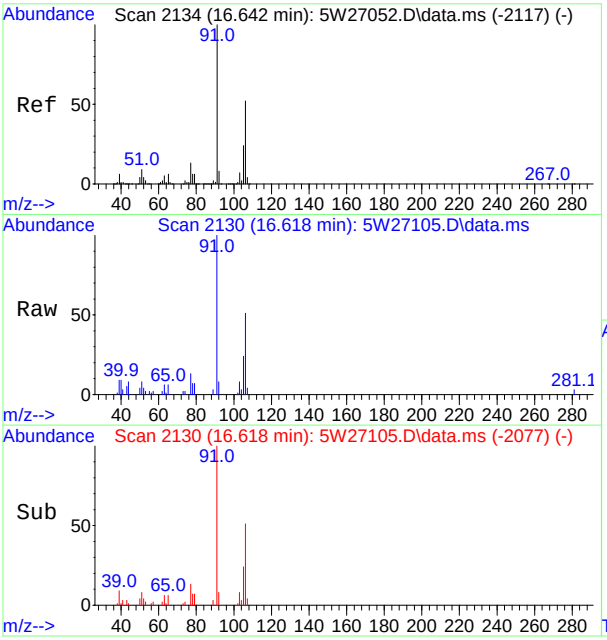


#67
Toluene
Concen: 0.72 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 91 Resp: 60983

Ion	Ratio	Lower	Upper
91	100		
92	58.3	41.4	76.8
65	10.8	7.3	13.7

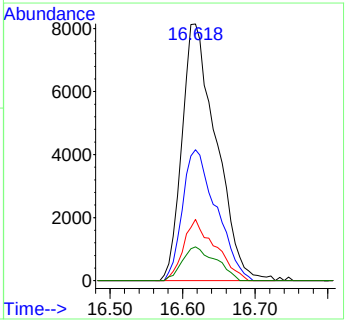


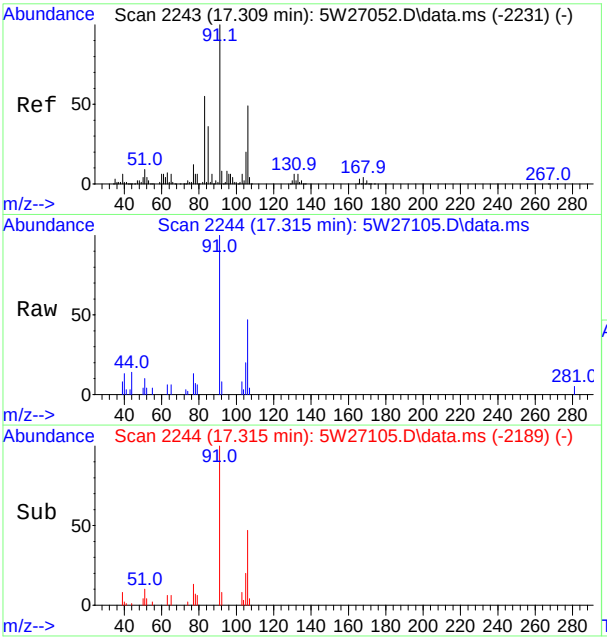


#80
m,p-Xylene
Concen: 0.30 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 91 Resp: 26697

Ion	Ratio	Lower	Upper
91	100		
106	51.0	36.3	67.5
105	23.9	16.4	30.6
77	13.2	8.9	16.5

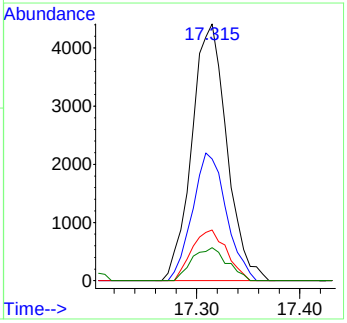


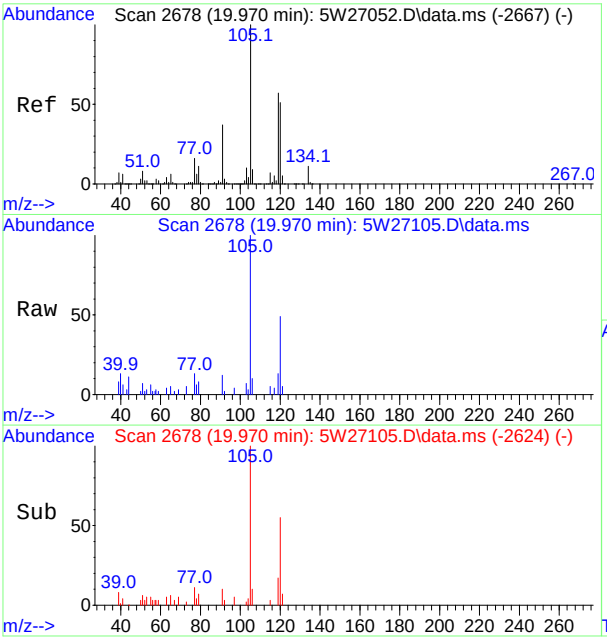


#83
o-Xylene
Concen: 0.12 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion: 91 Resp: 10410

Ion	Ratio	Lower	Upper
91	100		
106	47.4	34.4	64.0
105	19.7	13.7	25.5
77	12.8	8.5	15.7

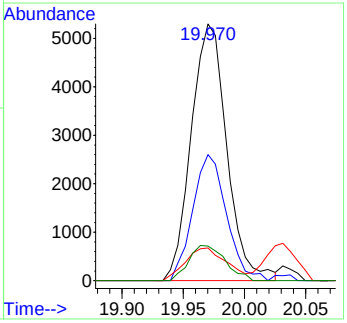




#96
1,2,4-Trimethylbenzene
Concen: 0.11 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27105.D
Acq: 7 Oct 2017 7:45 pm

Tgt Ion:105 Resp: 10715

Ion	Ratio	Lower	Upper
105	100		
120	49.0	36.0	66.8
119	12.8	40.3	74.8#
77	13.4	11.3	21.1



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27118.D
Acq On : 8 Oct 2017 3:18 pm
Operator : [redacted]
Sample : jc52053-7
Misc : MS20561,v5w1067,400,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 16:29:48 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	257432	10.00	ppb(v	-0.02
54) 1,4-Difluorobenzene	10.279	114	897049	10.00	ppb(v	-0.01
77) Chlorobenzene-d5	15.761	82	418672	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	257432	10.00	ppb(v	-0.02
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	597159	10.14	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.40%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

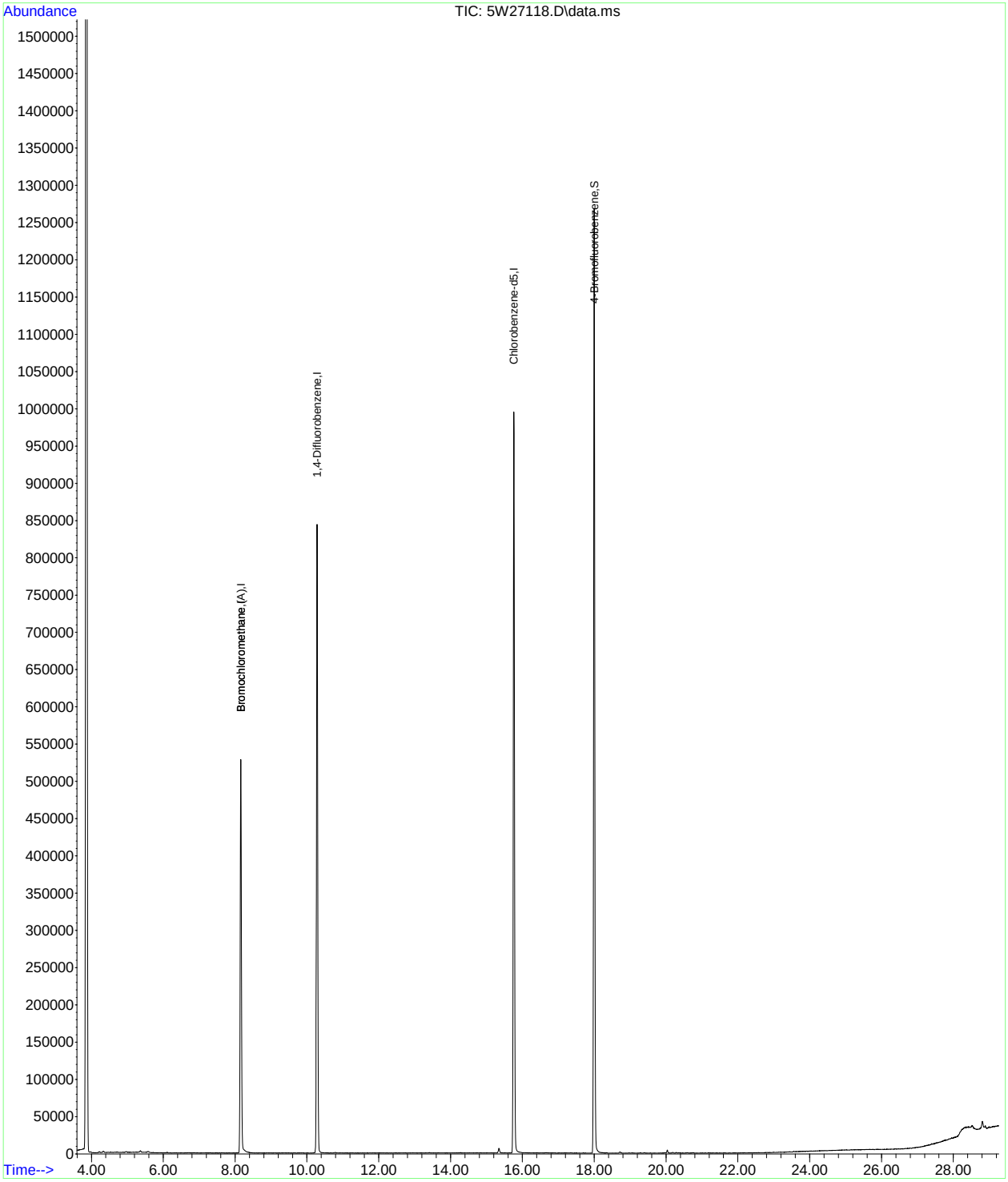
7.1.7

7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27118.D
Acq On : 8 Oct 2017 3:18 pm
Operator : [redacted]
Sample : jc52053-7
Misc : MS20561,v5w1067,400,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 16:29:48 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27107.D
Acq On : 7 Oct 2017 9:47 pm
Operator : [redacted]
Sample : jc52053-8
Misc : MS20561,v5w1066,640,,,,1.60
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 12:02:36 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	274318	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	937255	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	383707	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	274318	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	653218	12.10	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 121.00%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	8897	0.61	ppb(v	99
4) Chlorodifluoromethane	4.040	67	2121	0.41	ppb(v	97
7) Dichlorodifluoromethane	4.119	85	28584	0.48	ppb(v	99
9) Chloromethane	4.242	50	9838	0.54	ppb(v	97
13) n-Butane	4.554	58	3210	1.15	ppb(v#	87
21) Trichlorofluoromethane	5.471	101	16692	0.29	ppb(v	100
22) Acetone	5.367	58	74354	8.34	ppb(v	77
23) Pentane	5.759	57	3895	0.70	ppb(v	95
26) Isopropyl Alcohol	5.575	43	5778	0.95	ppb(v#	16
31) Ethanol	4.976	45	43586	7.73	ppb(v	96
35) tert-Butyl Alcohol	6.114	59	6670	0.14	ppb(v#	60
39) 2-Butanone	7.606	72	6897	0.64	ppb(v	95
40) Hexane	8.187	57	5868	0.18	ppb(v	87
43) Ethyl Acetate	8.285	61	1240	0.18	ppb(v	76
46) 2,4-Dimethylpentane	9.130	57	3901	0.10	ppb(v	90
50) Benzene	9.876	78	10951	0.15	ppb(v	97
55) 2,2,4-Trimethylpentane	11.112	57	71446	0.70	ppb(v#	96
56) Heptane	11.460	71	2093	0.10	ppb(v	93
62) 1,4-Dioxane	11.203	88	2173	0.16	ppb(v#	90
67) Toluene	13.387	91	81763	0.95	ppb(v	98
79) Ethylbenzene	16.373	91	14353	0.14	ppb(v	98
80) m,p-Xylene	16.618	91	46269	0.59	ppb(v	98
83) o-Xylene	17.315	91	16743	0.21	ppb(v	99
86) 1,2,3-Trichloropropane	17.511	75	6153	0.14	ppb(v	97
94) alpha-Methylstyrene	19.615	118	21648	0.49	ppb(v	97
96) 1,2,4-Trimethylbenzene	19.970	105	13890	0.16	ppb(v#	72

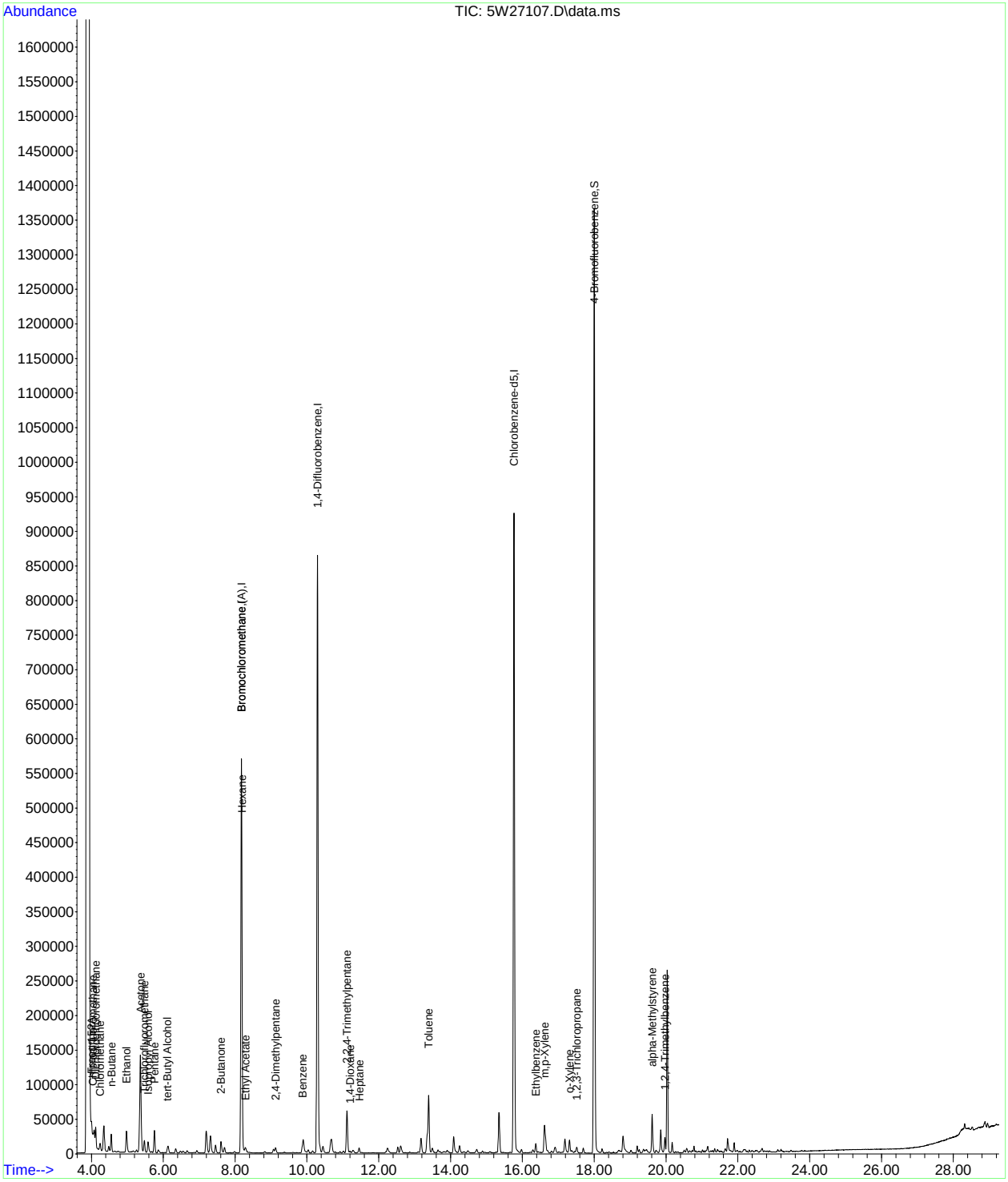
(#) = qualifier out of range (m) = manual integration (+) = signals summed

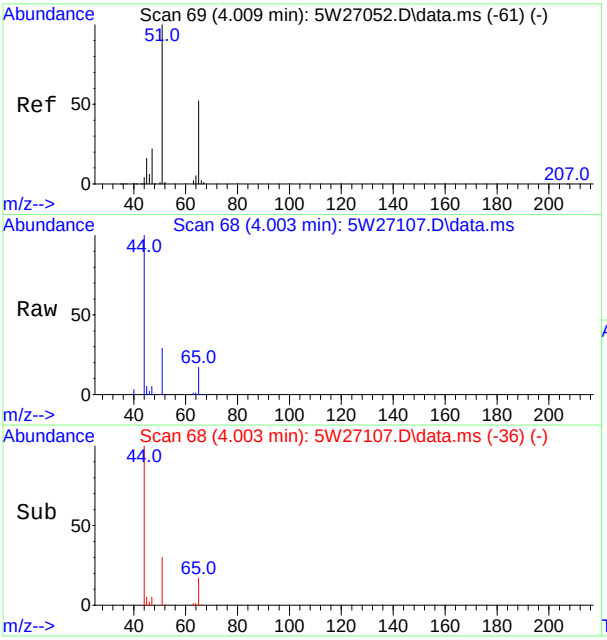
SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27107.D
Acq On : 7 Oct 2017 9:47 pm
Operator : [redacted]
Sample : jc52053-8
Misc : MS20561,v5w1066,640,,,,1.60
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 12:02:36 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

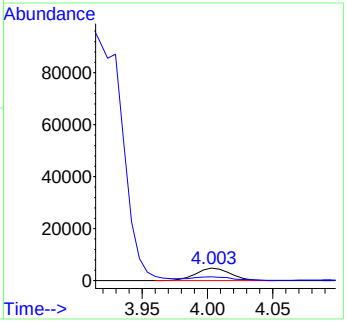


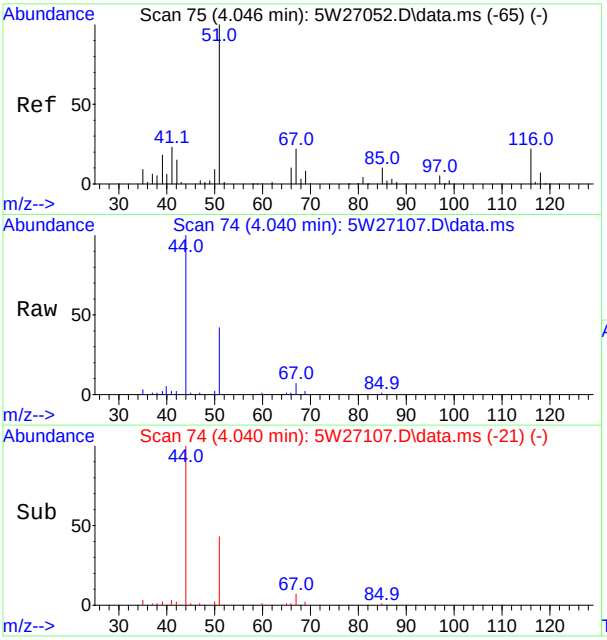


#3
Freon 152A
Concen: 0.61 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 65 Resp: 8897

Ion	Ratio	Lower	Upper
65	100		
45	31.3	21.4	39.8

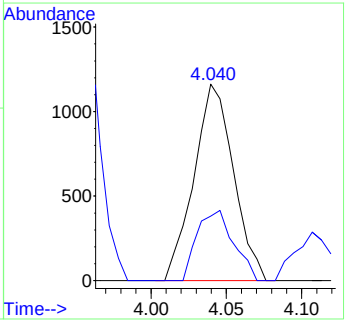


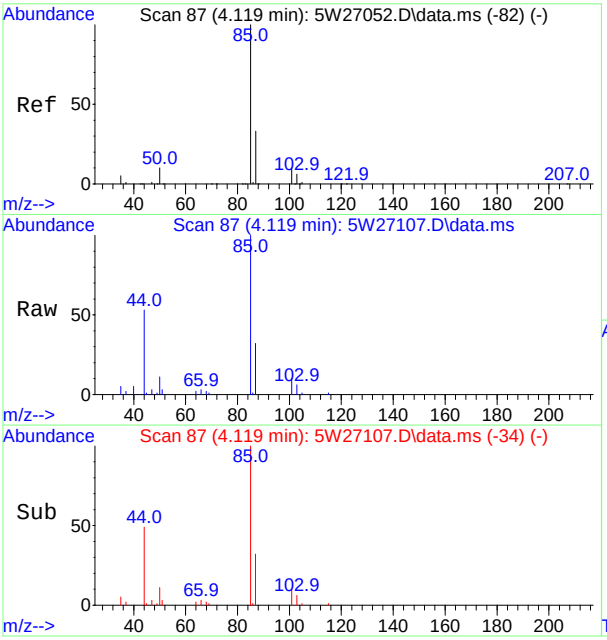


#4
Chlorodifluoromethane
Concen: 0.41 ppb(v)
RT: 4.040 min Scan# 74
Delta R.T. -0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 67 Resp: 2121

Ion	Ratio	Lower	Upper
67	100		
69	32.9	24.1	44.7

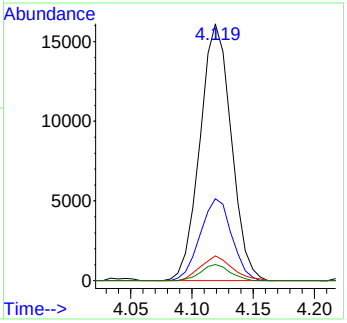


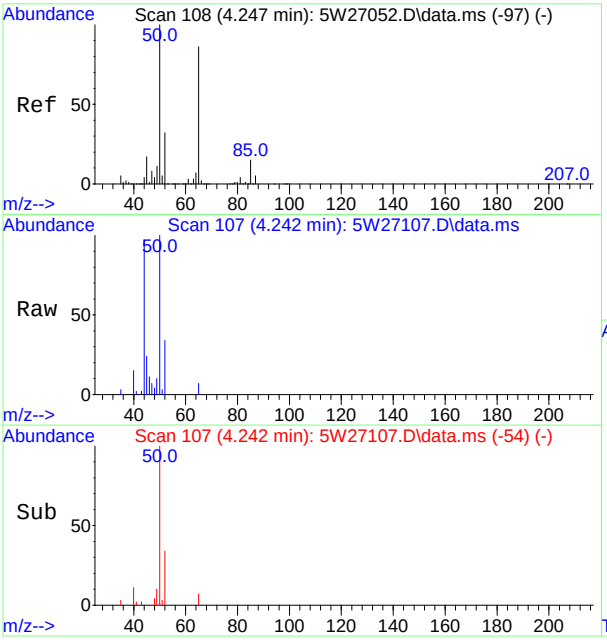


#7
Dichlorodifluoromethane
Concen: 0.48 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 85 Resp: 28584

Ion	Ratio	Lower	Upper
85	100		
87	31.9	23.0	42.6
101	9.7	6.6	12.2
103	6.2	4.2	7.8

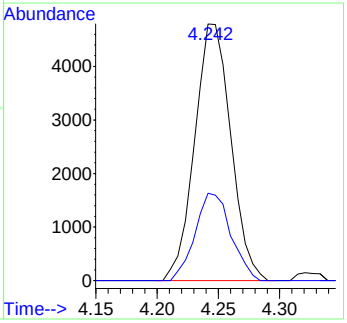


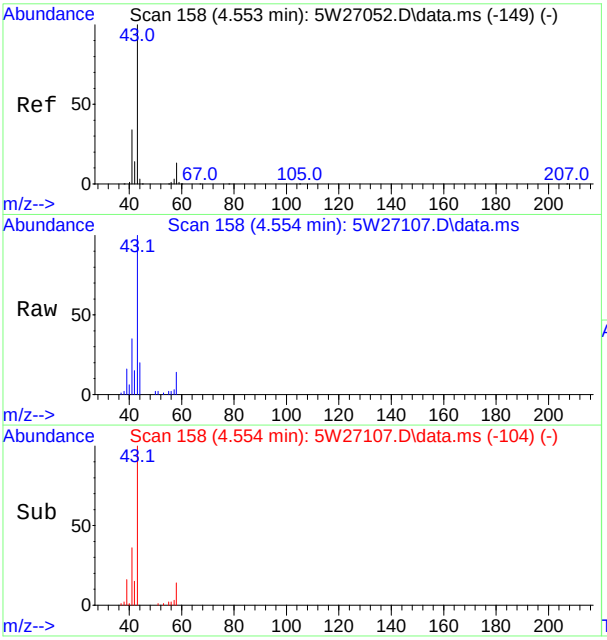


#9
Chloromethane
Concen: 0.54 ppb(v)
RT: 4.242 min Scan# 107
Delta R.T. -0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 50 Resp: 9838

Ion	Ratio	Lower	Upper
50	100		
52	34.0	22.7	42.1

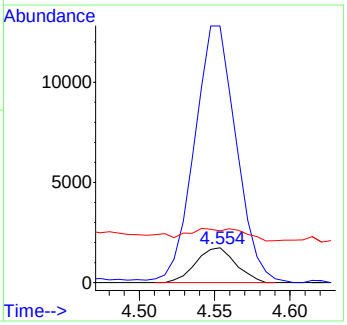


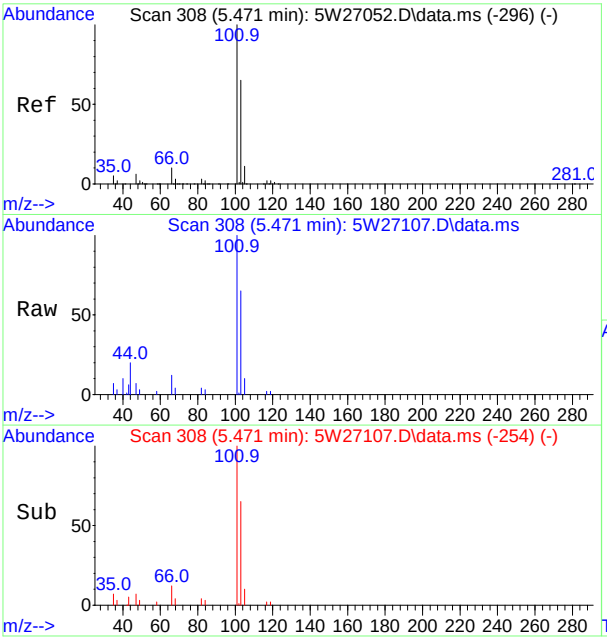


#13
n-Butane
Concen: 1.15 ppb(v)
RT: 4.554 min Scan# 158
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 58 Resp: 3210

Ion	Ratio	Lower	Upper
58	100		
43	737.3	527.9	980.5
44	148.7	25.1	46.7#

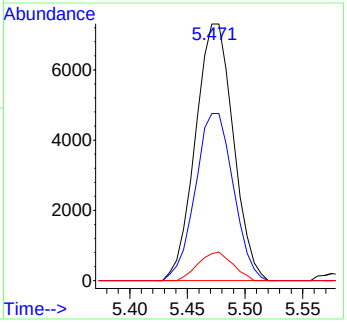


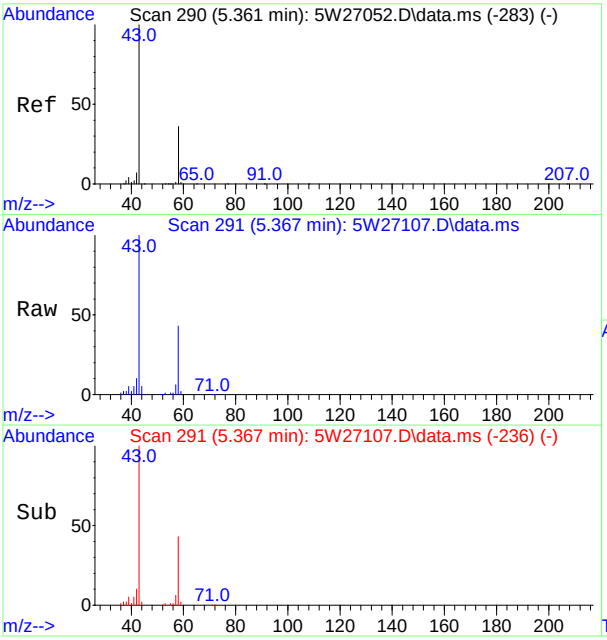


#21
Trichlorofluoromethane
Concen: 0.29 ppb(v)
RT: 5.471 min Scan# 308
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion:101 Resp: 16692

Ion	Ratio	Lower	Upper
101	100		
103	65.1	45.6	84.6
105	10.5	7.5	13.9

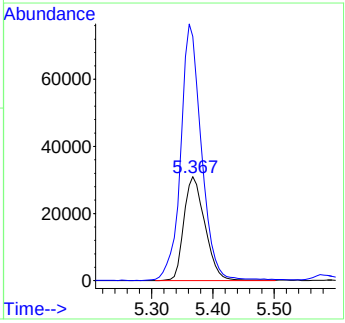


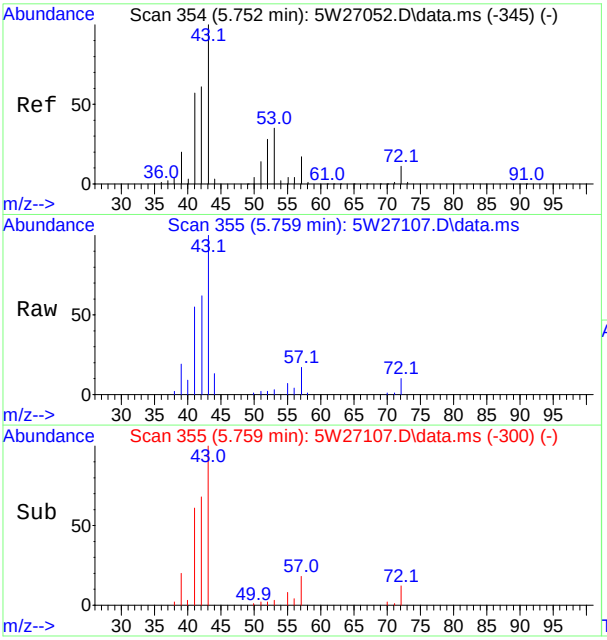


#22
Acetone
Concen: 8.34 ppb(v)
RT: 5.367 min Scan# 291
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 58 Resp: 74354

Ion	Ratio	Lower	Upper
58	100		
43	234.5	194.7	361.5

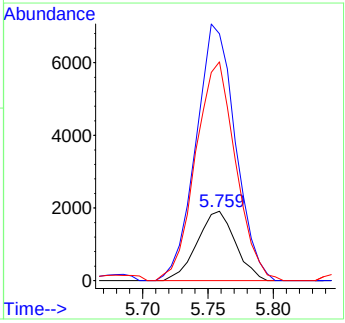


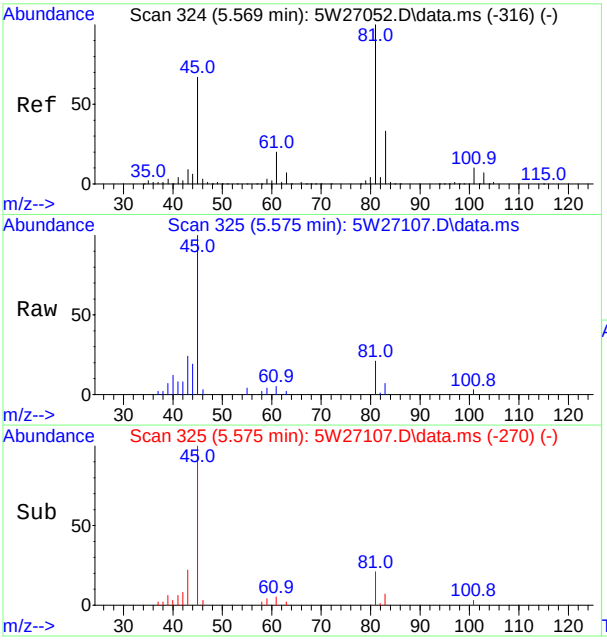


#23
Pentane
Concen: 0.70 ppb(v)
RT: 5.759 min Scan# 355
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 57 Resp: 3895

Ion	Ratio	Lower	Upper
57	100		
42	354.7	249.9	464.1
41	314.5	233.0	432.6

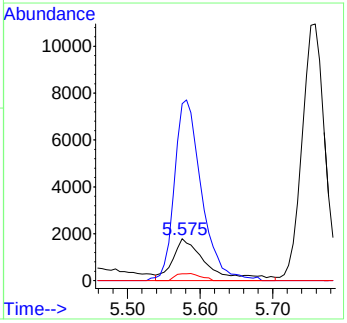


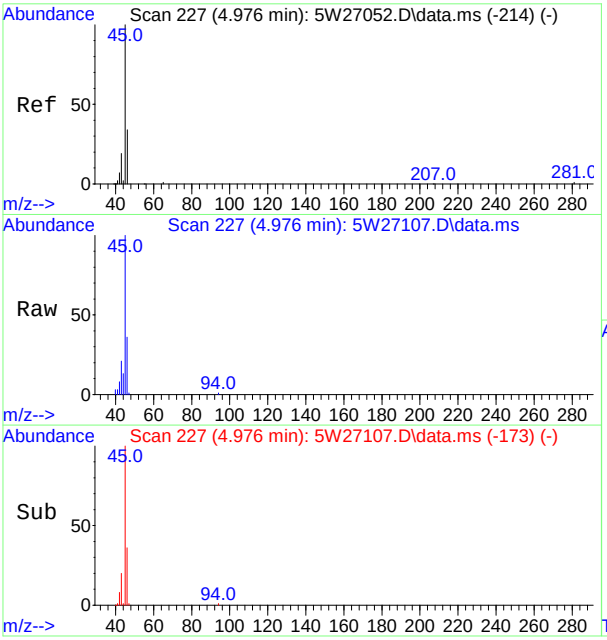


#26
Isopropyl Alcohol
Concen: 0.95 ppb(v)
RT: 5.575 min Scan# 325
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 43 Resp: 5778

Ion	Ratio	Lower	Upper
43	100		
45	422.8	512.5	951.7#
59	16.4	20.9	38.7#

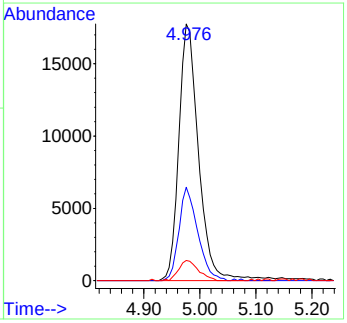


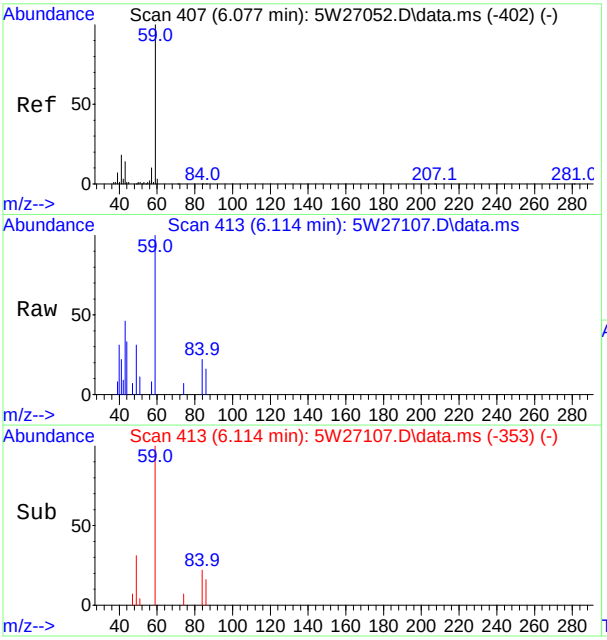


#31
Ethanol
Concen: 7.73 ppb(v)
RT: 4.976 min Scan# 227
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 45 Resp: 43586

Ion	Ratio	Lower	Upper
45	100		
46	36.4	23.5	43.7
42	7.9	5.5	10.3

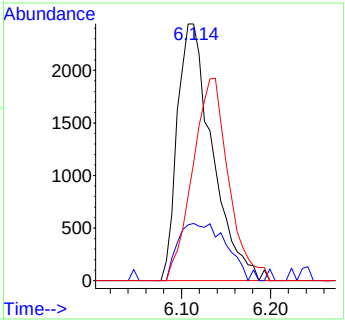


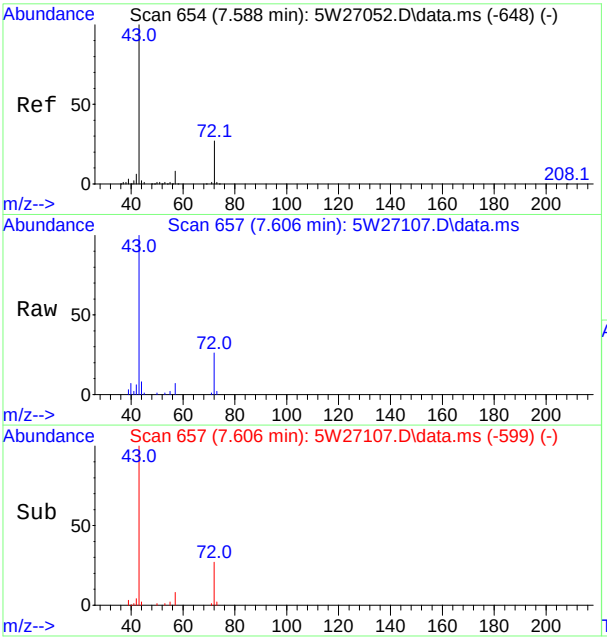


#35
tert-Butyl Alcohol
Concen: 0.14 ppb(v)
RT: 6.114 min Scan# 413
Delta R.T. 0.037 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 59 Resp: 6670

Ion	Ratio	Lower	Upper
59	100		
41	22.3	12.5	23.1
43	45.8	9.7	17.9#

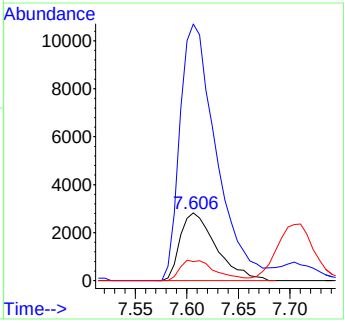


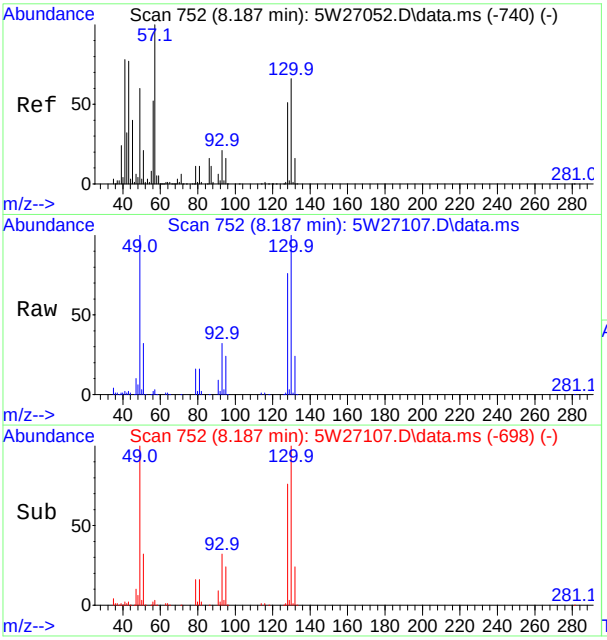


#39
2-Butanone
Concen: 0.64 ppb(v)
RT: 7.606 min Scan# 657
Delta R.T. 0.025 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 72 Resp: 6897

Ion	Ratio	Lower	Upper
72	100		
43	378.4	256.8	476.8
57	28.1	20.4	37.8

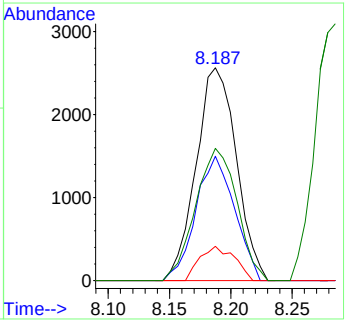


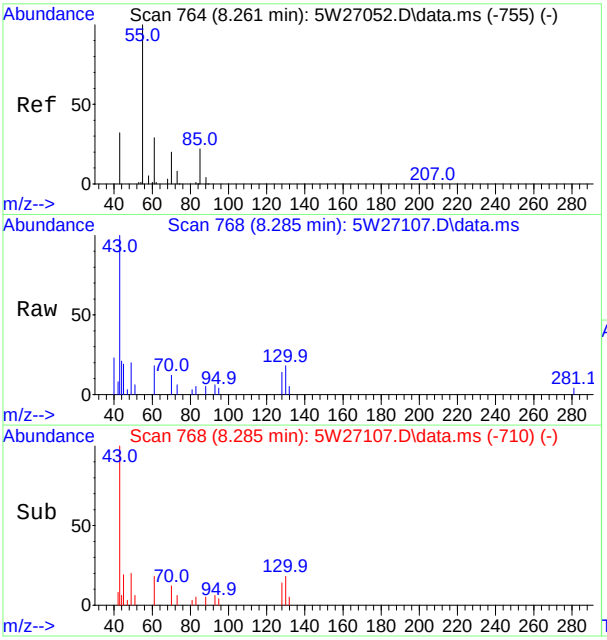


#40
Hexane
Concen: 0.18 ppb(v)
RT: 8.187 min Scan# 752
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 57 Resp: 5868

Ion	Ratio	Lower	Upper
57	100		
56	58.4	36.6	68.0
86	16.1	11.1	20.5
43	62.2	54.2	100.6

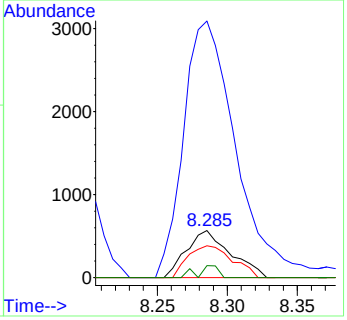


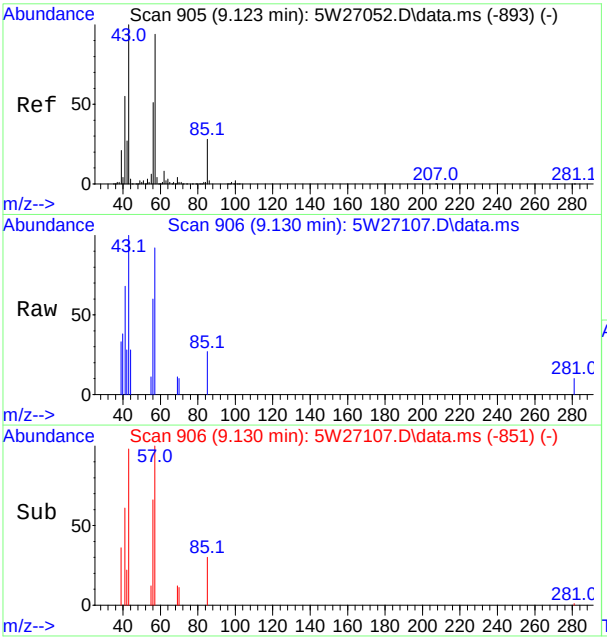


#43
Ethyl Acetate
Concen: 0.18 ppb(v)
RT: 8.285 min Scan# 768
Delta R.T. 0.025 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 61 Resp: 1240

Ion	Ratio	Lower	Upper
61	100		
43	544.7	440.8	818.6
70	67.8	51.7	95.9
88	25.4	19.4	36.0

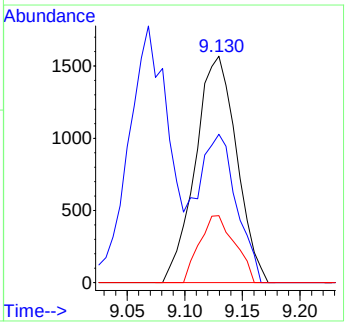


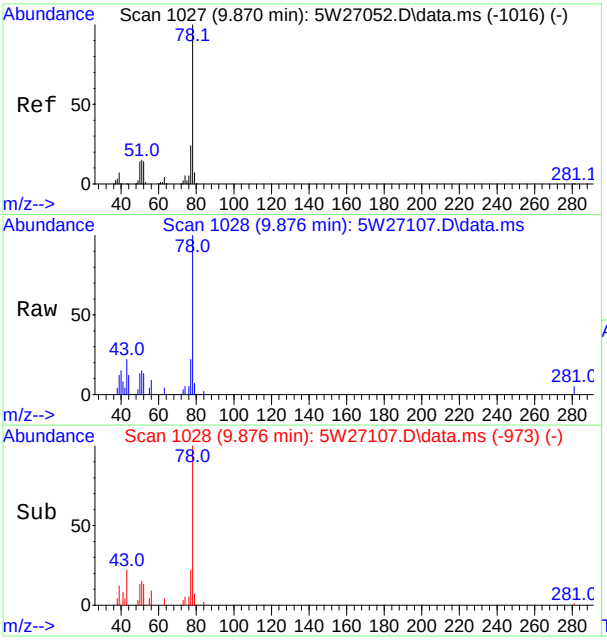


#46
2,4-Dimethylpentane
Concen: 0.10 ppb(v)
RT: 9.130 min Scan# 906
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 57 Resp: 3901

Ion	Ratio	Lower	Upper
57	100		
56	65.6	38.5	71.5
85	29.7	20.6	38.2

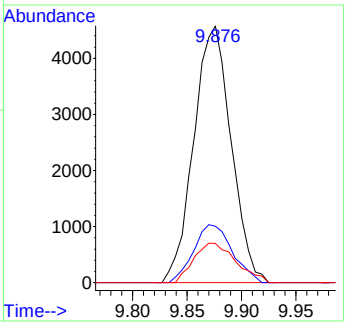


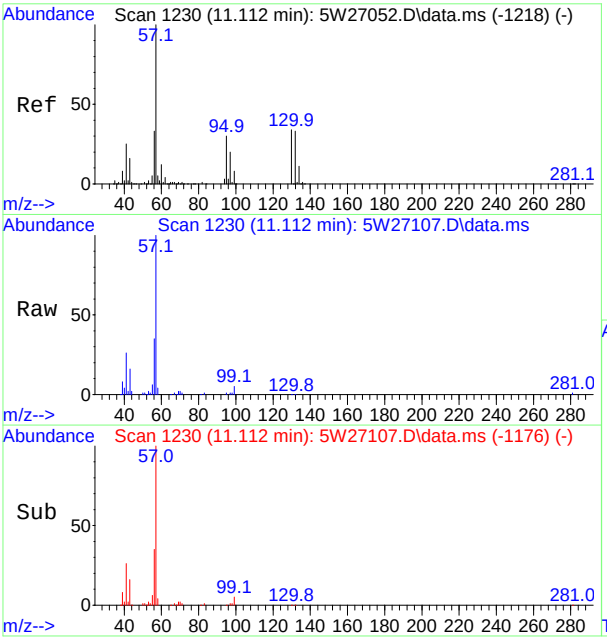


#50
Benzene
Concen: 0.15 ppb(v)
RT: 9.876 min Scan# 1028
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 78 Resp: 10951

Ion	Ratio	Lower	Upper
78	100		
77	22.0	16.8	31.2
51	15.3	10.4	19.4

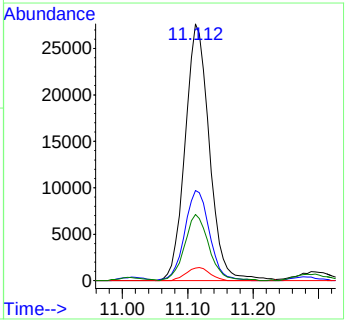


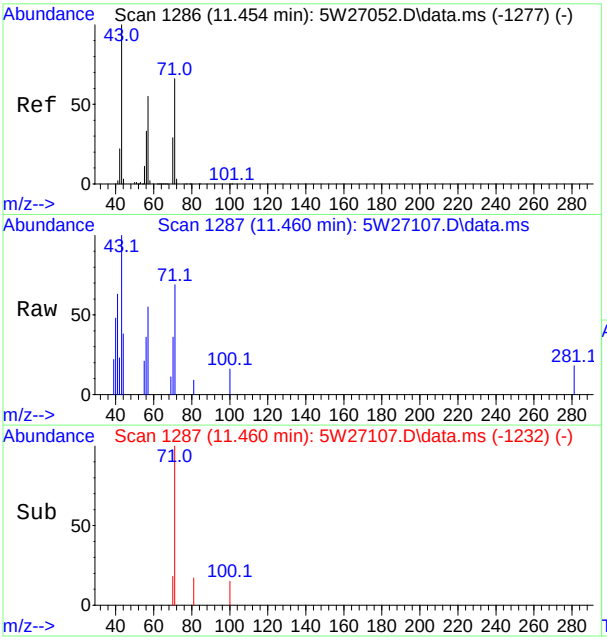


#55
2,2,4-Trimethylpentane
Concen: 0.70 ppb(v)
RT: 11.112 min Scan# 1230
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 57 Resp: 71446

Ion	Ratio	Lower	Upper
57	100		
56	35.1	23.0	42.6
99	4.9	5.8	10.8#
41	25.8	17.7	32.9

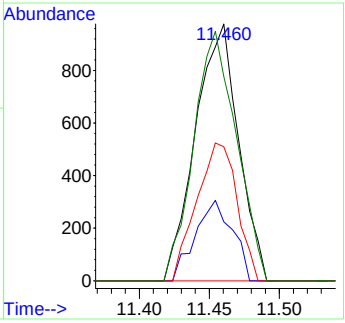


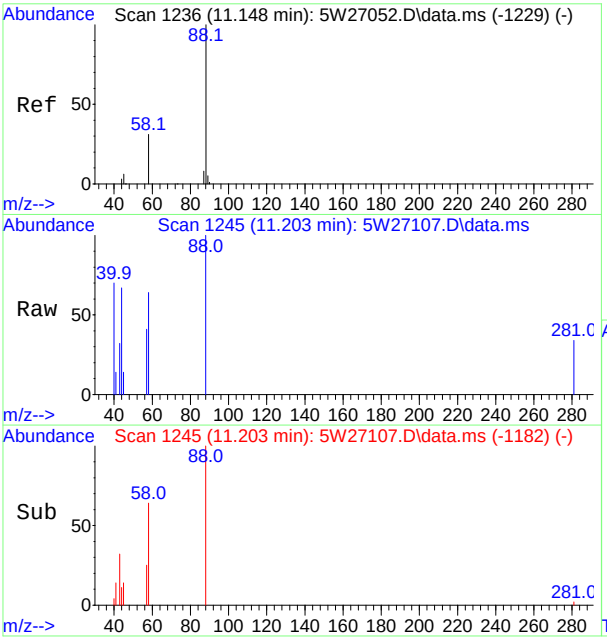


#56
Heptane
Concen: 0.10 ppb(v)
RT: 11.460 min Scan# 1287
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 71 Resp: 2093

Ion	Ratio	Lower	Upper
71	100		
100	22.9	20.1	37.3
70	52.2	34.1	63.3
57	79.5	59.4	110.4

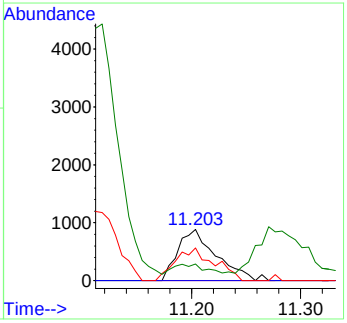


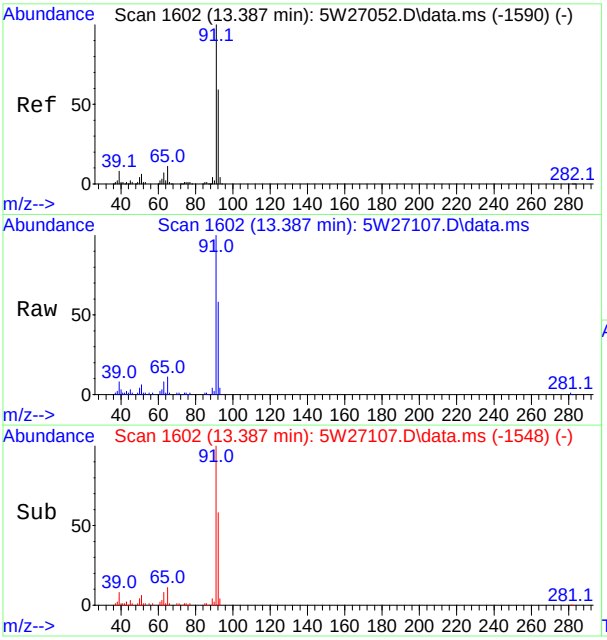


#62
1,4-Dioxane
Concen: 0.16 ppb(v)
RT: 11.203 min Scan# 1245
Delta R.T. 0.055 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 88 Resp: 2173

Ion	Ratio	Lower	Upper
88	100		
87	0.0	6.4	12.0#
58	63.9	41.7	77.5
43	32.4	27.6	51.4

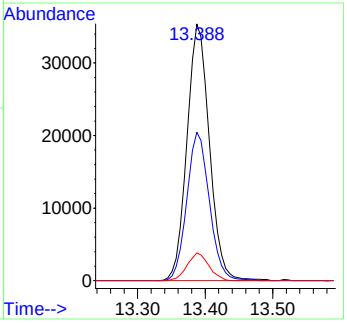


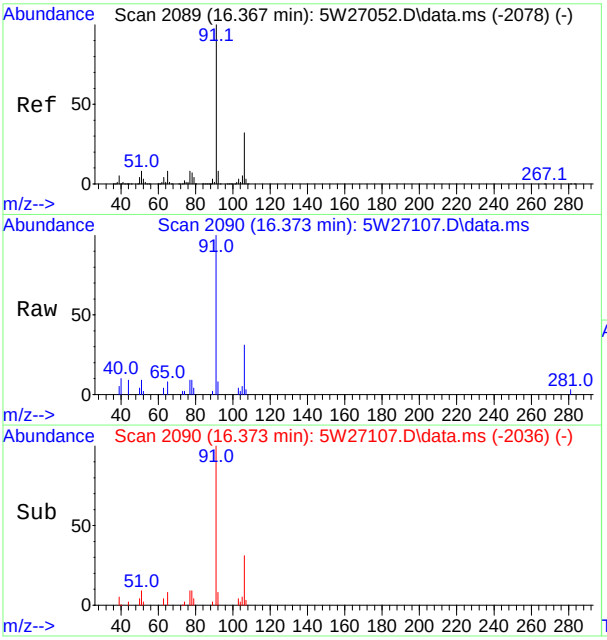


#67
Toluene
Concen: 0.95 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 91 Resp: 81763

Ion	Ratio	Lower	Upper
91	100		
92	57.8	41.4	76.8
65	10.8	7.3	13.7

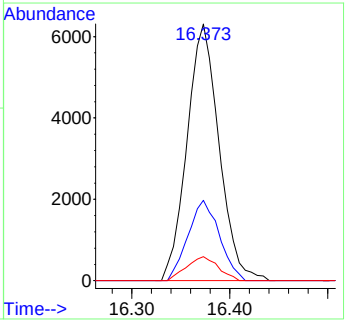


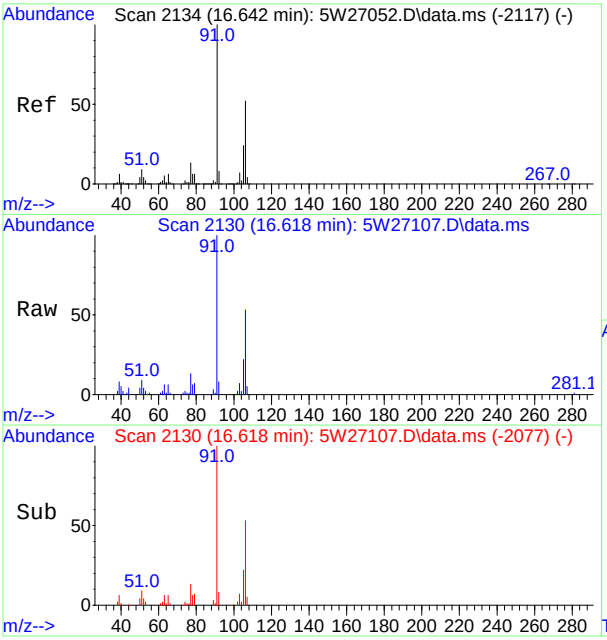


#79
Ethylbenzene
Concen: 0.14 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 91 Resp: 14353

Ion	Ratio	Lower	Upper
91	100		
106	31.3	22.4	41.6
77	9.3	5.7	10.7

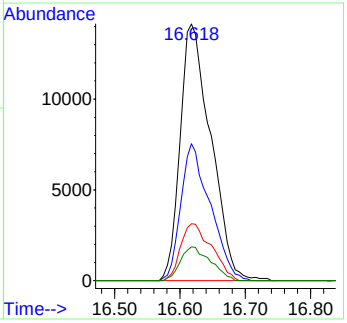


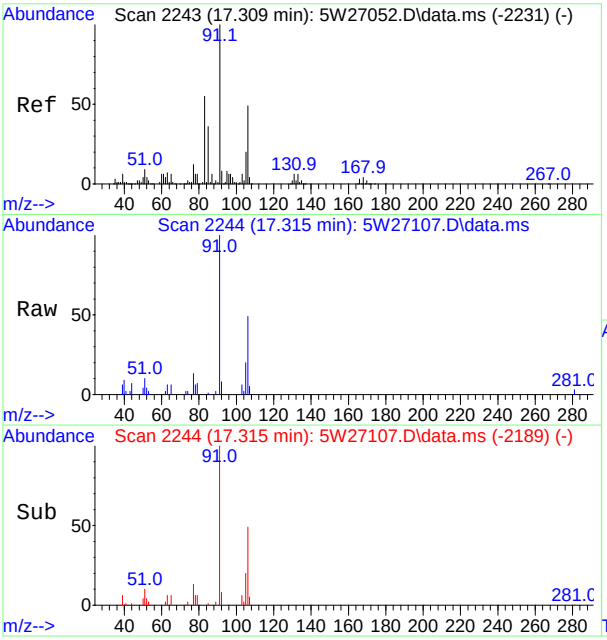


#80
m,p-Xylene
Concen: 0.59 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 91 Resp: 46269

Ion	Ratio	Lower	Upper
91	100		
106	53.3	36.3	67.5
105	22.2	16.4	30.6
77	13.2	8.9	16.5

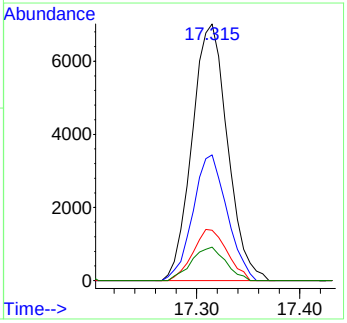


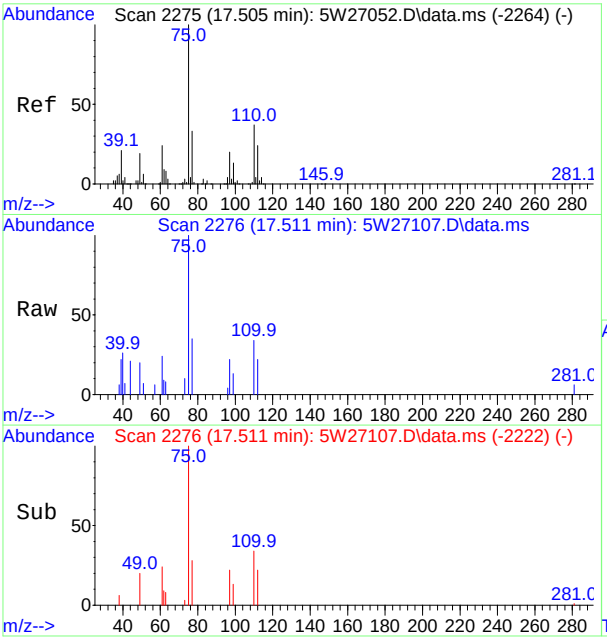


#83
o-Xylene
Concen: 0.21 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 91 Resp: 16743

Ion	Ratio	Lower	Upper
91	100		
106	48.9	34.4	64.0
105	19.7	13.7	25.5
77	13.1	8.5	15.7

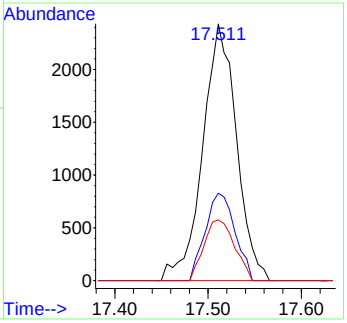


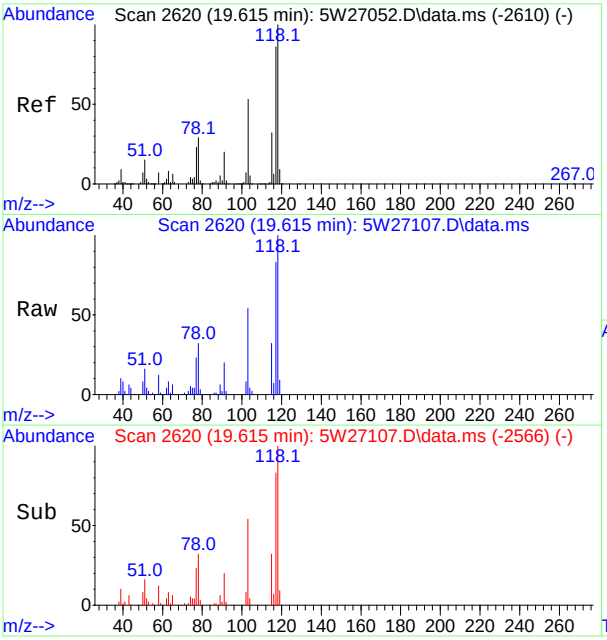


#86
1,2,3-Trichloropropane
Concen: 0.14 ppb(v)
RT: 17.511 min Scan# 2276
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion: 75 Resp: 6153

Ion	Ratio	Lower	Upper
75	100		
110	34.0	25.8	47.8
61	23.7	17.1	31.9

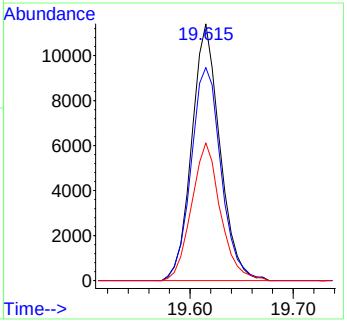


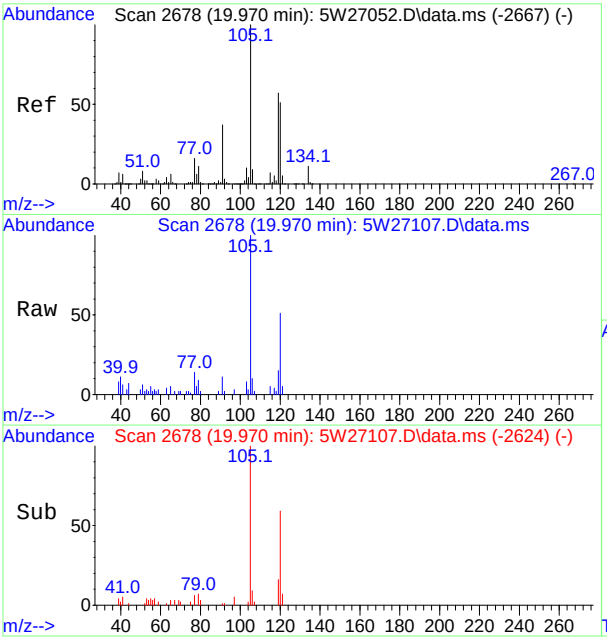


#94
alpha-Methylstyrene
Concen: 0.49 ppb(v)
RT: 19.615 min Scan# 2620
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion:118 Resp: 21648

Ion	Ratio	Lower	Upper
118	100		
117	83.0	60.4	112.2
103	53.7	37.2	69.0

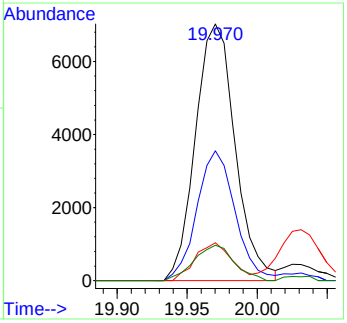




#96
1,2,4-Trimethylbenzene
Concen: 0.16 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27107.D
Acq: 7 Oct 2017 9:47 pm

Tgt Ion:105 Resp: 13890

Ion	Ratio	Lower	Upper
105	100		
120	50.6	36.0	66.8
119	14.8	40.3	74.8#
77	13.8	11.3	21.1



Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/08/17 12:10

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27108.D
Acq On : 7 Oct 2017 10:42 pm
Operator : [redacted]
Sample : jc52053-9
Misc : MS20561,v5w1066,640,,,,1.60
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 08 12:04:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

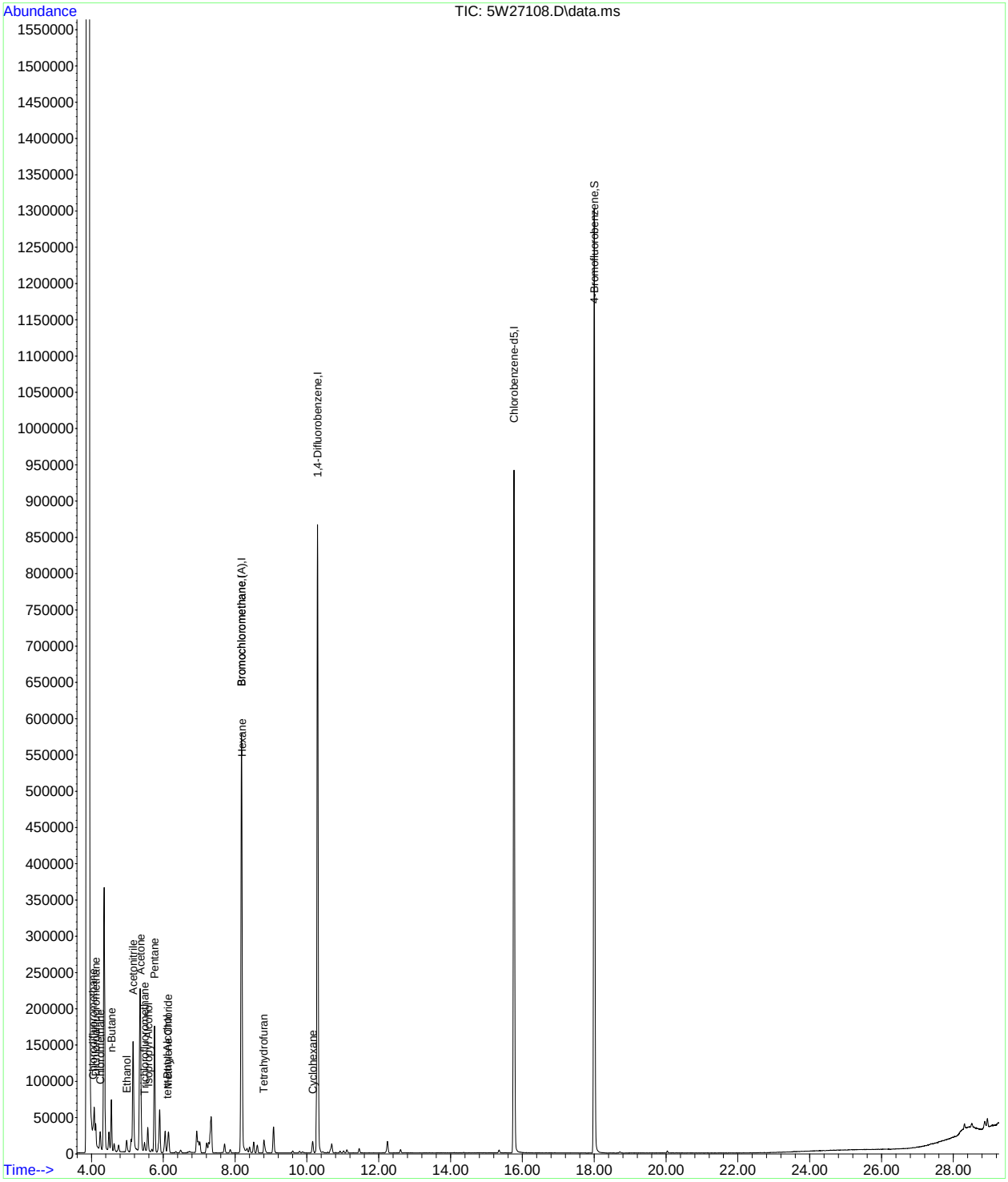
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	270455	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	934815	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	395933	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	270455	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	628947	11.29	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 112.90%			
Target Compounds						Qvalue
4) Chlorodifluoromethane	4.046	67	2154	0.43	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	28280	0.48	ppb(v	99
9) Chloromethane	4.247	50	27323	1.51	ppb(v	98
13) n-Butane	4.553	58	8375	3.03	ppb(v#	84
17) Acetonitrile	5.159	41	208005	18.46	ppb(v	99
21) Trichlorofluoromethane	5.477	101	11729	0.20	ppb(v	98
22) Acetone	5.367	58	67034	7.63	ppb(v	79
23) Pentane	5.759	57	20633	3.75	ppb(v	94
26) Isopropyl Alcohol	5.581	43	3098m	0.52	ppb(v	
29) Methylene Chloride	6.132	84	5890	0.24	ppb(v	95
31) Ethanol	4.982	45	22799	4.10	ppb(v	97
35) tert-Butyl Alcohol	6.113	59	8689	0.18	ppb(v#	82
40) Hexane	8.187	57	20320	0.63	ppb(v	88
47) Tetrahydrofuran	8.799	72	6618	0.67	ppb(v	95
52) Cyclohexane	10.163	56	9234	0.29	ppb(v	93

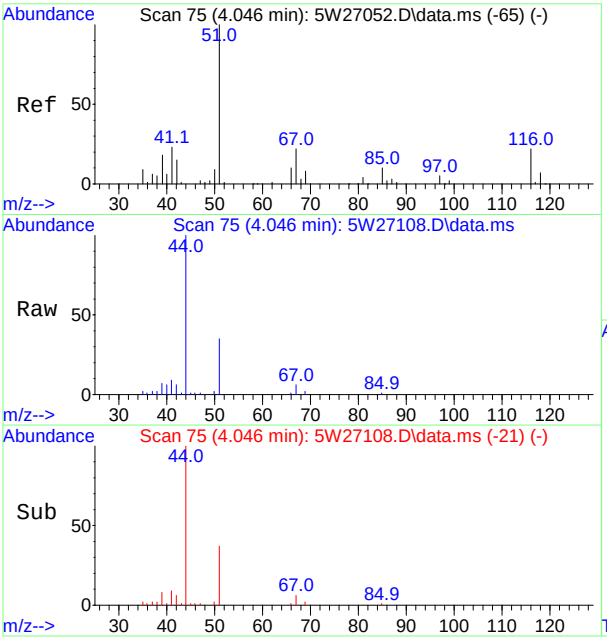
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27108.D
Acq On : 7 Oct 2017 10:42 pm
Operator : [redacted]
Sample : jc52053-9
Misc : MS20561,v5w1066,640,,,,1.60
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 08 12:04:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

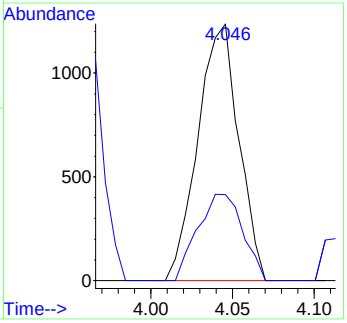


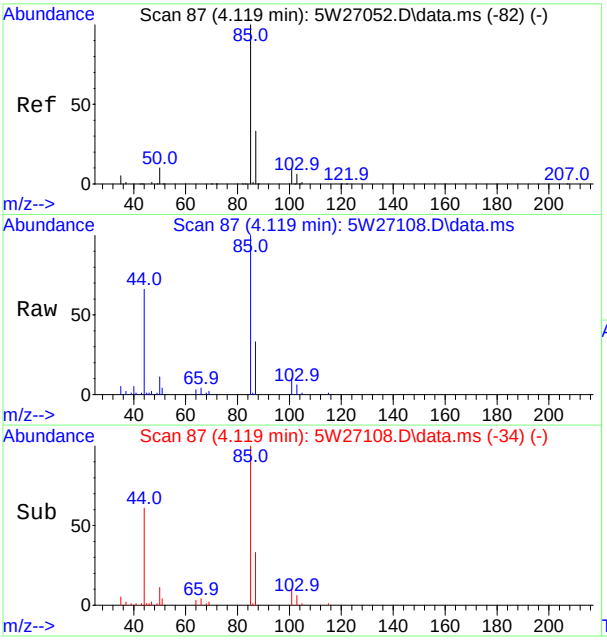


#4
Chlorodifluoromethane
Concen: 0.43 ppb(v)
RT: 4.046 min Scan# 75
Delta R.T. 0.000 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 67 Resp: 2154

Ion	Ratio	Lower	Upper
67	100		
69	33.5	24.1	44.7

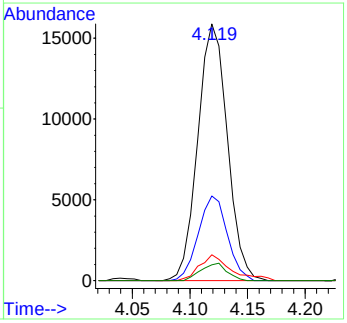


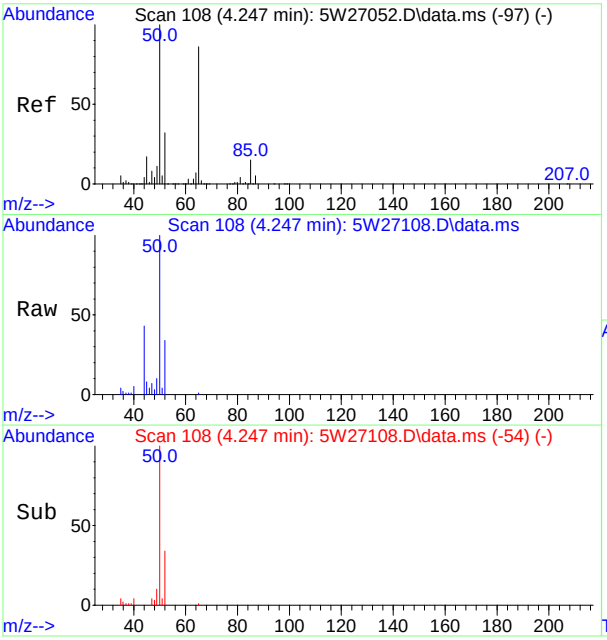


#7
Dichlorodifluoromethane
Concen: 0.48 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 85 Resp: 28280

Ion	Ratio	Lower	Upper
85	100		
87	32.9	23.0	42.6
101	10.1	6.6	12.2
103	6.2	4.2	7.8

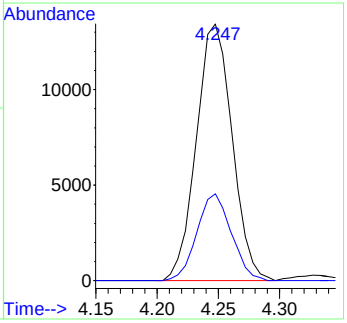


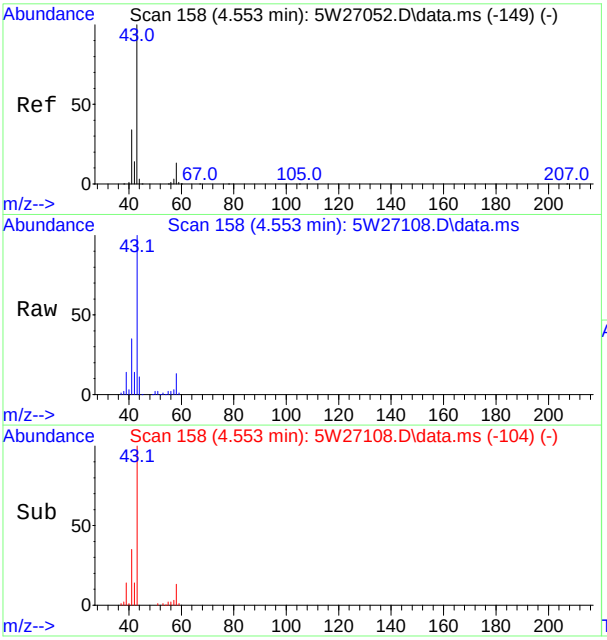


#9
Chloromethane
Concen: 1.51 ppb(v)
RT: 4.247 min Scan# 108
Delta R.T. 0.000 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 50 Resp: 27323

Ion	Ratio	Lower	Upper
50	100		
52	33.8	22.7	42.1

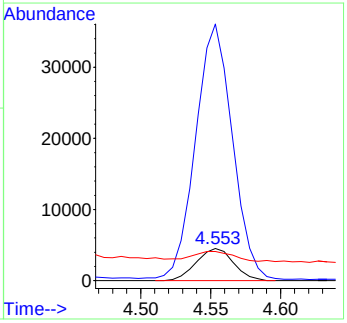


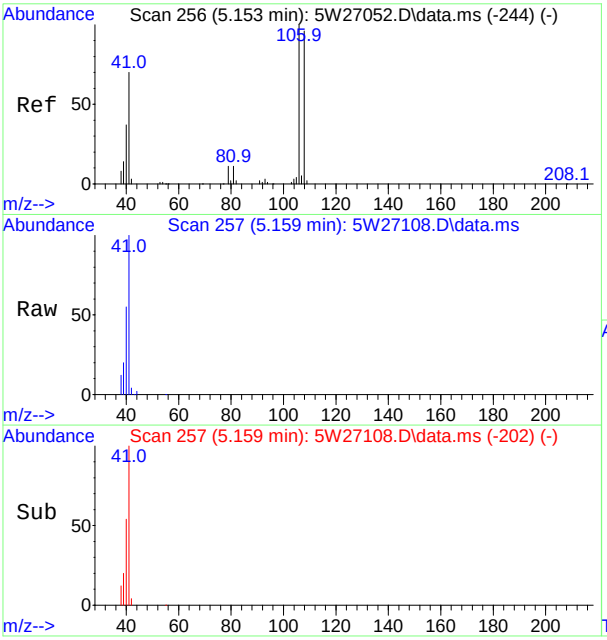


#13
n-Butane
Concen: 3.03 ppb(v)
RT: 4.553 min Scan# 158
Delta R.T. 0.000 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 58 Resp: 8375

Ion	Ratio	Lower	Upper
58	100		
43	799.6	527.9	980.5
44	91.1	25.1	46.7#

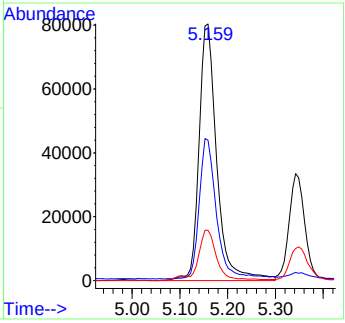


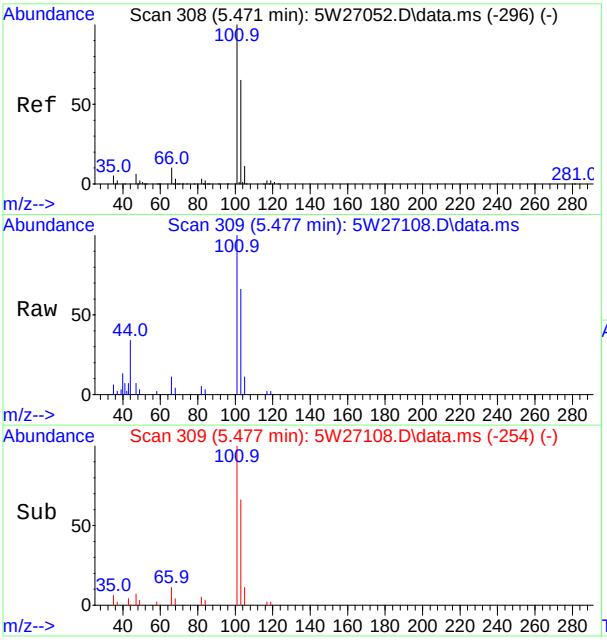


#17
Acetonitrile
Concen: 18.46 ppb(v)
RT: 5.159 min Scan# 257
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 41 Resp: 208005

Ion	Ratio	Lower	Upper
41	100		
40	54.7	37.9	70.3
39	19.6	13.6	25.4

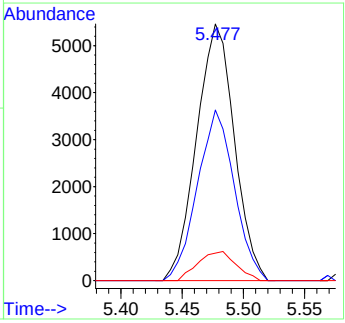




#21
Trichlorofluoromethane
Concen: 0.20 ppb(v)
RT: 5.477 min Scan# 309
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion:101 Resp: 11729

Ion	Ratio	Lower	Upper
101	100		
103	66.5	45.6	84.6
105	10.7	7.5	13.9



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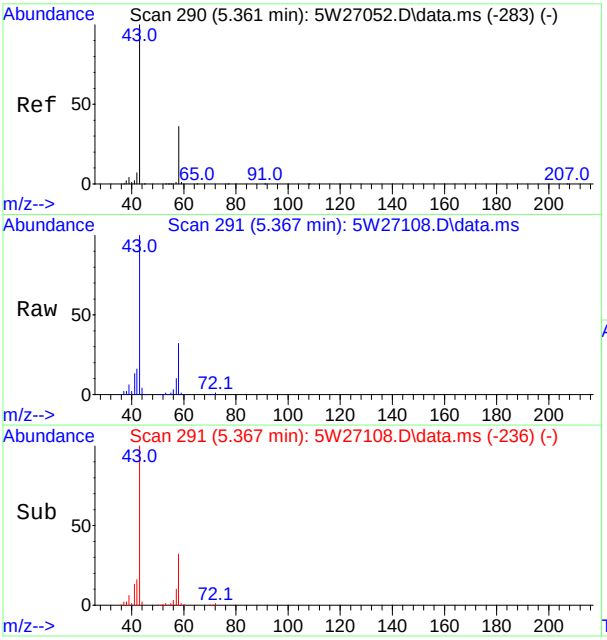
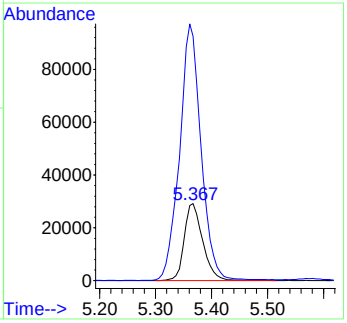
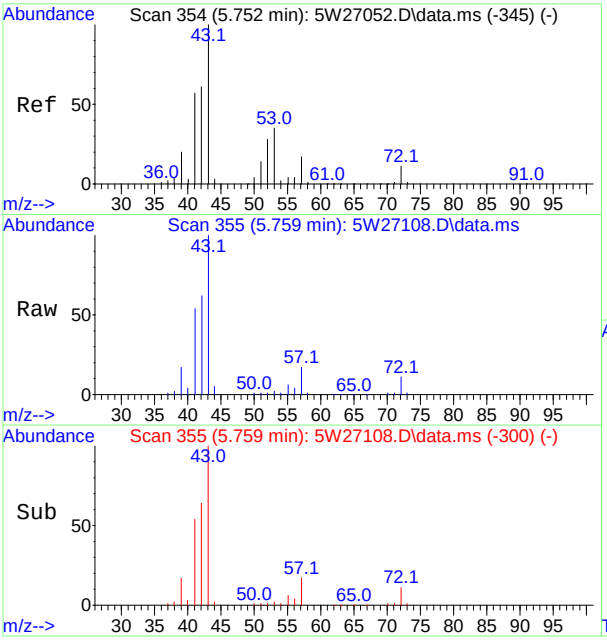


#22
Acetone
Concen: 7.63 ppb(v)
RT: 5.367 min Scan# 291
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 58 Resp: 67034

Ion	Ratio	Lower	Upper
58	100		
43	317.1	194.7	361.5

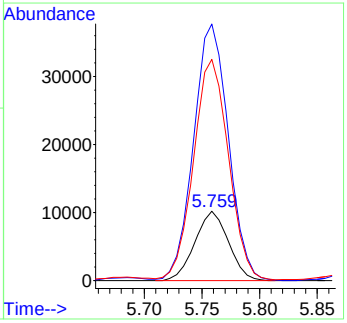




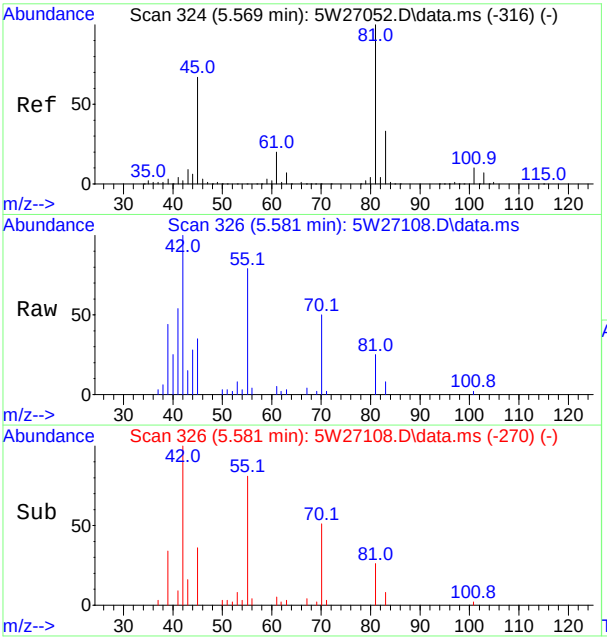
#23
Pentane
Concen: 3.75 ppb(v)
RT: 5.759 min Scan# 355
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 57 Resp: 20633

Ion	Ratio	Lower	Upper
57	100		
42	369.6	249.9	464.1
41	318.7	233.0	432.6



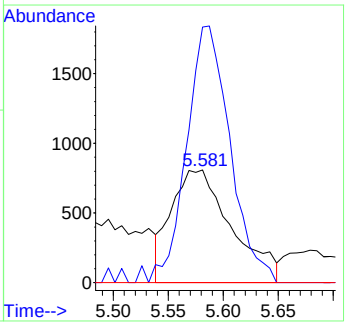
SGS ACCUTEST JC52053

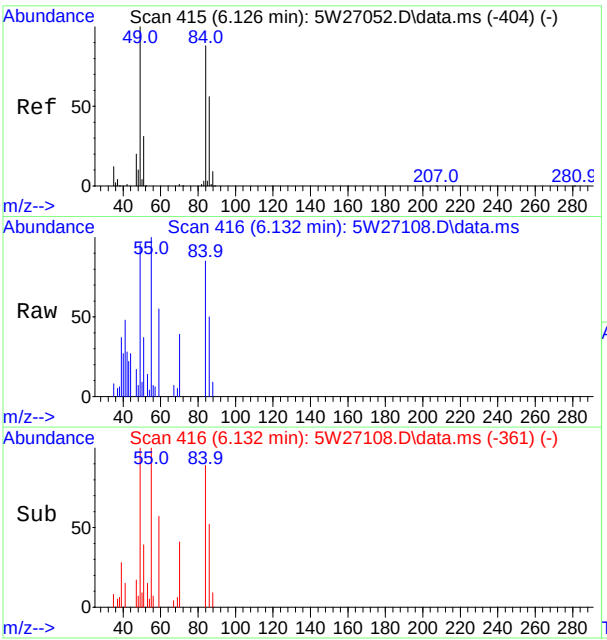


#26
Isopropyl Alcohol
Concen: 0.52 ppb(v) m
RT: 5.581 min Scan# 326
Delta R.T. 0.012 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 43 Resp: 3098

Ion	Ratio	Lower	Upper
43	100		
45	226.5	512.5	951.7#
59	0.0	20.9	38.7#

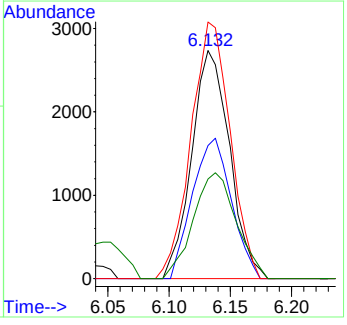


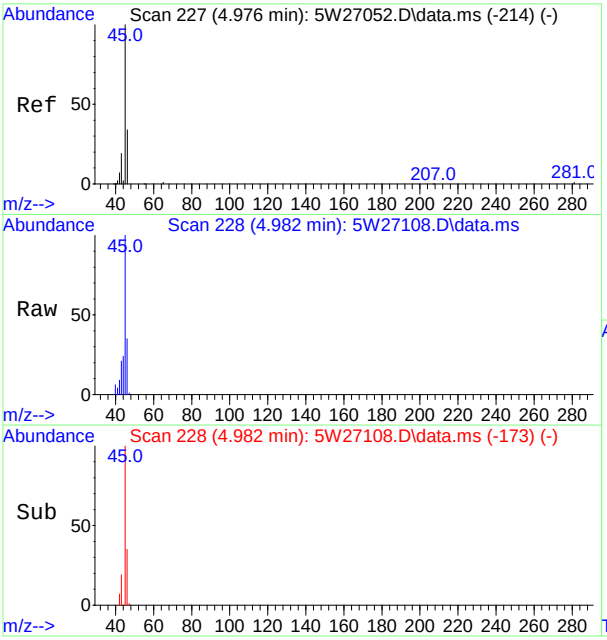


#29
Methylene Chloride
Concen: 0.24 ppb(v)
RT: 6.132 min Scan# 416
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 84 Resp: 5890

Ion	Ratio	Lower	Upper
84	100		
86	58.4	44.7	82.9
49	112.5	79.5	147.6
51	43.7	25.1	46.7

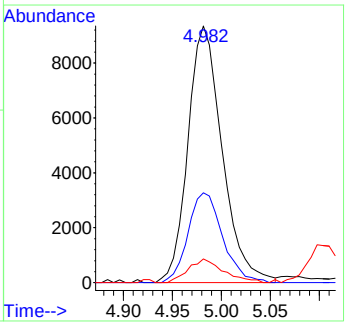


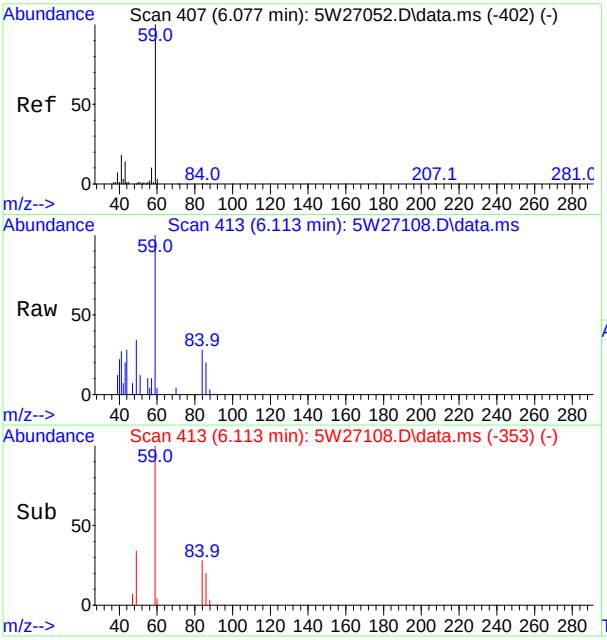


#31
Ethanol
Concen: 4.10 ppb(v)
RT: 4.982 min Scan# 228
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 45 Resp: 22799

Ion	Ratio	Lower	Upper
45	100		
46	35.0	23.5	43.7
42	9.2	5.5	10.3

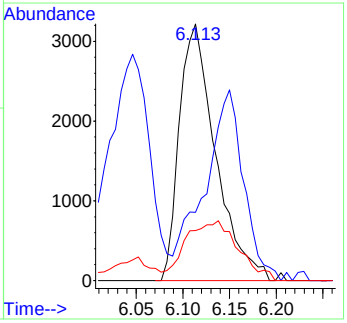


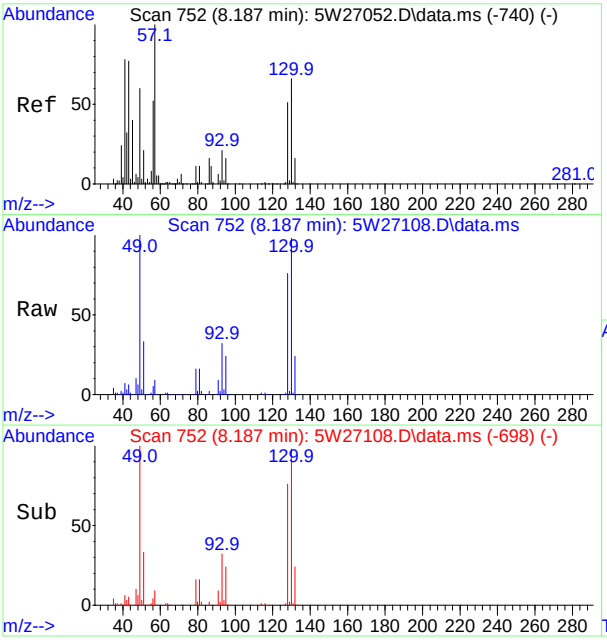


#35
tert-Butyl Alcohol
Concen: 0.18 ppb(v)
RT: 6.113 min Scan# 413
Delta R.T. 0.037 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 59 Resp: 8689

Ion	Ratio	Lower	Upper
59	100		
41	26.7	12.5	23.1#
43	19.5	9.7	17.9#

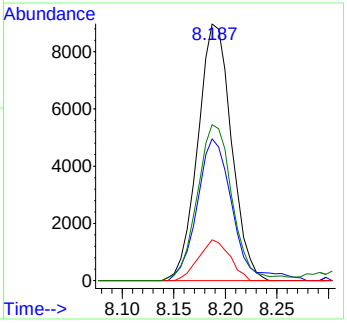


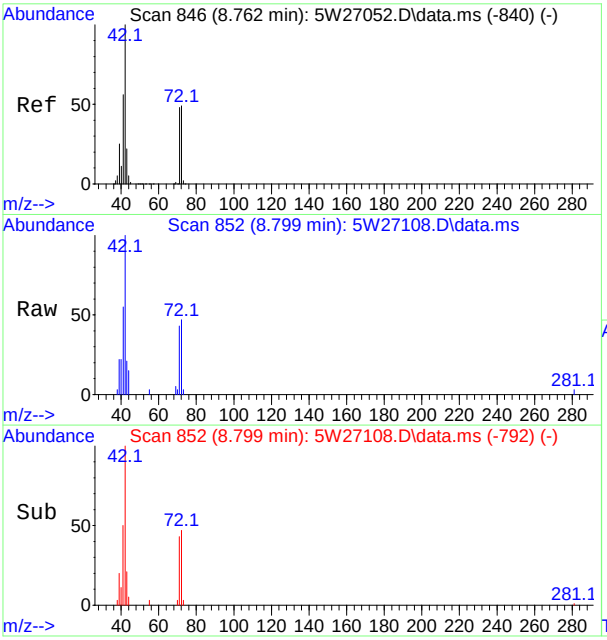


#40
Hexane
Concen: 0.63 ppb(v)
RT: 8.187 min Scan# 752
Delta R.T. 0.000 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 57 Resp: 20320

Ion	Ratio	Lower	Upper
57	100		
56	55.3	36.6	68.0
86	16.0	11.1	20.5
43	60.7	54.2	100.6

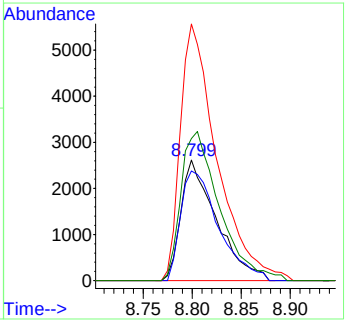




#47
Tetrahydrofuran
Concen: 0.67 ppb(v)
RT: 8.799 min Scan# 852
Delta R.T. 0.037 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 72 Resp: 6618

Ion	Ratio	Lower	Upper
72	100		
71	90.9	68.6	127.4
42	212.7	143.9	267.2
41	117.7	80.6	149.6



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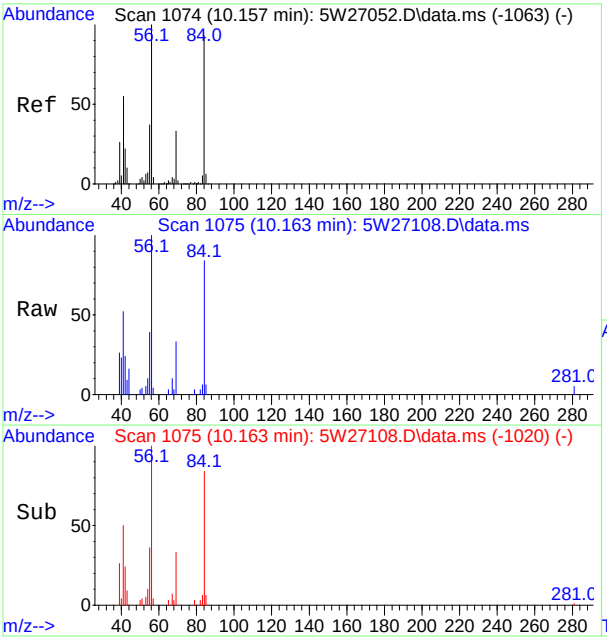
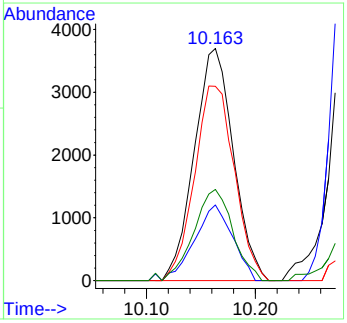


#52
Cyclohexane
Concen: 0.29 ppb(v)
RT: 10.163 min Scan# 1075
Delta R.T. 0.006 min
Lab File: 5W27108.D
Acq: 7 Oct 2017 10:42 pm

Tgt Ion: 56 Resp: 9234

Ion	Ratio	Lower	Upper
56	100		
69	32.6	23.2	43.0
84	83.7	65.4	121.4
55	39.3	25.8	48.0



SGS ACCUTEST
JC52053

Manual Integration Approval Summary

Sample Number: JC52053-9
Lab FileID: 5W27108.D
Injection Time: 10/07/17 22:42
Method: TO-15
Analyst approved: 10/08/17 12:06
Supervisor approved: 10/08/17 12:10 [redacted]

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isopropyl Alcohol	67-63-0		5.58	Missed peak

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27097.D
Acq On : 7 Oct 2017 12:47 pm
Operator : [redacted]
Sample : mb
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 11:22:51 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	290170	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	1006154	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	462230	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	290557	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	658038	10.12	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1

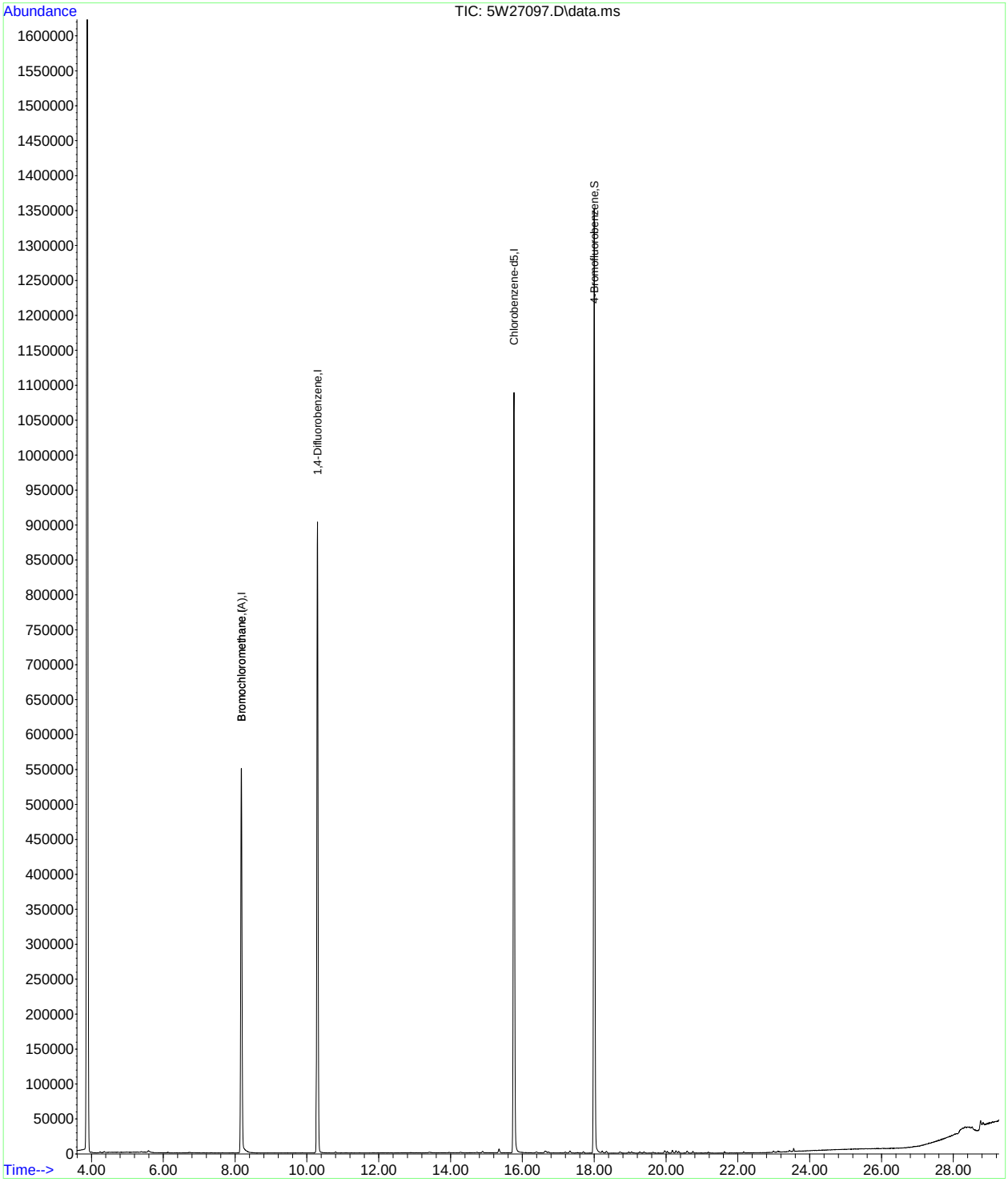
7

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27097.D
Acq On : 7 Oct 2017 12:47 pm
Operator : [redacted]
Sample : mb
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 11:22:51 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27116.D
Acq On : 8 Oct 2017 1:30 pm
Operator : [redacted]
Sample : mb
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 15:21:36 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	277338	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	971352	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	451869	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	277338	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	644691	10.14	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.40%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.2

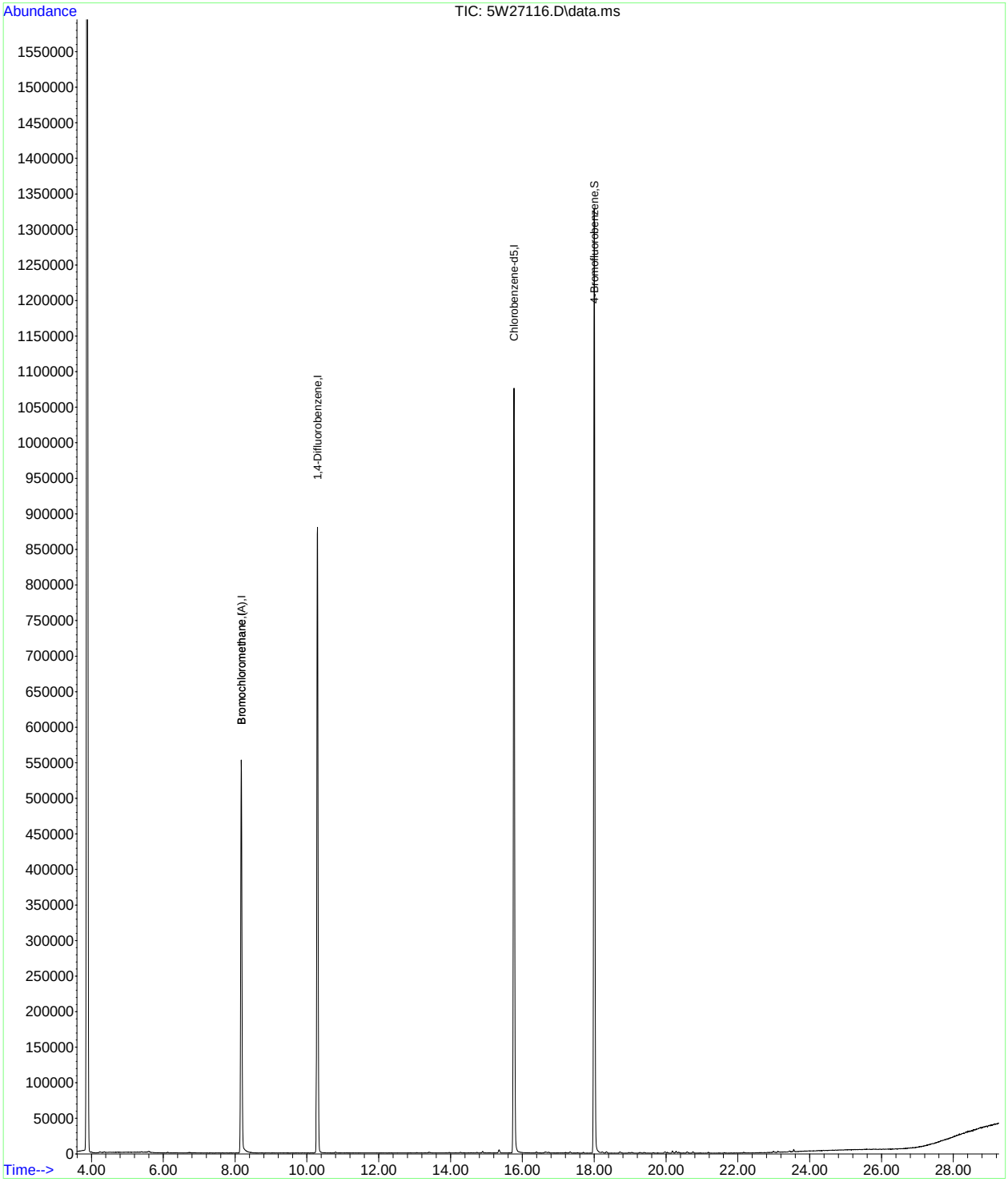
7

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27116.D
Acq On : 8 Oct 2017 1:30 pm
Operator : [redacted]
Sample : mb
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 15:21:36 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60494.D
Acq On : 27 Jun 2017 3:41 pm
Operator : [redacted]
Sample : mb
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:03:18 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	152968	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	618668	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	242348	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	246805	8.37	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 83.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.3

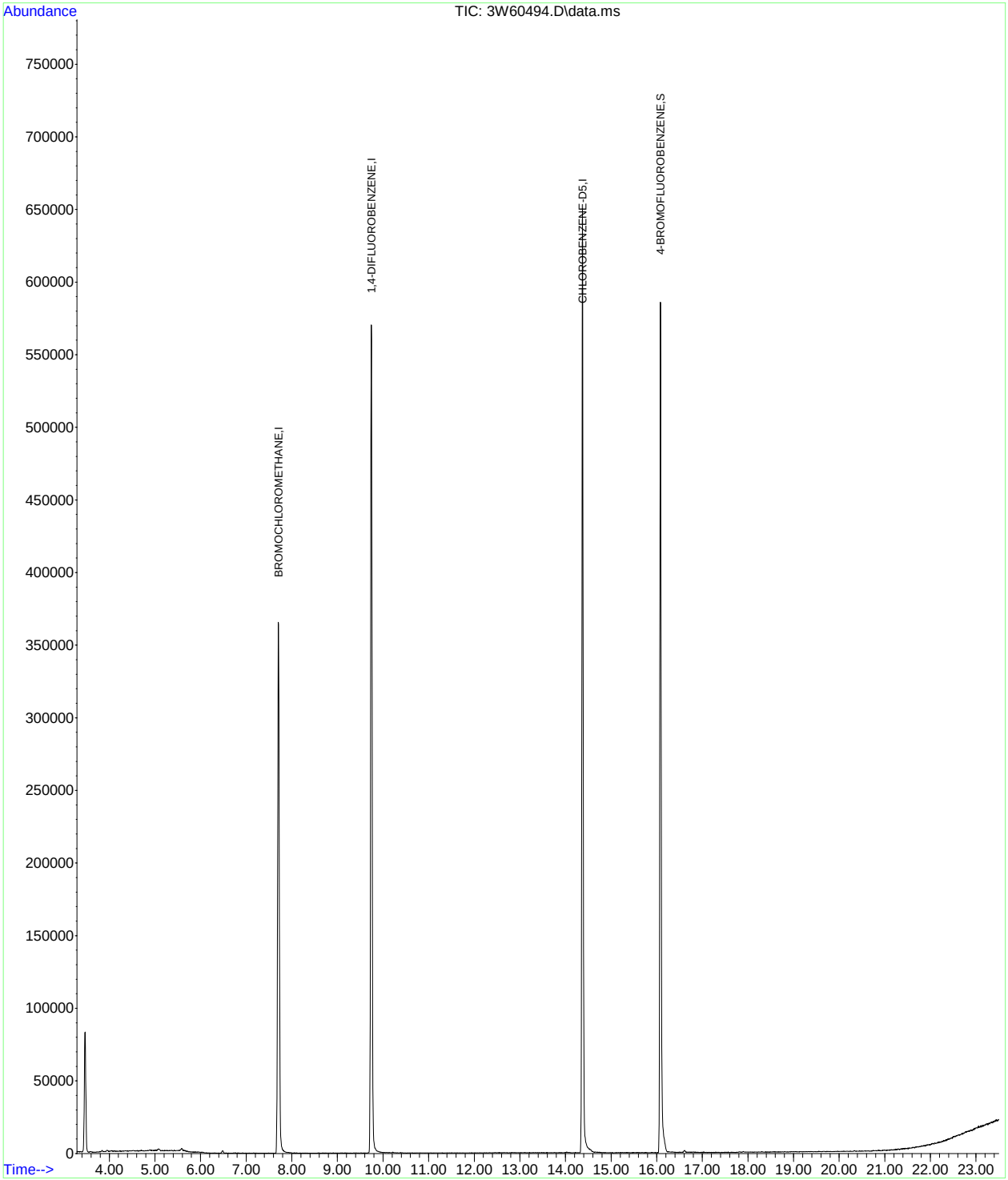
7

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60494.D
Acq On : 27 Jun 2017 3:41 pm
Operator : [redacted]
Sample : mb
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:03:18 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26746.D
Acq On : 19 Sep 2017 1:07 pm
Operator : [redacted]
Sample : mb
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 19 14:46:03 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

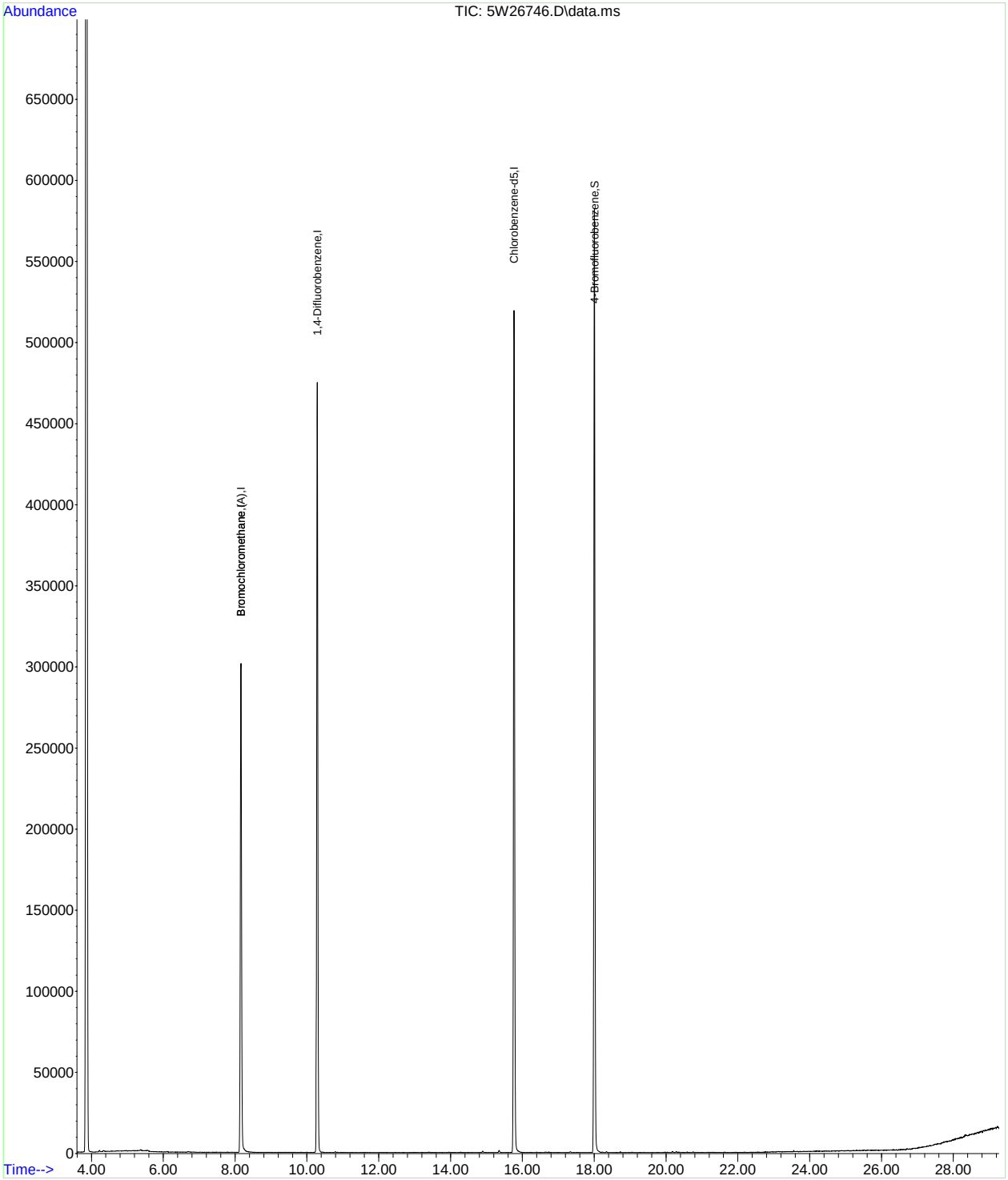
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	134871	10.00	ppb(v	0.05
54) 1,4-Difluorobenzene	10.286	114	461216	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	206107	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	134871	10.00	ppb(v	0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	252437	9.33	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 93.30%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26746.D
Acq On : 19 Sep 2017 1:07 pm
Operator : [redacted]
Sample : mb
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 19 14:46:03 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26802.D
Acq On : 21 Sep 2017 1:09 pm
Operator : [redacted]
Sample : mb
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 21 14:38:40 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

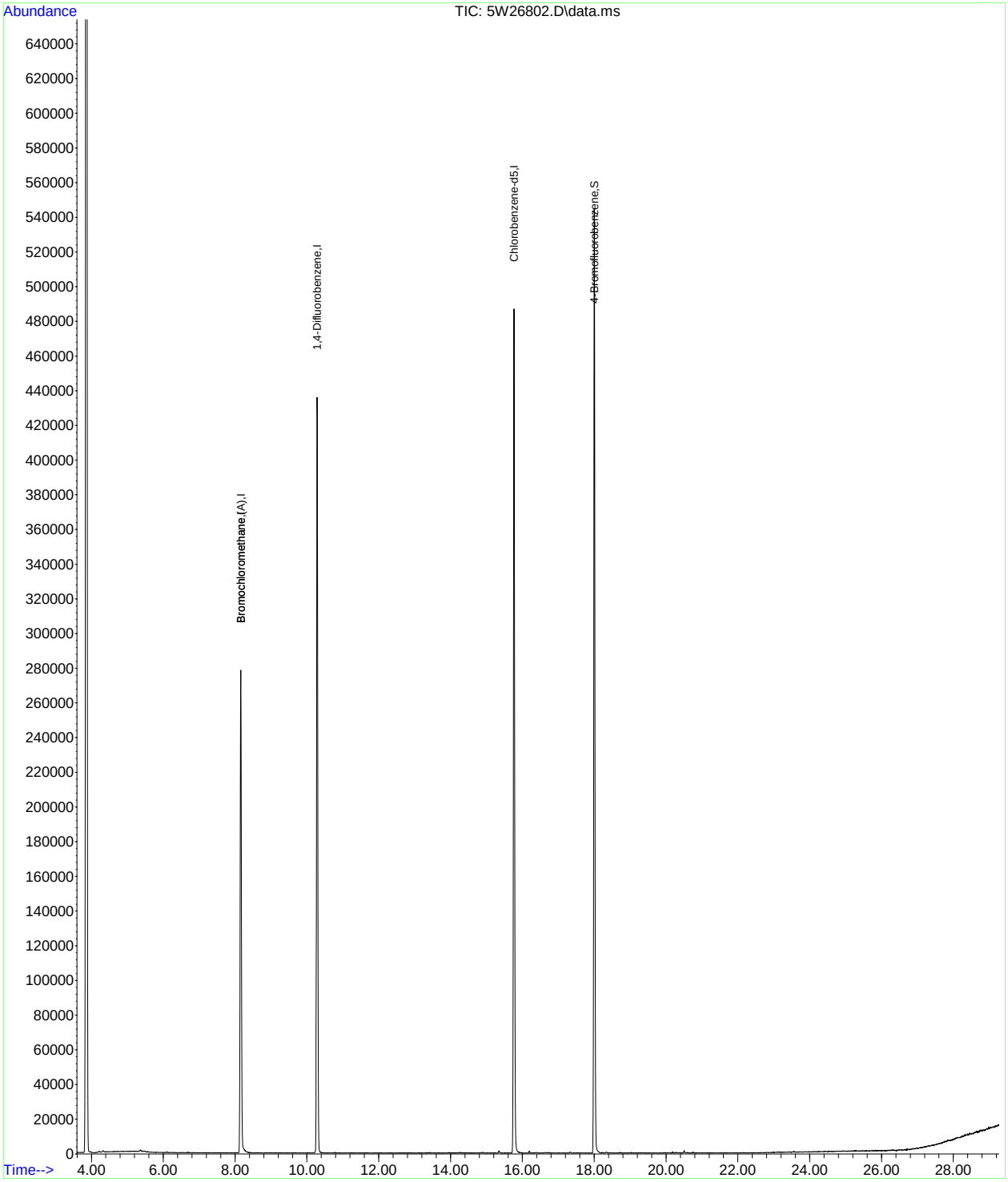
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	127857	10.00	ppb(v	0.04
54) 1,4-Difluorobenzene	10.280	114	433866	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	190708	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	127857	10.00	ppb(v	0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	239825	9.58	ppb(v	-0.02
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.80%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26802.D
Acq On : 21 Sep 2017 1:09 pm
Operator : [redacted]
Sample : mb
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 21 14:38:40 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27094.D
Acq On : 7 Oct 2017 10:20 am
Operator : [redacted]
Sample : bs
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	296195	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	995809	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	418786	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	296195	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	701384	11.91	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 119.10%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	688931	11.22	ppb(v#	91
3) Freon 152A	4.009	65	146401	9.24	ppb(v	85
4) Chlorodifluoromethane	4.040	67	57641	10.41	ppb(v	97
5) Propene	4.064	41	147431	9.51	ppb(v	98
6) Chlorotrifluoroethene	4.070	116	399948	10.17	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	636407	9.95	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.229	65	408334	9.63	ppb(v	99
9) Chloromethane	4.248	50	188838	9.53	ppb(v	98
10) Dichlorotetrafluoroethane	4.321	85	621340	9.79	ppb(v	100
11) Vinyl Chloride	4.413	62	219073	10.00	ppb(v	99
12) 1,3-Butadiene	4.517	54	142656	9.63	ppb(v	99
13) n-Butane	4.553	58	29745	9.83	ppb(v	99
14) Bromomethane	4.731	94	257039	8.69	ppb(v	100
15) Chloroethane	4.859	64	102378	9.72	ppb(v	99
16) Dichlorofluoromethane	4.933	67	469166	9.38	ppb(v	99
17) Acetonitrile	5.153	41	123851	10.04	ppb(v	98
18) Freon 123	5.257	83	594263	9.49	ppb(v	100
19) Freon 123A	5.300	117	692033	19.08	ppb(v	98
20) Bromoethene	5.135	106	257691	9.85	ppb(v	99
21) Trichlorofluoromethane	5.471	101	604123	9.62	ppb(v	100
22) Acetone	5.361	58	84575	8.79	ppb(v	97
23) Pentane	5.752	57	56771	9.42	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	491576	8.72	ppb(v	100
25) Iodomethane	5.948	142	795319	9.75	ppb(v	96
26) Isopropyl Alcohol	5.563	43	47890	7.33	ppb(v	99
27) 1,1-Dichloroethene	6.009	61	380407	10.05	ppb(v	97
28) Freon 113	6.340	101	575657	9.91	ppb(v	99
29) Methylene Chloride	6.126	84	231113	8.65	ppb(v	97
30) Carbon Disulfide	6.383	76	782230	10.05	ppb(v	100
31) Ethanol	4.976	45	54179	8.90	ppb(v	99
32) Acrylonitrile	5.740	53	170375	10.22	ppb(v	99
33) 3-Chloropropene	6.224	76	104475	10.06	ppb(v	88
34) trans-1,2-Dichloroethene	6.970	61	347061	9.99	ppb(v	98
35) tert-Butyl Alcohol	6.077	59	464845	8.97	ppb(v	97
36) Methyl tert-Butyl Ether	7.239	73	661217	10.09	ppb(v	99
37) Vinyl Acetate	7.325	43	506411	9.43	ppb(v	98
38) 1,1-Dichloroethane	7.166	63	444142	9.75	ppb(v	99
39) 2-Butanone	7.582	72	121183	10.36	ppb(v	94
40) Hexane	8.187	57	351851	9.98	ppb(v	100
41) cis-1,2-Dichloroethene	8.004	61	326212	9.81	ppb(v	97
42) Di-isopropyl Ether	8.212	87	210203	10.20	ppb(v	99
43) Ethyl Acetate	8.261	61	81132	10.62	ppb(v	90
44) Methyl Acrylate	8.242	55	398574	9.92	ppb(v	99
45) Chloroform	8.310	83	530583	9.37	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	410435	10.09	ppb(v	99
47) Tetrahydrofuran	8.762	72	114627	10.67	ppb(v	95
48) 1,1,1-Trichloroethane	9.356	97	490044	9.54	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	297323	9.54	ppb(v	98
50) Benzene	9.870	78	741539	9.11	ppb(v	99
51) Carbon Tetrachloride	10.035	117	516464	9.95	ppb(v	100
52) Cyclohexane	10.157	56	343442	9.87	ppb(v	99
53) 2,3-Dimethylpentane	10.439	71	162145	10.08	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27094.D
Acq On : 7 Oct 2017 10:20 am
Operator : [redacted]
Sample : bs
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

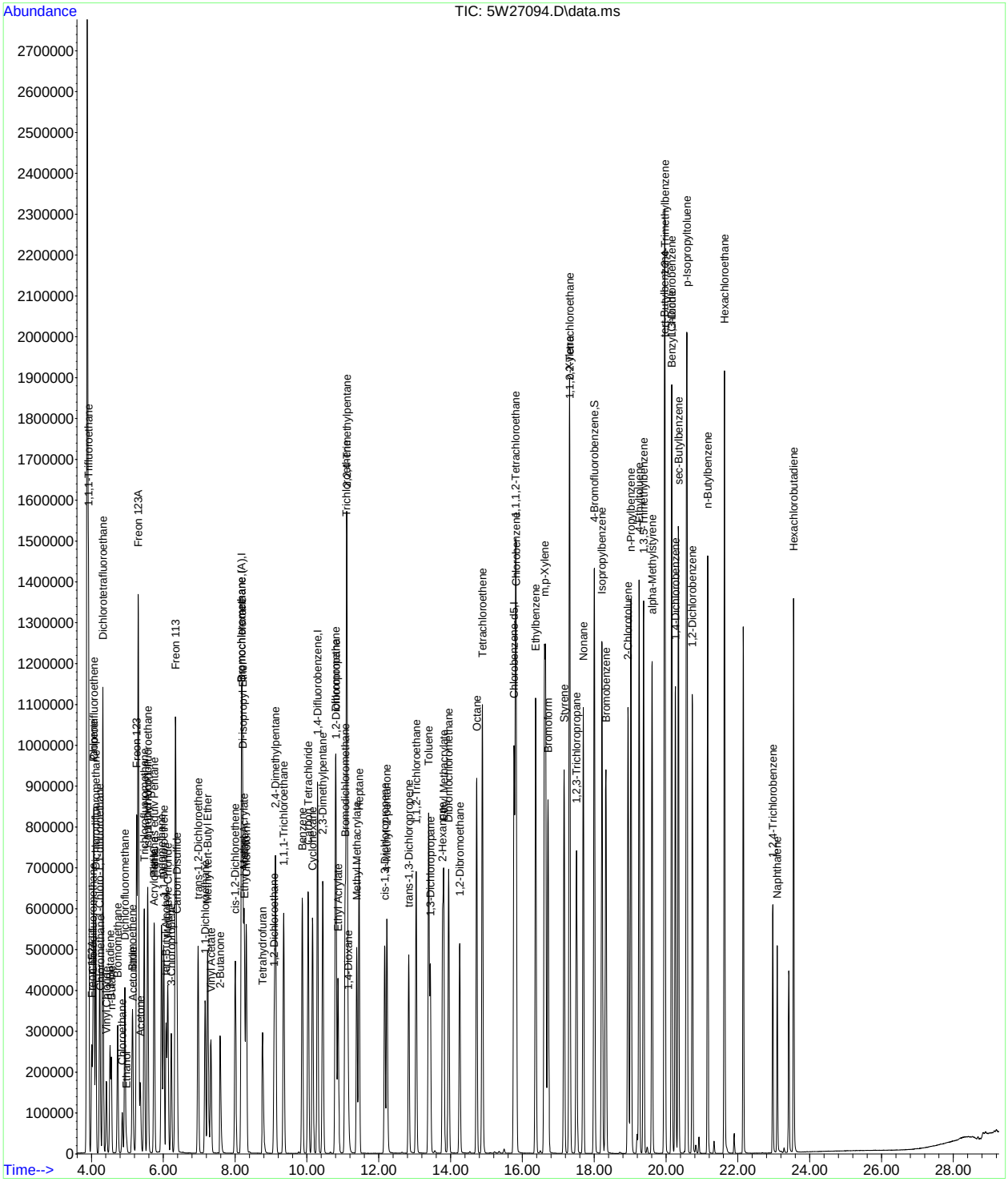
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) 2,2,4-Trimethylpentane	11.112	57	1118752	10.33	ppb(v	97
56) Heptane	11.454	71	239855	10.33	ppb(v	99
57) Trichloroethene	11.099	95	355769	9.55	ppb(v	99
58) 1,2-Dichloropropane	10.812	63	267944	9.51	ppb(v	96
59) Dibromomethane	10.800	174	351092	8.74	ppb(v	97
60) Ethyl Acrylate	10.867	55	542322	10.81	ppb(v	99
61) Methyl Methacrylate	11.387	69	276371	10.69	ppb(v	91
62) 1,4-Dioxane	11.148	88	155158	10.43	ppb(v	96
63) Bromodichloromethane	11.063	83	533200	9.34	ppb(v	98
64) cis-1,3-Dichloropropene	12.170	75	418860	9.71	ppb(v	100
65) 4-Methyl-2-pentanone	12.225	58	224180	11.32	ppb(v	96
66) trans-1,3-Dichloropropene	12.837	75	378523	10.13	ppb(v	99
67) Toluene	13.387	91	833041	9.09	ppb(v	99
68) 1,1,2-Trichloroethane	13.045	97	310096	9.20	ppb(v	99
69) 1,3-Dichloropropane	13.436	76	400090	9.41	ppb(v	94
70) 2-Hexanone	13.779	58	301826	11.98	ppb(v	94
71) Ethyl Methacrylate	13.810	69	443805	10.88	ppb(v	99
72) Dibromochloromethane	13.944	129	535662	8.82	ppb(v	100
73) Tetrachloroethene	14.886	166	465799	8.37	ppb(v	100
74) 1,2-Dibromoethane	14.256	107	495565	9.02	ppb(v	100
75) Octane	14.727	43	489031	9.86	ppb(v	96
76) 1,1,1,2-Tetrachloroethane	15.810	131	403807	9.29	ppb(v	99
78) Chlorobenzene	15.828	112	717681	9.36	ppb(v	99
79) Ethylbenzene	16.367	91	1158382	10.34	ppb(v	99
80) m,p-Xylene	16.618	91	1792354	20.90	ppb(v	99
81) Styrene	17.162	104	705733	10.84	ppb(v	99
82) Nonane	17.694	43	491359	9.94	ppb(v	98
83) o-Xylene	17.309	91	910336	10.56	ppb(v	99
84) Bromoform	16.715	173	608724	10.86	ppb(v	98
85) 1,1,2,2-Tetrachloroethane	17.321	83	661960	10.03	ppb(v	100
86) 1,2,3-Trichloropropane	17.505	75	480182	10.22	ppb(v	99
87) Isopropylbenzene	18.214	105	1257574	10.46	ppb(v	100
88) Bromobenzene	18.324	156	450727	10.32	ppb(v	99
89) 2-Chlorotoluene	18.942	126	333022	10.39	ppb(v	97
90) n-Propylbenzene	19.022	120	354369	10.50	ppb(v	99
92) 4-Ethyltoluene	19.248	105	1206090	10.12	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	1014930	9.76	ppb(v	99
94) alpha-Methylstyrene	19.615	118	509290	10.62	ppb(v	99
95) tert-Butylbenzene	19.952	134	228868	9.61	ppb(v	94
96) 1,2,4-Trimethylbenzene	19.970	105	945583	9.79	ppb(v	98
97) 1,3-Dichlorobenzene	20.160	146	650545	9.98	ppb(v	99
98) Benzyl Chloride	20.154	91	673436	11.29	ppb(v	99
99) 1,4-Dichlorobenzene	20.264	146	634748	9.82	ppb(v	99
100) sec-Butylbenzene	20.349	134	265897	9.63	ppb(v	97
101) p-Isopropyltoluene	20.582	134	305049	9.29	ppb(v	99
102) 1,2-Dichlorobenzene	20.729	146	597131	9.70	ppb(v	99
103) n-Butylbenzene	21.163	134	250979	9.90	ppb(v	99
104) Hexachloroethane	21.628	201	391654	9.62	ppb(v	99
105) 1,2,4-Trichlorobenzene	22.974	180	218882	11.91	ppb(v	98
106) Naphthalene	23.096	128	430789	12.31	ppb(v	100
107) Hexachlorobutadiene	23.549	225	286146	8.09	ppb(v	99
109) TVHC as equiv Pentane	5.746	TIC	1321758	10.11	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27094.D
Acq On : 7 Oct 2017 10:20 am
Operator : [redacted]
Sample : bs
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27095.D
Acq On : 7 Oct 2017 11:05 am
Operator : [redacted]
Sample : bsd
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 11:21:34 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	284317	10.00	ppb(v	-0.02
54) 1,4-Difluorobenzene	10.280	114	968061	10.00	ppb(v	-0.01
77) Chlorobenzene-d5	15.761	82	436487	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	284317	10.00	ppb(v	-0.02
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	681711	11.10	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 111.00%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.893	69	647311	10.99	ppb(v#	91
3) Freon 152A	3.984	65	136882	9.00	ppb(v	86
4) Chlorodifluoromethane	4.021	67	54215	10.20	ppb(v	98
5) Propene	4.039	41	140677	9.46	ppb(v	98
6) Chlorotrifluoroethene	4.046	116	374697	9.92	ppb(v	99
7) Dichlorodifluoromethane	4.095	85	594365	9.68	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.205	65	384571	9.44	ppb(v	99
9) Chloromethane	4.223	50	182780	9.61	ppb(v	99
10) Dichlorotetrafluoroethane	4.296	85	594466	9.76	ppb(v	99
11) Vinyl Chloride	4.388	62	211988	10.08	ppb(v	99
12) 1,3-Butadiene	4.492	54	137256	9.65	ppb(v	97
13) n-Butane	4.529	58	29250	10.07	ppb(v	99
14) Bromomethane	4.706	94	240466	8.47	ppb(v	100
15) Chloroethane	4.835	64	96019	9.50	ppb(v	99
16) Dichlorofluoromethane	4.908	67	443214	9.23	ppb(v	100
17) Acetonitrile	5.122	41	116298	9.82	ppb(v	100
18) Freon 123	5.232	83	561276	9.34	ppb(v	100
19) Freon 123A	5.275	117	651446	18.72	ppb(v	98
20) Bromoethene	5.110	106	241232	9.60	ppb(v	99
21) Trichlorofluoromethane	5.447	101	567073	9.41	ppb(v	100
22) Acetone	5.330	58	79617	8.62	ppb(v	98
23) Pentane	5.728	57	53441	9.24	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.544	81	461166	8.52	ppb(v	100
25) Iodomethane	5.924	142	746987	9.54	ppb(v	96
26) Isopropyl Alcohol	5.538	43	45471	7.25	ppb(v	94
27) 1,1-Dichloroethene	5.985	61	357200	9.83	ppb(v	96
28) Freon 113	6.315	101	542829	9.74	ppb(v	98
29) Methylene Chloride	6.101	84	217084	8.46	ppb(v	98
30) Carbon Disulfide	6.358	76	739702	9.90	ppb(v	99
31) Ethanol	4.945	45	50844	8.70	ppb(v	98
32) Acrylonitrile	5.716	53	160687	10.05	ppb(v	98
33) 3-Chloropropene	6.199	76	99332	9.97	ppb(v	88
34) trans-1,2-Dichloroethene	6.945	61	326446	9.79	ppb(v	98
35) tert-Butyl Alcohol	6.052	59	438447	8.82	ppb(v	98
36) Methyl tert-Butyl Ether	7.215	73	624169	9.92	ppb(v	98
37) Vinyl Acetate	7.306	43	475745	9.23	ppb(v	98
38) 1,1-Dichloroethane	7.147	63	418893	9.58	ppb(v	100
39) 2-Butanone	7.563	72	113461	10.10	ppb(v	96
40) Hexane	8.169	57	334365	9.88	ppb(v	97
41) cis-1,2-Dichloroethene	7.985	61	309540	9.69	ppb(v	97
42) Di-isopropyl Ether	8.193	87	200972	10.16	ppb(v	100
43) Ethyl Acetate	8.242	61	76914	10.48	ppb(v	88
44) Methyl Acrylate	8.230	55	380042	9.85	ppb(v	99
45) Chloroform	8.291	83	506628	9.32	ppb(v	99
46) 2,4-Dimethylpentane	9.111	57	387593	9.93	ppb(v	99
47) Tetrahydrofuran	8.750	72	108843	10.56	ppb(v	94
48) 1,1,1-Trichloroethane	9.337	97	466461	9.46	ppb(v	99
49) 1,2-Dichloroethane	9.074	62	283153	9.46	ppb(v	98
50) Benzene	9.857	78	714726	9.15	ppb(v	99
51) Carbon Tetrachloride	10.023	117	490178	9.84	ppb(v	99
52) Cyclohexane	10.145	56	324677	9.72	ppb(v	99
53) 2,3-Dimethylpentane	10.426	71	153210	9.92	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27095.D
Acq On : 7 Oct 2017 11:05 am
Operator : [redacted]
Sample : bsd
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 11:21:34 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

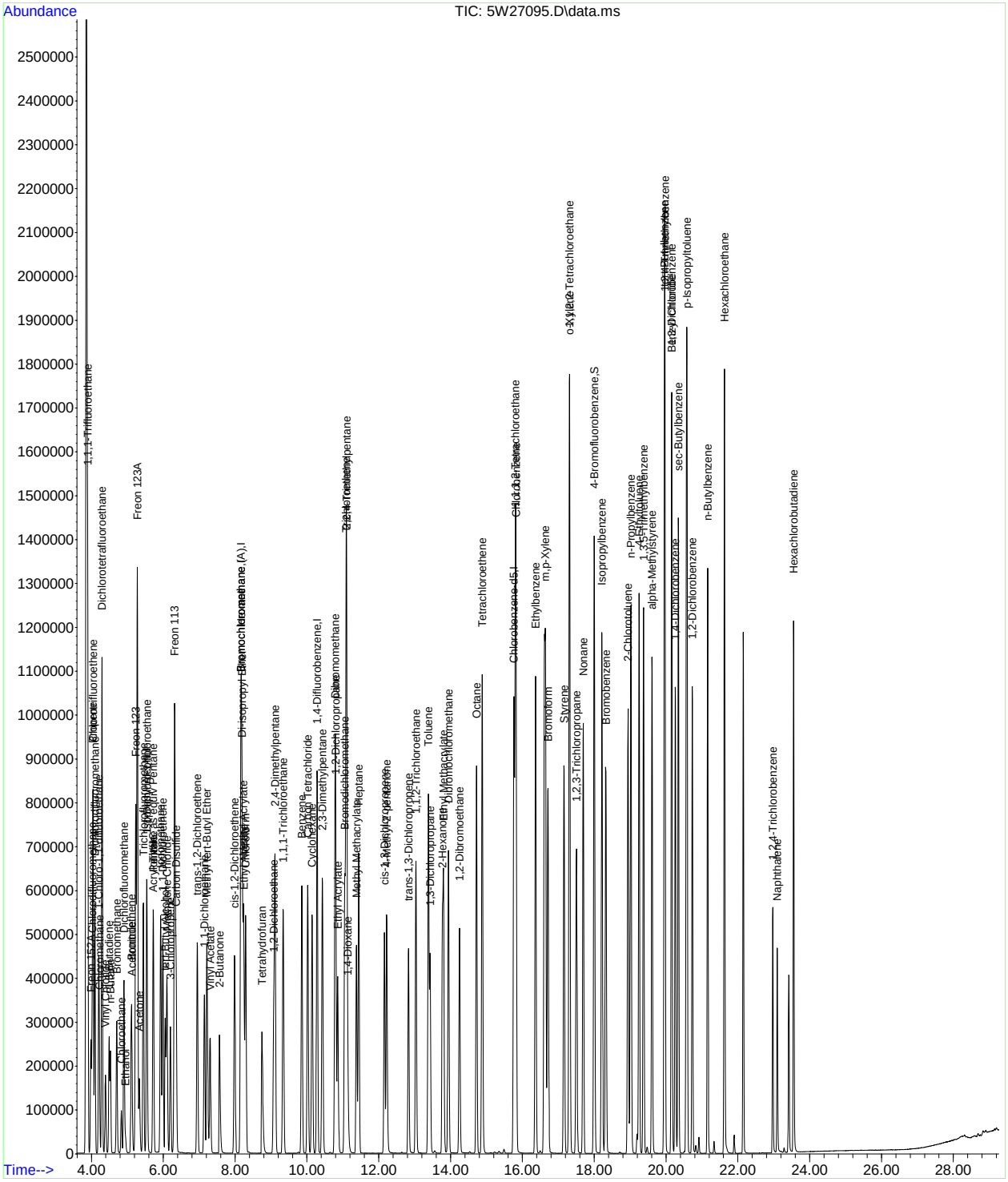
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.105	57	1052307	9.99	ppb(v	97
56)	Heptane	11.442	71	229061	10.14	ppb(v	99
57)	Trichloroethene	11.087	95	339488	9.37	ppb(v	98
58)	1,2-Dichloropropane	10.806	63	259666	9.48	ppb(v	96
59)	Dibromomethane	10.787	174	340724	8.72	ppb(v	97
60)	Ethyl Acrylate	10.861	55	513643	10.53	ppb(v	99
61)	Methyl Methacrylate	11.381	69	258152	10.27	ppb(v	91
62)	1,4-Dioxane	11.136	88	146239	10.11	ppb(v	98
63)	Bromodichloromethane	11.050	83	516095	9.30	ppb(v	99
64)	cis-1,3-Dichloropropene	12.158	75	407415	9.72	ppb(v	100
65)	4-Methyl-2-pentanone	12.219	58	210372	10.93	ppb(v	96
66)	trans-1,3-Dichloropropene	12.831	75	366598	10.09	ppb(v	99
67)	Toluene	13.381	91	825220	9.26	ppb(v	100
68)	1,1,2-Trichloroethane	13.039	97	303679	9.27	ppb(v	98
69)	1,3-Dichloropropane	13.430	76	392237	9.49	ppb(v	94
70)	2-Hexanone	13.773	58	281226	11.49	ppb(v	92
71)	Ethyl Methacrylate	13.803	69	416376	10.50	ppb(v	99
72)	Dibromochloromethane	13.938	129	533655	9.03	ppb(v	100
73)	Tetrachloroethene	14.880	166	457015	8.45	ppb(v	100
74)	1,2-Dibromoethane	14.250	107	490907	9.19	ppb(v	99
75)	Octane	14.721	43	467967	9.70	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.804	131	402254	9.52	ppb(v	98
78)	Chlorobenzene	15.822	112	709602	8.88	ppb(v	99
79)	Ethylbenzene	16.367	91	1117293	9.57	ppb(v	98
80)	m,p-Xylene	16.636	91	1703671	19.06	ppb(v	100
81)	Styrene	17.162	104	666631	9.83	ppb(v	99
82)	Nonane	17.694	43	451952	8.77	ppb(v	98
83)	o-Xylene	17.309	91	868780	9.67	ppb(v	99
84)	Bromoform	16.715	173	596400	10.20	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.315	83	624118	9.08	ppb(v	100
86)	1,2,3-Trichloropropane	17.505	75	447489	9.14	ppb(v	99
87)	Isopropylbenzene	18.214	105	1173658	9.37	ppb(v	100
88)	Bromobenzene	18.324	156	423231	9.29	ppb(v	100
89)	2-Chlorotoluene	18.942	126	314466	9.42	ppb(v	96
90)	n-Propylbenzene	19.022	120	332765	9.46	ppb(v	100
92)	4-Ethyltoluene	19.248	105	1124765	9.05	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	946529	8.73	ppb(v	99
94)	alpha-Methylstyrene	19.609	118	475103	9.51	ppb(v	99
95)	tert-Butylbenzene	19.952	134	217034	8.75	ppb(v	97
96)	1,2,4-Trimethylbenzene	19.970	105	889971	8.84	ppb(v	99
97)	1,3-Dichlorobenzene	20.160	146	611284	8.99	ppb(v	98
98)	Benzyl Chloride	20.154	91	626089	10.07	ppb(v	99
99)	1,4-Dichlorobenzene	20.258	146	596355	8.85	ppb(v	99
100)	sec-Butylbenzene	20.343	134	249744	8.68	ppb(v	93
101)	p-Isopropyltoluene	20.582	134	285457	8.34	ppb(v	98
102)	1,2-Dichlorobenzene	20.729	146	564208	8.79	ppb(v	99
103)	n-Butylbenzene	21.163	134	234240	8.86	ppb(v	99
104)	Hexachloroethane	21.628	201	366142	8.63	ppb(v	97
105)	1,2,4-Trichlorobenzene	22.974	180	200043	10.44	ppb(v	98
106)	Naphthalene	23.096	128	396610	10.87	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	259596	7.05	ppb(v	100
109)	TVHC as equiv Pentane	5.722	TIC	1255738	10.01	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27095.D
Acq On : 7 Oct 2017 11:05 am
Operator : [redacted]
Sample : bsd
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 11:21:34 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27113.D
Acq On : 8 Oct 2017 11:01 am
Operator : [redacted]
Sample : bs
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 11:31:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	281008	10.00	ppb(v	-0.01
54) 1,4-Difluorobenzene	10.286	114	959992	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	419124	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	281008	10.00	ppb(v	-0.01
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	685373	11.63	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 116.30%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.899	69	648501	11.14	ppb(v#	92
3) Freon 152A	3.991	65	138584	9.22	ppb(v	87
4) Chlorodifluoromethane	4.021	67	54514	10.38	ppb(v	99
5) Propene	4.046	41	144601	9.84	ppb(v	99
6) Chlorotrifluoroethene	4.052	116	375472	10.06	ppb(v	99
7) Dichlorodifluoromethane	4.101	85	603447	9.94	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.211	65	385202	9.57	ppb(v	99
9) Chloromethane	4.229	50	176773	9.40	ppb(v	99
10) Dichlorotetrafluoroethane	4.296	85	575566	9.56	ppb(v	97
11) Vinyl Chloride	4.394	62	206317	9.93	ppb(v	100
12) 1,3-Butadiene	4.492	54	138905	9.88	ppb(v	99
13) n-Butane	4.535	58	29839	10.39	ppb(v	92
14) Bromomethane	4.706	94	251353	8.95	ppb(v	100
15) Chloroethane	4.841	64	100603	10.07	ppb(v	100
16) Dichlorofluoromethane	4.908	67	461454	9.73	ppb(v	100
17) Acetonitrile	5.128	41	125504	10.72	ppb(v	99
18) Freon 123	5.239	83	589912	9.93	ppb(v	100
19) Freon 123A	5.281	117	666952	19.39	ppb(v	98
20) Bromoethene	5.116	106	250536	10.09	ppb(v	99
21) Trichlorofluoromethane	5.447	101	595108	9.99	ppb(v	100
22) Acetone	5.336	58	84858	9.29	ppb(v	98
23) Pentane	5.734	57	54090	9.46	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.551	81	508026	9.50	ppb(v	98
25) Iodomethane	5.930	142	728398	9.41	ppb(v	97
26) Isopropyl Alcohol	5.544	43	59493	9.59	ppb(v	98
27) 1,1-Dichloroethene	5.991	61	360711	10.04	ppb(v	98
28) Freon 113	6.321	101	534879	9.71	ppb(v	96
29) Methylene Chloride	6.107	84	216012	8.52	ppb(v	100
30) Carbon Disulfide	6.364	76	735484	9.96	ppb(v	100
31) Ethanol	4.957	45	52919	9.16	ppb(v	98
32) Acrylonitrile	5.722	53	164933	10.43	ppb(v	99
33) 3-Chloropropene	6.205	76	98966	10.05	ppb(v	91
34) trans-1,2-Dichloroethene	6.951	61	331022	10.04	ppb(v	99
35) tert-Butyl Alcohol	6.058	59	435663	8.87	ppb(v	98
36) Methyl tert-Butyl Ether	7.221	73	617082	9.92	ppb(v	99
37) Vinyl Acetate	7.306	43	482878	9.48	ppb(v	100
38) 1,1-Dichloroethane	7.153	63	420342	9.73	ppb(v	99
39) 2-Butanone	7.569	72	113715	10.24	ppb(v	98
40) Hexane	8.169	57	340459	10.18	ppb(v	93
41) cis-1,2-Dichloroethene	7.992	61	315270	9.99	ppb(v	98
42) Di-isopropyl Ether	8.200	87	196216	10.03	ppb(v	92
43) Ethyl Acetate	8.248	61	77126	10.64	ppb(v	96
44) Methyl Acrylate	8.230	55	388197	10.18	ppb(v	99
45) Chloroform	8.297	83	508182	9.46	ppb(v	99
46) 2,4-Dimethylpentane	9.111	57	391440	10.15	ppb(v	99
47) Tetrahydrofuran	8.750	72	107498	10.55	ppb(v	97
48) 1,1,1-Trichloroethane	9.344	97	465556	9.56	ppb(v	99
49) 1,2-Dichloroethane	9.080	62	289976	9.80	ppb(v	97
50) Benzene	9.864	78	726396	9.41	ppb(v	99
51) Carbon Tetrachloride	10.029	117	490778	9.97	ppb(v	99
52) Cyclohexane	10.151	56	328930	9.97	ppb(v	98
53) 2,3-Dimethylpentane	10.432	71	153441	10.05	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27113.D
Acq On : 8 Oct 2017 11:01 am
Operator : [redacted]
Sample : bs
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 11:31:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

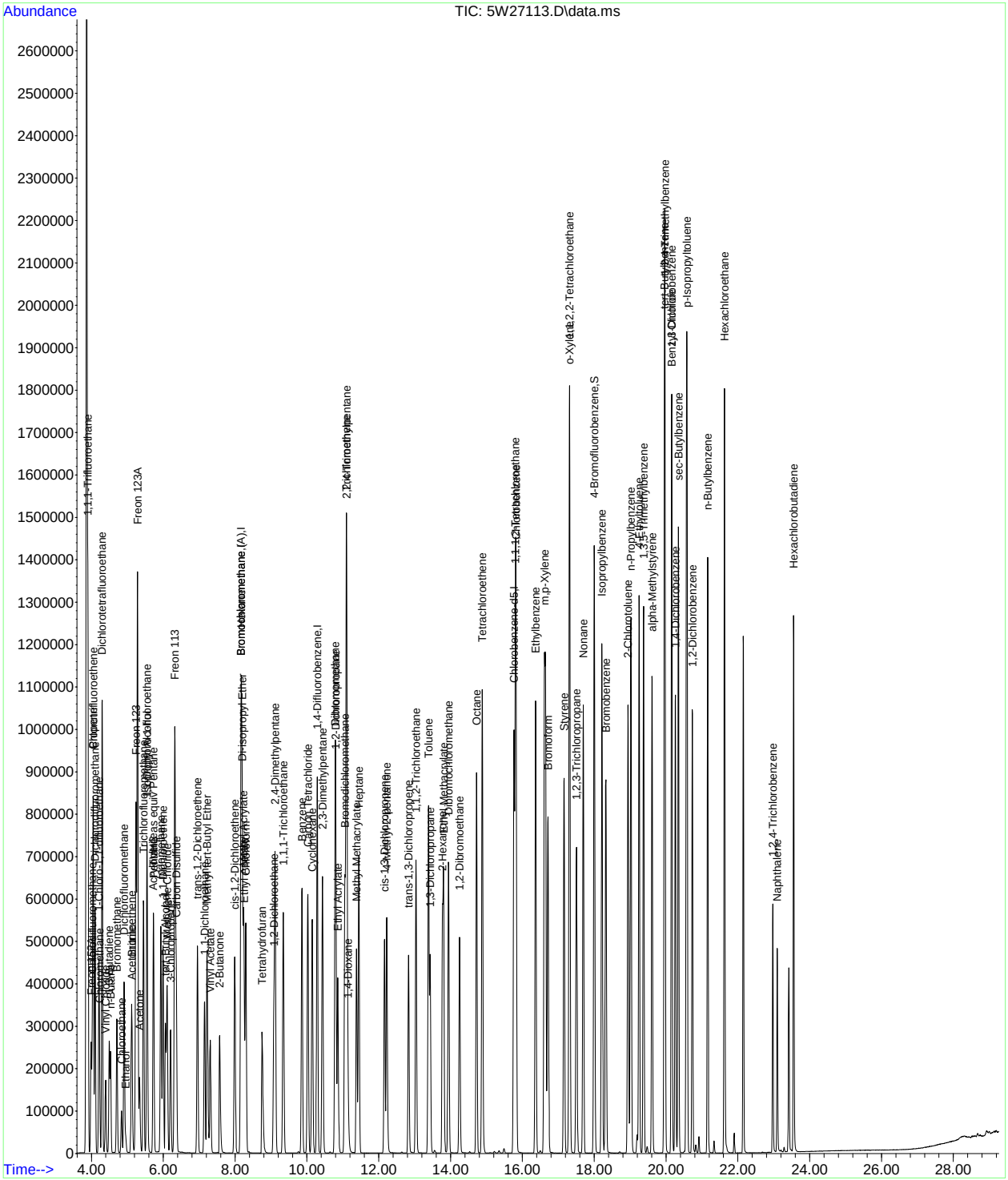
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.105	57	1079004	10.33	ppb(v	97
56)	Heptane	11.448	71	228596	10.21	ppb(v	97
57)	Trichloroethene	11.093	95	343171	9.55	ppb(v	97
58)	1,2-Dichloropropane	10.806	63	267284	9.84	ppb(v	95
59)	Dibromomethane	10.787	174	330783	8.54	ppb(v	90
60)	Ethyl Acrylate	10.861	55	519500	10.74	ppb(v	100
61)	Methyl Methacrylate	11.381	69	260220	10.44	ppb(v	93
62)	1,4-Dioxane	11.142	88	143457	10.00	ppb(v	96
63)	Bromodichloromethane	11.056	83	528867	9.61	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	408569	9.83	ppb(v	99
65)	4-Methyl-2-pentanone	12.225	58	211644	11.09	ppb(v	97
66)	trans-1,3-Dichloropropene	12.831	75	358312	9.94	ppb(v	100
67)	Toluene	13.387	91	826366	9.35	ppb(v	99
68)	1,1,2-Trichloroethane	13.039	97	303239	9.33	ppb(v	97
69)	1,3-Dichloropropane	13.430	76	390185	9.52	ppb(v	96
70)	2-Hexanone	13.773	58	288340	11.87	ppb(v	96
71)	Ethyl Methacrylate	13.809	69	424875	10.80	ppb(v	98
72)	Dibromochloromethane	13.938	129	527189	9.00	ppb(v	99
73)	Tetrachloroethene	14.880	166	452513	8.44	ppb(v	99
74)	1,2-Dibromoethane	14.250	107	484592	9.15	ppb(v	99
75)	Octane	14.721	43	482265	10.08	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.804	131	382602	9.13	ppb(v	97
78)	Chlorobenzene	15.822	112	674645	8.80	ppb(v	98
79)	Ethylbenzene	16.367	91	1086743	9.69	ppb(v	99
80)	m,p-Xylene	16.617	91	1672980	19.49	ppb(v	99
81)	Styrene	17.162	104	653367	10.03	ppb(v	99
82)	Nonane	17.694	43	486389	9.83	ppb(v	99
83)	o-Xylene	17.309	91	856321	9.93	ppb(v	100
84)	Bromoform	16.715	173	554647	9.88	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.315	83	641360	9.71	ppb(v	100
86)	1,2,3-Trichloropropane	17.505	75	459093	9.76	ppb(v	98
87)	Isopropylbenzene	18.214	105	1175479	9.77	ppb(v	100
88)	Bromobenzene	18.324	156	415722	9.51	ppb(v	98
89)	2-Chlorotoluene	18.942	126	312285	9.74	ppb(v	98
90)	n-Propylbenzene	19.022	120	326647	9.67	ppb(v	97
92)	4-Ethyltoluene	19.248	105	1137829	9.54	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	954149	9.16	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	471203	9.82	ppb(v	99
95)	tert-Butylbenzene	19.952	134	218143	9.16	ppb(v	99
96)	1,2,4-Trimethylbenzene	19.970	105	898773	9.30	ppb(v	98
97)	1,3-Dichlorobenzene	20.160	146	610741	9.36	ppb(v	99
98)	Benzyl Chloride	20.154	91	642532	10.76	ppb(v	100
99)	1,4-Dichlorobenzene	20.264	146	591191	9.14	ppb(v	99
100)	sec-Butylbenzene	20.349	134	250699	9.07	ppb(v	96
101)	p-Isopropyltoluene	20.582	134	287704	8.76	ppb(v	99
102)	1,2-Dichlorobenzene	20.735	146	555291	9.01	ppb(v	98
103)	n-Butylbenzene	21.163	134	236030	9.30	ppb(v	96
104)	Hexachloroethane	21.628	201	356962	8.76	ppb(v	93
105)	1,2,4-Trichlorobenzene	22.974	180	205623	11.17	ppb(v	98
106)	Naphthalene	23.096	128	405841	11.59	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	261095	7.38	ppb(v	100
109)	TVHC as equiv Pentane	5.728	TIC	1278675	10.31	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27113.D
Acq On : 8 Oct 2017 11:01 am
Operator : [redacted]
Sample : bs
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 11:31:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27114.D
Acq On : 8 Oct 2017 11:46 am
Operator : [redacted]
Sample : bsd
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:55:04 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.169	130	286961	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	975475	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	426662	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.169	130	286961	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	701969	11.70	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 117.00%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.911	69	675058	11.35	ppb(v	92
3) Freon 152A	3.997	65	142193	9.26	ppb(v	88
4) Chlorodifluoromethane	4.033	67	56929	10.61	ppb(v	97
5) Propene	4.052	41	151107	10.06	ppb(v	97
6) Chlorotrifluoroethene	4.064	116	379033	9.94	ppb(v	98
7) Dichlorodifluoromethane	4.113	85	614494	9.91	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.223	65	411808	10.02	ppb(v	99
9) Chloromethane	4.241	50	199067	10.37	ppb(v	99
10) Dichlorotetrafluoroethane	4.309	85	629011	10.23	ppb(v	95
11) Vinyl Chloride	4.407	62	226739	10.68	ppb(v	99
12) 1,3-Butadiene	4.504	54	147154	10.25	ppb(v	98
13) n-Butane	4.541	58	31678	10.80	ppb(v	99
14) Bromomethane	4.719	94	262982	9.17	ppb(v	98
15) Chloroethane	4.847	64	106876	10.48	ppb(v	99
16) Dichlorofluoromethane	4.920	67	486703	10.05	ppb(v	100
17) Acetonitrile	5.147	41	130885	10.95	ppb(v	99
18) Freon 123	5.251	83	614861	10.14	ppb(v	98
19) Freon 123A	5.294	117	696815	19.83	ppb(v	96
20) Bromoethene	5.128	106	259649	10.24	ppb(v	98
21) Trichlorofluoromethane	5.459	101	615839	10.13	ppb(v	100
22) Acetone	5.349	58	89425	9.59	ppb(v	98
23) Pentane	5.740	57	55725	9.54	ppb(v	94
24) 1,1-Dichloro-1-fluoroe...	5.557	81	500764	9.17	ppb(v	100
25) Iodomethane	5.942	142	747343	9.46	ppb(v	97
26) Isopropyl Alcohol	5.557	43	51273	8.10	ppb(v	97
27) 1,1-Dichloroethene	6.003	61	375101	10.23	ppb(v	98
28) Freon 113	6.334	101	552353	9.82	ppb(v	98
29) Methylene Chloride	6.120	84	222716	8.60	ppb(v	100
30) Carbon Disulfide	6.376	76	759603	10.07	ppb(v	100
31) Ethanol	4.969	45	55930	9.48	ppb(v	98
32) Acrylonitrile	5.734	53	167827	10.39	ppb(v	99
33) 3-Chloropropene	6.217	76	101719	10.11	ppb(v	92
34) trans-1,2-Dichloroethene	6.964	61	341621	10.15	ppb(v	100
35) tert-Butyl Alcohol	6.071	59	450377	8.97	ppb(v	98
36) Methyl tert-Butyl Ether	7.233	73	635086	10.00	ppb(v	99
37) Vinyl Acetate	7.319	43	502791	9.66	ppb(v	100
38) 1,1-Dichloroethane	7.160	63	437080	9.91	ppb(v	100
39) 2-Butanone	7.576	72	117884	10.40	ppb(v	97
40) Hexane	8.181	57	353120	10.34	ppb(v	99
41) cis-1,2-Dichloroethene	7.998	61	322819	10.02	ppb(v	99
42) Di-isopropyl Ether	8.206	87	201540	10.09	ppb(v	87
43) Ethyl Acetate	8.255	61	80342	10.85	ppb(v	98
44) Methyl Acrylate	8.242	55	399646	10.27	ppb(v	98
45) Chloroform	8.304	83	523971	9.55	ppb(v	99
46) 2,4-Dimethylpentane	9.117	57	407971	10.36	ppb(v	98
47) Tetrahydrofuran	8.762	72	111278	10.69	ppb(v	95
48) 1,1,1-Trichloroethane	9.350	97	477539	9.60	ppb(v	100
49) 1,2-Dichloroethane	9.087	62	297550	9.85	ppb(v	98
50) Benzene	9.870	78	748382	9.49	ppb(v	99
51) Carbon Tetrachloride	10.035	117	504316	10.03	ppb(v	99
52) Cyclohexane	10.157	56	340657	10.11	ppb(v	98
53) 2,3-Dimethylpentane	10.439	71	158171	10.14	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27114.D
Acq On : 8 Oct 2017 11:46 am
Operator : [redacted]
Sample : bsd
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:55:04 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

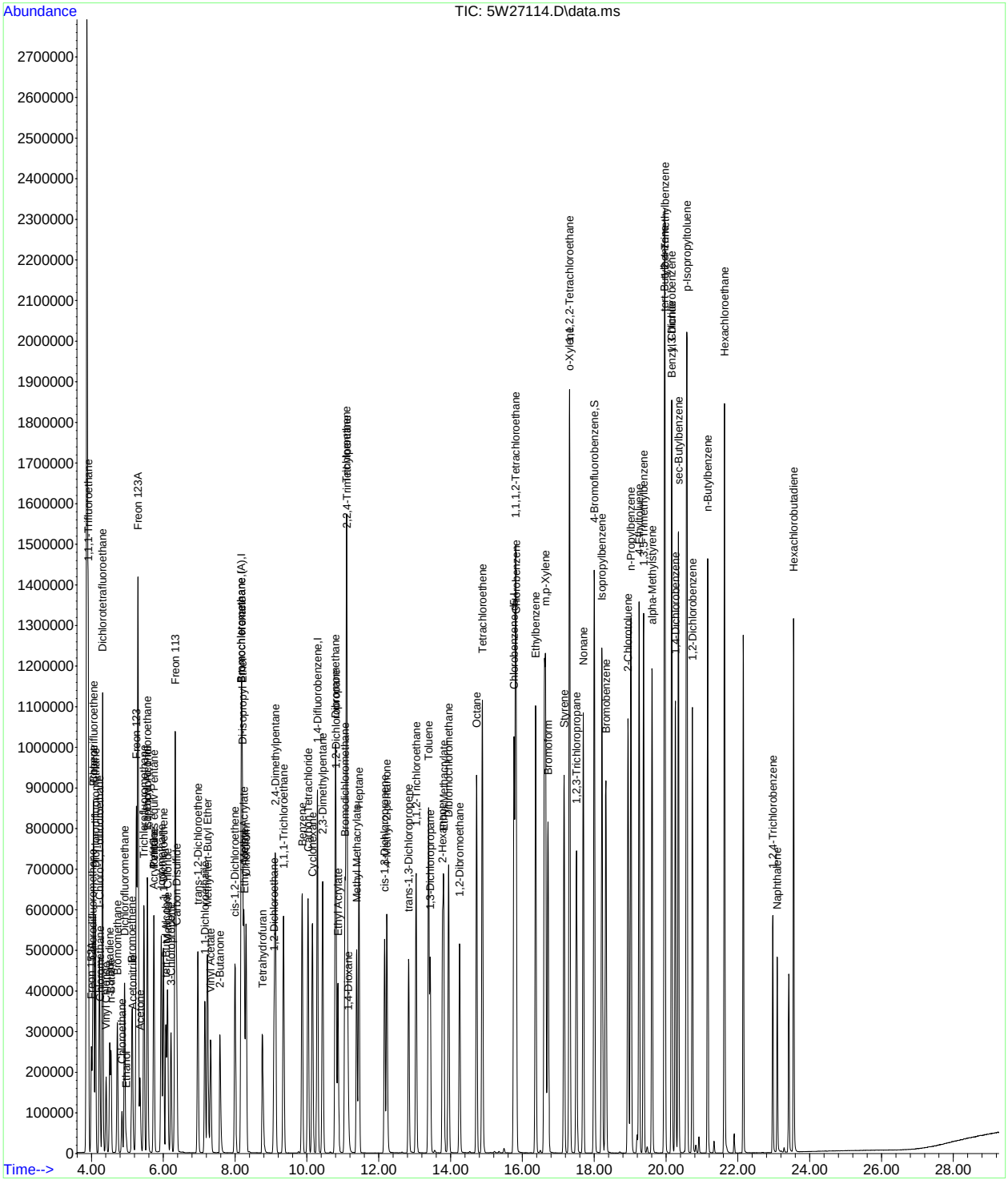
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.112	57	1118176	10.54	ppb(v	97
56)	Heptane	11.448	71	240376	10.56	ppb(v	98
57)	Trichloroethene	11.099	95	353396	9.68	ppb(v	97
58)	1,2-Dichloropropane	10.812	63	276682	10.02	ppb(v	96
59)	Dibromomethane	10.793	174	336852	8.56	ppb(v	90
60)	Ethyl Acrylate	10.867	55	532155	10.83	ppb(v	100
61)	Methyl Methacrylate	11.387	69	270526	10.68	ppb(v	93
62)	1,4-Dioxane	11.148	88	147242	10.11	ppb(v	95
63)	Bromodichloromethane	11.056	83	545273	9.75	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	419826	9.94	ppb(v	99
65)	4-Methyl-2-pentanone	12.225	58	221041	11.39	ppb(v	97
66)	trans-1,3-Dichloropropene	12.831	75	370739	10.12	ppb(v	99
67)	Toluene	13.387	91	844031	9.40	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	309910	9.39	ppb(v	97
69)	1,3-Dichloropropane	13.430	76	402825	9.67	ppb(v	95
70)	2-Hexanone	13.779	58	297994	12.08	ppb(v	94
71)	Ethyl Methacrylate	13.809	69	436193	10.91	ppb(v	98
72)	Dibromochloromethane	13.944	129	540243	9.08	ppb(v	99
73)	Tetrachloroethene	14.886	166	465102	8.54	ppb(v	99
74)	1,2-Dibromoethane	14.250	107	496776	9.23	ppb(v	99
75)	Octane	14.721	43	499080	10.27	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.810	131	393875	9.25	ppb(v	99
78)	Chlorobenzene	15.828	112	698456	8.94	ppb(v	99
79)	Ethylbenzene	16.367	91	1120197	9.82	ppb(v	99
80)	m,p-Xylene	16.642	91	1734026	19.84	ppb(v	100
81)	Styrene	17.162	104	676741	10.20	ppb(v	99
82)	Nonane	17.694	43	501523	9.96	ppb(v	99
83)	o-Xylene	17.309	91	886715	10.10	ppb(v	100
84)	Bromoform	16.715	173	565412	9.90	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.315	83	665457	9.90	ppb(v	100
86)	1,2,3-Trichloropropane	17.505	75	474391	9.91	ppb(v	98
87)	Isopropylbenzene	18.214	105	1224444	10.00	ppb(v	99
88)	Bromobenzene	18.324	156	424918	9.55	ppb(v	98
89)	2-Chlorotoluene	18.942	126	320683	9.82	ppb(v	99
90)	n-Propylbenzene	19.022	120	339422	9.87	ppb(v	94
92)	4-Ethyltoluene	19.248	105	1167242	9.61	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	986727	9.31	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	491449	10.06	ppb(v	99
95)	tert-Butylbenzene	19.952	134	227272	9.37	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	941127	9.57	ppb(v	99
97)	1,3-Dichlorobenzene	20.160	146	628538	9.46	ppb(v	100
98)	Benzyl Chloride	20.154	91	661125	10.88	ppb(v	100
99)	1,4-Dichlorobenzene	20.264	146	606212	9.21	ppb(v	99
100)	sec-Butylbenzene	20.349	134	258681	9.19	ppb(v	93
101)	p-Isopropyltoluene	20.582	134	300609	8.99	ppb(v	99
102)	1,2-Dichlorobenzene	20.735	146	580300	9.25	ppb(v	98
103)	n-Butylbenzene	21.163	134	242853	9.40	ppb(v	96
104)	Hexachloroethane	21.628	201	365706	8.82	ppb(v	94
105)	1,2,4-Trichlorobenzene	22.974	180	205978	11.00	ppb(v	98
106)	Naphthalene	23.096	128	409313	11.48	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	270640	7.51	ppb(v	99
109)	TVHC as equiv Pentane	5.740	TIC	1329881	10.50	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27114.D
Acq On : 8 Oct 2017 11:46 am
Operator : [redacted]
Sample : bsd
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:55:04 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60489.D
Acq On : 27 Jun 2017 11:58 am
Operator : [redacted]
Sample : bs
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:01:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	165282	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	716083	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.378	82	328912	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	422401	10.55	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 105.50%			
Target Compounds						Qvalue
3) FREON 115	3.883	85	400501	11.18	PPBV #	93
4) FREON 152A	3.798	65	231486	10.27	PPBV	100
5) CHLORODIFLUOROMETHANE	3.622	67	31292	9.93	PPBV	100
7) DICHLORODIFLUOROMETHANE	3.701	85	344339	10.30	PPBV	94
8) PROPYLENE	3.646	41	99197	10.65	PPBV	97
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	231486	10.27	PPBV	99
10) FREON 114	3.883	85	400501	11.18	PPBV	95
11) CHLOROMETHANE	3.823	52	42634	10.49	PPBV	92
12) VINYL CHLORIDE	3.975	62	153906	10.86	PPBV	99
13) 1,3-BUTADIENE	4.072	54	103008	10.03	PPBV	99
14) n-BUTANE	4.108	43	191878	10.73	PPBV	99
15) BROMOMETHANE	4.273	94	162875	9.46	PPBV	99
16) CHLOROETHANE	4.394	64	71440	10.54	PPBV	99
17) DICHLOROFLUOROMETHANE	4.443	67	307075	9.90	PPBV	100
18) ACETONITRILE	4.638	41	96158	9.94	PPBV	99
19) FREON 123	4.741	83	360351	9.37	PPBV	98
20) FREON 123A	4.784	117	206931	10.63	PPBV	94
21) TRICHLOROFLUOROMETHANE	4.960	101	343547	10.38	PPBV	99
23) ISOPROPYL ALCOHOL	5.009	45	239176	8.81	PPBV	99
24) ACETONE	4.826	58	57970	9.12	PPBV	94
25) PENTANE	5.240	42	131080	11.07	PPBV	96
26) TVHC as EQUIV PENTANE	5.240	TIC	601871m	9.48	PPBV	
27) IODOMETHANE	5.435	142	461083	10.28	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.489	96	140952	9.23	PPBV	99
29) CARBON DISULFIDE	5.885	76	455948	9.88	PPBV	99
30) ETHANOL	4.473	45	49197	11.97	PPBV	99
31) BROMOETHENE	4.650	106	153608	9.77	PPBV	100
32) ACRYLONITRILE	5.185	52	78353	10.19	PPBV	98
33) METHYLENE CHLORIDE	5.581	84	129315	9.74	PPBV	99
34) 3-CHLOROPROPENE	5.690	76	71486	11.47	PPBV	99
35) FREON 113	5.818	151	250538	10.09	PPBV	97
36) TRANS-1,2-DICHLOROETHY...	6.475	96	156458	9.44	PPBV	99
37) TERTIARY BUTYL ALCOHOL	5.514	59	246639	10.50	PPBV	98
38) METHYL TERTIARY BUTYL ...	6.730	73	383935	10.85	PPBV	100
39) TETRAHYDROFURAN	8.270	72	66514	11.41	PPBV	97
40) HEXANE	7.753	57	196979	10.20	PPBV	99
41) VINYL ACETATE	6.822	86	28421	13.23	PPBV #	82
42) 1,1-DICHLOROETHANE	6.682	63	247052	10.78	PPBV	100
43) METHYL ETHYL KETONE	7.077	72	63461	10.44	PPBV	93
44) cis-1,2-DICHLOROETHYLENE	7.534	96	153993	10.36	PPBV	98
45) DIISOPROPYL ETHER	7.740	59	58279	10.91	PPBV	100
46) ETHYL ACETATE	7.759	61	40830	10.82	PPBV #	95
47) METHYL ACRYLATE	7.753	55	217201	10.34	PPBV	99
48) CHLOROFORM	7.844	83	286053	10.27	PPBV	99
49) 2,4-DIMETHYLPENTANE	8.683	57	236150	9.83	PPBV	99
50) 1,1,1-TRICHLOROETHANE	8.890	97	288835	11.10	PPBV	99
51) CARBON TETRACHLORIDE	9.529	117	304779	11.18	PPBV	100
52) 1,2-DICHLOROETHANE	8.622	62	154595	10.43	PPBV	100
54) BENZENE	9.377	78	442101	10.39	PPBV	99
55) CYCLOHEXANE	9.663	84	188975	10.79	PPBV	97
56) 2,3-DIMETHYLPENTANE	9.918	71	92546	10.14	PPBV	99
57) TRICHLOROETHYLENE	10.496	95	194551	10.61	PPBV	99
58) 1,2-DICHLOROPROPANE	10.241	63	158345	10.54	PPBV	99

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60489.D
Acq On : 27 Jun 2017 11:58 am
Operator : [redacted]
Sample : bs
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:01:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

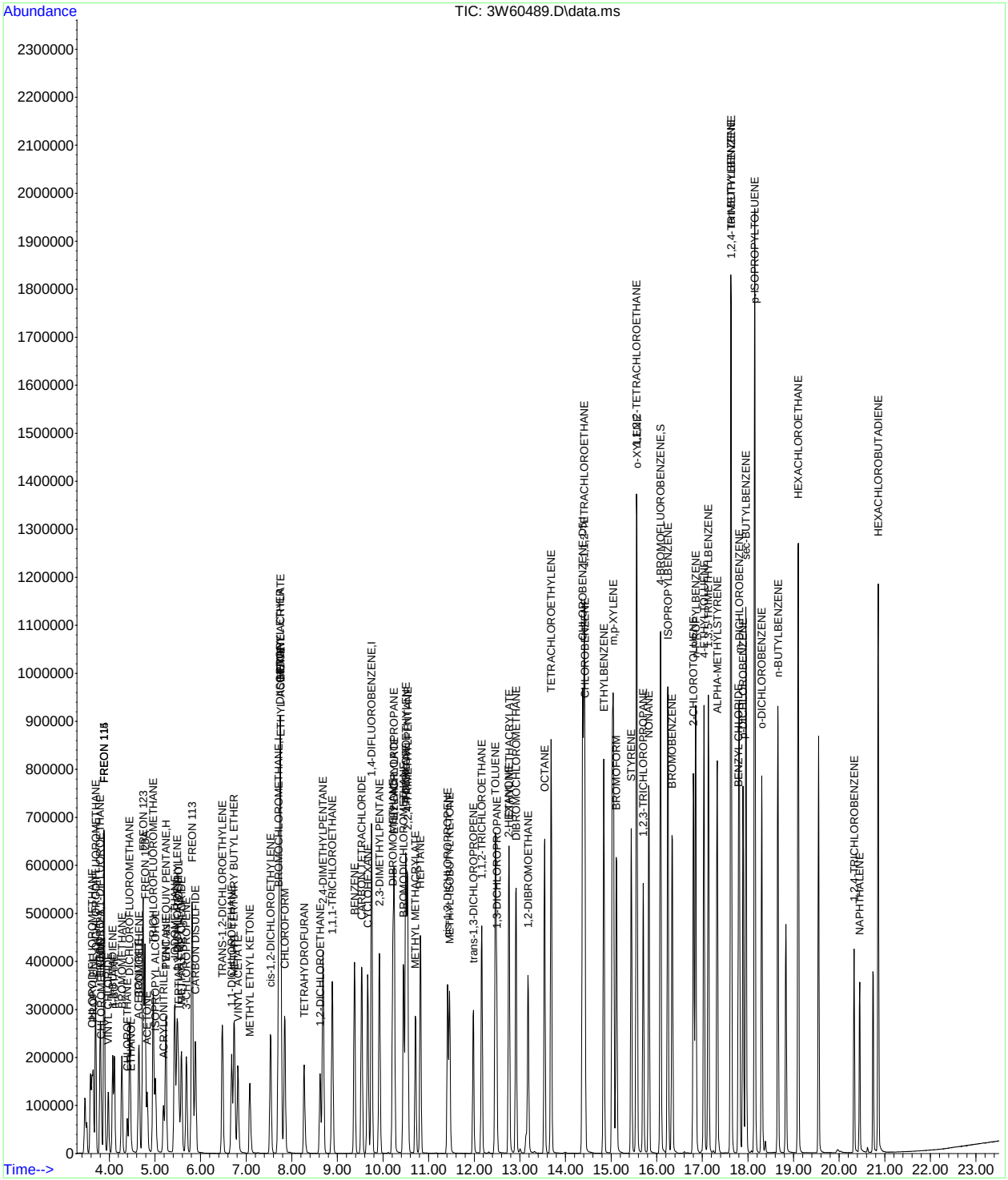
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
59)	DIBROMOMETHANE	10.216	174	204743	9.61	PPBV		98
60)	ETHYL ACRYLATE	10.247	55	256426	10.38	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	307472	10.65	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	648861	10.32	PPBV		99
63)	1,4-DIOXANE	10.502	88	94259	12.92	PPBV	#	73
64)	HEPTANE	10.819	43	206770	10.03	PPBV		99
65)	METHYL METHACRYLATE	10.709	69	136551	10.39	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.457	58	113769	10.51	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.415	75	253567	12.00	PPBV		89
68)	TOLUENE	12.461	92	329969	11.42	PPBV		100
69)	1,3-DICHLOROPROPANE	12.492	76	232287	11.35	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	203757	11.18	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.163	83	157787	10.78	PPBV		99
73)	2-HEXANONE	12.753	58	159437	10.84	PPBV		99
74)	ETHYL METHACRYLATE	12.765	69	238150	11.14	PPBV		100
75)	TETRACHLOROETHYLENE	13.684	164	255765	9.95	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.917	129	373487	11.54	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	298621	10.79	PPBV		100
78)	OCTANE	13.544	43	315422	11.00	PPBV		97
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	276597	11.25	PPBV		99
80)	CHLOROBENZENE	14.426	112	461965	10.69	PPBV		99
81)	ETHYLBENZENE	14.840	91	703187	10.81	PPBV		100
82)	m,p-XYLENE	15.047	106	571265	21.86	PPBV		99
83)	o-XYLENE	15.564	106	280961	10.91	PPBV		99
84)	STYRENE	15.442	104	412919	11.30	PPBV		100
85)	NONANE	15.825	43	307480	11.24	PPBV		99
86)	BROMOFORM	15.114	173	375465	11.97	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	421032	10.77	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.704	75	294637	11.34	PPBV		98
90)	ISOPROPYLBENZENE	16.245	105	806364	11.63	PPBV		100
91)	BROMOBENZENE	16.336	77	333801	10.84	PPBV		95
92)	2-CHLOROTOLUENE	16.805	126	210411	11.50	PPBV		100
93)	n-PROPYLBENZENE	16.854	120	215072	11.49	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	727959	11.82	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	630935	11.45	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	312079	11.68	PPBV		100
97)	tert-BUTYLBENZENE	17.626	134	147283	11.27	PPBV		98
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	595199	11.77	PPBV		99
99)	m-DICHLOROBENZENE	17.809	146	400697	11.31	PPBV		99
100)	BENZYL CHLORIDE	17.790	91	415024	12.24	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	387118	10.86	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	181410	11.81	PPBV		99
103)	p-ISOPROPYLTOLUENE	18.149	134	199144	11.95	PPBV		99
104)	o-DICHLOROBENZENE	18.301	146	387757	11.10	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	158425	12.68	PPBV		100
106)	HEXACHLOROETHANE	19.098	117	288795	12.24	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	244335	10.42	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.327	180	149654	9.19	PPBV		99
109)	NAPHTHALENE	20.449	128	289662	9.66	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60489.D
Acq On : 27 Jun 2017 11:58 am
Operator : [redacted]
Sample : bs
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:01:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60490.D
Acq On : 27 Jun 2017 12:43 pm
Operator : [redacted]
Sample : bsd
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:02:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	167874	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	713945	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	325663	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	415991	10.49	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.90%			
Target Compounds						Qvalue
3) FREON 115	3.883	85	404630	11.12	PPBV #	93
4) FREON 152A	3.798	65	231325	10.11	PPBV	99
5) CHLORODIFLUOROMETHANE	3.622	67	30749	9.61	PPBV	100
7) DICHLORODIFLUOROMETHANE	3.701	85	348717	10.27	PPBV	94
8) PROPYLENE	3.646	41	102744	10.86	PPBV	98
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	231325	10.11	PPBV	99
10) FREON 114	3.883	85	404630	11.12	PPBV	95
11) CHLOROMETHANE	3.817	52	43948	10.64	PPBV	93
12) VINYL CHLORIDE	3.981	62	153577	10.67	PPBV	100
13) 1,3-BUTADIENE	4.078	54	106443	10.20	PPBV	97
14) n-BUTANE	4.109	43	195743	10.78	PPBV	100
15) BROMOMETHANE	4.273	94	162456	9.29	PPBV	99
16) CHLOROETHANE	4.394	64	71566	10.40	PPBV	99
17) DICHLOROFLUOROMETHANE	4.449	67	305028	9.69	PPBV	99
18) ACETONITRILE	4.638	41	93214	9.48	PPBV	99
19) FREON 123	4.741	83	354677	9.08	PPBV	98
20) FREON 123A	4.784	117	204731	10.35	PPBV	93
21) TRICHLOROFLUOROMETHANE	4.966	101	345900	10.29	PPBV	100
23) ISOPROPYL ALCOHOL	5.009	45	223089	8.09	PPBV	99
24) ACETONE	4.833	58	57734	8.95	PPBV	93
25) PENTANE	5.246	42	130404	10.84	PPBV	97
26) TVHC as EQUIV PENTANE	5.240	TIC	608910m	9.44	PPBV	
27) IODOMETHANE	5.429	142	467569	10.27	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.483	96	141711	9.14	PPBV	99
29) CARBON DISULFIDE	5.885	76	465095	9.93	PPBV	99
30) ETHANOL	4.474	45	48756	11.68	PPBV	98
31) BROMOETHENE	4.656	106	155438	9.73	PPBV	100
32) ACRYLONITRILE	5.185	52	76847	9.84	PPBV	98
33) METHYLENE CHLORIDE	5.581	84	127879	9.48	PPBV	97
34) 3-CHLOROPROPENE	5.690	76	70702	11.17	PPBV	97
35) FREON 113	5.812	151	255553	10.14	PPBV	99
36) TRANS-1,2-DICHLOROETHY...	6.481	96	155296	9.23	PPBV	98
37) TERTIARY BUTYL ALCOHOL	5.514	59	242024	10.14	PPBV	98
38) METHYL TERTIARY BUTYL ...	6.737	73	368794	10.26	PPBV	99
39) TETRAHYDROFURAN	8.276	72	65025	10.99	PPBV	96
40) HEXANE	7.753	57	207248	10.56	PPBV	97
41) VINYL ACETATE	6.816	86	28461	13.04	PPBV	97
42) 1,1-DICHLOROETHANE	6.682	63	243850	10.48	PPBV	99
43) METHYL ETHYL KETONE	7.077	72	63942	10.36	PPBV	100
44) cis-1,2-DICHLOROETHYLENE	7.534	96	156044	10.33	PPBV	98
45) DIISOPROPYL ETHER	7.740	59	57919	10.68	PPBV #	88
46) ETHYL ACETATE	7.759	61	43037	11.22	PPBV #	96
47) METHYL ACRYLATE	7.753	55	214507	10.06	PPBV	99
48) CHLOROFORM	7.838	83	285038	10.08	PPBV	99
49) 2,4-DIMETHYLPENTANE	8.690	57	242795	9.95	PPBV	98
50) 1,1,1-TRICHLOROETHANE	8.890	97	285851	10.82	PPBV	100
51) CARBON TETRACHLORIDE	9.535	117	305030	11.02	PPBV	99
52) 1,2-DICHLOROETHANE	8.617	62	150920	10.02	PPBV	100
54) BENZENE	9.371	78	444013	10.47	PPBV	99
55) CYCLOHEXANE	9.663	84	193447	11.08	PPBV	96
56) 2,3-DIMETHYLPENTANE	9.918	71	91221	10.02	PPBV	97
57) TRICHLOROETHYLENE	10.496	95	191593	10.48	PPBV	99
58) 1,2-DICHLOROPROPANE	10.241	63	155671	10.39	PPBV	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60490.D
Acq On : 27 Jun 2017 12:43 pm
Operator : [redacted]
Sample : bsd
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:02:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

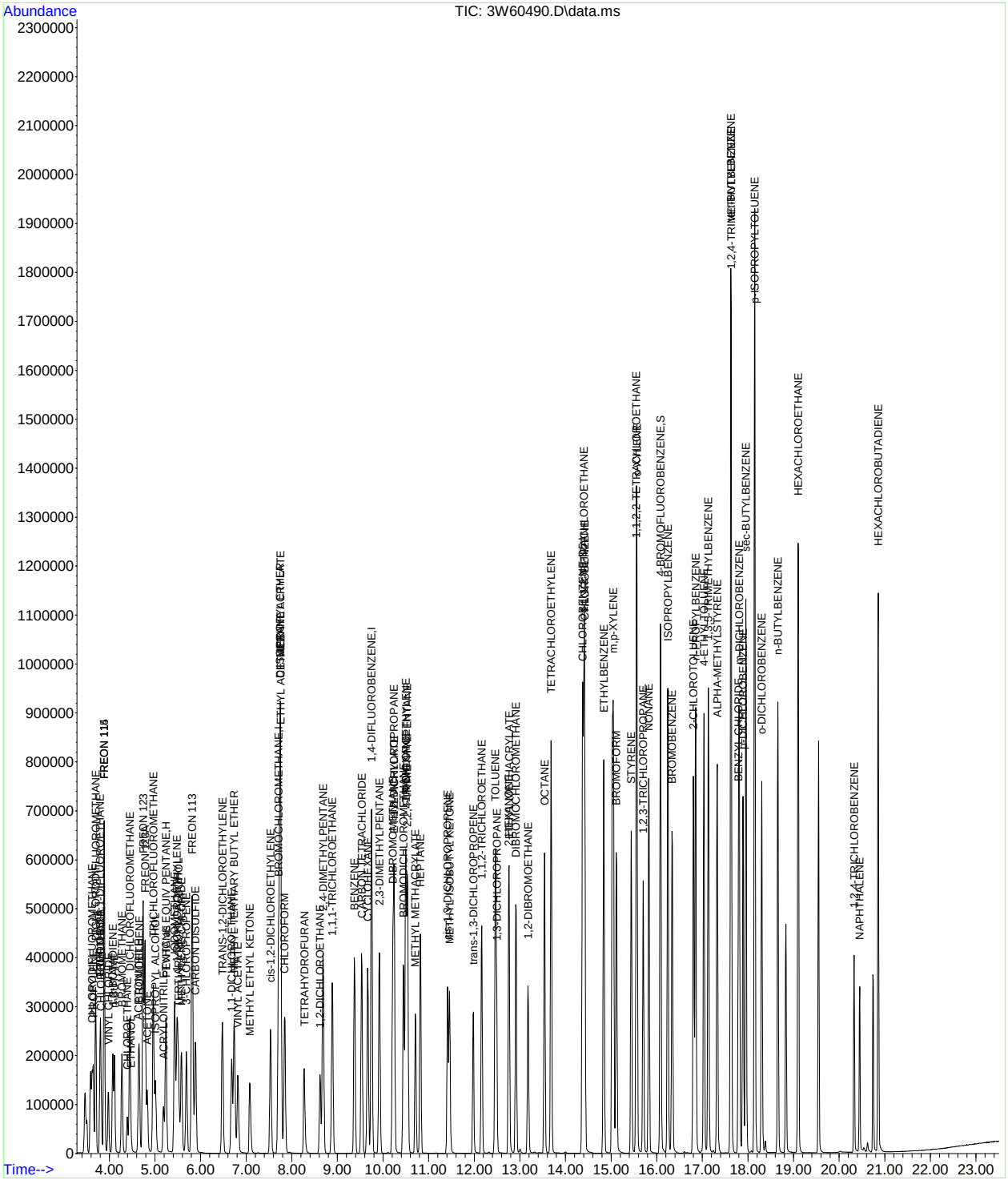
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
59) DIBROMOMETHANE	10.216	174	201144	9.47	PPBV		99
60) ETHYL ACRYLATE	10.247	55	257789	10.46	PPBV		100
61) BROMODICHLOROMETHANE	10.448	83	299875	10.41	PPBV		100
62) 2,2,4-TRIMETHYLPENTANE	10.533	57	640167	10.22	PPBV		99
63) 1,4-DIOXANE	10.496	88	93099	12.80	PPBV		93
64) HEPTANE	10.819	43	203001	9.88	PPBV		99
65) METHYL METHACRYLATE	10.709	69	135873	10.37	PPBV		99
66) METHYL ISOBUTYL KETONE	11.458	58	112586	10.43	PPBV		99
67) cis-1,3-DICHLOROPROPENE	11.415	75	243301	11.54	PPBV		89
68) TOLUENE	12.461	92	309553	10.75	PPBV		100
69) 1,3-DICHLOROPROPANE	12.492	76	217469	10.66	PPBV	#	99
70) trans-1,3-DICHLOROPROPENE	11.981	75	194673	10.71	PPBV		99
71) 1,1,2-TRICHLOROETHANE	12.163	83	154573	10.59	PPBV		99
73) 2-HEXANONE	12.753	58	145565	10.00	PPBV		99
74) ETHYL METHACRYLATE	12.765	69	217922	10.30	PPBV		100
75) TETRACHLOROETHYLENE	13.684	164	246057	9.67	PPBV		99
76) DIBROMOCHLOROMETHANE	12.912	129	347720	10.85	PPBV		100
77) 1,2-DIBROMOETHANE	13.179	107	274160	10.01	PPBV		100
78) OCTANE	13.538	43	290369	10.23	PPBV		99
79) 1,1,1,2-TETRACHLOROETHANE	14.402	131	269901	11.09	PPBV		99
80) CHLOROBENZENE	14.420	112	447425	10.45	PPBV		99
81) ETHYLBENZENE	14.840	91	690479	10.72	PPBV		100
82) m,p-XYLENE	15.047	106	558062	21.56	PPBV		98
83) o-XYLENE	15.564	106	277336	10.87	PPBV		99
84) STYRENE	15.442	104	401430	11.09	PPBV		100
85) NONANE	15.826	43	303826	11.22	PPBV		99
86) BROMOFORM	15.114	173	366656	11.81	PPBV		100
88) 1,1,2,2-TETRACHLOROETHANE	15.552	83	415748	10.74	PPBV		100
89) 1,2,3-TRICHLOROPROPANE	15.704	75	290085	11.28	PPBV		98
90) ISOPROPYLBENZENE	16.245	105	790850	11.52	PPBV		100
91) BROMOBENZENE	16.337	77	323597	10.61	PPBV		96
92) 2-CHLOROTOLUENE	16.805	126	204893	11.31	PPBV		100
93) n-PROPYLBENZENE	16.854	120	210941	11.39	PPBV		100
94) 4-ETHYLTOLUENE	17.036	105	713162	11.70	PPBV		99
95) 1,3,5-TRIMETHYLBENZENE	17.134	105	617678	11.32	PPBV		100
96) ALPHA-METHYLSTYRENE	17.328	118	307122	11.60	PPBV		99
97) tert-BUTYLBENZENE	17.626	134	143782	11.11	PPBV		97
98) 1,2,4-TRIMETHYLBENZENE	17.632	105	586410	11.71	PPBV		100
99) m-DICHLOROBENZENE	17.809	146	389410	11.10	PPBV		99
100) BENZYL CHLORIDE	17.791	91	401417	11.96	PPBV		100
101) p-DICHLOROBENZENE	17.894	146	373222	10.57	PPBV		99
102) sec-BUTYLBENZENE	17.955	134	179634	11.81	PPBV		99
103) p-ISOPROPYLTOLUENE	18.149	134	195538	11.85	PPBV		99
104) o-DICHLOROBENZENE	18.302	146	377903	10.93	PPBV		99
105) n-BUTYLBENZENE	18.654	134	155294	12.56	PPBV		100
106) HEXACHLOROETHANE	19.099	117	281416	12.05	PPBV		99
107) HEXACHLOROBUTADIENE	20.857	225	238657	10.28	PPBV		100
108) 1,2,4-TRICHLOROBENZENE	20.327	180	143447	8.90	PPBV		99
109) NAPHTHALENE	20.449	128	277673	9.35	PPBV		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60490.D
Acq On : 27 Jun 2017 12:43 pm
Operator : [redacted]
Sample : bsd
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:02:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053
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Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26743.D
Acq On : 19 Sep 2017 10:37 am
Operator : [redacted]
Sample : bs
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:09:02 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.169	130	153194	10.00	ppb(v	0.06
54) 1,4-Difluorobenzene	10.292	114	528756	10.00	ppb(v	0.03
77) Chlorobenzene-d5	15.767	82	239786	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.169	130	153194	10.00	ppb(v	0.06
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	327241	10.40	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.00%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	83926	9.59	ppb(v	91
4) Chlorodifluoromethane	4.027	67	37330	11.47	ppb(v	98
5) Propene	4.046	41	86120	8.62	ppb(v	96
6) Chlorotrifluoroethene	4.052	116	216310	10.31	ppb(v	98
7) Dichlorodifluoromethane	4.107	85	389627	10.62	ppb(v	100
9) Chloromethane	4.229	50	131591	10.50	ppb(v	100
10) Dichlorotetrafluoroethane	4.303	85	401886	10.56	ppb(v	97
11) Vinyl Chloride	4.394	62	149707	10.57	ppb(v#	98
12) 1,3-Butadiene	4.498	54	107603	10.57	ppb(v	92
13) n-Butane	4.535	58	22135	11.06	ppb(v	85
14) Bromomethane	4.713	94	162352	9.72	ppb(v	99
15) Chloroethane	4.841	64	71199	10.33	ppb(v	96
16) Dichlorofluoromethane	4.914	67	351249	11.29	ppb(v	98
17) Acetonitrile	5.135	41	101675	10.45	ppb(v	98
18) Freon 123	5.239	83	396658	10.28	ppb(v	99
19) Freon 123A	5.288	117	412269	20.31	ppb(v	90
20) Bromoethene	5.122	106	150043	9.95	ppb(v#	96
21) Trichlorofluoromethane	5.453	101	430866	11.63	ppb(v	99
22) Acetone	5.343	58	63512	9.86	ppb(v	69
23) Pentane	5.734	57	31959	8.88	ppb(v	94
25) Iodomethane	5.936	142	396465	8.83	ppb(v	93
26) Isopropyl Alcohol	5.551	43	41476	10.12	ppb(v	92
27) 1,1-Dichloroethene	5.997	61	221614	9.78	ppb(v	97
28) Freon 113	6.328	101	313731	9.73	ppb(v	97
29) Methylene Chloride	6.113	84	127171	8.98	ppb(v	97
30) Carbon Disulfide	6.370	76	440271	9.69	ppb(v	100
31) Ethanol	4.957	45	40084	9.98	ppb(v	98
32) Acrylonitrile	5.728	53	99464	10.02	ppb(v	99
33) 3-Chloropropene	6.211	76	55197	9.13	ppb(v	94
34) trans-1,2-Dichloroethene	6.958	61	191655	9.22	ppb(v	99
35) tert-Butyl Alcohol	6.058	59	255643	9.12	ppb(v	94
36) Methyl tert-Butyl Ether	7.227	73	343338	8.59	ppb(v	97
37) Vinyl Acetate	7.313	43	295139	9.00	ppb(v	97
38) 1,1-Dichloroethane	7.160	63	251617	9.32	ppb(v	99
39) 2-Butanone	7.569	72	63125	9.08	ppb(v	90
40) Hexane	8.175	57	194710	8.82	ppb(v	97
41) cis-1,2-Dichloroethene	7.998	61	179547	9.07	ppb(v	97
42) Di-isopropyl Ether	8.206	87	108319	9.11	ppb(v	92
43) Ethyl Acetate	8.249	61	45446	10.02	ppb(v	89
44) Methyl Acrylate	8.236	55	234087	9.28	ppb(v	99
45) Chloroform	8.304	83	311712	9.61	ppb(v	99
46) 2,4-Dimethylpentane	9.117	57	225000	8.80	ppb(v	97
47) Tetrahydrofuran	8.756	72	57715	8.97	ppb(v	97
48) 1,1,1-Trichloroethane	9.350	97	283603	9.73	ppb(v	99
49) 1,2-Dichloroethane	9.081	62	192027	10.57	ppb(v	99
50) Benzene	9.870	78	403773	8.56	ppb(v	98
51) Carbon Tetrachloride	10.029	117	293609	10.62	ppb(v	99
52) Cyclohexane	10.157	56	186448	8.38	ppb(v	98
53) 2,3-Dimethylpentane	10.439	71	85447	8.79	ppb(v	94
55) 2,2,4-Trimethylpentane	11.112	57	636501	9.17	ppb(v	97
56) Heptane	11.454	71	130433	8.88	ppb(v	97
57) Trichloroethene	11.099	95	200395	9.61	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26743.D
Acq On : 19 Sep 2017 10:37 am
Operator : [redacted]
Sample : bs
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:09:02 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

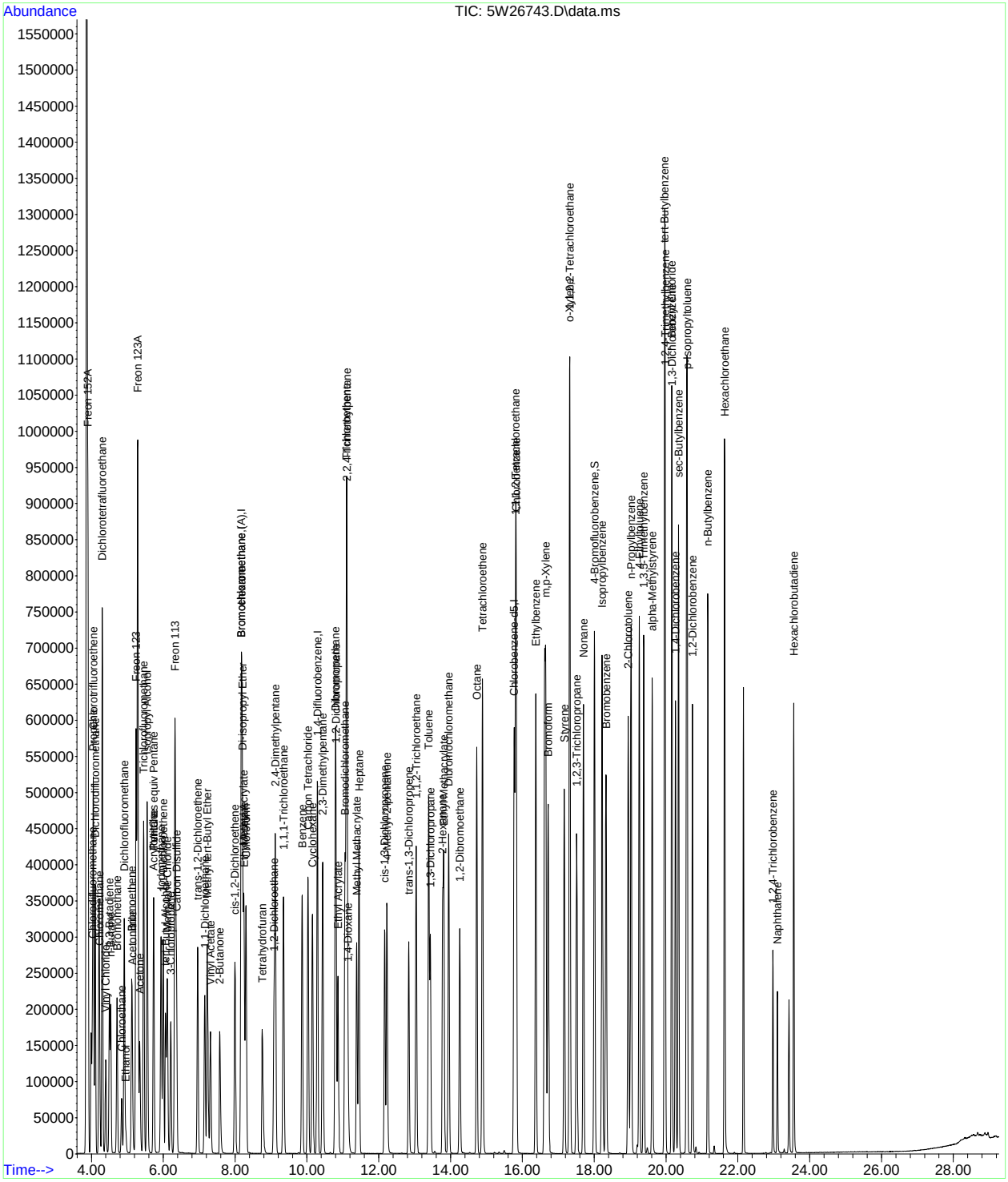
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.812	63	156145	9.47	ppb(v	95
59)	Dibromomethane	10.794	174	178294	8.67	ppb(v	91
60)	Ethyl Acrylate	10.867	55	303153	10.32	ppb(v	99
61)	Methyl Methacrylate	11.387	69	146760	9.99	ppb(v	97
62)	1,4-Dioxane	11.142	88	78607	9.81	ppb(v	92
63)	Bromodichloromethane	11.057	83	328269	10.59	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	226578	9.24	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	123762	10.42	ppb(v	97
66)	trans-1,3-Dichloropropene	12.837	75	207482	10.04	ppb(v	98
67)	Toluene	13.387	91	464932	8.72	ppb(v	98
68)	1,1,2-Trichloroethane	13.045	97	175094	9.41	ppb(v	99
69)	1,3-Dichloropropane	13.436	76	237801	9.96	ppb(v	98
70)	2-Hexanone	13.779	58	168036	10.94	ppb(v	95
71)	Ethyl Methacrylate	13.816	69	248472	10.34	ppb(v	97
72)	Dibromochloromethane	13.944	129	317269	10.72	ppb(v	99
73)	Tetrachloroethene	14.886	166	250317	8.74	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	280807	9.72	ppb(v	99
75)	Octane	14.727	43	288973	9.41	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	227404	10.35	ppb(v	98
78)	Chlorobenzene	15.828	112	392164	9.20	ppb(v	98
79)	Ethylbenzene	16.373	91	605138	9.11	ppb(v	99
80)	m,p-Xylene	16.648	91	963632	18.93	ppb(v	98
81)	Styrene	17.168	104	340856	9.67	ppb(v	98
82)	Nonane	17.700	43	285893	9.02	ppb(v	100
83)	o-Xylene	17.315	91	494319	9.66	ppb(v	99
84)	Bromoform	16.722	173	317550	12.05	ppb(v	98
85)	1,1,2,2-Tetrachloroethane	17.321	83	378758	10.44	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	268958	10.15	ppb(v	99
87)	Isopropylbenzene	18.220	105	628045	9.54	ppb(v	99
88)	Bromobenzene	18.331	156	225406	10.14	ppb(v	99
89)	2-Chlorotoluene	18.948	126	159670	9.81	ppb(v	98
90)	n-Propylbenzene	19.028	120	173757	10.11	ppb(v	94
92)	4-Ethyltoluene	19.254	105	602489	9.69	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	506317	9.59	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	244205	10.02	ppb(v	99
95)	tert-Butylbenzene	19.958	134	111203	9.81	ppb(v	93
96)	1,2,4-Trimethylbenzene	19.976	105	497509	10.02	ppb(v	89
97)	1,3-Dichlorobenzene	20.166	146	323358	10.27	ppb(v	98
98)	Benzyl Chloride	20.160	91	379736	11.91	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	313771	10.21	ppb(v	98
100)	sec-Butylbenzene	20.349	134	128696	9.92	ppb(v	95
101)	p-Isopropyltoluene	20.588	134	148888	10.26	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	293764	9.90	ppb(v	98
103)	n-Butylbenzene	21.163	134	117310	10.11	ppb(v	93
104)	Hexachloroethane	21.634	201	187777	12.80	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.974	180	91648	8.90	ppb(v	99
106)	Naphthalene	23.102	128	180749	7.86	ppb(v	99
107)	Hexachlorobutadiene	23.555	225	121282	8.93	ppb(v	99
109)	TVHC as equiv Pentane	5.734	TIC	796818	9.68	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26743.D
Acq On : 19 Sep 2017 10:37 am
Operator : [redacted]
Sample : bs
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:09:02 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26744.D
Acq On : 19 Sep 2017 11:22 am
Operator : [redacted]
Sample : bsd
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:09:34 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	147251	10.00	ppb(v	0.04
54) 1,4-Difluorobenzene	10.286	114	507239	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	231037	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	147251	10.00	ppb(v	0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	314388	10.37	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 103.70%			
Target Compounds						Qvalue
3) Freon 152A	3.887	65	77220	9.18	ppb(v	89
4) Chlorodifluoromethane	4.015	67	34555	11.04	ppb(v	99
5) Propene	4.033	41	78036	8.13	ppb(v	96
6) Chlorotrifluoroethene	4.040	116	197620	9.80	ppb(v	98
7) Dichlorodifluoromethane	4.095	85	354876	10.06	ppb(v	100
9) Chloromethane	4.217	50	118546	9.84	ppb(v	100
10) Dichlorotetrafluoroethane	4.290	85	368253	10.06	ppb(v	97
11) Vinyl Chloride	4.388	62	137374	10.09	ppb(v#	99
12) 1,3-Butadiene	4.486	54	98337	10.05	ppb(v	92
13) n-Butane	4.523	58	19923	10.36	ppb(v	84
14) Bromomethane	4.700	94	147794	9.21	ppb(v	99
15) Chloroethane	4.835	64	66468	10.03	ppb(v	95
16) Dichlorofluoromethane	4.902	67	327602	10.95	ppb(v	99
17) Acetonitrile	5.122	41	96873	10.36	ppb(v	97
18) Freon 123	5.226	83	375783	10.13	ppb(v	98
19) Freon 123A	5.275	117	388614	19.91	ppb(v	92
20) Bromoethene	5.110	106	141809	9.78	ppb(v#	95
21) Trichlorofluoromethane	5.441	101	412852	11.60	ppb(v	100
22) Acetone	5.330	58	59432	9.60	ppb(v	62
23) Pentane	5.728	57	30608	8.85	ppb(v	90
25) Iodomethane	5.924	142	377551	8.74	ppb(v	93
26) Isopropyl Alcohol	5.538	43	42481	10.78	ppb(v	82
27) 1,1-Dichloroethene	5.985	61	212896	9.77	ppb(v	96
28) Freon 113	6.315	101	296395	9.57	ppb(v	97
29) Methylene Chloride	6.101	84	121734	8.94	ppb(v	99
30) Carbon Disulfide	6.358	76	421326	9.65	ppb(v	100
31) Ethanol	4.945	45	37580	9.73	ppb(v	98
32) Acrylonitrile	5.716	53	94436	9.90	ppb(v	98
33) 3-Chloropropene	6.199	76	52897	9.10	ppb(v	93
34) trans-1,2-Dichloroethene	6.945	61	183541	9.19	ppb(v	98
35) tert-Butyl Alcohol	6.052	59	246909	9.16	ppb(v	95
36) Methyl tert-Butyl Ether	7.215	73	327364	8.52	ppb(v	96
37) Vinyl Acetate	7.300	43	287063	9.11	ppb(v	98
38) 1,1-Dichloroethane	7.147	63	240573	9.27	ppb(v	100
39) 2-Butanone	7.563	72	60755	9.09	ppb(v	94
40) Hexane	8.169	57	186007	8.76	ppb(v	95
41) cis-1,2-Dichloroethene	7.992	61	173196	9.10	ppb(v	96
42) Di-isopropyl Ether	8.194	87	103103	9.02	ppb(v	87
43) Ethyl Acetate	8.242	61	43197	9.90	ppb(v	90
44) Methyl Acrylate	8.230	55	221036	9.11	ppb(v	99
45) Chloroform	8.291	83	300603	9.64	ppb(v	98
46) 2,4-Dimethylpentane	9.111	57	215738	8.78	ppb(v	99
47) Tetrahydrofuran	8.750	72	55539	8.98	ppb(v	93
48) 1,1,1-Trichloroethane	9.344	97	274699	9.81	ppb(v	99
49) 1,2-Dichloroethane	9.074	62	183884	10.53	ppb(v	98
50) Benzene	9.864	78	390017	8.60	ppb(v	99
51) Carbon Tetrachloride	10.023	117	282252	10.62	ppb(v	99
52) Cyclohexane	10.151	56	178523	8.35	ppb(v	99
53) 2,3-Dimethylpentane	10.433	71	81801	8.76	ppb(v	94
55) 2,2,4-Trimethylpentane	11.106	57	611574	9.18	ppb(v	98
56) Heptane	11.448	71	126848	9.00	ppb(v	99
57) Trichloroethene	11.093	95	192109	9.60	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26744.D
Acq On : 19 Sep 2017 11:22 am
Operator : [redacted]
Sample : bsd
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:09:34 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

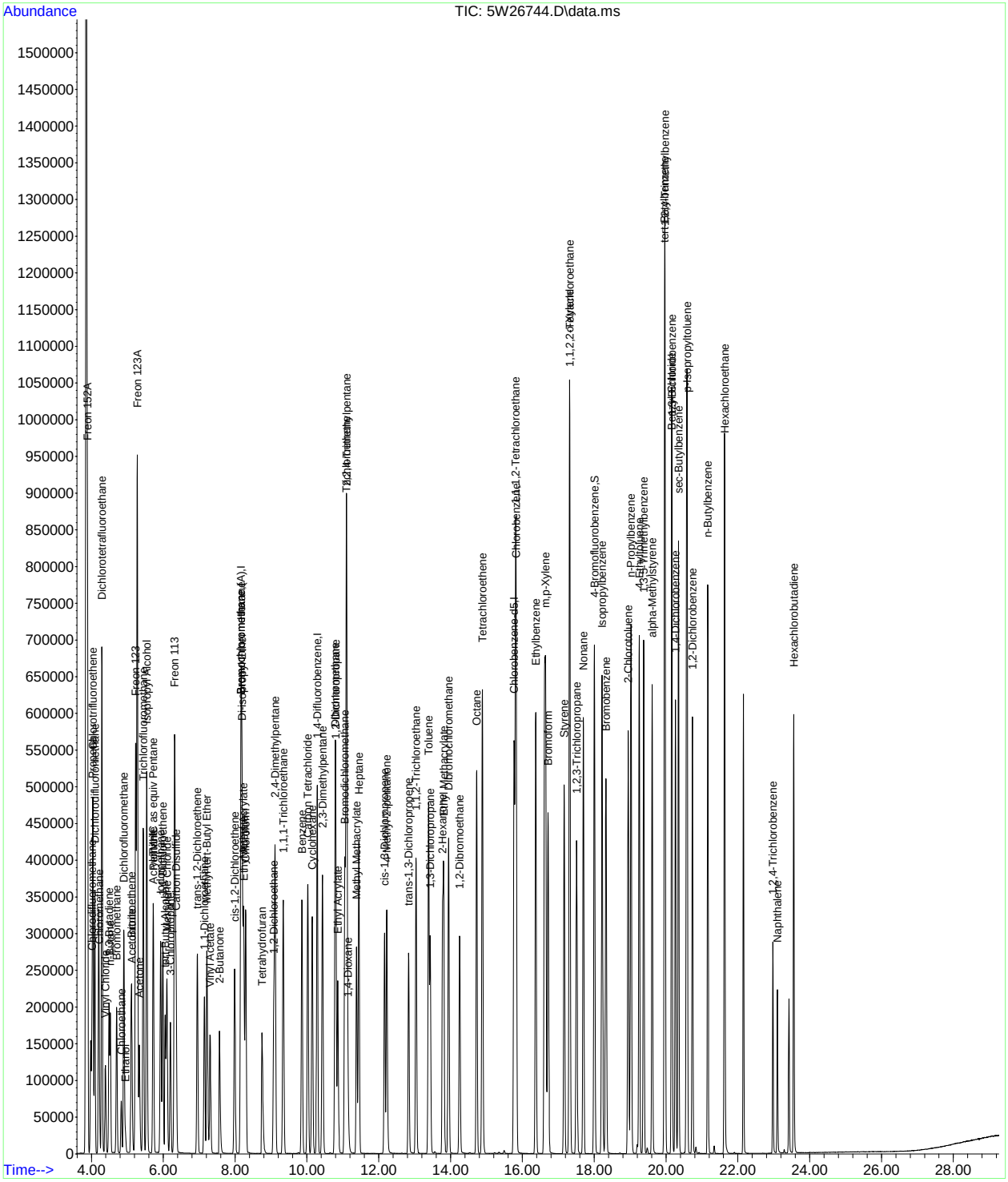
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.806	63	150060	9.49	ppb(v	95
59)	Dibromomethane	10.787	174	171736	8.70	ppb(v	90
60)	Ethyl Acrylate	10.861	55	289931	10.29	ppb(v	99
61)	Methyl Methacrylate	11.381	69	141682	10.05	ppb(v	98
62)	1,4-Dioxane	11.142	88	75719	9.85	ppb(v	99
63)	Bromodichloromethane	11.050	83	315783	10.62	ppb(v	98
64)	cis-1,3-Dichloropropene	12.164	75	219675	9.33	ppb(v	99
65)	4-Methyl-2-pentanone	12.225	58	118103	10.37	ppb(v	95
66)	trans-1,3-Dichloropropene	12.831	75	198573	10.02	ppb(v	98
67)	Toluene	13.387	91	447771	8.75	ppb(v	99
68)	1,1,2-Trichloroethane	13.039	97	170521	9.55	ppb(v	99
69)	1,3-Dichloropropane	13.430	76	229024	10.00	ppb(v	98
70)	2-Hexanone	13.779	58	160061	10.86	ppb(v	93
71)	Ethyl Methacrylate	13.810	69	238008	10.32	ppb(v	97
72)	Dibromochloromethane	13.944	129	308126	10.85	ppb(v	100
73)	Tetrachloroethene	14.886	166	242385	8.82	ppb(v	99
74)	1,2-Dibromoethane	14.250	107	270427	9.75	ppb(v	100
75)	Octane	14.721	43	274800	9.33	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	219088	10.39	ppb(v	99
78)	Chlorobenzene	15.828	112	377658	9.19	ppb(v	98
79)	Ethylbenzene	16.373	91	580609	9.07	ppb(v	99
80)	m,p-Xylene	16.642	91	928401	18.93	ppb(v	98
81)	Styrene	17.162	104	330066	9.72	ppb(v	98
82)	Nonane	17.694	43	273793	8.97	ppb(v	100
83)	o-Xylene	17.315	91	472057	9.57	ppb(v	99
84)	Bromoform	16.715	173	303520	11.95	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.321	83	361011	10.32	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	259138	10.15	ppb(v	99
87)	Isopropylbenzene	18.220	105	604296	9.52	ppb(v	99
88)	Bromobenzene	18.324	156	216728	10.12	ppb(v	97
89)	2-Chlorotoluene	18.948	126	153603	9.79	ppb(v	98
90)	n-Propylbenzene	19.022	120	168054	10.14	ppb(v	93
92)	4-Ethyltoluene	19.254	105	581723	9.71	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	487841	9.59	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	235265	10.02	ppb(v	100
95)	tert-Butylbenzene	19.958	134	107097	9.80	ppb(v	90
96)	1,2,4-Trimethylbenzene	19.970	105	481773	10.07	ppb(v	97
97)	1,3-Dichlorobenzene	20.166	146	314660	10.37	ppb(v	98
98)	Benzyl Chloride	20.154	91	369665	12.04	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	306962	10.37	ppb(v	98
100)	sec-Butylbenzene	20.349	134	124907	9.99	ppb(v	96
101)	p-Isopropyltoluene	20.588	134	144095	10.31	ppb(v	97
102)	1,2-Dichlorobenzene	20.735	146	286525	10.03	ppb(v	99
103)	n-Butylbenzene	21.163	134	113551	10.16	ppb(v	90
104)	Hexachloroethane	21.634	201	182362	12.91	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.974	180	90444	9.12	ppb(v	99
106)	Naphthalene	23.102	128	178692	8.06	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	117447	8.97	ppb(v	98
109)	TVHC as equiv Pentane	5.722	TIC	764790	9.67	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26744.D
Acq On : 19 Sep 2017 11:22 am
Operator : [redacted]
Sample : bsd
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:09:34 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26799.D
Acq On : 21 Sep 2017 10:32 am
Operator : [redacted]
Sample : bs
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	138752	10.00	ppb(v	0.05
54) 1,4-Difluorobenzene	10.286	114	472515	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	209382	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	138752	10.00	ppb(v	0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	289932	10.55	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 105.50%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	76179	9.61	ppb(v	95
4) Chlorodifluoromethane	4.021	67	34476	11.69	ppb(v	98
5) Propene	4.046	41	71427	7.89	ppb(v	97
6) Chlorotrifluoroethene	4.052	116	195570	10.29	ppb(v	98
7) Dichlorodifluoromethane	4.101	85	352281	10.60	ppb(v	100
9) Chloromethane	4.229	50	112011	9.87	ppb(v	99
10) Dichlorotetrafluoroethane	4.303	85	370504	10.75	ppb(v	99
11) Vinyl Chloride	4.394	62	133199	10.38	ppb(v#	99
12) 1,3-Butadiene	4.498	54	92846	10.07	ppb(v	92
13) n-Butane	4.535	58	19089	10.53	ppb(v	93
14) Bromomethane	4.713	94	147706	9.76	ppb(v	100
15) Chloroethane	4.841	64	63019	10.09	ppb(v	96
16) Dichlorofluoromethane	4.914	67	320426	11.37	ppb(v	99
17) Acetonitrile	5.135	41	87191	9.89	ppb(v	99
18) Freon 123	5.239	83	365174	10.45	ppb(v	98
19) Freon 123A	5.282	117	383634	20.86	ppb(v	93
20) Bromoethene	5.116	106	140263	10.27	ppb(v#	96
21) Trichlorofluoromethane	5.453	101	410580	12.24	ppb(v	100
22) Acetone	5.343	58	55464	9.51	ppb(v	70
23) Pentane	5.734	57	29010	8.90	ppb(v	96
25) Iodomethane	5.930	142	381831	9.38	ppb(v	93
26) Isopropyl Alcohol	5.545	43	39710	10.69	ppb(v	87
27) 1,1-Dichloroethene	5.991	61	203913	9.93	ppb(v	99
28) Freon 113	6.322	101	294370	10.08	ppb(v	98
29) Methylene Chloride	6.107	84	117478	9.15	ppb(v	99
30) Carbon Disulfide	6.364	76	402901	9.79	ppb(v	100
31) Ethanol	4.951	45	36519	10.04	ppb(v	98
32) Acrylonitrile	5.722	53	88169	9.80	ppb(v	100
33) 3-Chloropropene	6.205	76	51039	9.32	ppb(v	94
34) trans-1,2-Dichloroethene	6.958	61	174273	9.26	ppb(v	99
35) tert-Butyl Alcohol	6.058	59	234344	9.23	ppb(v	94
36) Methyl tert-Butyl Ether	7.221	73	315620	8.71	ppb(v	97
37) Vinyl Acetate	7.313	43	257550	8.68	ppb(v	99
38) 1,1-Dichloroethane	7.154	63	226164	9.25	ppb(v	99
39) 2-Butanone	7.570	72	57938	9.20	ppb(v	98
40) Hexane	8.175	57	174022	8.70	ppb(v	97
41) cis-1,2-Dichloroethene	7.992	61	161305	8.99	ppb(v	99
42) Di-isopropyl Ether	8.200	87	100393	9.32	ppb(v	97
43) Ethyl Acetate	8.249	61	40337	9.81	ppb(v	95
44) Methyl Acrylate	8.230	55	207379	9.07	ppb(v	99
45) Chloroform	8.298	83	288842	9.83	ppb(v	98
46) 2,4-Dimethylpentane	9.117	57	200124	8.64	ppb(v	99
47) Tetrahydrofuran	8.756	72	53390	9.17	ppb(v	98
48) 1,1,1-Trichloroethane	9.350	97	267599	10.14	ppb(v	99
49) 1,2-Dichloroethane	9.081	62	176418	10.72	ppb(v	99
50) Benzene	9.864	78	370164	8.66	ppb(v	99
51) Carbon Tetrachloride	10.029	117	277149	11.06	ppb(v	98
52) Cyclohexane	10.151	56	165982	8.23	ppb(v	100
53) 2,3-Dimethylpentane	10.433	71	78117	8.88	ppb(v	97
55) 2,2,4-Trimethylpentane	11.112	57	568944	9.17	ppb(v	98
56) Heptane	11.448	71	119498	9.11	ppb(v	98
57) Trichloroethene	11.093	95	183700	9.85	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26799.D
Acq On : 21 Sep 2017 10:32 am
Operator : [redacted]
Sample : bs
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

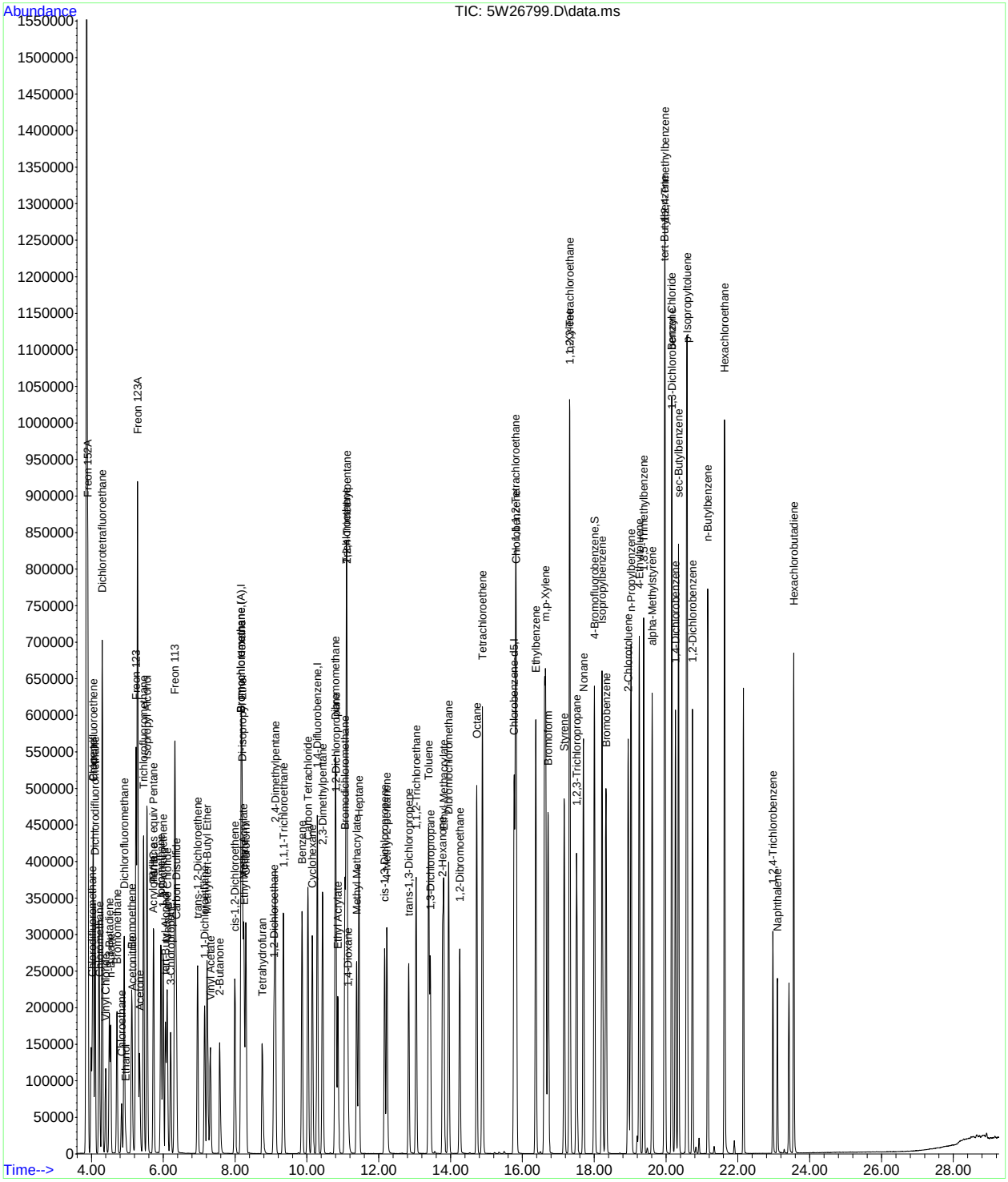
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.812	63	138664	9.41	ppb(v	95
59)	Dibromomethane	10.794	174	170917	9.30	ppb(v	96
60)	Ethyl Acrylate	10.861	55	268492	10.23	ppb(v	99
61)	Methyl Methacrylate	11.387	69	133508	10.17	ppb(v	98
62)	1,4-Dioxane	11.142	88	73697	10.29	ppb(v	99
63)	Bromodichloromethane	11.057	83	298549	10.77	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	205874	9.39	ppb(v	99
65)	4-Methyl-2-pentanone	12.225	58	108953	10.27	ppb(v	98
66)	trans-1,3-Dichloropropene	12.837	75	188224	10.19	ppb(v	100
67)	Toluene	13.387	91	419764	8.81	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	160218	9.63	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	214553	10.05	ppb(v	100
70)	2-Hexanone	13.779	58	148190	10.79	ppb(v	96
71)	Ethyl Methacrylate	13.810	69	225409	10.49	ppb(v	98
72)	Dibromochloromethane	13.944	129	288611	10.91	ppb(v	100
73)	Tetrachloroethene	14.886	166	234805	9.17	ppb(v	100
74)	1,2-Dibromoethane	14.256	107	252979	9.80	ppb(v	99
75)	Octane	14.727	43	254801	9.29	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	214342	10.92	ppb(v	99
78)	Chlorobenzene	15.828	112	363034	9.75	ppb(v	99
79)	Ethylbenzene	16.373	91	568616	9.81	ppb(v	99
80)	m,p-Xylene	16.642	91	910342	20.48	ppb(v	98
81)	Styrene	17.162	104	323919	10.52	ppb(v	98
82)	Nonane	17.700	43	256825	9.28	ppb(v	99
83)	o-Xylene	17.315	91	468875	10.49	ppb(v	99
84)	Bromoform	16.715	173	309034	13.42	ppb(v	98
85)	1,1,2,2-Tetrachloroethane	17.321	83	350090	11.05	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	248233	10.73	ppb(v	98
87)	Isopropylbenzene	18.220	105	608912	10.59	ppb(v	99
88)	Bromobenzene	18.331	156	216029	11.13	ppb(v	98
89)	2-Chlorotoluene	18.948	126	155698	10.96	ppb(v	96
90)	n-Propylbenzene	19.028	120	168425	11.22	ppb(v	99
92)	4-Ethyltoluene	19.254	105	583473	10.75	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	505975	10.98	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	238445	11.21	ppb(v	98
95)	tert-Butylbenzene	19.958	134	108561	10.97	ppb(v	92
96)	1,2,4-Trimethylbenzene	19.970	105	484995	11.19	ppb(v	96
97)	1,3-Dichlorobenzene	20.166	146	319203	11.61	ppb(v	99
98)	Benzyl Chloride	20.160	91	360343	12.95	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	305966	11.41	ppb(v	99
100)	sec-Butylbenzene	20.349	134	127917	11.29	ppb(v	98
101)	p-Isopropyltoluene	20.588	134	153256	12.09	ppb(v	99
102)	1,2-Dichlorobenzene	20.735	146	291449	11.25	ppb(v	99
103)	n-Butylbenzene	21.163	134	117360	11.59	ppb(v	98
104)	Hexachloroethane	21.628	201	190928	14.91	ppb(v	94
105)	1,2,4-Trichlorobenzene	22.974	180	99776	11.10	ppb(v	99
106)	Naphthalene	23.102	128	197415	9.83	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	134438	11.33	ppb(v	98
109)	TVHC as equiv Pentane	5.728	TIC	707500	9.49	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26799.D
Acq On : 21 Sep 2017 10:32 am
Operator : [redacted]
Sample : bs
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26800.D
Acq On : 21 Sep 2017 11:17 am
Operator : [redacted]
Sample : bsd
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:59:57 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	136661	10.00	ppb(v	0.05
54) 1,4-Difluorobenzene	10.286	114	472589	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	200385	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	136661	10.00	ppb(v	0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	288446	10.97	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 109.70%			
Target Compounds						Qvalue
3) Freon 152A	3.893	65	67570	8.66	ppb(v	98
4) Chlorodifluoromethane	4.015	67	31914	10.99	ppb(v	97
5) Propene	4.039	41	66875	7.50	ppb(v	97
6) Chlorotrifluoroethene	4.046	116	182137	9.73	ppb(v	98
7) Dichlorodifluoromethane	4.095	85	333338	10.18	ppb(v	99
9) Chloromethane	4.223	50	104801	9.38	ppb(v	97
10) Dichlorotetrafluoroethane	4.296	85	341279	10.05	ppb(v	100
11) Vinyl Chloride	4.388	62	123697	9.79	ppb(v#	99
12) 1,3-Butadiene	4.492	54	87569	9.65	ppb(v	93
13) n-Butane	4.529	58	17848	10.00	ppb(v	83
14) Bromomethane	4.706	94	137402	9.22	ppb(v	99
15) Chloroethane	4.835	64	58515	9.52	ppb(v	95
16) Dichlorofluoromethane	4.908	67	302273	10.89	ppb(v	99
17) Acetonitrile	5.128	41	83451	9.62	ppb(v	99
18) Freon 123	5.232	83	348951	10.14	ppb(v	99
19) Freon 123A	5.275	117	367171	20.27	ppb(v	92
20) Bromoethene	5.110	106	131901	9.80	ppb(v#	95
21) Trichlorofluoromethane	5.447	101	399236	12.08	ppb(v	100
22) Acetone	5.330	58	52902	9.21	ppb(v	61
23) Pentane	5.728	57	27761	8.65	ppb(v	91
25) Iodomethane	5.930	142	367545	9.17	ppb(v	93
26) Isopropyl Alcohol	5.538	43	39989	10.93	ppb(v	78
27) 1,1-Dichloroethene	5.985	61	197147	9.75	ppb(v	98
28) Freon 113	6.321	101	281763	9.80	ppb(v	98
29) Methylene Chloride	6.101	84	113226	8.96	ppb(v	99
30) Carbon Disulfide	6.358	76	389971	9.62	ppb(v	99
31) Ethanol	4.951	45	34413	9.60	ppb(v	98
32) Acrylonitrile	5.716	53	84932	9.59	ppb(v	99
33) 3-Chloropropene	6.199	76	49430	9.17	ppb(v	92
34) trans-1,2-Dichloroethene	6.951	61	168915	9.11	ppb(v	98
35) tert-Butyl Alcohol	6.052	59	230453	9.22	ppb(v	95
36) Methyl tert-Butyl Ether	7.221	73	305747	8.57	ppb(v	97
37) Vinyl Acetate	7.306	43	252174	8.62	ppb(v	99
38) 1,1-Dichloroethane	7.147	63	219209	9.10	ppb(v	99
39) 2-Butanone	7.569	72	55631	8.97	ppb(v	99
40) Hexane	8.169	57	168487	8.55	ppb(v	99
41) cis-1,2-Dichloroethene	7.991	61	157945	8.94	ppb(v	99
42) Di-isopropyl Ether	8.193	87	97064	9.15	ppb(v	97
43) Ethyl Acetate	8.242	61	38866	9.60	ppb(v	92
44) Methyl Acrylate	8.230	55	199223	8.85	ppb(v	99
45) Chloroform	8.297	83	280386	9.69	ppb(v	99
46) 2,4-Dimethylpentane	9.111	57	195691	8.58	ppb(v	99
47) Tetrahydrofuran	8.750	72	51637	9.00	ppb(v	98
48) 1,1,1-Trichloroethane	9.344	97	260138	10.00	ppb(v	99
49) 1,2-Dichloroethane	9.080	62	171685	10.59	ppb(v	98
50) Benzene	9.864	78	358438	8.52	ppb(v	99
51) Carbon Tetrachloride	10.029	117	269861	10.94	ppb(v	98
52) Cyclohexane	10.151	56	161412	8.13	ppb(v	98
53) 2,3-Dimethylpentane	10.432	71	75351	8.69	ppb(v	99
55) 2,2,4-Trimethylpentane	11.105	57	549624	8.86	ppb(v	97
56) Heptane	11.448	71	115948	8.83	ppb(v	99
57) Trichloroethene	11.093	95	178572	9.58	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26800.D
Acq On : 21 Sep 2017 11:17 am
Operator : [redacted]
Sample : bsd
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:59:57 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.806	63	134337	9.12	ppb(v	94
59)	Dibromomethane	10.787	174	164994	8.97	ppb(v	93
60)	Ethyl Acrylate	10.861	55	261765	9.97	ppb(v	100
61)	Methyl Methacrylate	11.381	69	130098	9.91	ppb(v	97
62)	1,4-Dioxane	11.142	88	71201	9.94	ppb(v	99
63)	Bromodichloromethane	11.056	83	289719	10.45	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	200764	9.16	ppb(v	99
65)	4-Methyl-2-pentanone	12.225	58	107316	10.11	ppb(v	100
66)	trans-1,3-Dichloropropene	12.831	75	181012	9.80	ppb(v	98
67)	Toluene	13.387	91	409436	8.59	ppb(v	98
68)	1,1,2-Trichloroethane	13.039	97	154450	9.28	ppb(v	99
69)	1,3-Dichloropropane	13.430	76	205880	9.64	ppb(v	100
70)	2-Hexanone	13.779	58	145197	10.57	ppb(v	99
71)	Ethyl Methacrylate	13.809	69	220681	10.27	ppb(v	98
72)	Dibromochloromethane	13.944	129	276734	10.46	ppb(v	99
73)	Tetrachloroethene	14.886	166	225223	8.80	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	243794	9.44	ppb(v	100
75)	Octane	14.727	43	244522	8.91	ppb(v	97
76)	1,1,1,2-Tetrachloroethane	15.810	131	202132	10.29	ppb(v	99
78)	Chlorobenzene	15.828	112	341719	9.59	ppb(v	98
79)	Ethylbenzene	16.373	91	542932	9.78	ppb(v	99
80)	m,p-Xylene	16.642	91	873193	20.53	ppb(v	98
81)	Styrene	17.162	104	314512	10.68	ppb(v	98
82)	Nonane	17.694	43	251454	9.50	ppb(v	98
83)	o-Xylene	17.315	91	450361	10.53	ppb(v	99
84)	Bromoform	16.715	173	283618	12.87	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.321	83	340887	11.24	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	242149	10.93	ppb(v	98
87)	Isopropylbenzene	18.220	105	590576	10.73	ppb(v	99
88)	Bromobenzene	18.324	156	208663	11.24	ppb(v	100
89)	2-Chlorotoluene	18.948	126	152563	11.22	ppb(v	97
90)	n-Propylbenzene	19.022	120	163463	11.38	ppb(v	94
92)	4-Ethyltoluene	19.254	105	567605	10.93	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	496650	11.26	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	229747	11.28	ppb(v	99
95)	tert-Butylbenzene	19.958	134	105454	11.13	ppb(v	93
96)	1,2,4-Trimethylbenzene	19.970	105	474339	11.44	ppb(v	97
97)	1,3-Dichlorobenzene	20.166	146	311865	11.85	ppb(v	99
98)	Benzyl Chloride	20.153	91	354084	13.29	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	300923	11.72	ppb(v	99
100)	sec-Butylbenzene	20.349	134	124856	11.52	ppb(v	99
101)	p-Isopropyltoluene	20.588	134	148699	12.26	ppb(v	97
102)	1,2-Dichlorobenzene	20.735	146	287175	11.59	ppb(v	98
103)	n-Butylbenzene	21.163	134	115399	11.90	ppb(v	96
104)	Hexachloroethane	21.628	201	186988	15.26	ppb(v	95
105)	1,2,4-Trichlorobenzene	22.974	180	99551	11.57	ppb(v	99
106)	Naphthalene	23.102	128	197181	10.26	ppb(v	99
107)	Hexachlorobutadiene	23.555	225	133567	11.76	ppb(v	98
109)	TVHC as equiv Pentane	5.728	TIC	683134	9.31	ppb(v	100

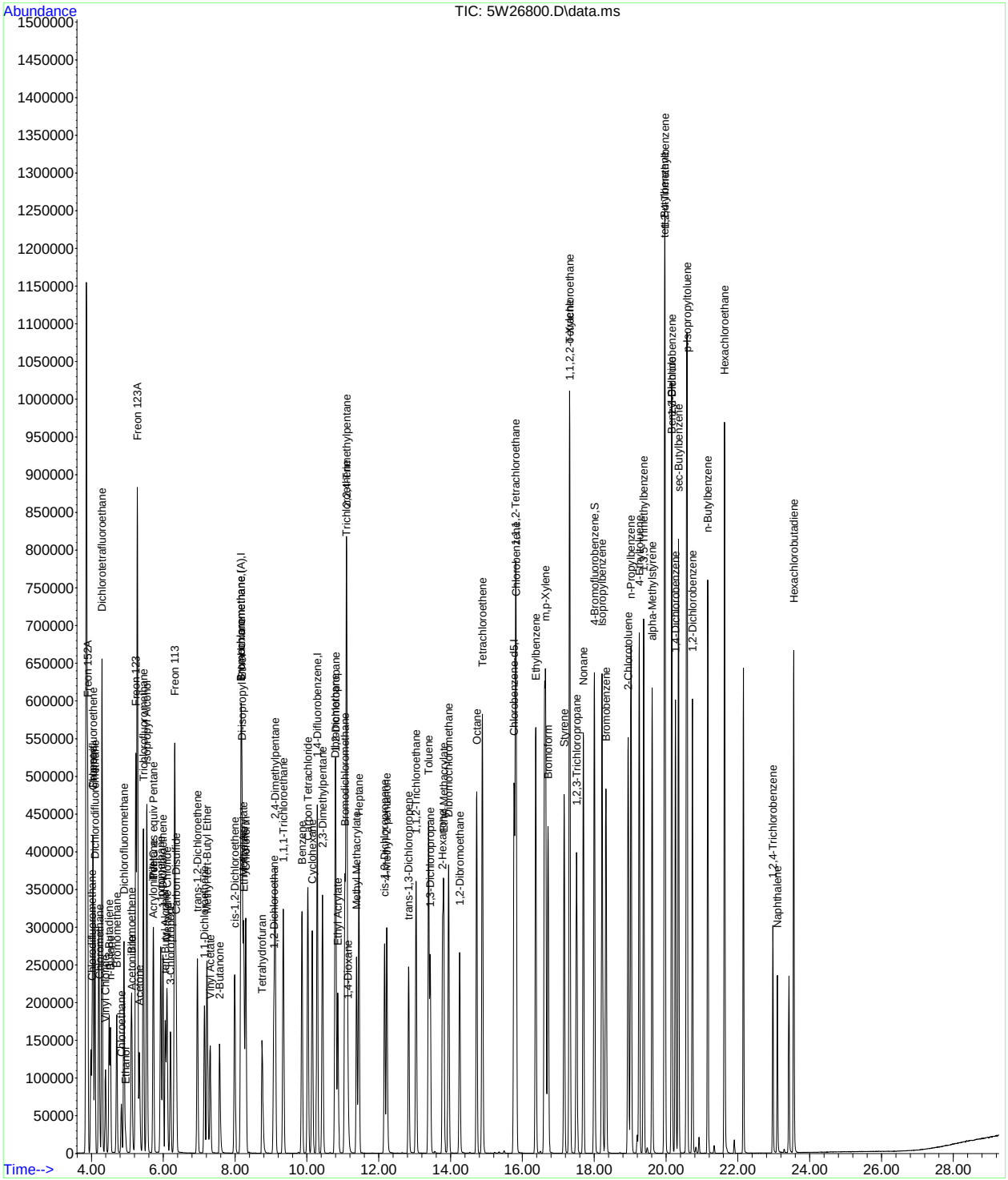
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26800.D
Acq On : 21 Sep 2017 11:17 am
Operator : [redacted]
Sample : bsd
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:59:57 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27101.D
Acq On : 7 Oct 2017 4:17 pm
Operator : [redacted]
Sample : jc52053-3dup
Misc : MS20561,v5w1066,608,,,,1.52
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 11:48:36 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

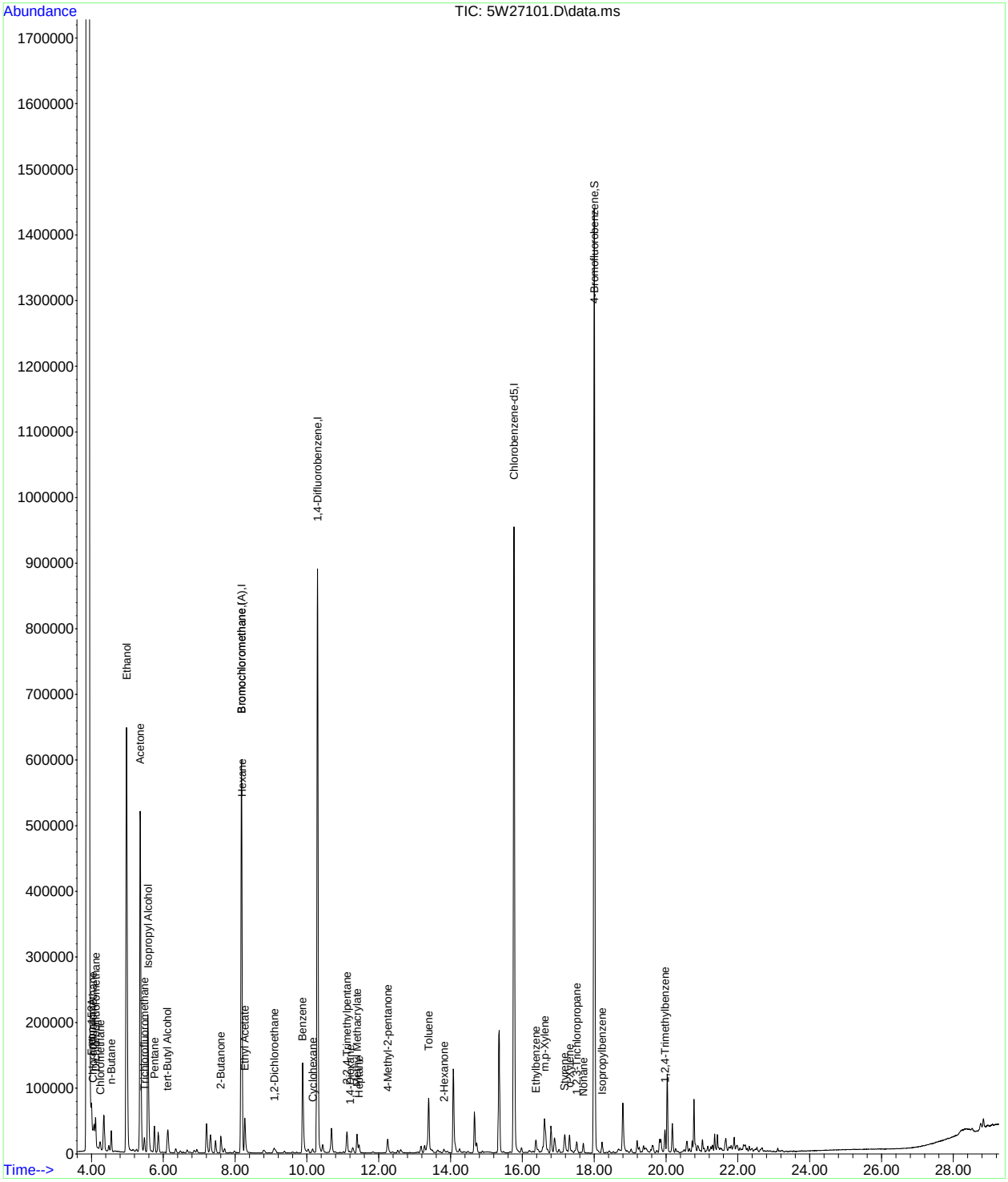
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	286088	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	972683	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	404548	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	286088	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	693382	12.19	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 121.90%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	19168	1.25	ppb(v	95
4) Chlorodifluoromethane	4.039	67	2072	0.39	ppb(v	90
7) Dichlorodifluoromethane	4.119	85	28750	0.47	ppb(v	99
9) Chloromethane	4.247	50	11391	0.60	ppb(v	97
13) n-Butane	4.547	58	3945	1.35	ppb(v#	86
21) Trichlorofluoromethane	5.471	101	20864	0.34	ppb(v	100
22) Acetone	5.355	58	248522	26.73	ppb(v	97
23) Pentane	5.759	57	4915	0.84	ppb(v	94
26) Isopropyl Alcohol	5.575	43	61934	9.81	ppb(v	49
31) Ethanol	4.982	45	1007006	171.17	ppb(v	98
35) tert-Butyl Alcohol	6.107	59	25006	0.50	ppb(v#	53
39) 2-Butanone	7.600	72	10361	0.92	ppb(v	96
40) Hexane	8.187	57	5705	0.17	ppb(v	88
43) Ethyl Acetate	8.267	61	11695	1.58	ppb(v	94
49) 1,2-Dichloroethane	9.093	62	3949	0.13	ppb(v#	94
50) Benzene	9.870	78	12629	0.16	ppb(v#	94
52) Cyclohexane	10.163	56	3611	0.11	ppb(v	88
55) 2,2,4-Trimethylpentane	11.112	57	37030	0.35	ppb(v#	97
56) Heptane	11.448	71	3521	0.16	ppb(v	95
61) Methyl Methacrylate	11.393	69	16220	0.64	ppb(v	94
62) 1,4-Dioxane	11.197	88	2256	0.16	ppb(v#	93
65) 4-Methyl-2-pentanone	12.249	58	6142	0.32	ppb(v	94
67) Toluene	13.387	91	83673	0.93	ppb(v	99
70) 2-Hexanone	13.822	58	3446	0.14	ppb(v	96
79) Ethylbenzene	16.373	91	20385	0.19	ppb(v	95
80) m,p-Xylene	16.617	91	59633	0.72	ppb(v	99
81) Styrene	17.168	104	9097	0.14	ppb(v	95
82) Nonane	17.694	43	7848	0.16	ppb(v#	91
83) o-Xylene	17.315	91	23224	0.28	ppb(v	98
86) 1,2,3-Trichloropropane	17.511	75	11410	0.25	ppb(v	96
87) Isopropylbenzene	18.220	105	15637	0.13	ppb(v	99
96) 1,2,4-Trimethylbenzene	19.970	105	21498	0.23	ppb(v#	69

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27101.D
Acq On : 7 Oct 2017 4:17 pm
Operator : [redacted]
Sample : jc52053-3dup
Misc : MS20561,v5w1066,608,,,,1.52
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 11:48:36 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



m5w1065.M Sun Oct 08 11:48:40 2017 Page: 2

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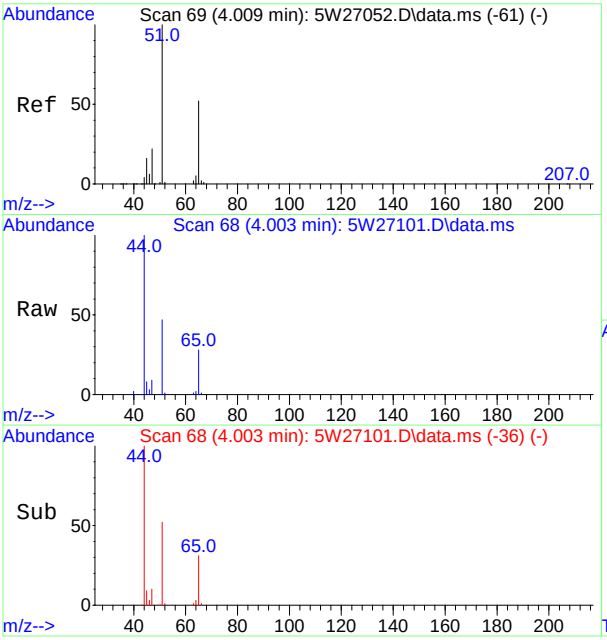
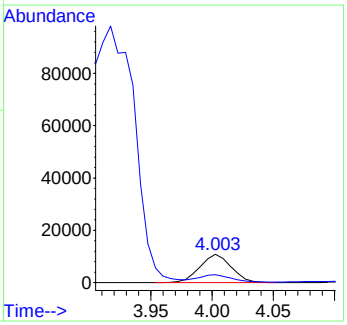
SGS ACCUTEST JC52053

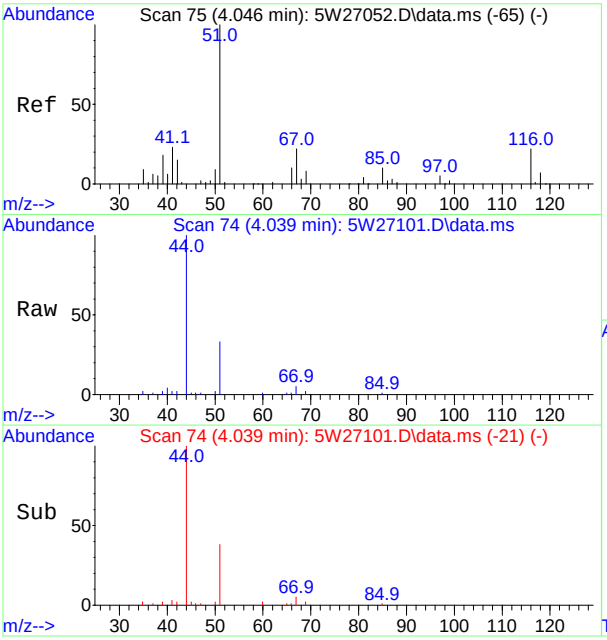


#3
Freon 152A
Concen: 1.25 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 65 Resp: 19168

Ion	Ratio	Lower	Upper
65	100		
45	27.9	21.4	39.8

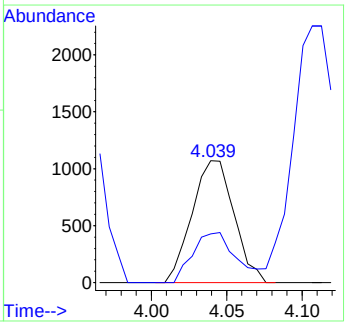


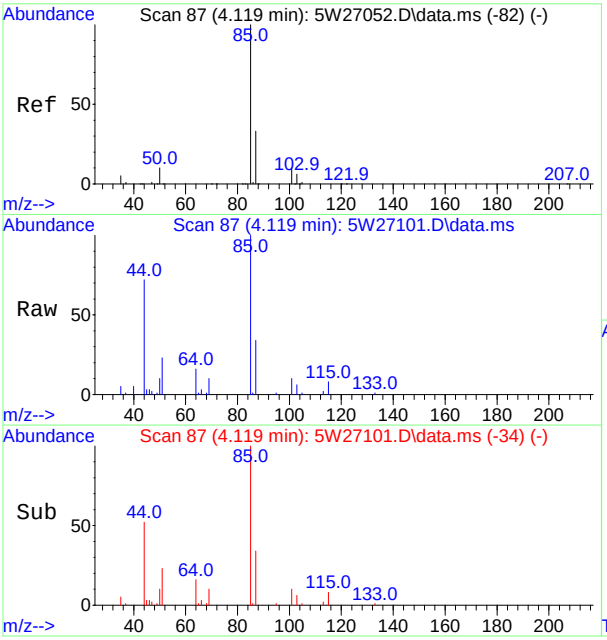


#4
Chlorodifluoromethane
Concen: 0.39 ppb(v)
RT: 4.039 min Scan# 74
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 67 Resp: 2072

Ion	Ratio	Lower	Upper
67	100		
69	40.0	24.1	44.7

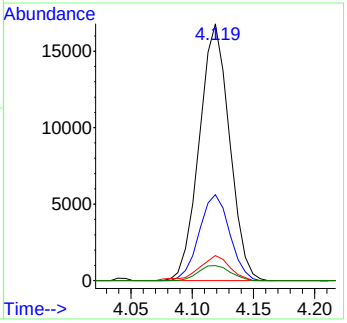


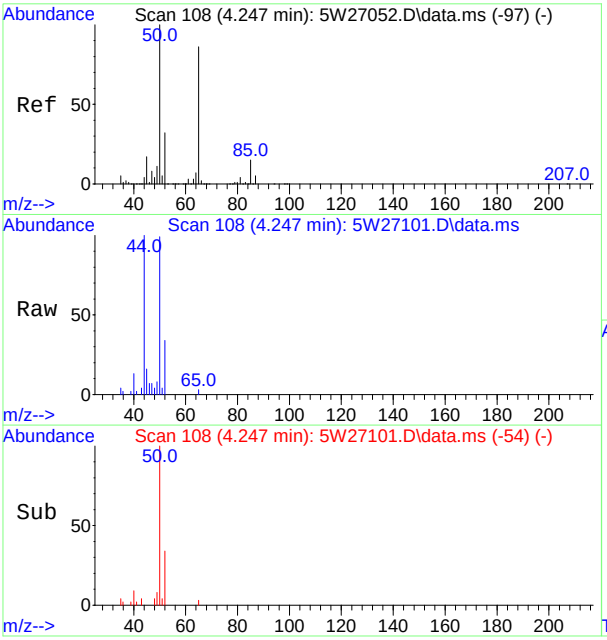


#7
Dichlorodifluoromethane
Concen: 0.47 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 85 Resp: 28750

Ion	Ratio	Lower	Upper
85	100		
87	33.5	23.0	42.6
101	9.8	6.6	12.2
103	5.8	4.2	7.8

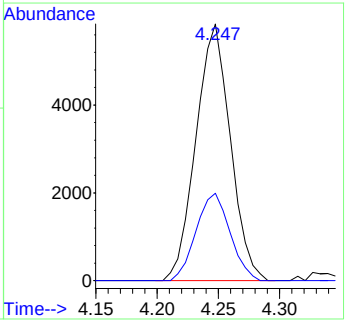


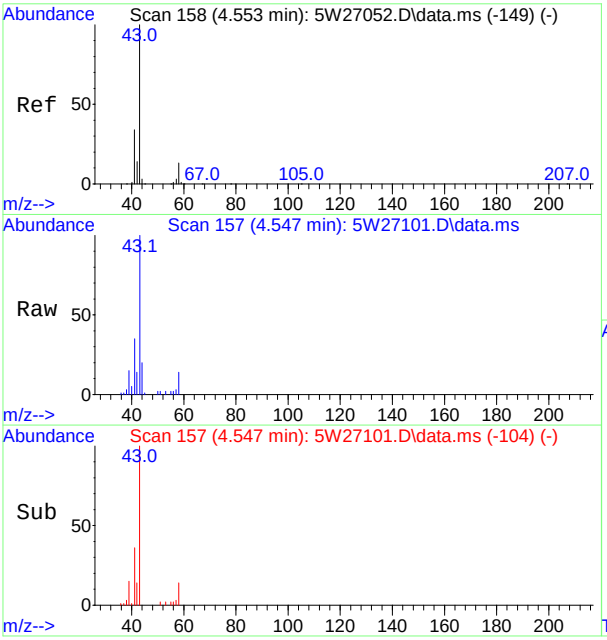


#9
Chloromethane
Concen: 0.60 ppb(v)
RT: 4.247 min Scan# 108
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 50 Resp: 11391

Ion	Ratio	Lower	Upper
50	100		
52	34.0	22.7	42.1

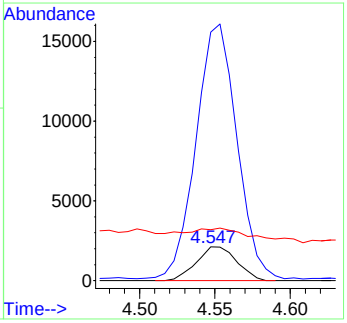


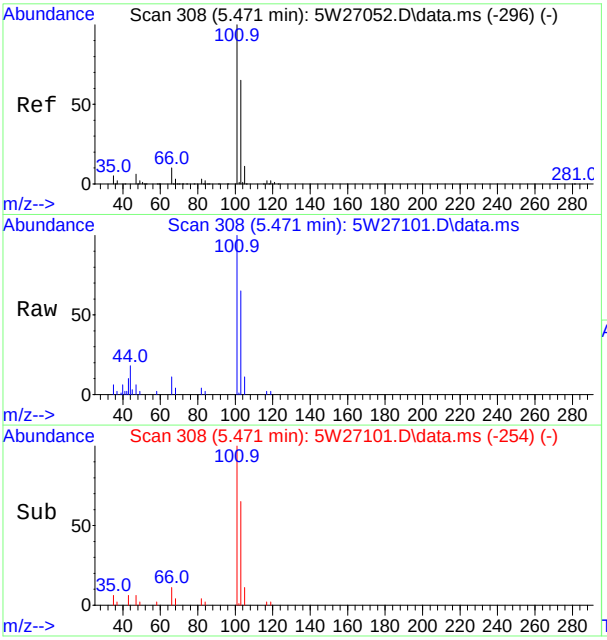


#13
n-Butane
Concen: 1.35 ppb(v)
RT: 4.547 min Scan# 157
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 58 Resp: 3945

Ion	Ratio	Lower	Upper
58	100		
43	736.5	527.9	980.5
44	150.9	25.1	46.7#

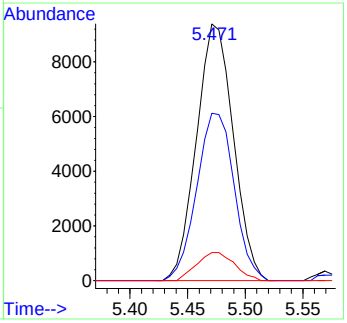


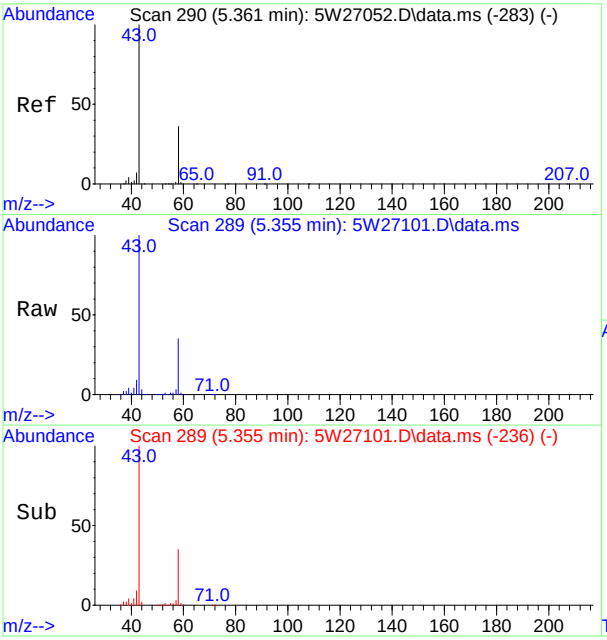


#21
Trichlorofluoromethane
Concen: 0.34 ppb(v)
RT: 5.471 min Scan# 308
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion:101 Resp: 20864

Ion	Ratio	Lower	Upper
101	100		
103	65.2	45.6	84.6
105	10.9	7.5	13.9

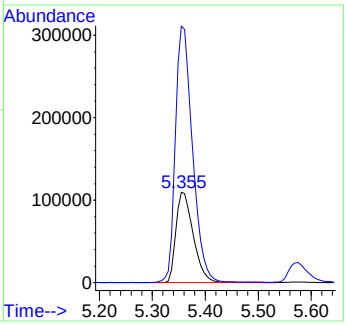


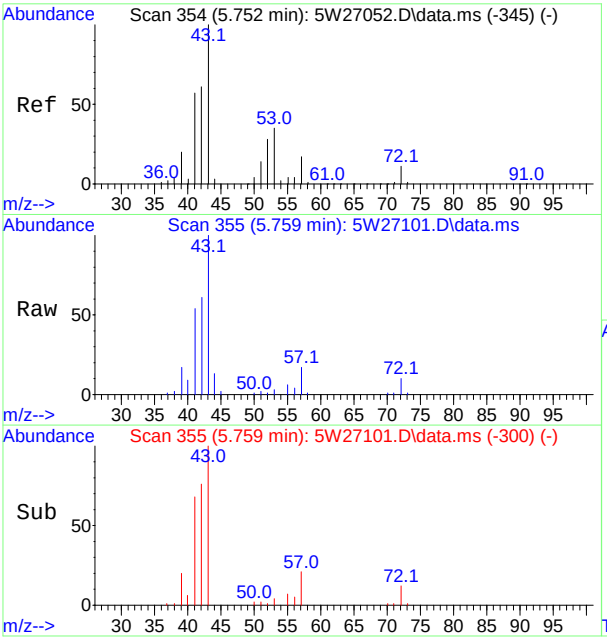


#22
Acetone
Concen: 26.73 ppb(v)
RT: 5.355 min Scan# 289
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 58 Resp: 248522

Ion	Ratio	Lower	Upper
58	100		
43	284.4	194.7	361.5

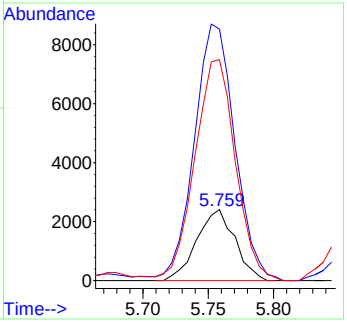


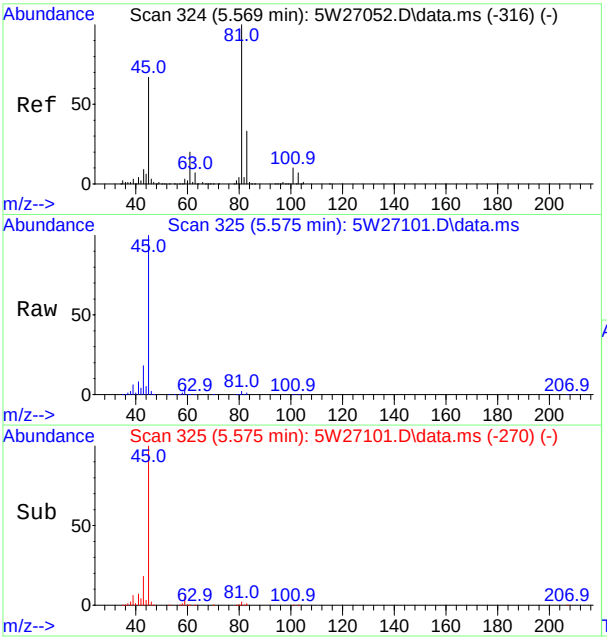


#23
Pentane
Concen: 0.84 ppb(v)
RT: 5.759 min Scan# 355
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 57 Resp: 4915

Ion	Ratio	Lower	Upper
57	100		
42	354.0	249.9	464.1
41	311.0	233.0	432.6

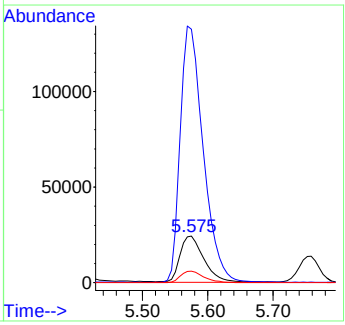


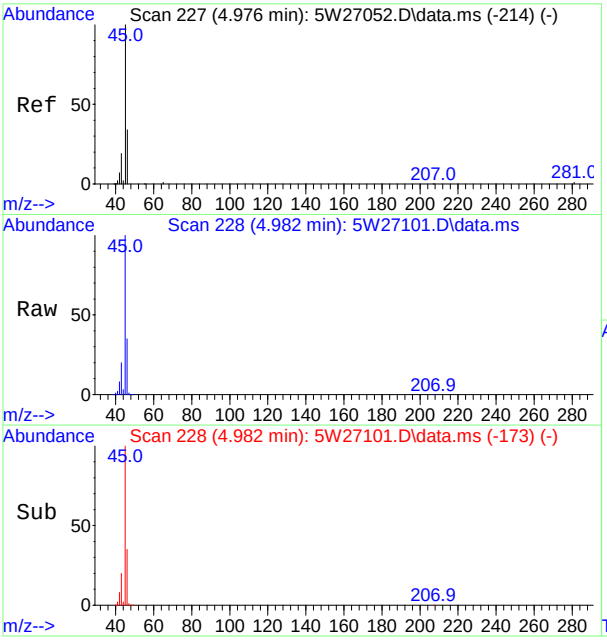


#26
Isopropyl Alcohol
Concen: 9.81 ppb(v)
RT: 5.575 min Scan# 325
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 43 Resp: 61934

Ion	Ratio	Lower	Upper
43	100		
45	543.7	512.5	951.7
59	24.4	20.9	38.7

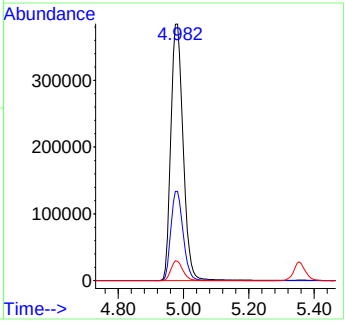


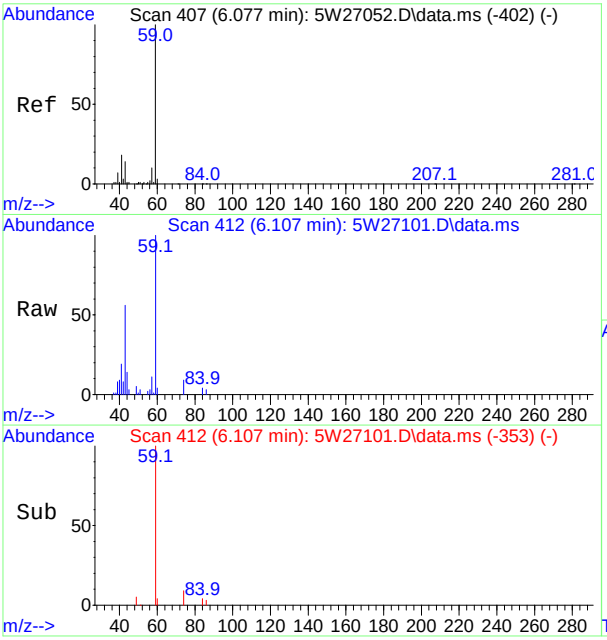


#31
Ethanol
Concen: 171.17 ppb(v)
RT: 4.982 min Scan# 228
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 45 Resp: 1007006

Ion	Ratio	Lower	Upper
45	100		
46	34.8	23.5	43.7
42	7.6	5.5	10.3

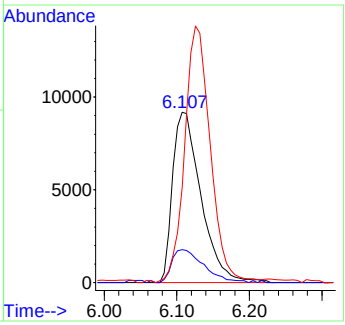


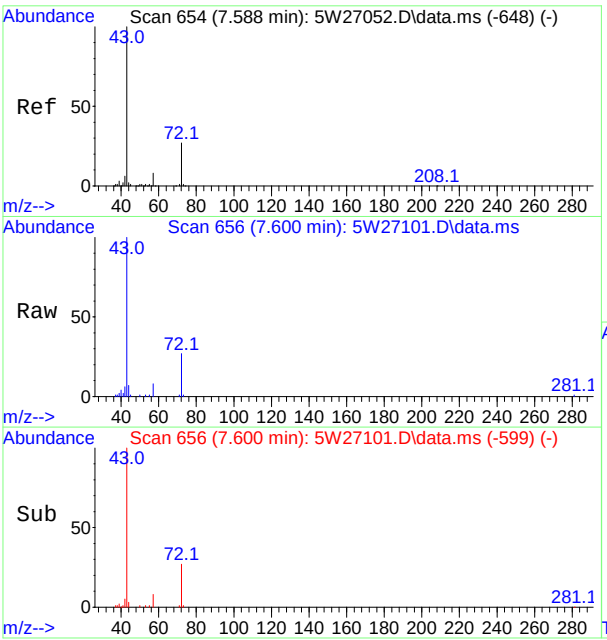


#35
tert-Butyl Alcohol
Concen: 0.50 ppb(v)
RT: 6.107 min Scan# 412
Delta R.T. 0.031 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 59 Resp: 25006

Ion	Ratio	Lower	Upper
59	100		
41	19.3	12.5	23.1
43	55.7	9.7	17.9#

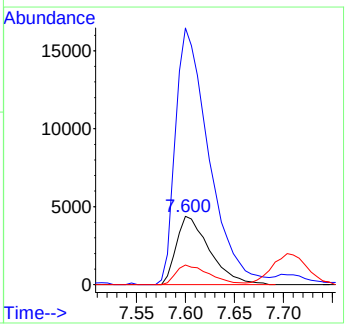


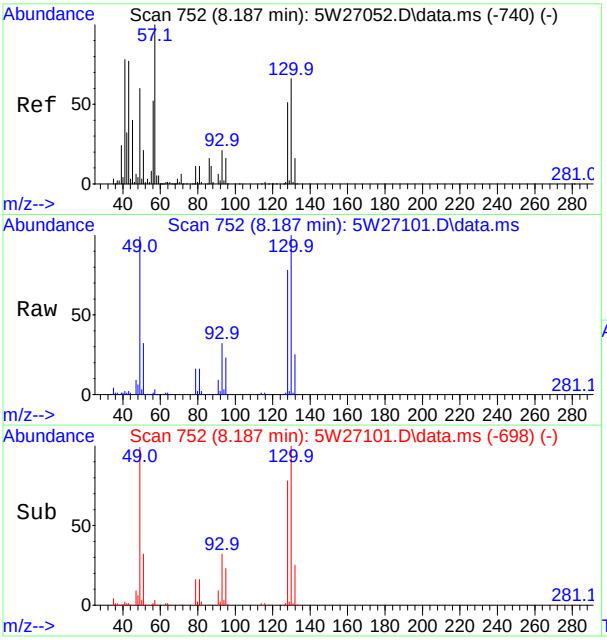


#39
2-Butanone
Concen: 0.92 ppb(v)
RT: 7.600 min Scan# 656
Delta R.T. 0.018 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 72 Resp: 10361

Ion	Ratio	Lower	Upper
72	100		
43	375.6	256.8	476.8
57	28.8	20.4	37.8

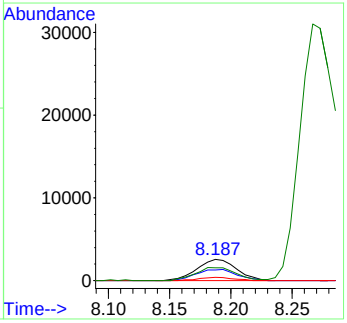


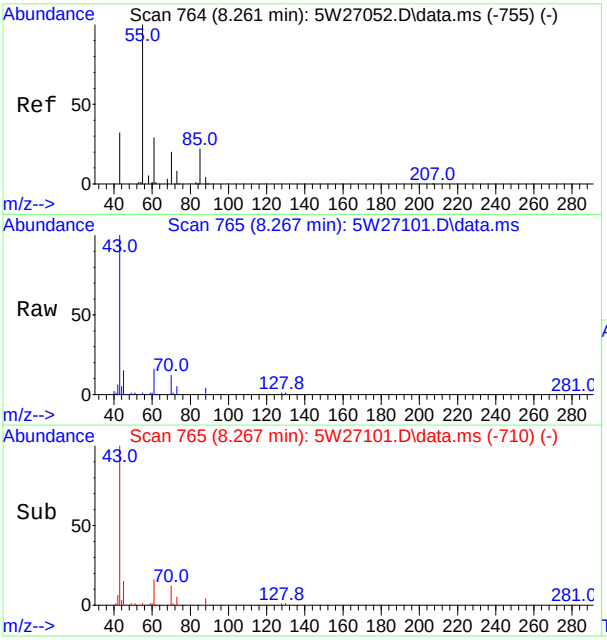


#40
Hexane
Concen: 0.17 ppb(v)
RT: 8.187 min Scan# 752
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 57 Resp: 5705

Ion	Ratio	Lower	Upper
57	100		
56	49.7	36.6	68.0
86	16.2	11.1	20.5
43	60.2	54.2	100.6

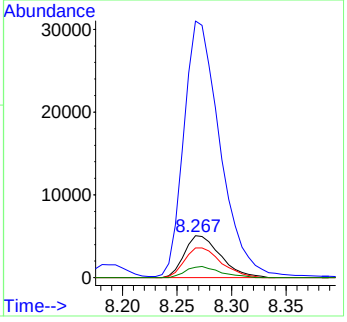




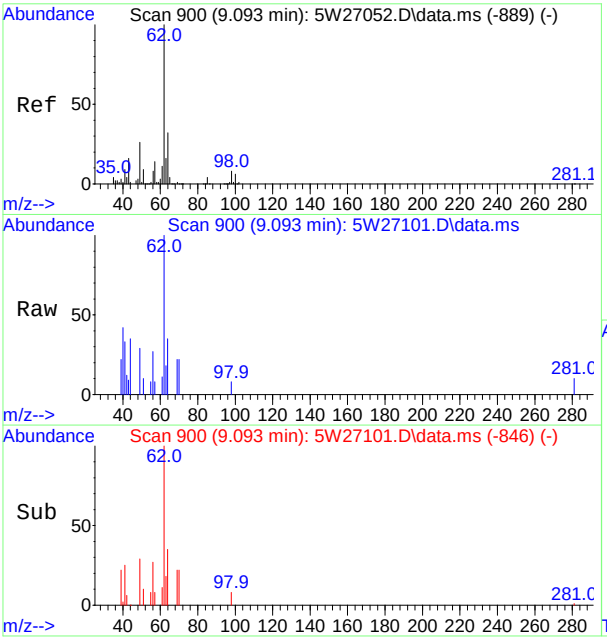
#43
Ethyl Acetate
Concen: 1.58 ppb(v)
RT: 8.267 min Scan# 765
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 61 Resp: 11695

Ion	Ratio	Lower	Upper
61	100		
43	610.8	440.8	818.6
70	70.9	51.7	95.9
88	24.5	19.4	36.0



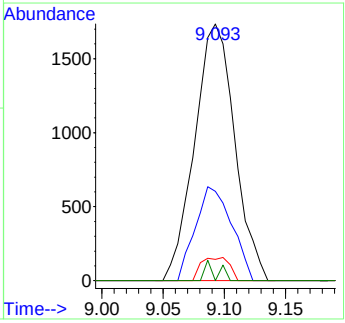
SGS ACCUTEST JC52053

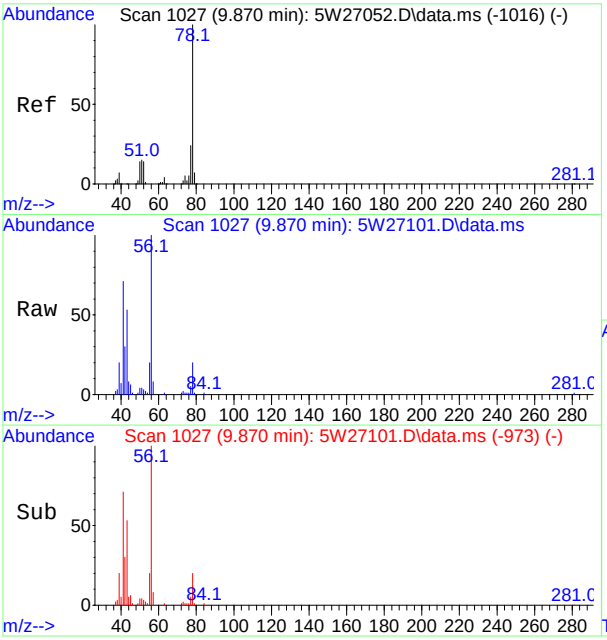


#49
1,2-Dichloroethane
Concen: 0.13 ppb(v)
RT: 9.093 min Scan# 900
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 62 Resp: 3949

Ion	Ratio	Lower	Upper
62	100		
64	34.7	22.5	41.7
98	8.3	5.9	10.9
100	0.0	4.2	7.8#

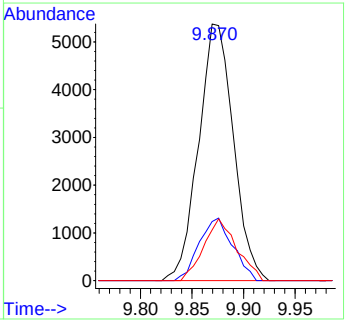


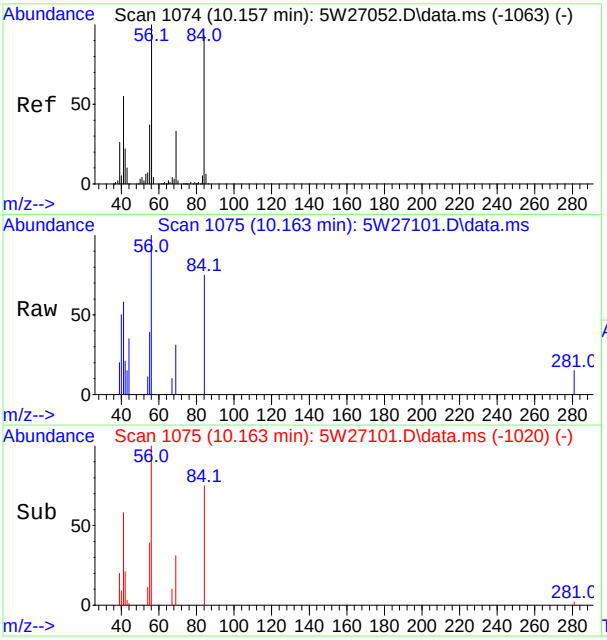


#50
Benzene
Concen: 0.16 ppb(v)
RT: 9.870 min Scan# 1027
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 78 Resp: 12629

Ion	Ratio	Lower	Upper
78	100		
77	23.0	16.8	31.2
51	19.7	10.4	19.4#

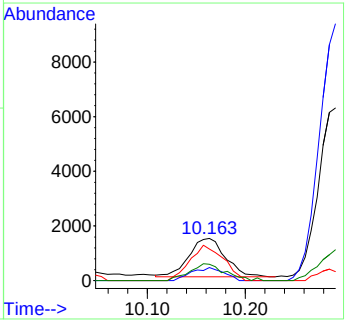


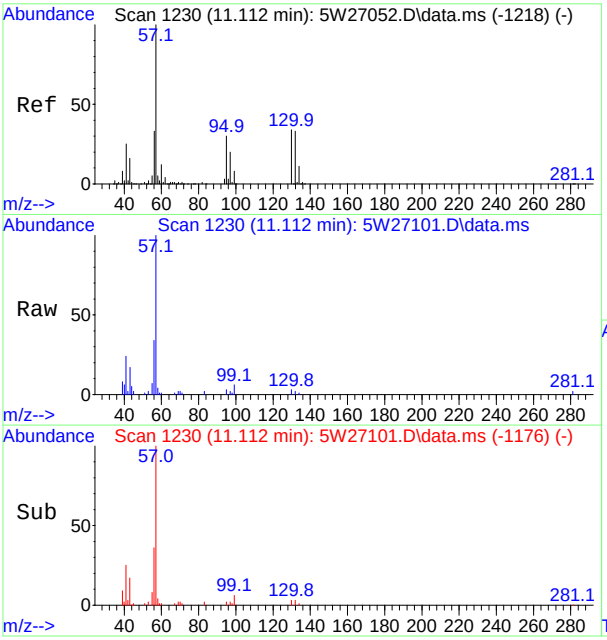


#52
Cyclohexane
Concen: 0.11 ppb(v)
RT: 10.163 min Scan# 1075
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 56 Resp: 3611

Ion	Ratio	Lower	Upper
56	100		
69	30.9	23.2	43.0
84	75.2	65.4	121.4
55	39.1	25.8	48.0

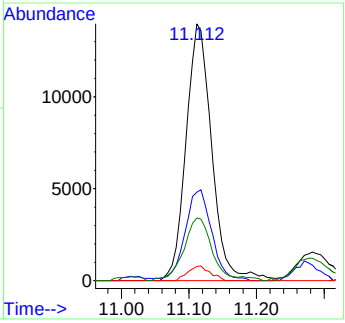


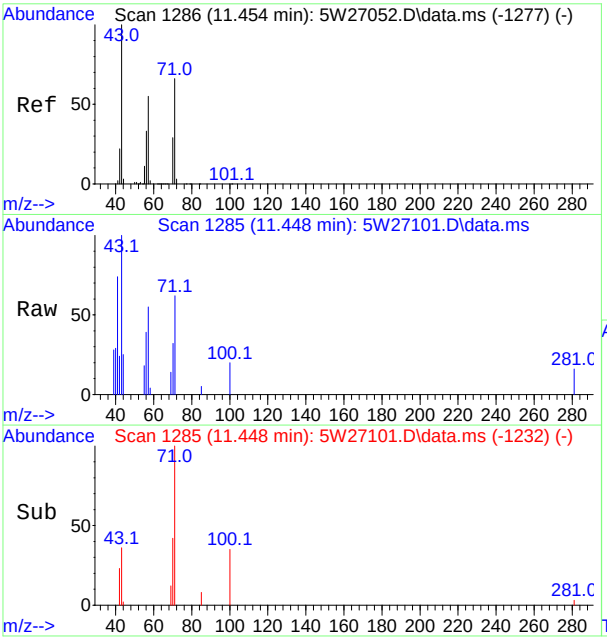


#55
2,2,4-Trimethylpentane
Concen: 0.35 ppb(v)
RT: 11.112 min Scan# 1230
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 57 Resp: 37030

Ion	Ratio	Lower	Upper
57	100		
56	34.5	23.0	42.6
99	5.5	5.8	10.8#
41	24.4	17.7	32.9

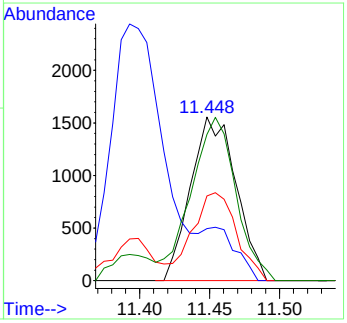


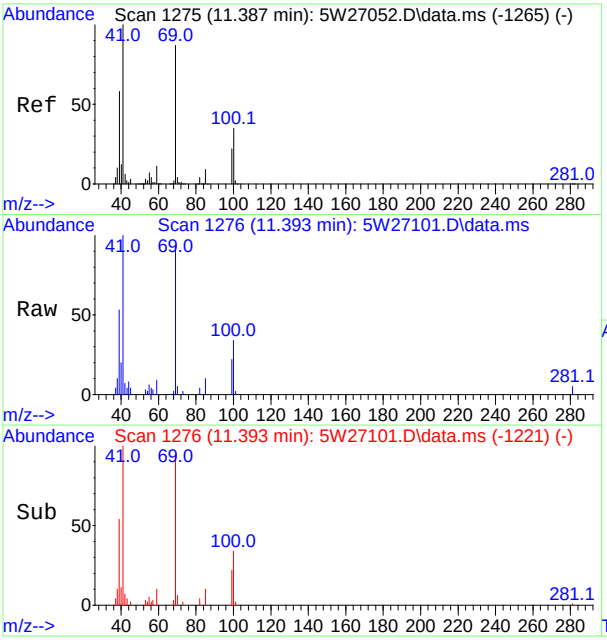


#56
Heptane
Concen: 0.16 ppb(v)
RT: 11.448 min Scan# 1285
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 71 Resp: 3521

Ion	Ratio	Lower	Upper
71	100		
100	31.7	20.1	37.3
70	51.7	34.1	63.3
57	89.3	59.4	110.4

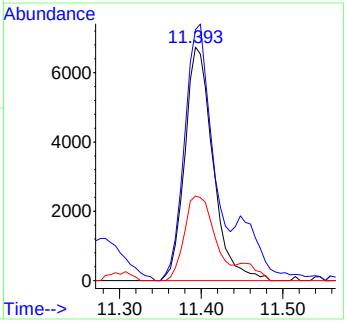


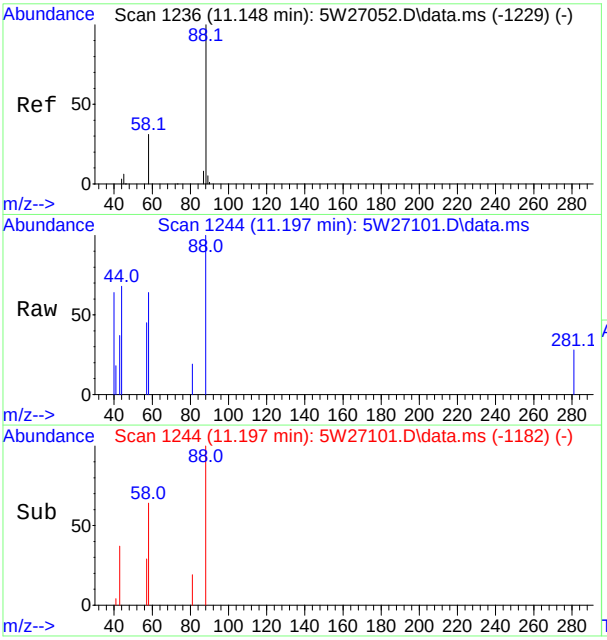


#61
Methyl Methacrylate
Concen: 0.64 ppb(v)
RT: 11.393 min Scan# 1276
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 69 Resp: 16220

Ion	Ratio	Lower	Upper
69	100		
41	107.5	80.2	148.9
100	36.3	27.9	51.9

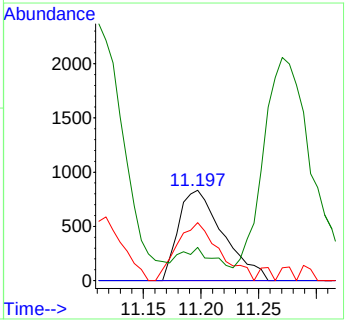


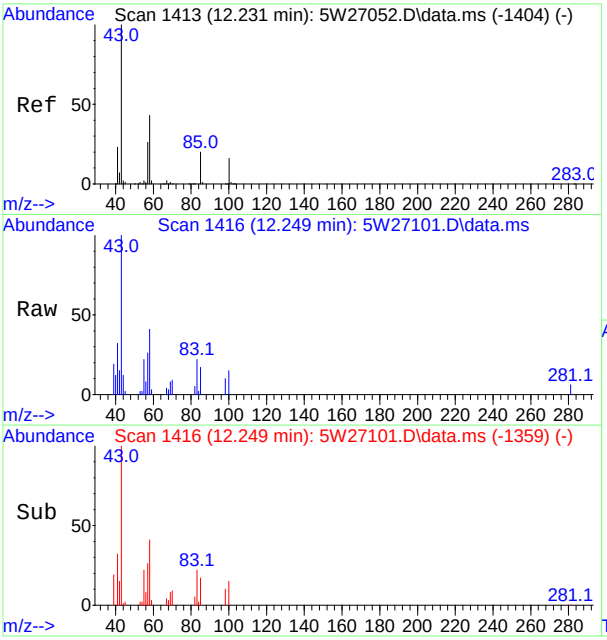


#62
1,4-Dioxane
Concen: 0.16 ppb(v)
RT: 11.197 min Scan# 1244
Delta R.T. 0.049 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 88 Resp: 2256

Ion	Ratio	Lower	Upper
88	100		
87	0.0	6.4	12.0#
58	64.1	41.7	77.5
43	36.9	27.6	51.4

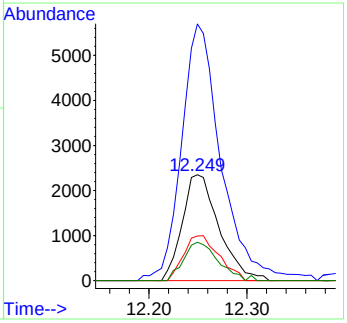




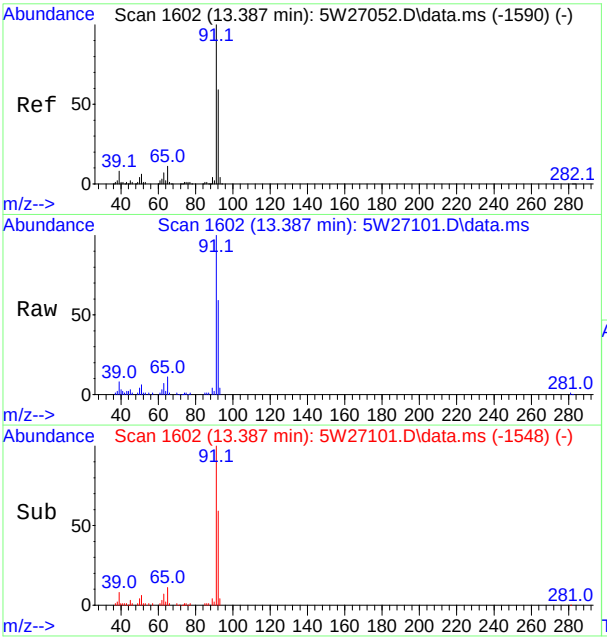
#65
4-Methyl-2-pentanone
Concen: 0.32 ppb(v)
RT: 12.249 min Scan# 1416
Delta R.T. 0.018 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 58 Resp: 6142

Ion	Ratio	Lower	Upper
58	100		
43	242.3	162.8	302.3
85	42.2	33.8	62.8
100	36.2	26.7	49.5



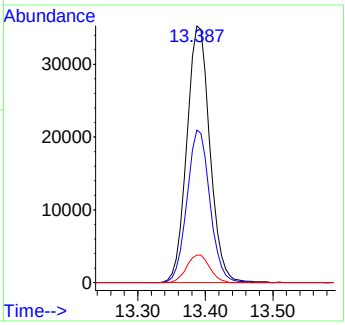
SGS ACCUTEST JC52053

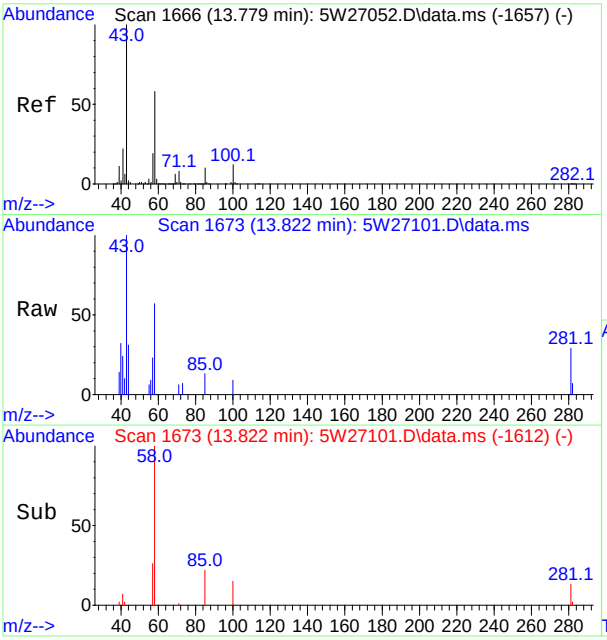


#67
Toluene
Concen: 0.93 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 91 Resp: 83673

Ion	Ratio	Lower	Upper
91	100		
92	59.5	41.4	76.8
65	10.7	7.3	13.7

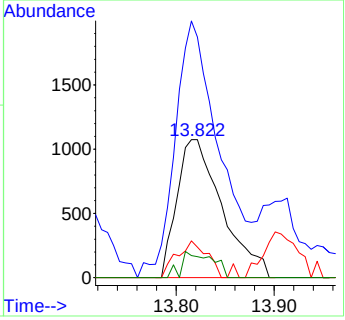


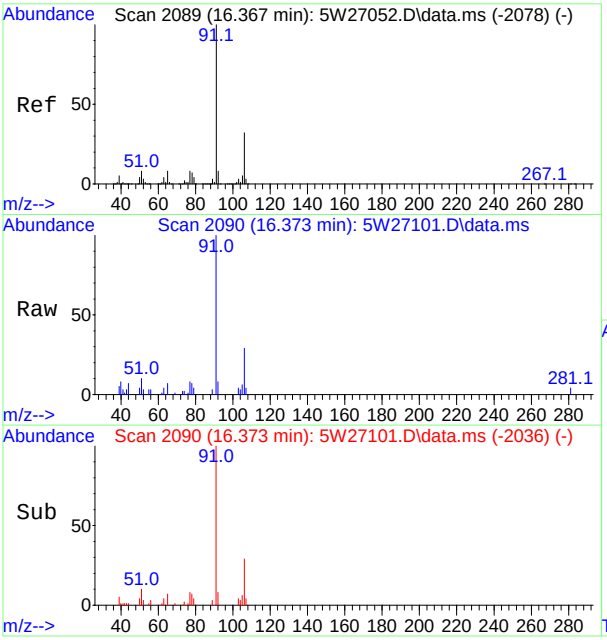


#70
2-Hexanone
Concen: 0.14 ppb(v)
RT: 13.822 min Scan# 1673
Delta R.T. 0.043 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 58 Resp: 3446

Ion	Ratio	Lower	Upper
58	100		
43	174.1	120.2	223.2
85	22.1	12.0	22.2
100	15.2	14.7	27.3

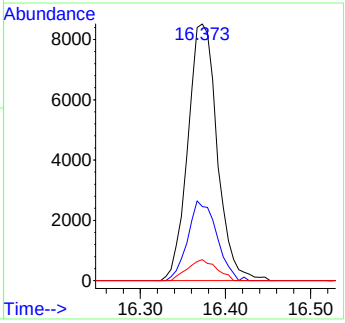


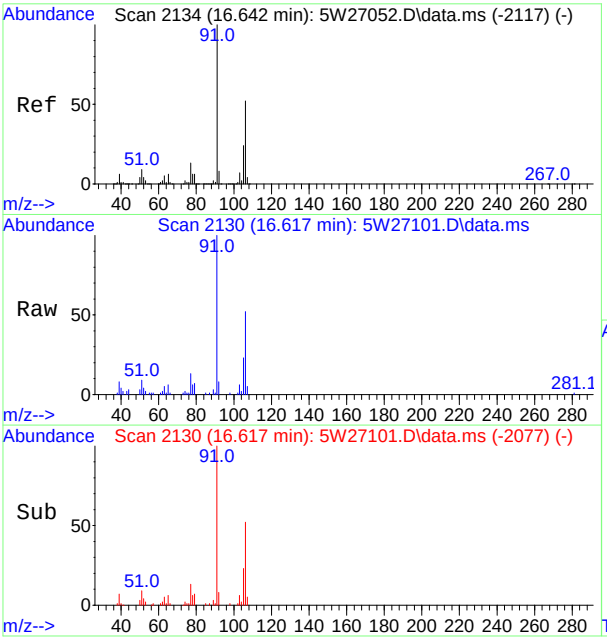


#79
Ethylbenzene
Concen: 0.19 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 91 Resp: 20385

Ion	Ratio	Lower	Upper
91	100		
106	28.9	22.4	41.6
77	8.1	5.7	10.7

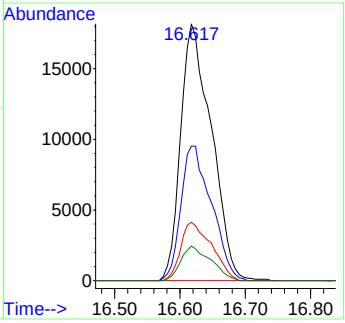




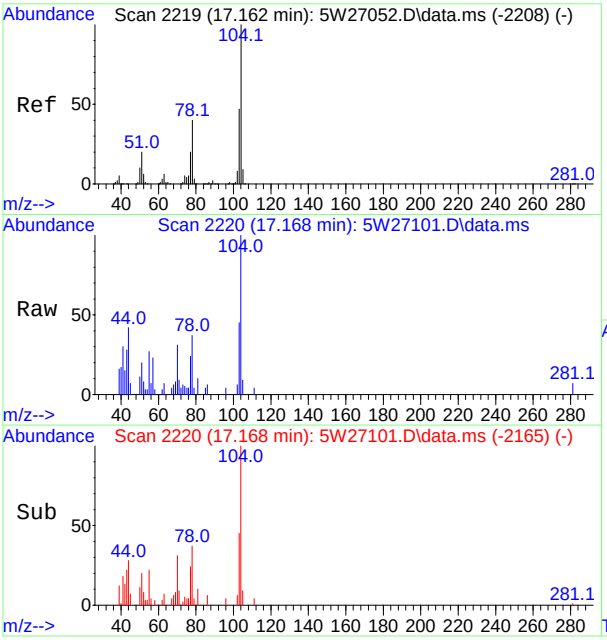
#80
m,p-Xylene
Concen: 0.72 ppb(v)
RT: 16.617 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 91 Resp: 59633

Ion	Ratio	Lower	Upper
91	100		
106	52.4	36.3	67.5
105	22.7	16.4	30.6
77	13.4	8.9	16.5



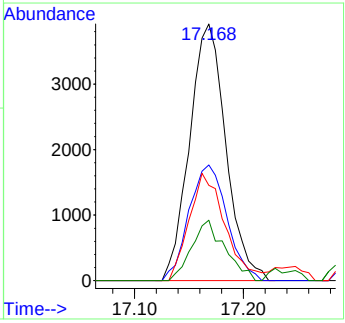
SGS ACCUTEST JC52053

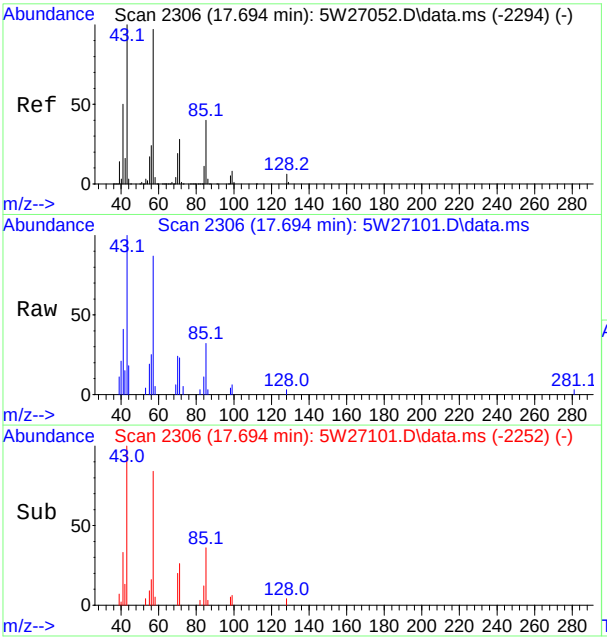


#81
Styrene
Concen: 0.14 ppb(v)
RT: 17.168 min Scan# 2220
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion:104 Resp: 9097

Ion	Ratio	Lower	Upper
104	100		
103	45.0	32.8	61.0
78	37.1	28.1	52.1
77	23.5	13.7	25.5

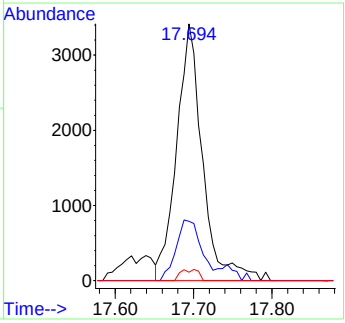


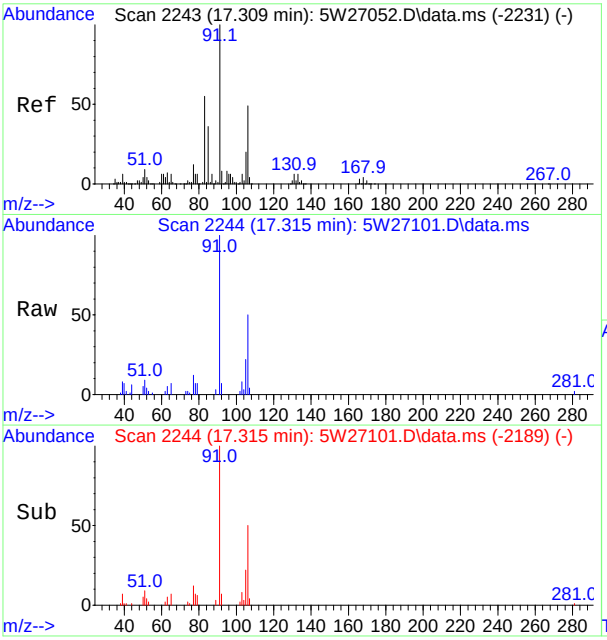


#82
Nonane
Concen: 0.16 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 43 Resp: 7848

Ion	Ratio	Lower	Upper
43	100		
71	23.2	19.3	35.9
128	3.3	4.5	8.3#

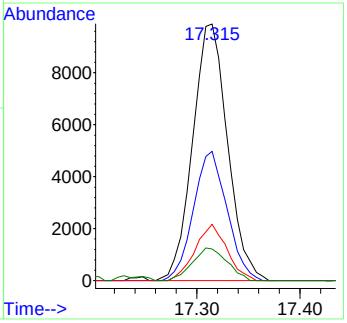


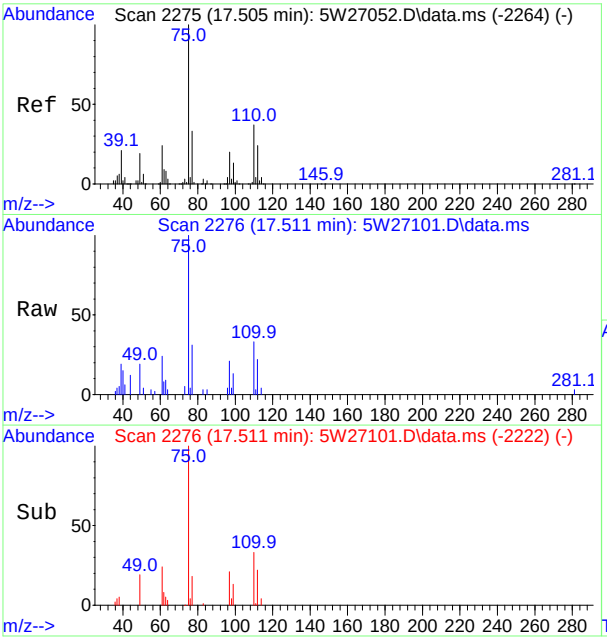


#83
o-Xylene
Concen: 0.28 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 91 Resp: 23224

Ion	Ratio	Lower	Upper
91	100		
106	50.4	34.4	64.0
105	21.9	13.7	25.5
77	12.3	8.5	15.7

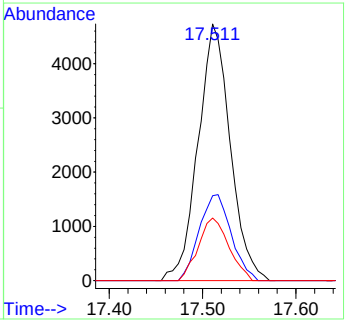




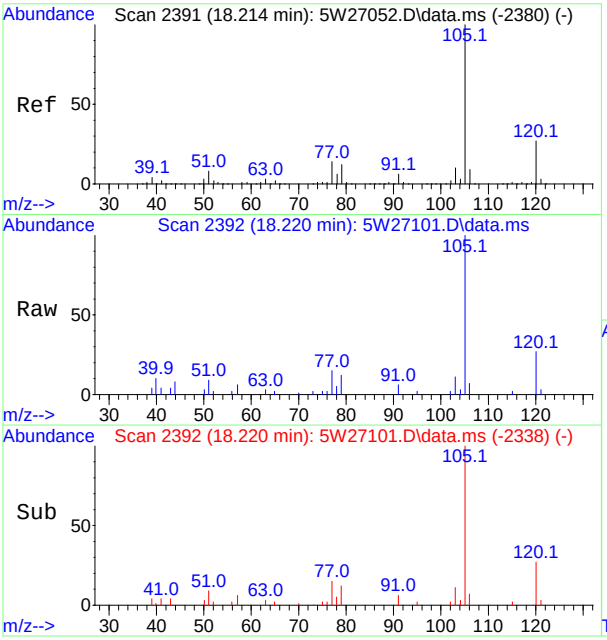
#86
1,2,3-Trichloropropane
Concen: 0.25 ppb(v)
RT: 17.511 min Scan# 2276
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion: 75 Resp: 11410

Ion	Ratio	Lower	Upper
75	100		
110	33.1	25.8	47.8
61	24.4	17.1	31.9



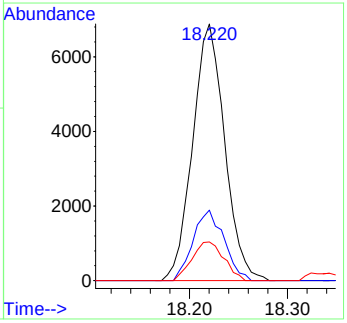
SGS ACCUTEST JC52053

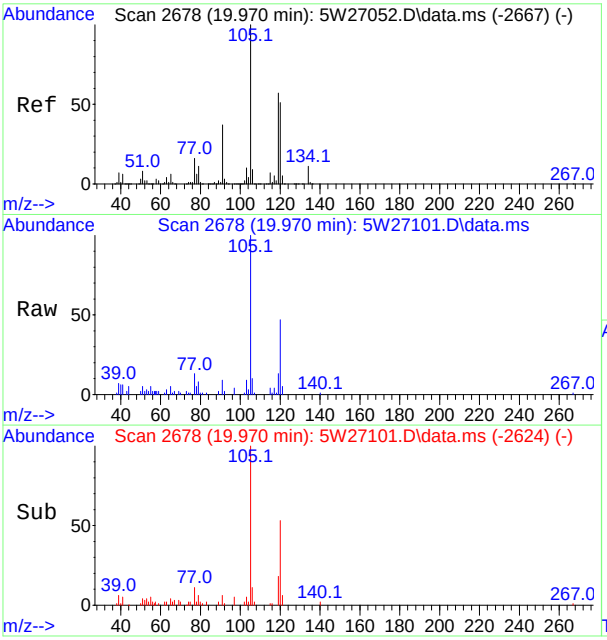


#87
Isopropylbenzene
Concen: 0.13 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion:105 Resp: 15637

Ion	Ratio	Lower	Upper
105	100		
120	27.5	19.0	35.2
77	15.1	10.1	18.9

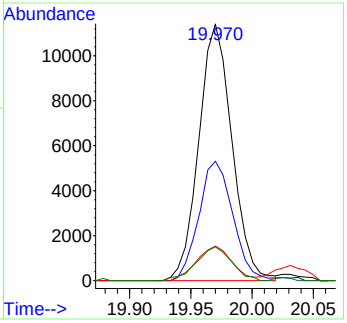




#96
1,2,4-Trimethylbenzene
Concen: 0.23 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27101.D
Acq: 7 Oct 2017 4:17 pm

Tgt Ion:105 Resp: 21498

Ion	Ratio	Lower	Upper
105	100		
120	46.6	36.0	66.8
119	13.5	40.3	74.8#
77	13.2	11.3	21.1



Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/10/17 13:39

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27120.D
Acq On : 8 Oct 2017 5:08 pm
Operator : [redacted]
Sample : jc51796-1dup
Misc : MS20519,v5w1067,620,,,,1.55
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 09 15:28:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	255939	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	887677	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	346884	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	255939	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	601221	12.32	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 123.20%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	17930	1.31	ppb(v	96
4) Chlorodifluoromethane	4.033	67	1965	0.41	ppb(v	98
7) Dichlorodifluoromethane	4.119	85	27258	0.49	ppb(v	99
9) Chloromethane	4.241	50	13107	0.77	ppb(v	99
13) n-Butane	4.547	58	13337	5.10	ppb(v#	95
21) Trichlorofluoromethane	5.471	101	15187	0.28	ppb(v	98
22) Acetone	5.361	58	99325	11.94	ppb(v	94
23) Pentane	5.753	57	265688	51.02	ppb(v	92
26) Isopropyl Alcohol	5.630	43	15037m	2.66	ppb(v	
31) Ethanol	5.043	45	6276695	1192.59	ppb(v	99
35) tert-Butyl Alcohol	6.150	59	38576	0.86	ppb(v#	63
39) 2-Butanone	7.606	72	7501	0.74	ppb(v	98
40) Hexane	8.187	57	8523	0.28	ppb(v	90
43) Ethyl Acetate	8.261	61	60495	9.16	ppb(v	99
50) Benzene	9.870	78	26012	0.37	ppb(v	99
52) Cyclohexane	10.163	56	5026	0.17	ppb(v	91
55) 2,2,4-Trimethylpentane	11.118	57	10165	0.11	ppb(v	90
56) Heptane	11.448	71	2270	0.11	ppb(v	92
67) Toluene	13.387	91	97949	1.20	ppb(v	100
73) Tetrachloroethene	14.886	166	7172	0.14	ppb(v	96
79) Ethylbenzene	16.373	91	9254	0.10	ppb(v	99
80) m,p-Xylene	16.624	91	25210	0.35	ppb(v	98
82) Nonane	17.694	43	11244	0.27	ppb(v	91
83) o-Xylene	17.315	91	10430	0.15	ppb(v	98
96) 1,2,4-Trimethylbenzene	19.970	105	18261	0.23	ppb(v#	68
101) p-Isopropyltoluene	20.582	134	2881	0.11	ppb(v	98
106) Naphthalene	23.108	128	6023	0.21	ppb(v	98

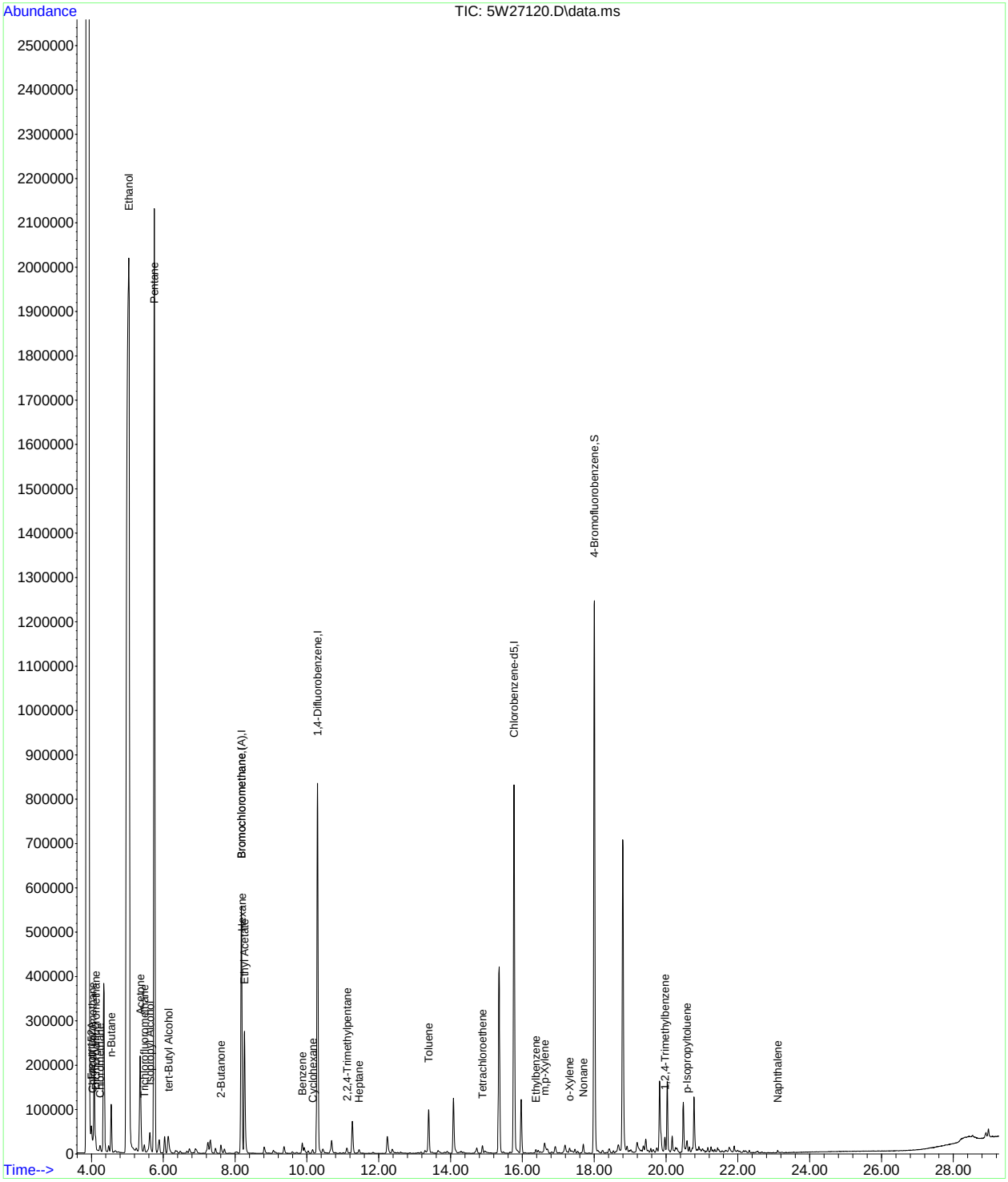
(#) = qualifier out of range (m) = manual integration (+) = signals summed

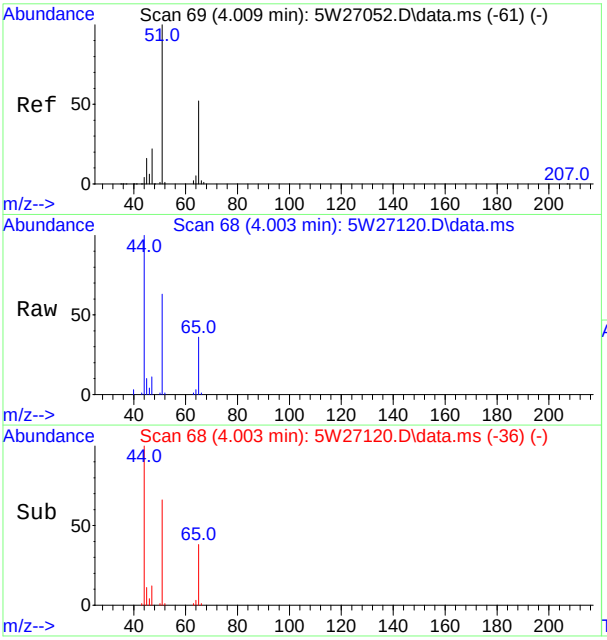
7.4.2
7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27120.D
Acq On : 8 Oct 2017 5:08 pm
Operator : [redacted]
Sample : jc51796-1dup
Misc : MS20519,v5w1067,620,,,,1.55
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 09 15:28:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

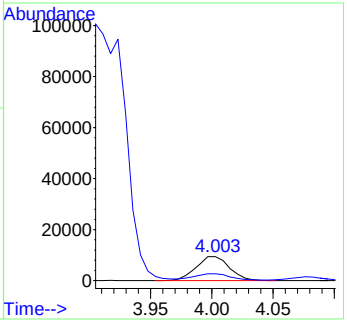


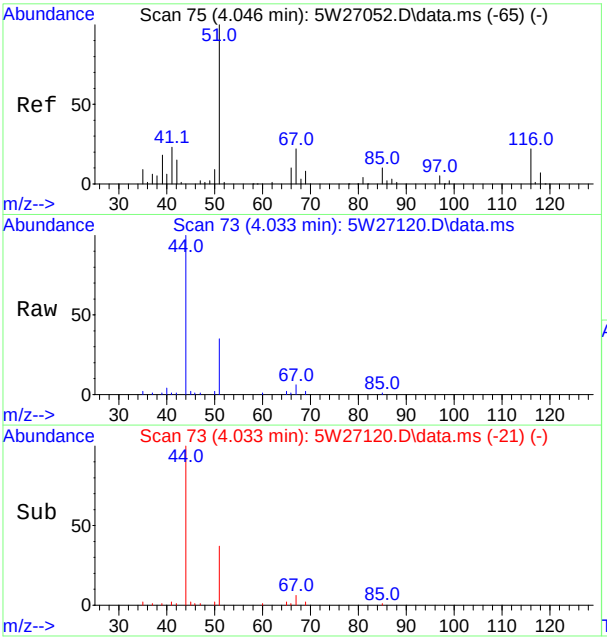


#3
Freon 152A
Concen: 1.31 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 65 Resp: 17930

Ion	Ratio	Lower	Upper
65	100		
45	28.5	21.4	39.8

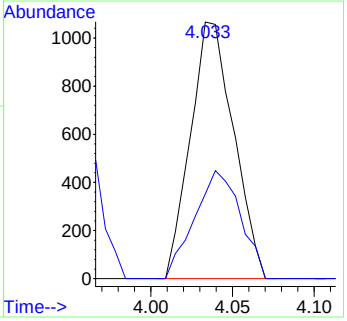




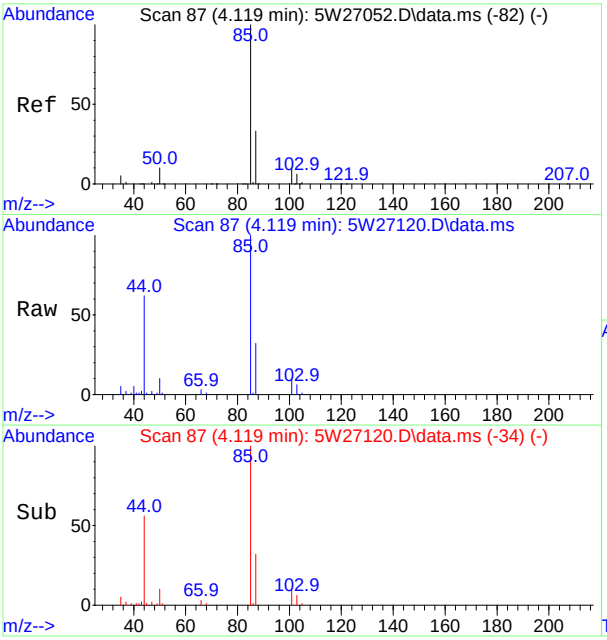
#4
Chlorodifluoromethane
Concen: 0.41 ppb(v)
RT: 4.033 min Scan# 73
Delta R.T. -0.012 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 67 Resp: 1965

Ion	Ratio	Lower	Upper
67	100		
69	33.0	24.1	44.7



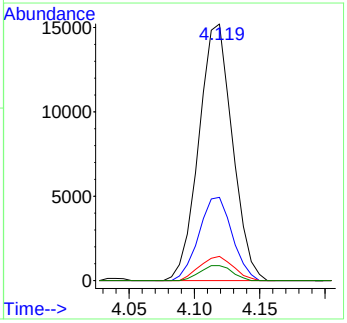
SGS ACCUTEST
JC52053

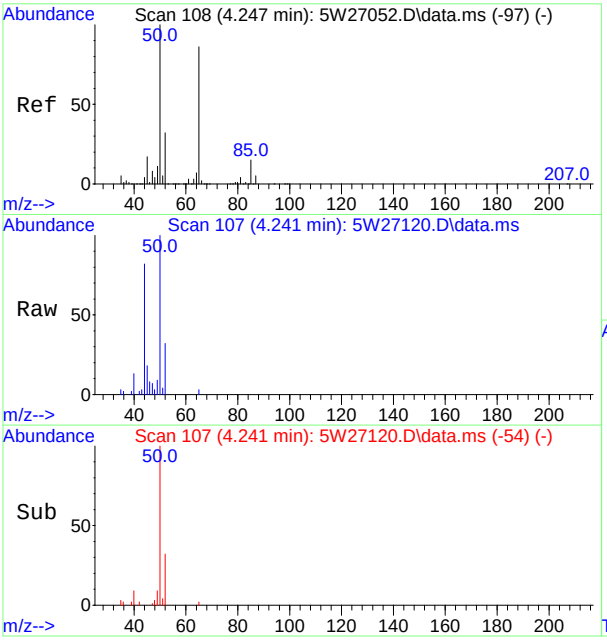


#7
Dichlorodifluoromethane
Concen: 0.49 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 85 Resp: 27258

Ion	Ratio	Lower	Upper
85	100		
87	32.4	23.0	42.6
101	9.5	6.6	12.2
103	5.9	4.2	7.8

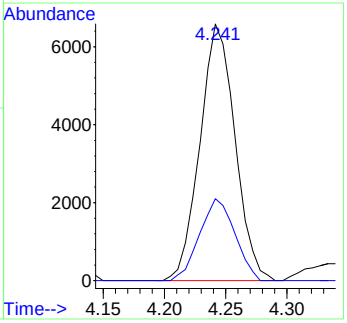


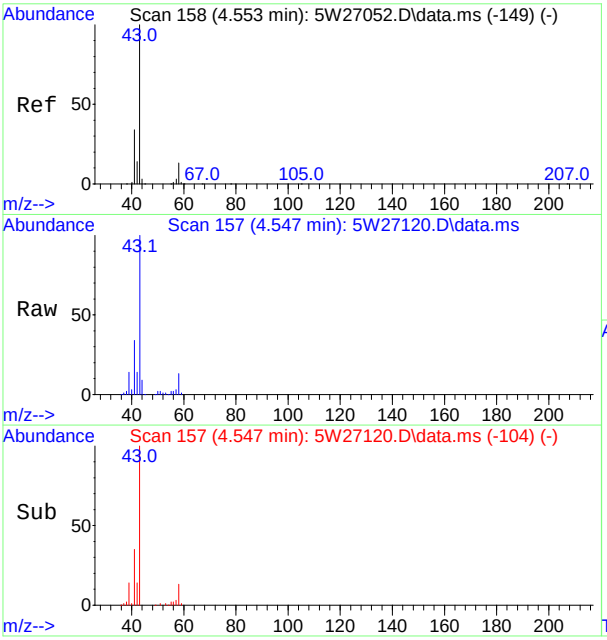


#9
Chloromethane
Concen: 0.77 ppb(v)
RT: 4.241 min Scan# 107
Delta R.T. -0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 50 Resp: 13107

Ion	Ratio	Lower	Upper
50	100		
52	32.0	22.7	42.1

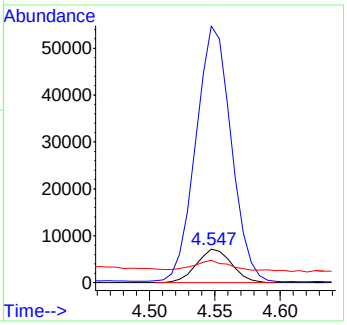


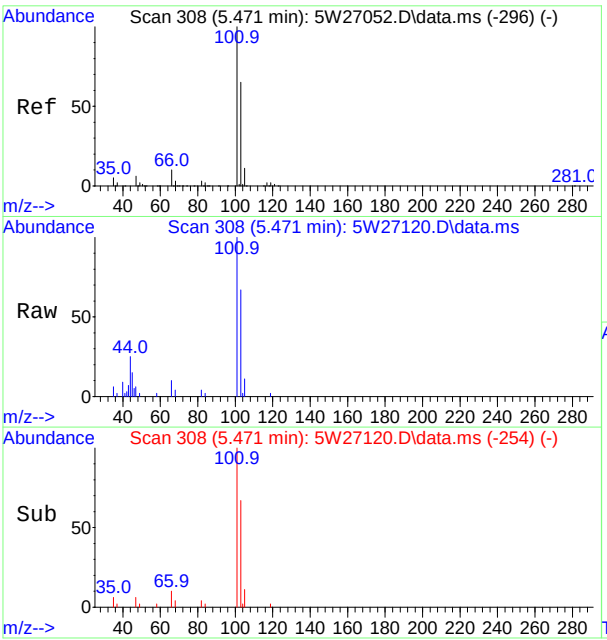


#13
n-Butane
Concen: 5.10 ppb(v)
RT: 4.547 min Scan# 157
Delta R.T. -0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 58 Resp: 13337

Ion	Ratio	Lower	Upper
58	100		
43	765.0	527.9	980.5
44	67.0	25.1	46.7#

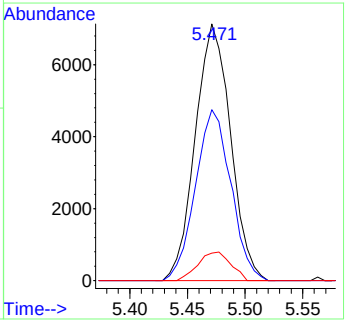




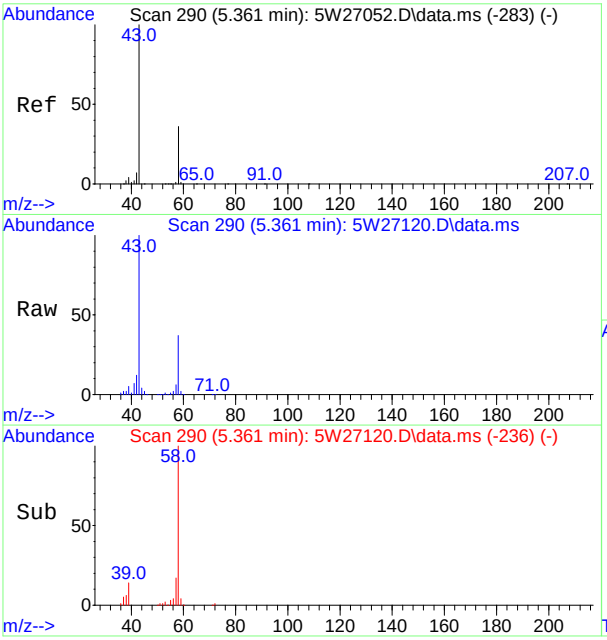
#21
Trichlorofluoromethane
Concen: 0.28 ppb(v)
RT: 5.471 min Scan# 308
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion:101 Resp: 15187

Ion	Ratio	Lower	Upper
101	100		
103	66.5	45.6	84.6
105	10.8	7.5	13.9



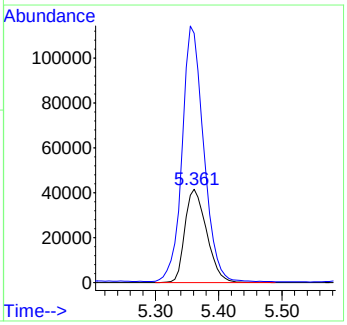
SGS ACCUTEST JC52053

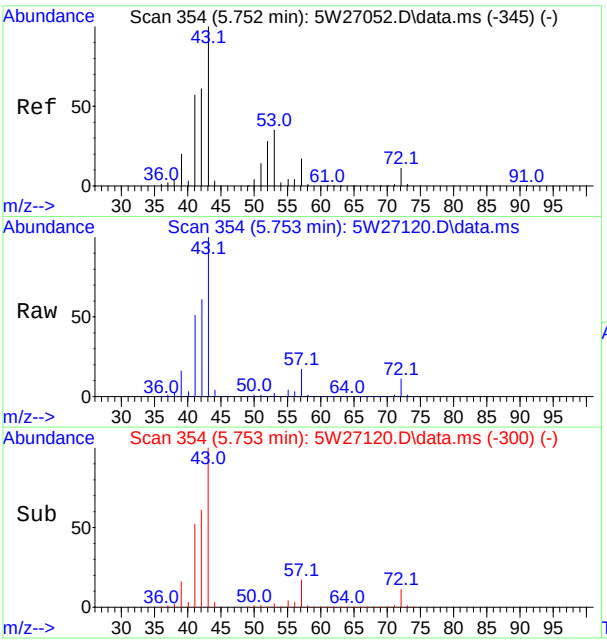


#22
Acetone
Concen: 11.94 ppb(v)
RT: 5.361 min Scan# 290
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 58 Resp: 99325

Ion	Ratio	Lower	Upper
58	100		
43	267.2	194.7	361.5

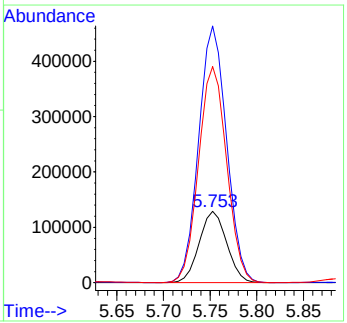


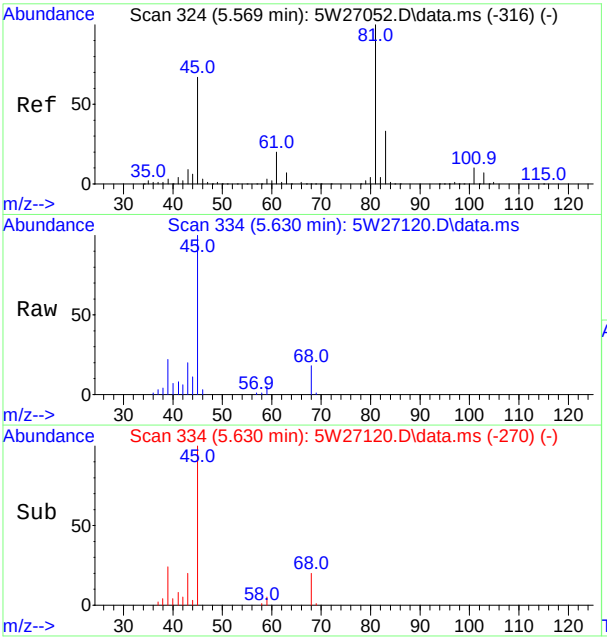


#23
Pentane
Concen: 51.02 ppb(v)
RT: 5.753 min Scan# 354
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 57 Resp: 265688

Ion	Ratio	Lower	Upper
57	100		
42	359.9	249.9	464.1
41	302.8	233.0	432.6

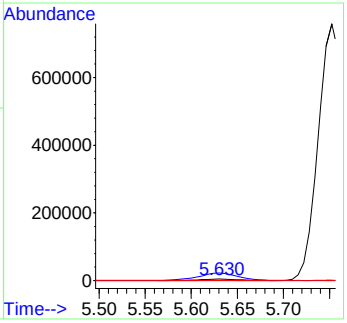


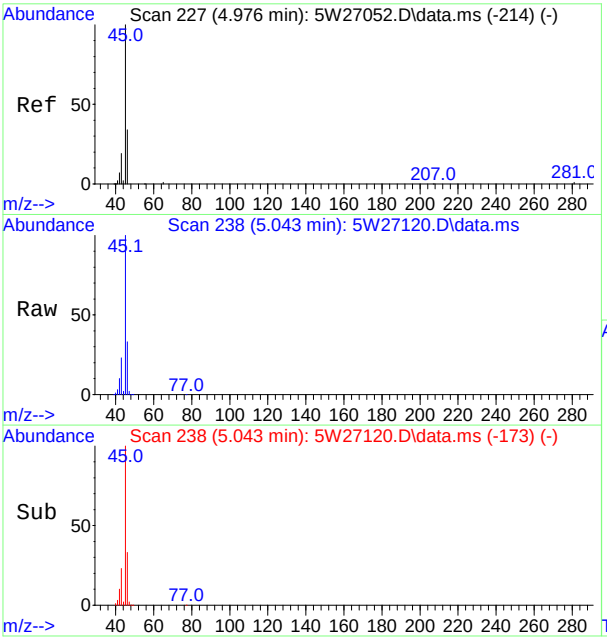


#26
Isopropyl Alcohol
Concen: 2.66 ppb(v) m
RT: 5.630 min Scan# 334
Delta R.T. 0.061 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 43 Resp: 15037

Ion	Ratio	Lower	Upper
43	100		
45	491.3	512.5	951.7#
59	22.9	20.9	38.7

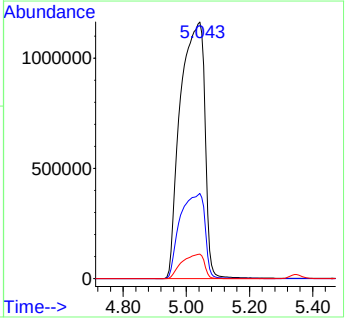


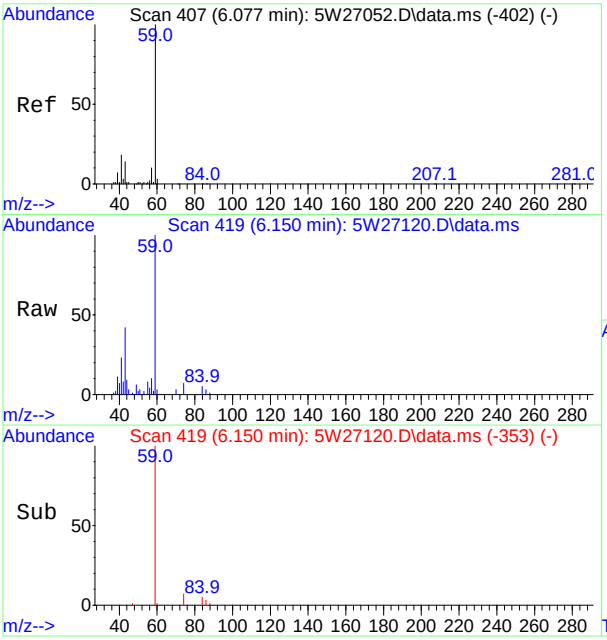


#31
Ethanol
Concen: 1192.59 ppb(v)
RT: 5.043 min Scan# 238
Delta R.T. 0.067 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 45 Resp: 6276695

Ion	Ratio	Lower	Upper
45	100		
46	33.2	23.5	43.7
42	9.5	5.5	10.3

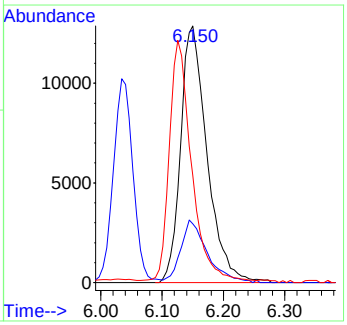


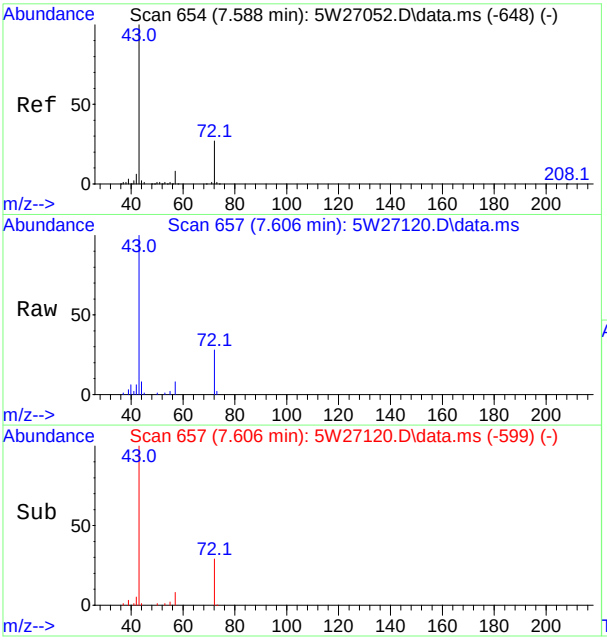


#35
tert-Butyl Alcohol
Concen: 0.86 ppb(v)
RT: 6.150 min Scan# 419
Delta R.T. 0.074 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 59 Resp: 38576

Ion	Ratio	Lower	Upper
59	100		
41	22.9	12.5	23.1
43	41.8	9.7	17.9#

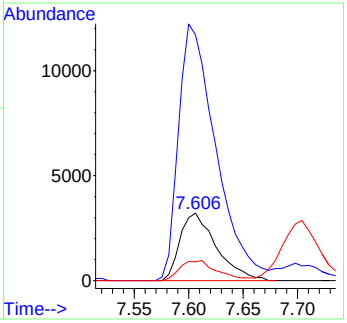


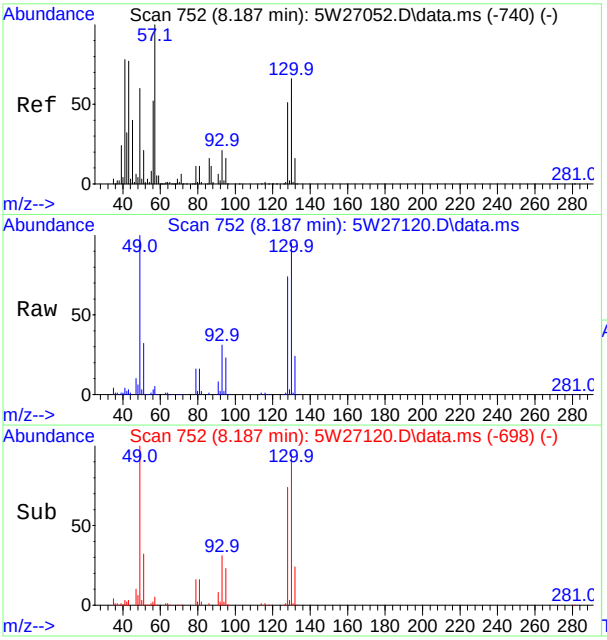


#39
2-Butanone
Concen: 0.74 ppb(v)
RT: 7.606 min Scan# 657
Delta R.T. 0.025 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 72 Resp: 7501

Ion	Ratio	Lower	Upper
72	100		
43	363.5	256.8	476.8
57	28.0	20.4	37.8

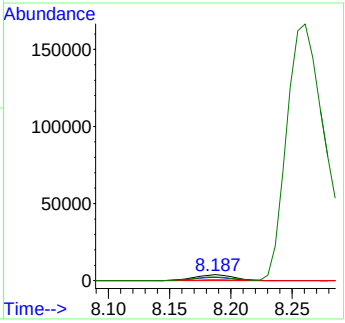


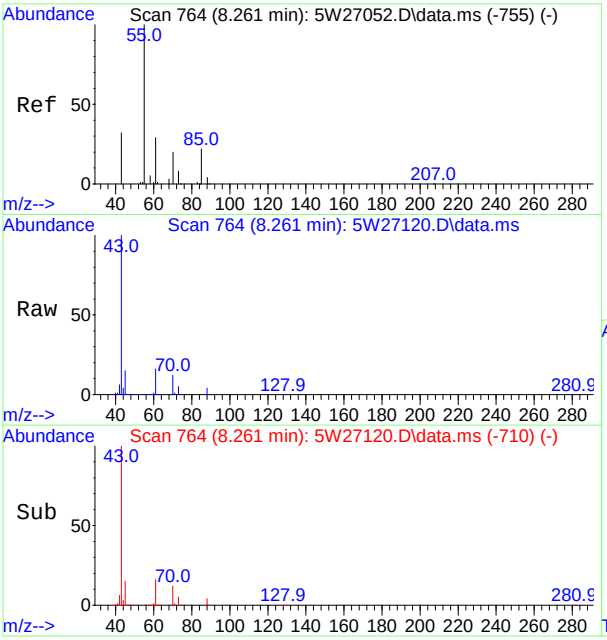


#40
Hexane
Concen: 0.28 ppb(v)
RT: 8.187 min Scan# 752
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 57 Resp: 8523

Ion	Ratio	Lower	Upper
57	100		
56	52.5	36.6	68.0
86	15.4	11.1	20.5
43	60.7	54.2	100.6

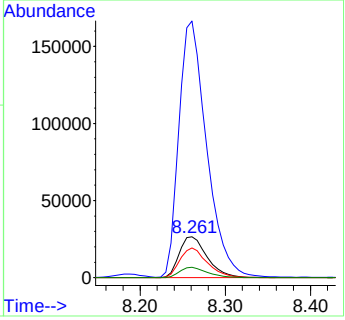


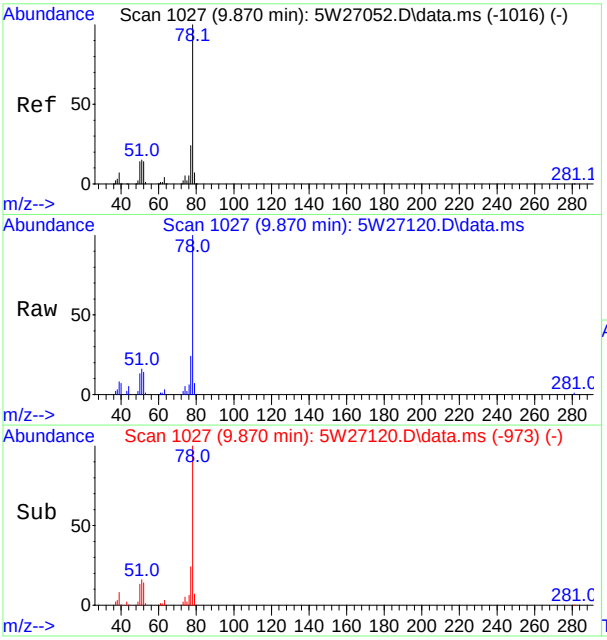


#43
Ethyl Acetate
Concen: 9.16 ppb(v)
RT: 8.261 min Scan# 764
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 61 Resp: 60495

Ion	Ratio	Lower	Upper
61	100		
43	628.5	440.8	818.6
70	72.5	51.7	95.9
88	25.5	19.4	36.0

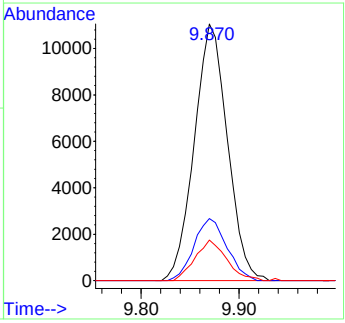


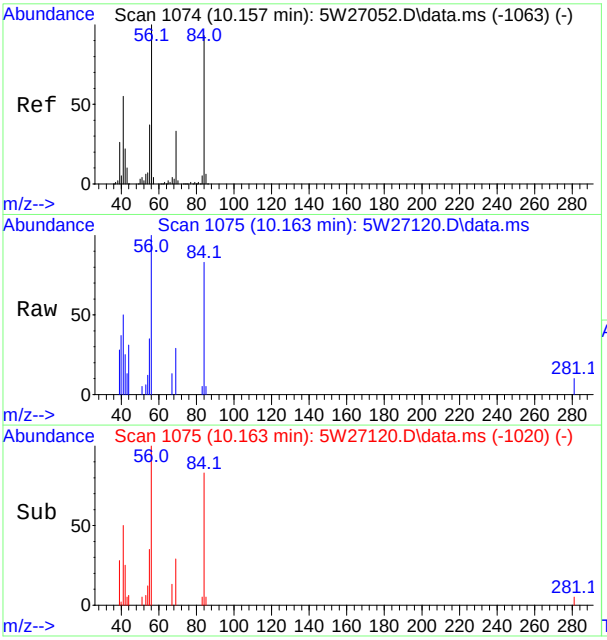


#50
Benzene
Concen: 0.37 ppb(v)
RT: 9.870 min Scan# 1027
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 78 Resp: 26012

Ion	Ratio	Lower	Upper
78	100		
77	24.2	16.8	31.2
51	15.8	10.4	19.4

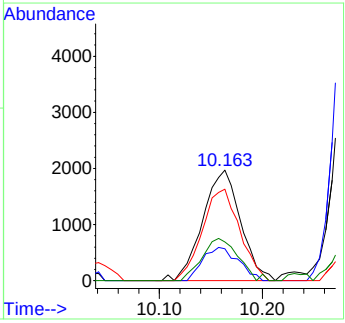


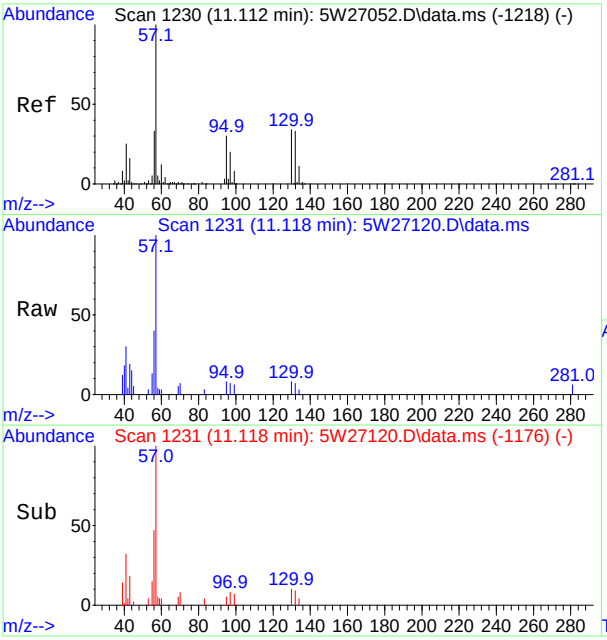


#52
Cyclohexane
Concen: 0.17 ppb(v)
RT: 10.163 min Scan# 1075
Delta R.T. 0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 56 Resp: 5026

Ion	Ratio	Lower	Upper
56	100		
69	28.9	23.2	43.0
84	82.6	65.4	121.4
55	34.9	25.8	48.0

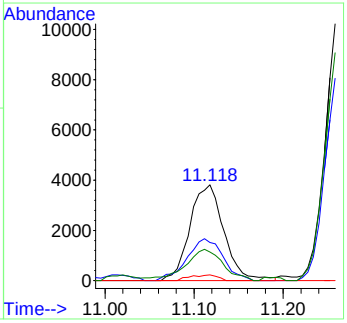


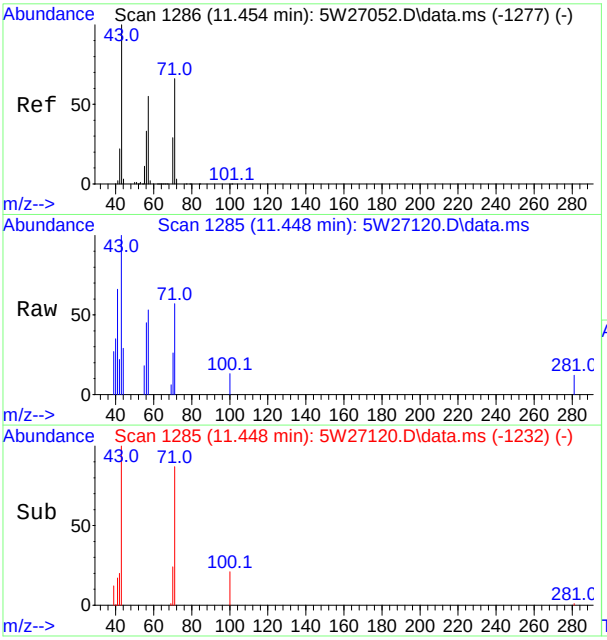


#55
2,2,4-Trimethylpentane
Concen: 0.11 ppb(v)
RT: 11.118 min Scan# 1231
Delta R.T. 0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 57 Resp: 10165

Ion	Ratio	Lower	Upper
57	100		
56	39.8	23.0	42.6
99	6.1	5.8	10.8
41	29.9	17.7	32.9

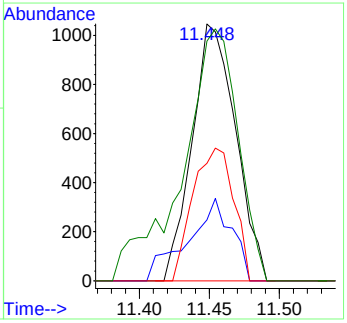


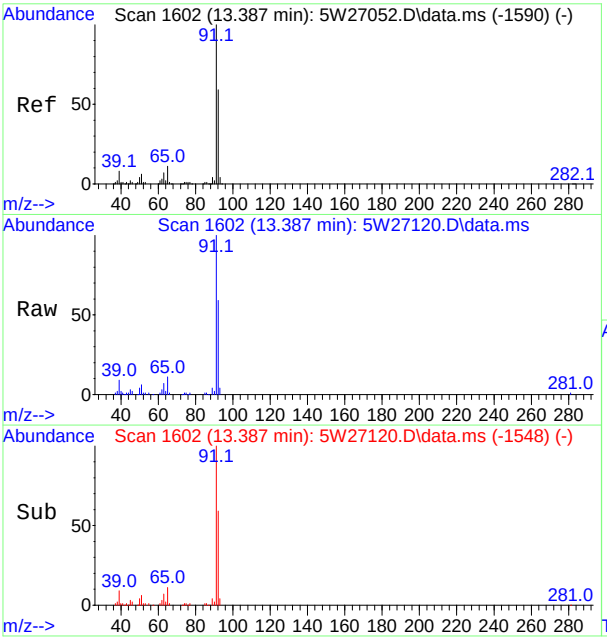


#56
Heptane
Concen: 0.11 ppb(v)
RT: 11.448 min Scan# 1285
Delta R.T. -0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 71 Resp: 2270

Ion	Ratio	Lower	Upper
71	100		
100	23.7	20.1	37.3
70	45.7	34.1	63.3
57	93.3	59.4	110.4

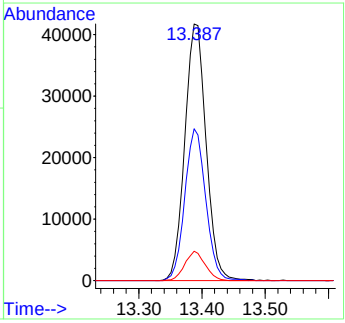


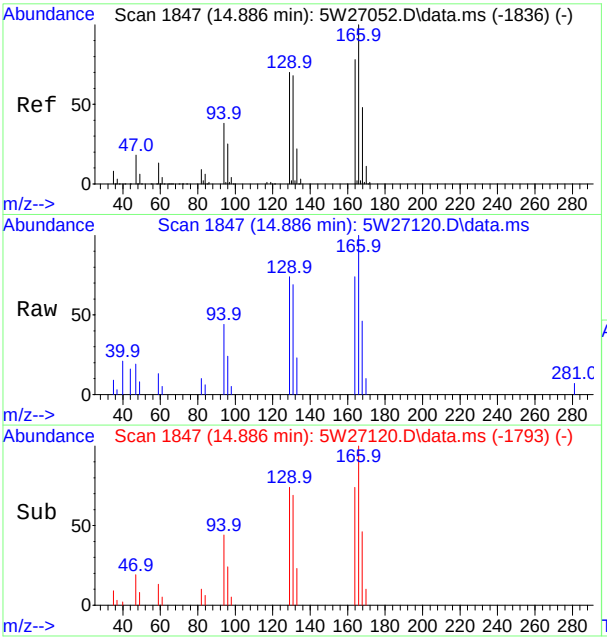


#67
Toluene
Concen: 1.20 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 91 Resp: 97949

Ion	Ratio	Lower	Upper
91	100		
92	59.1	41.4	76.8
65	11.4	7.3	13.7

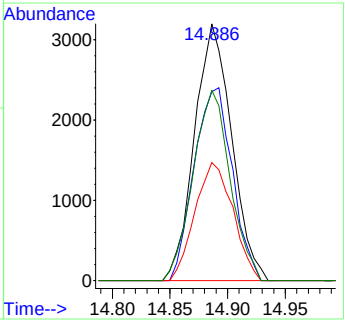


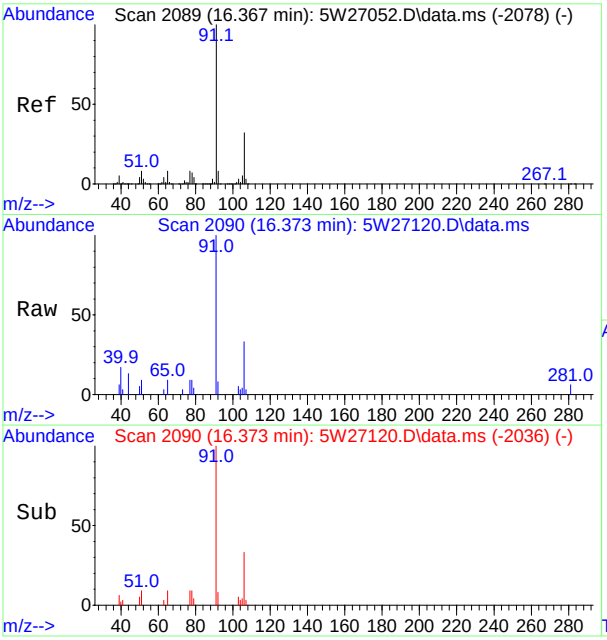


#73
Tetrachloroethene
Concen: 0.14 ppb(v)
RT: 14.886 min Scan# 1847
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion:166 Resp: 7172

Ion	Ratio	Lower	Upper
166	100		
164	73.6	54.5	101.3
168	46.0	33.6	62.4
129	74.1	49.2	91.4

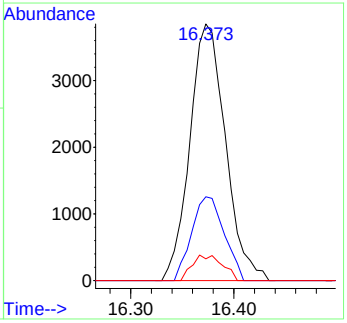


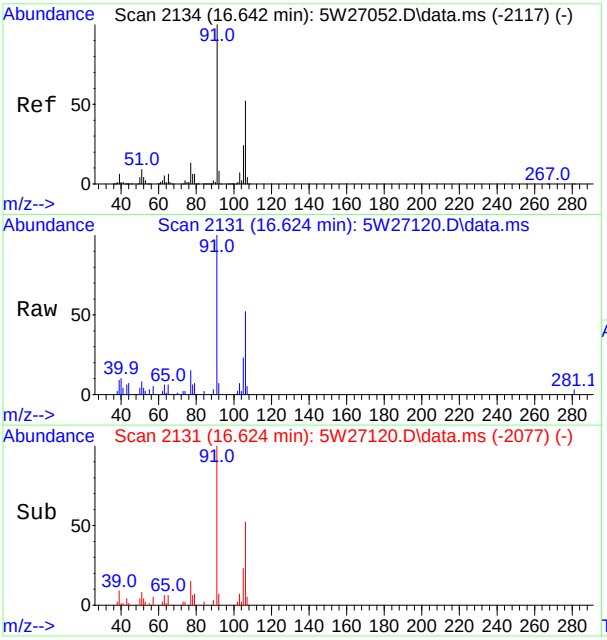


#79
Ethylbenzene
Concen: 0.10 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 91 Resp: 9254

Ion	Ratio	Lower	Upper
91	100		
106	32.7	22.4	41.6
77	8.5	5.7	10.7

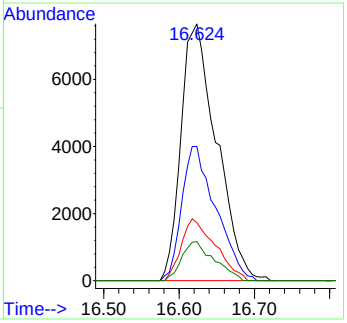




#80
m,p-Xylene
Concen: 0.35 ppb(v)
RT: 16.624 min Scan# 2131
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 91 Resp: 25210

Ion	Ratio	Lower	Upper
91	100		
106	52.3	36.3	67.5
105	22.6	16.4	30.6
77	15.2	8.9	16.5



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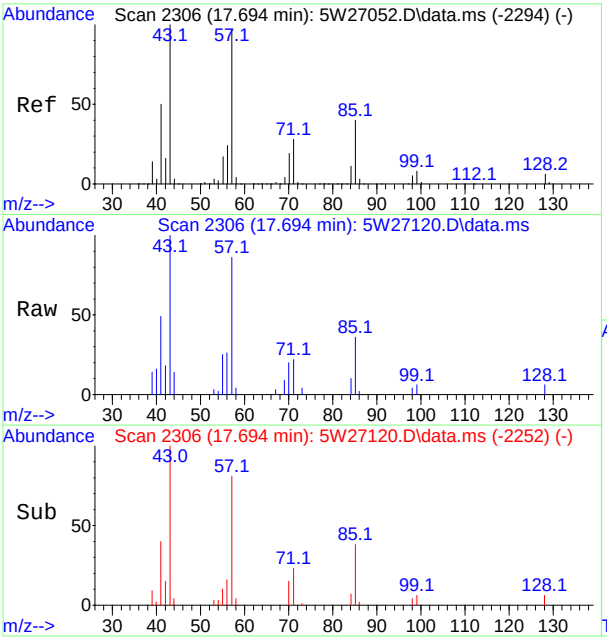
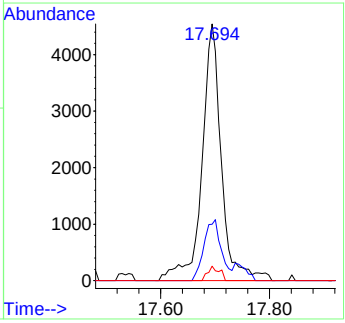
JC52053

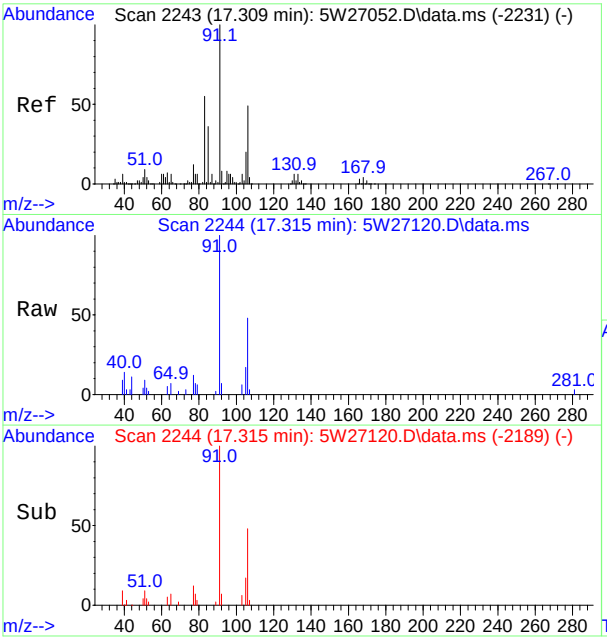


#82
Nonane
Concen: 0.27 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 43 Resp: 11244

Ion	Ratio	Lower	Upper
43	100		
71	22.0	19.3	35.9
128	5.6	4.5	8.3

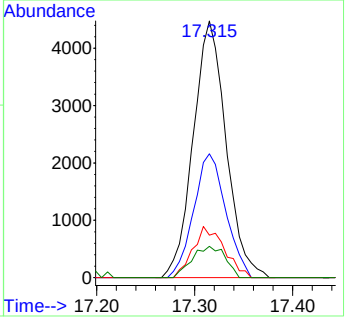


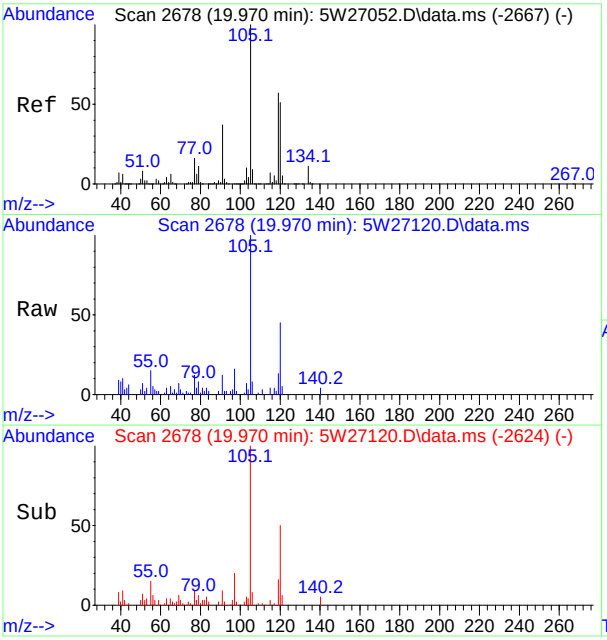


#83
o-Xylene
Concen: 0.15 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion: 91 Resp: 10430

Ion	Ratio	Lower	Upper
91	100		
106	48.2	34.4	64.0
105	16.6	13.7	25.5
77	12.2	8.5	15.7

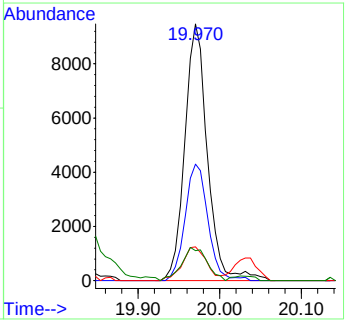


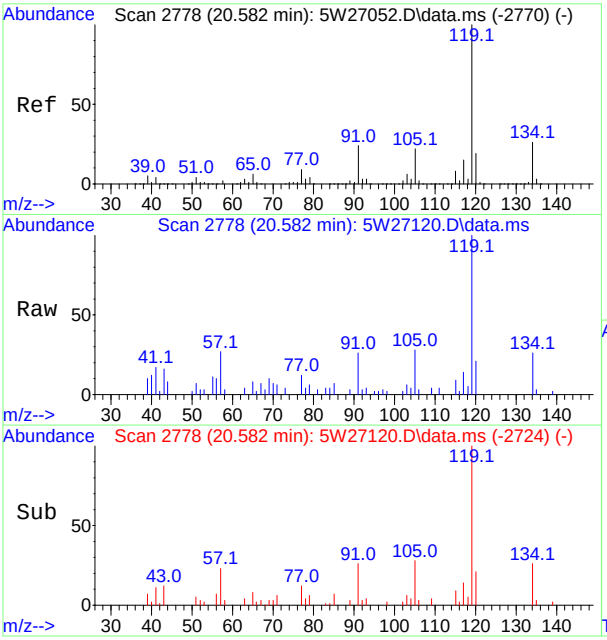


#96
1,2,4-Trimethylbenzene
Concen: 0.23 ppb(v)
RT: 19.970 min Scan# 2678
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion:105 Resp: 18261

Ion	Ratio	Lower	Upper
105	100		
120	45.3	36.0	66.8
119	13.2	40.3	74.8#
77	11.7	11.3	21.1

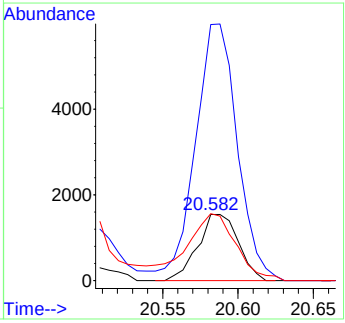


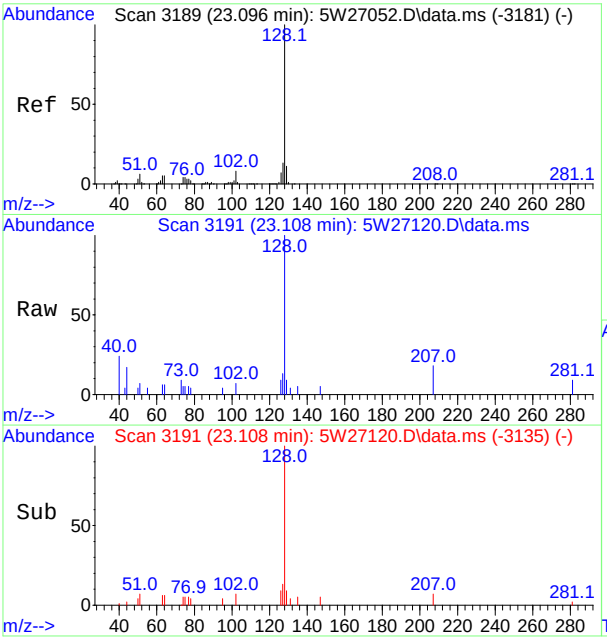


#101
p-Isopropyltoluene
Concen: 0.11 ppb(v)
RT: 20.582 min Scan# 2778
Delta R.T. 0.000 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion:134 Resp: 2881

Ion	Ratio	Lower	Upper
134	100		
119	387.2	272.2	505.6
91	101.4	64.7	120.1

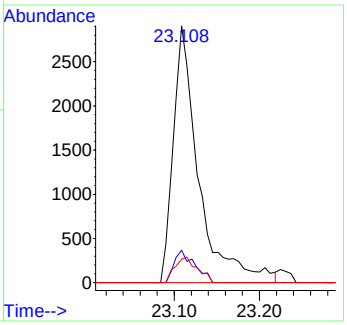




#106
Naphthalene
Concen: 0.21 ppb(v)
RT: 23.108 min Scan# 3191
Delta R.T. 0.012 min
Lab File: 5W27120.D
Acq: 8 Oct 2017 5:08 pm

Tgt Ion:128 Resp: 6023

Ion	Ratio	Lower	Upper
128	100		
127	12.6	8.9	16.5
129	9.2	7.7	14.3



SGS ACCUTEST JC52053

Manual Integration Approval Summary

Sample Number:	JC51796-1DUP	**Method:**	TO-15
Lab FileID:	5W27120.D	**Analyst approved:**	10/09/17 15:32 [redacted]
Injection Time:	10/08/17 17:08	**Supervisor approved:**	10/10/17 13:39

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isopropyl Alcohol	67-63-0		5.63	Missed peak

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60501.D
Acq On : 27 Jun 2017 8:36 pm
Operator : [redacted]
Sample : scc(m254)
Misc : MS16930,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 08:45:38 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	175184	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	755067	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	298845	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	339152	9.32	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 93.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5.1
7

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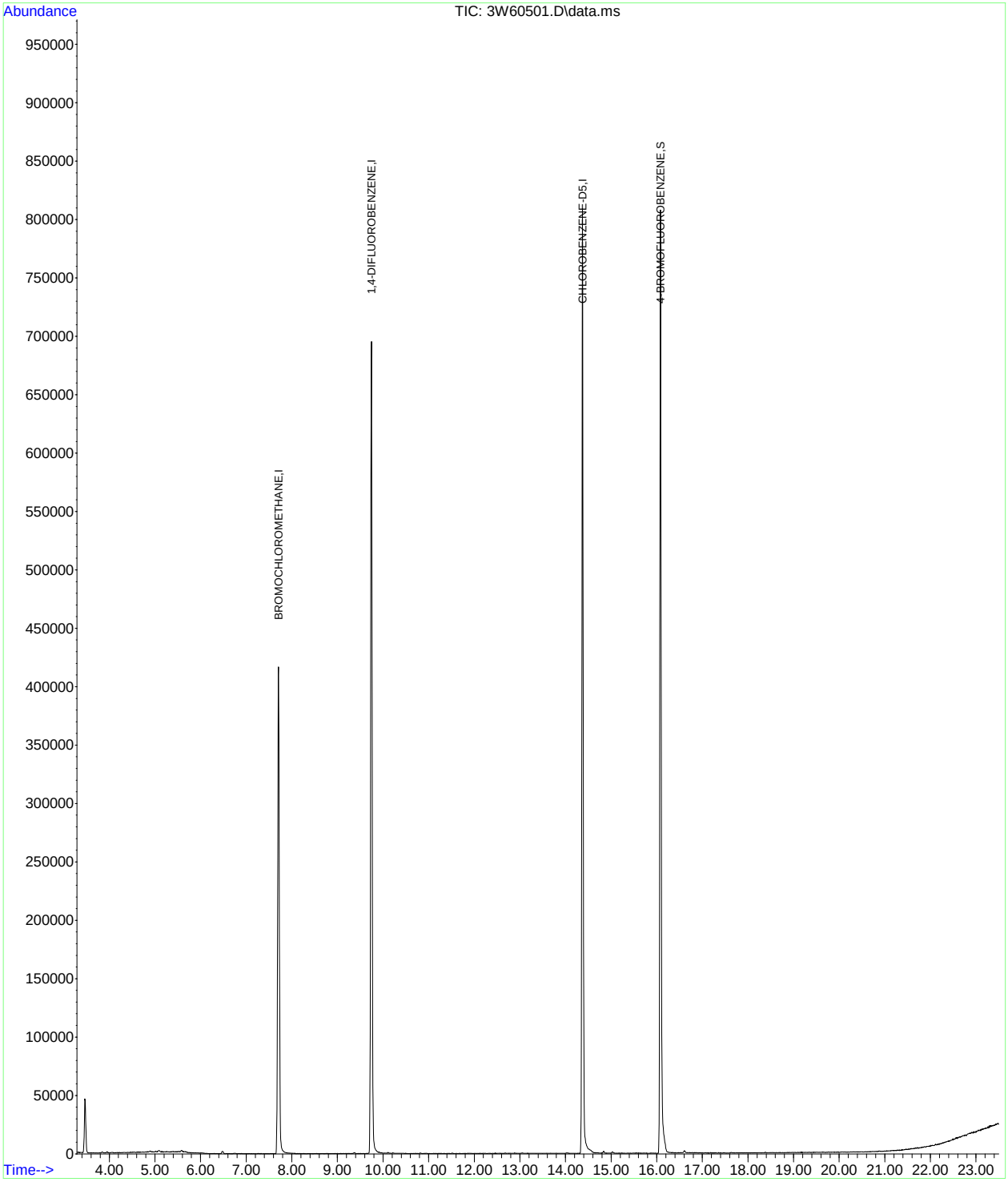
Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60501.D
Acq On : 27 Jun 2017 8:36 pm
Operator : [redacted]
Sample : scc(m254)
Misc : MS16930,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 08:45:38 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26759.D
Acq On : 19 Sep 2017 11:59 pm
Operator : [redacted]
Sample : scc(a864)
Misc : MS19739,v5w1051,,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 20 09:27:02 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	127758	10.00	ppb(v	# 0.05
54) 1,4-Difluorobenzene	10.286	114	437460	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	199886	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	127758	10.00	ppb(v	# 0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	240093	9.15	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 91.50%			
Target Compounds						Qvalue

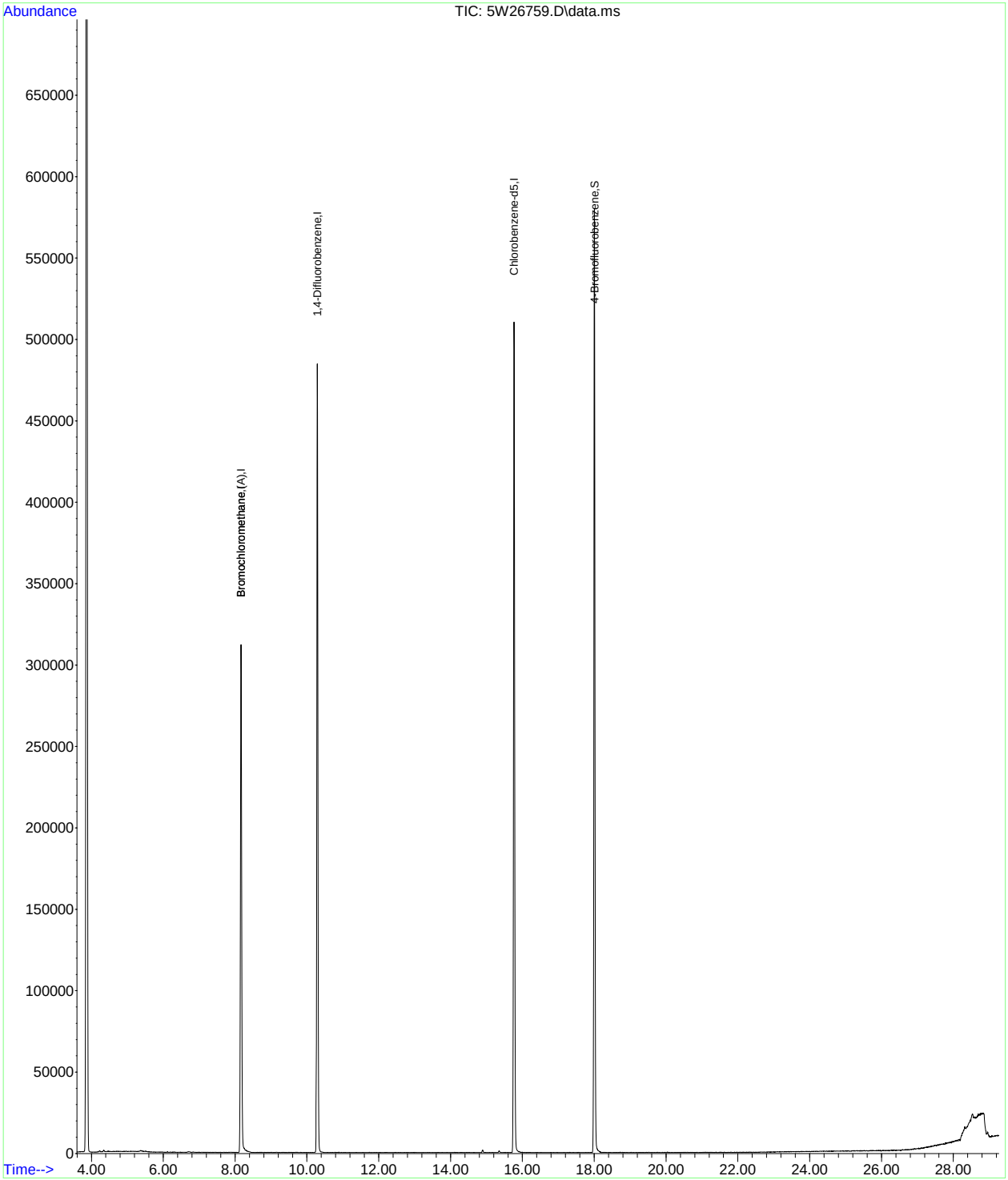
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26759.D
Acq On : 19 Sep 2017 11:59 pm
Operator : [redacted]
Sample : scc(a864)
Misc : MS19739,v5w1051,,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 20 09:27:02 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26768.D
Acq On : 20 Sep 2017 6:58 am
Operator : [redacted]
Sample : scc(m258)
Misc : MS20264,v5w1051,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 20 09:26:05 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

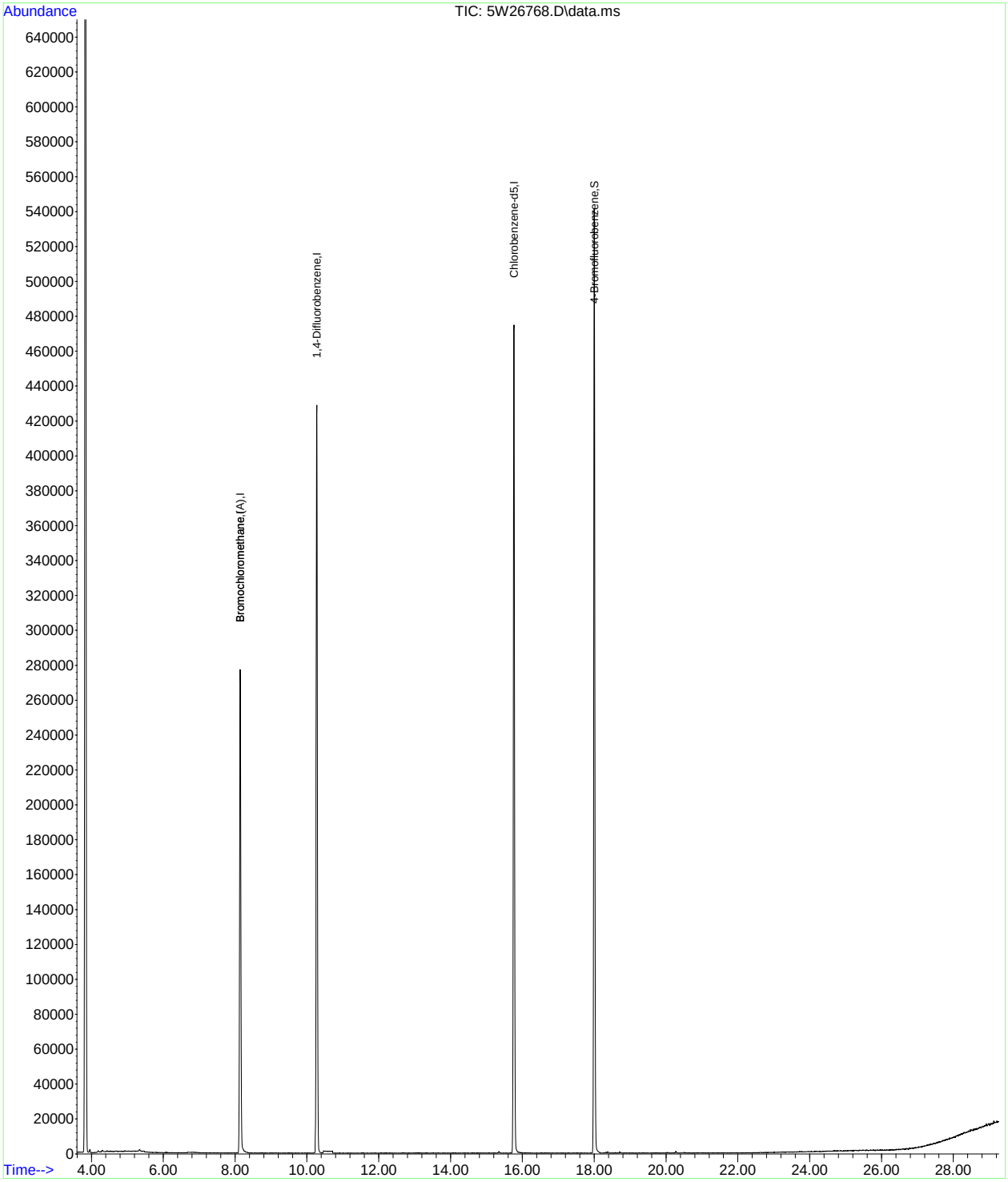
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.138	130	130860	10.00	ppb(v	0.02
54) 1,4-Difluorobenzene	10.273	114	436102	10.00	ppb(v	0.01
77) Chlorobenzene-d5	15.767	82	192428	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.138	130	130860	10.00	ppb(v	0.02
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	239228	9.47	ppb(v	-0.02
Spiked Amount 10.000	Range 65 - 128		Recovery = 94.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26768.D
Acq On : 20 Sep 2017 6:58 am
Operator : [redacted]
Sample : scc(m258)
Misc : MS20264,v5w1051,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 20 09:26:05 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26816.D
Acq On : 22 Sep 2017 1:59 am
Operator : [redacted]
Sample : scc(a1151)
Misc : MS19983,v5w1053,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 22 09:05:43 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	132580	10.00	ppb(v	0.05
54) 1,4-Difluorobenzene	10.286	114	450268	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	195357	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	132580	10.00	ppb(v	0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	248160	9.68	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 96.80%			
Target Compounds						Qvalue

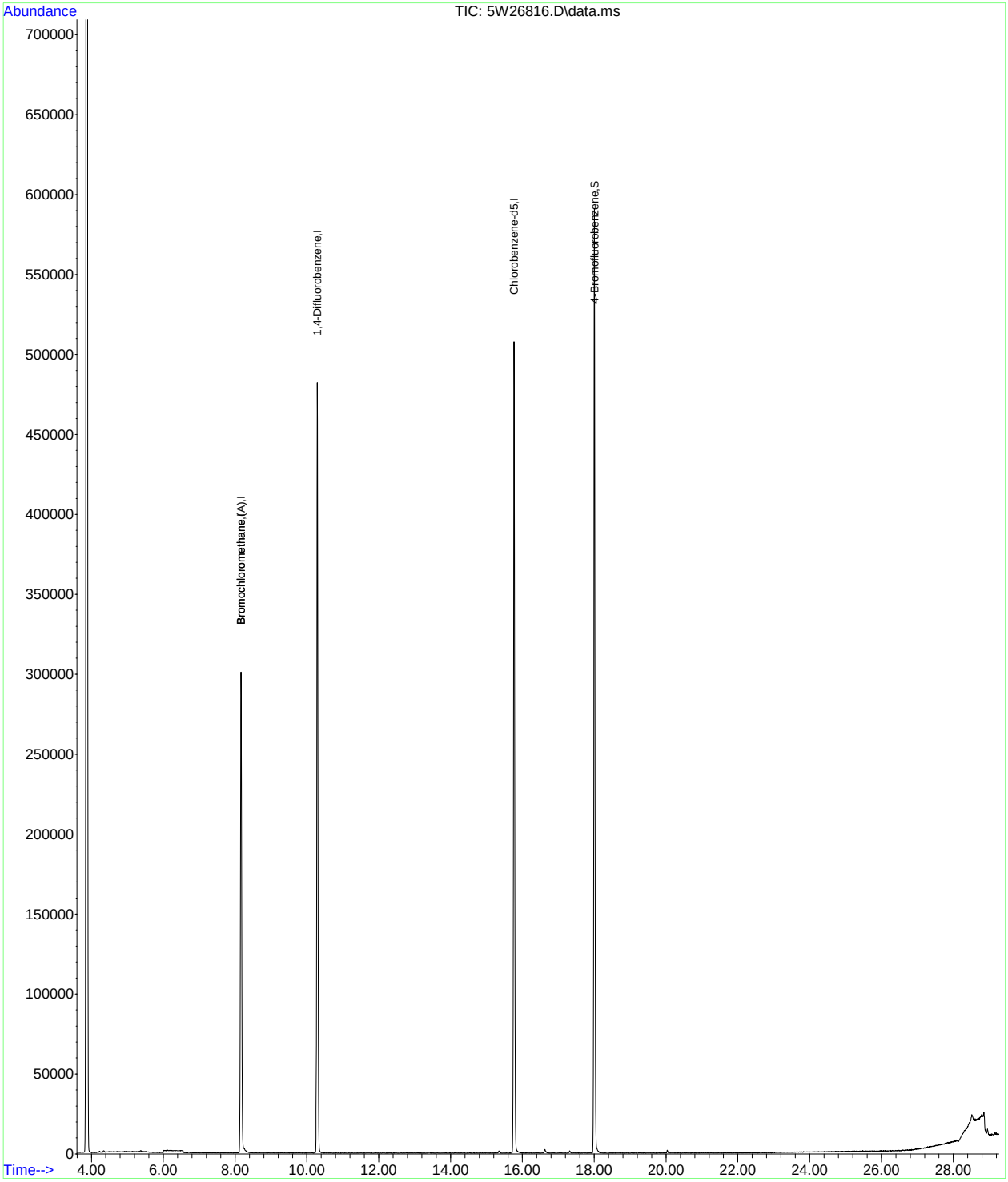
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26816.D
Acq On : 22 Sep 2017 1:59 am
Operator : [redacted]
Sample : scc(a1151)
Misc : MS19983,v5w1053,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 22 09:05:43 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26820.D
Acq On : 22 Sep 2017 5:04 am
Operator : [redacted]
Sample : scc(a806)
Misc : MS20158,v5w1053,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 22 09:06:20 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	121178	10.00	ppb(v	# 0.05
54) 1,4-Difluorobenzene	10.286	114	421026	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	193929	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	121178	10.00	ppb(v	# 0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	242513	9.53	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.30%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5.5

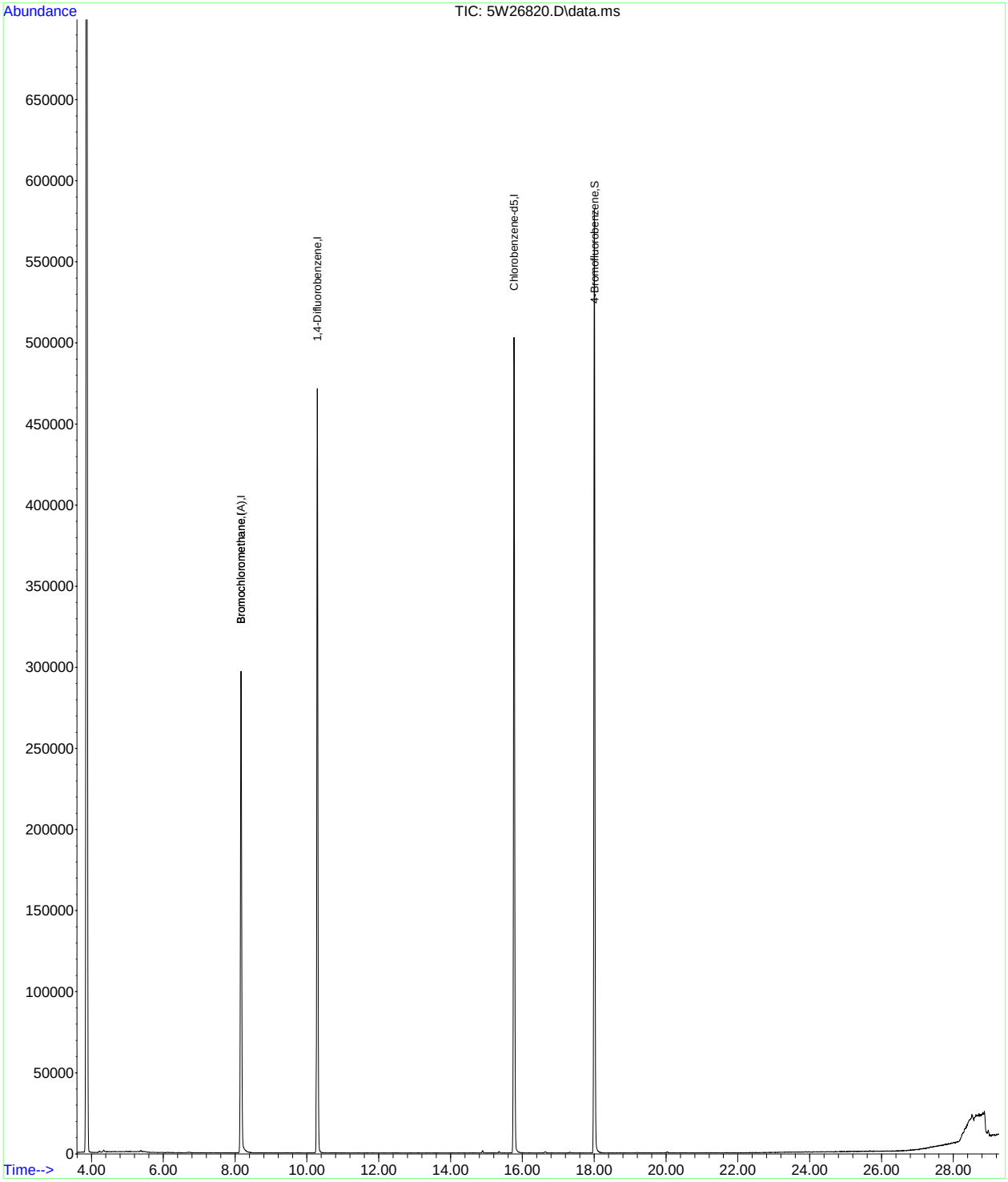
7

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26820.D
Acq On : 22 Sep 2017 5:04 am
Operator : [redacted]
Sample : scc(a806)
Misc : MS20158,v5w1053,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 22 09:06:20 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

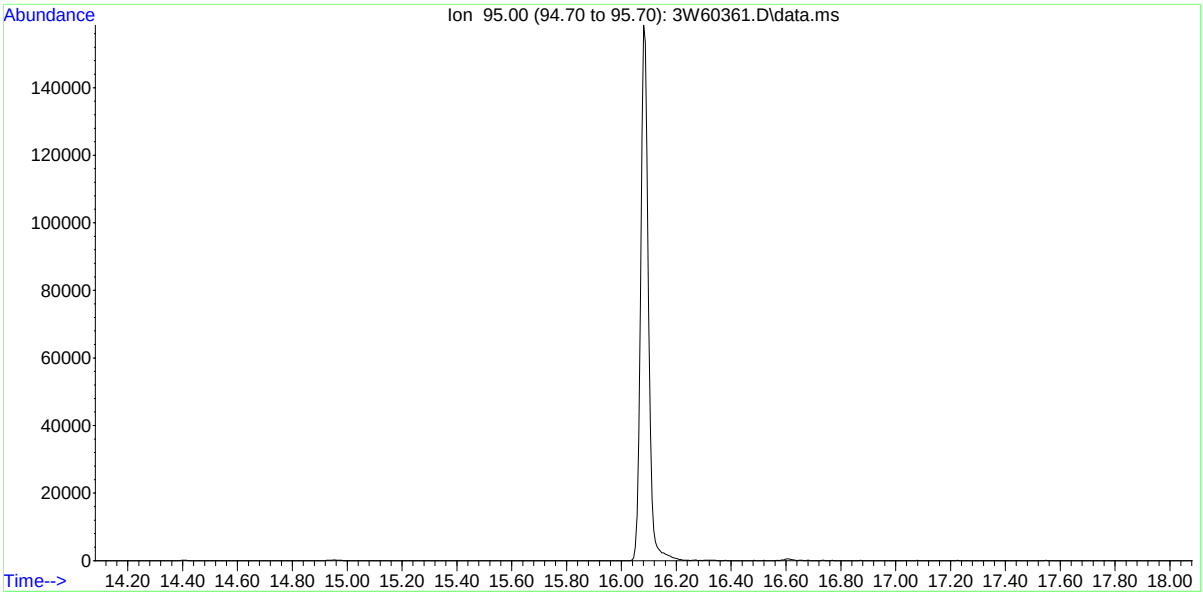


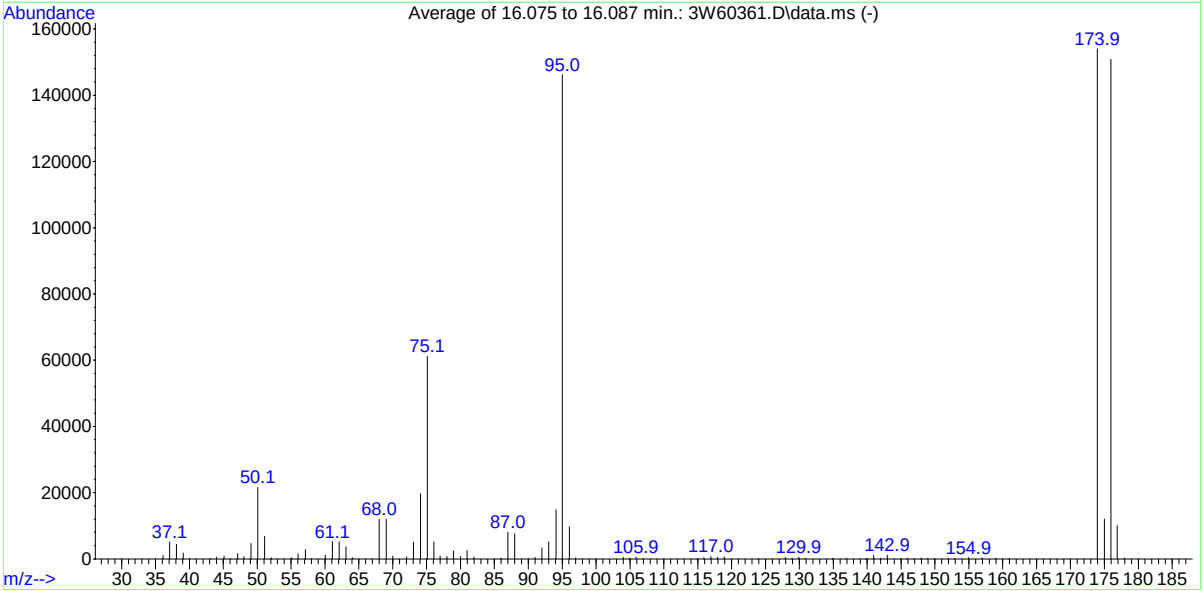
SGS ACCUTEST JC52053

BFB

Data File : [redacted]1\DATA\3W60361.D Vial: 1
Acq On : 21 Jun 2017 12:13 pm Operator: [redacted]
Sample : bfb Inst : GCMS3W
Misc : MS16663,V3W2293,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um





AutoFind: Scans 2103, 2104, 2105; Background Corrected with Scan 2094

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.8	21597	PASS
75	95	30	66	41.8	61213	PASS
95	95	100	100	100.0	146269	PASS
96	95	5	9	6.6	9651	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.3	154019	PASS
175	174	4	9	7.8	12052	PASS
176	174	93	101	97.9	150840	PASS
177	176	5	9	6.7	10053	PASS

3W60361.D M3W2293.M Thu Jun 22 10:28:30 2017 GCMS6W

SGS ACCUTEST JC52053

Average of 16.075 to 16.087 min.: 3W60361.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	1014	49.10	4628	63.10	3660	78.00	709
37.10	5162	50.10	21597	64.10	358	78.95	2467
38.10	4385	51.10	6794	68.00	11967	80.00	726
39.10	1803	52.10	310	69.05	11968	80.95	2472
40.05	138	55.10	374	70.00	906	81.95	507
43.15	79	56.05	1542	72.05	627	86.00	194
44.00	564	57.10	2832	73.05	5088	87.00	7994
45.10	890	58.05	130	74.10	19661	88.00	7605
46.10	35	60.05	1072	75.10	61213	91.00	475
47.10	1632	61.10	5238	76.05	5172	92.00	3345
48.05	695	62.10	5155	77.00	879	93.00	5166

Average of 16.075 to 16.087 min.: 3W60361.D\data.ms
bfb
Modified:subtracted

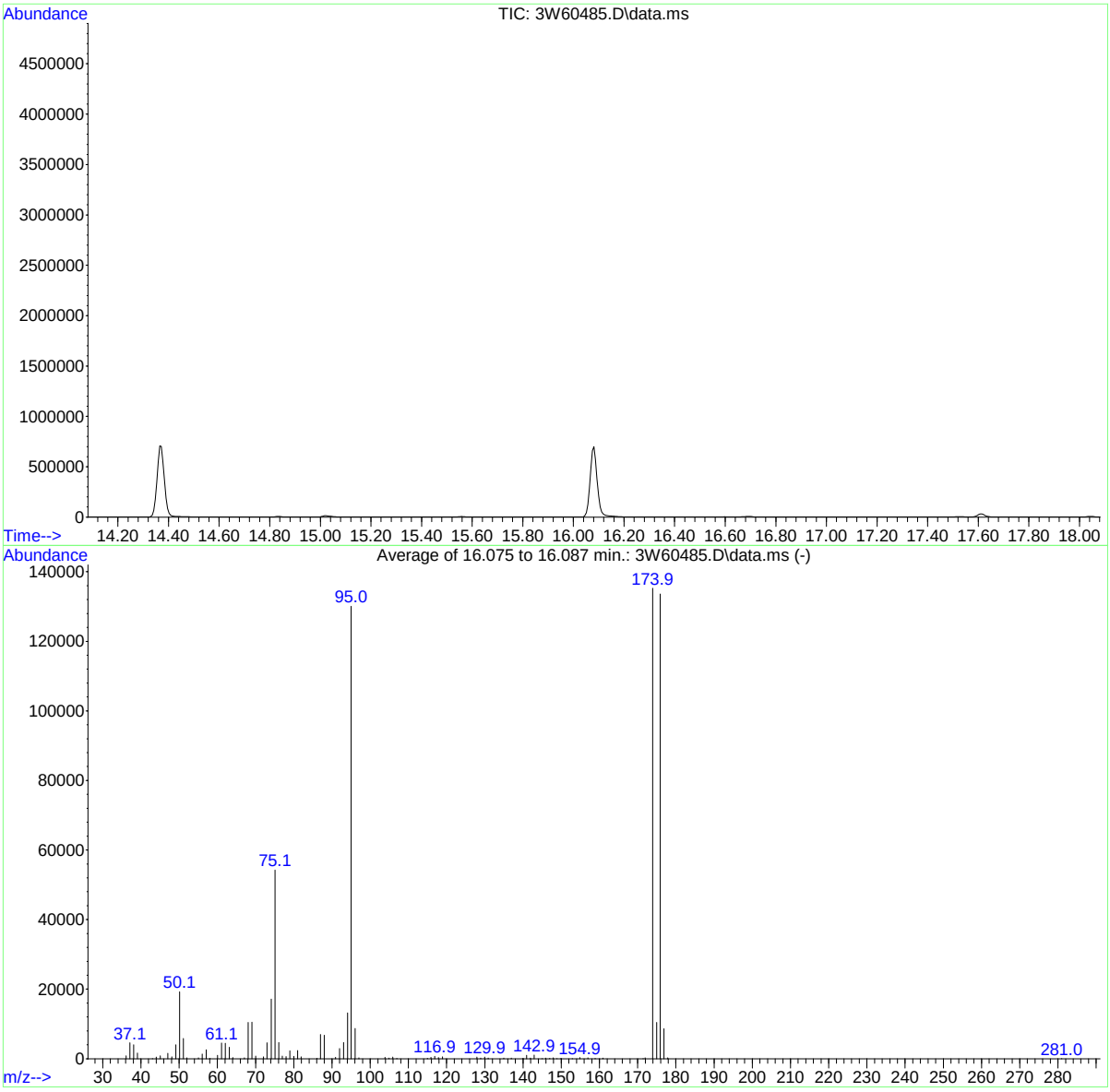
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	14823	117.90	467	140.95	1053	154.95	379
95.00	146269	118.90	644	142.00	173	156.95	294
96.05	9651	123.90	35	142.95	1082	158.95	173
97.00	311	127.90	487	144.90	40	160.95	162
104.00	490	128.90	242	145.90	189	173.95	154019
104.95	183	129.90	532	146.90	81	175.00	12052
105.90	499	130.85	193	147.95	332	175.95	150840
106.95	135	134.90	179	148.90	36	176.90	10053
114.95	133	136.90	213	149.90	152	177.95	273
115.90	415	139.80	39	151.90	36		
116.95	738	140.00	79	152.90	79		

SGS ACCUTEST
JC52053

BFB

Data File : [redacted]1\DATA\3W60485.D Vial: 1
Acq On : 27 Jun 2017 8:55 am Operator: [redacted]
Sample : bfb Inst : GCMS3W
Misc : MS16797,V3W2298,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um



AutoFind: Scans 2103, 2104, 2105; Background Corrected with Scan 2094

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.8	19228	PASS
75	95	30	66	41.7	54269	PASS
95	95	100	100	100.0	130085	PASS
96	95	5	9	6.7	8675	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	104.0	135259	PASS
175	174	4	9	7.7	10420	PASS
176	174	93	101	98.8	133640	PASS
177	176	5	9	6.5	8621	PASS

3W60485.D M3W2293.M Tue Jun 27 16:59:42 2017 GCMS6W

Average of 16.075 to 16.087 min.: 3W60485.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	821	51.10	5843	67.05	238	78.95	2289
37.10	4613	52.05	252	68.05	10458	80.00	725
38.10	4001	55.05	275	69.05	10522	81.00	2320
39.10	1607	56.05	1335	70.05	782	81.95	527
43.00	35	57.10	2529	72.05	561	86.05	116
44.00	456	58.05	137	73.00	4587	87.00	6976
45.05	815	60.05	991	74.10	17138	88.00	6757
47.05	1586	61.10	4495	75.10	54269	90.95	377
48.05	544	62.10	4431	76.05	4658	92.00	2901
49.10	4001	63.10	3304	77.00	730	93.00	4643
50.10	19228	64.05	301	77.95	601	94.05	13180

Average of 16.075 to 16.087 min.: 3W60485.D\data.ms
bfb
Modified:subtracted

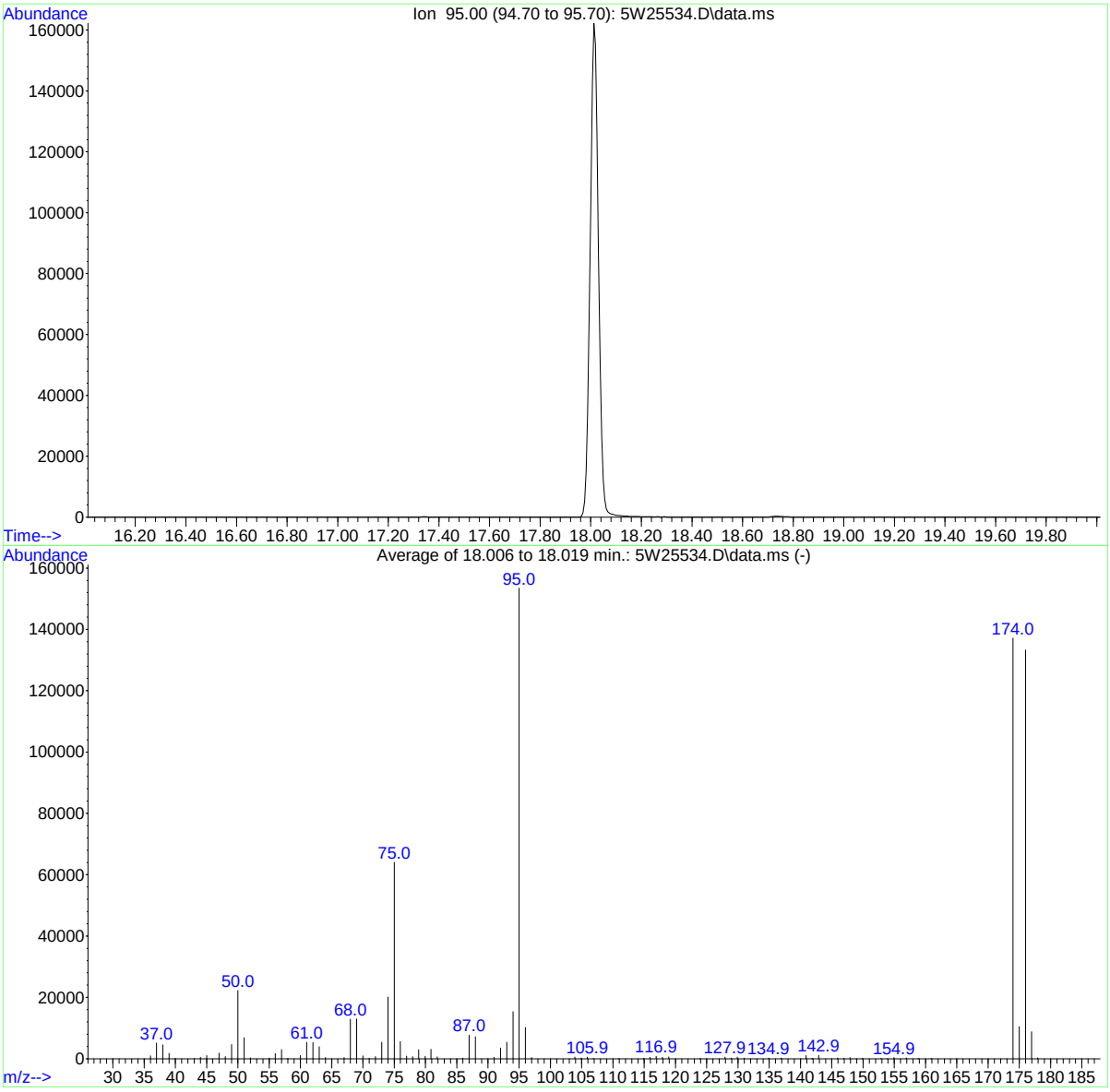
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	130085	118.90	580	142.90	1076	160.90	158
96.05	8675	127.90	477	145.00	37	171.40	42
97.05	262	128.90	201	145.90	202	171.95	233
103.90	422	129.95	504	146.95	130	173.90	135259
104.90	173	130.90	158	147.90	284	175.00	10420
105.90	464	134.95	162	148.90	37	175.90	133640
106.95	83	136.90	203	149.95	117	176.90	8621
114.95	113	139.90	45	152.90	74	177.90	258
115.90	399	140.10	42	154.90	336	281.00	37
116.90	697	140.95	1000	156.95	235		
117.90	367	141.90	156	158.90	151		

BFB

Data File : [redacted]1\data\5W25534.D
Acq On : 26 Jul 2017 7:23 pm
Sample : bfb
Misc : MS18215,v5w1007,,,,,1
MS Integration Params: Rteint.p

Vial: 1
Operator: [redacted]
Inst : A1r5w
Multiplr: 1.00

Method : [redacted]1\methods\m5w1007.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2357, 2358, 2359; Background Corrected with Scan 2347

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.5	22253	PASS
75	95	30	66	41.8	64083	PASS
95	95	100	100	100.0	153408	PASS
96	95	5	9	6.6	10164	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	89.4	137104	PASS
175	174	4	9	7.6	10471	PASS
176	174	93	101	97.2	133256	PASS
177	176	5	9	6.6	8775	PASS

5W25534.D m5w1007.M Thu Jul 27 12:07:42 2017
1211

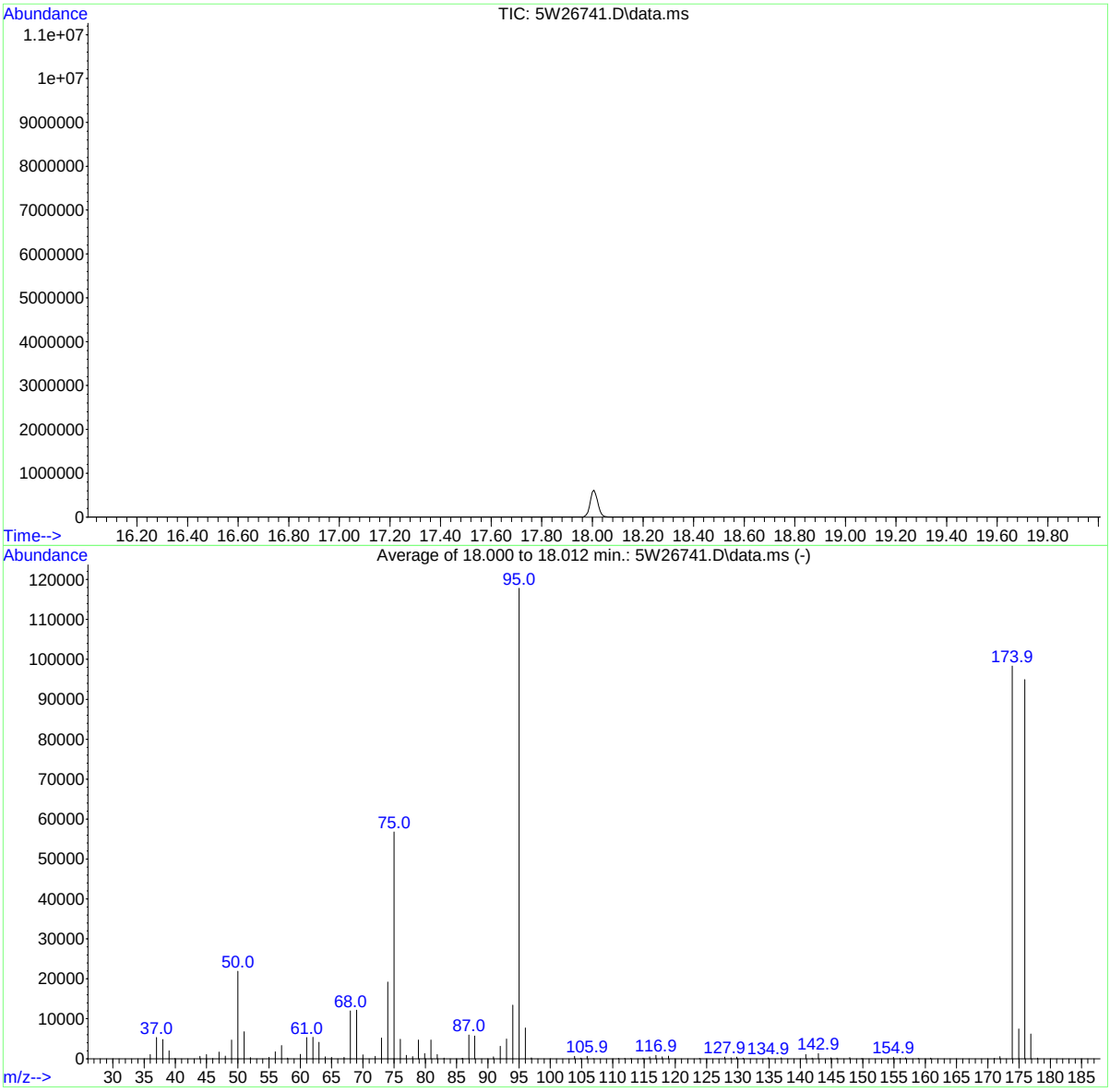
SGS ACCUTEST JC52053

BFB

Data File : [redacted]1\data\5W26741.D
Acq On : 19 Sep 2017 9:01 am
Sample : bfb
Misc : MS20160,v5w1051,,,,,1
MS Integration Params: Rteint.p

Vial: 1
Operator: [redacted]
Inst : A1r5w
Multiplr: 1.00

Method : [redacted]1\methods\m5w1007.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2356, 2357, 2358; Background Corrected with Scan 2346

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	21899	PASS
75	95	30	66	48.2	56813	PASS
95	95	100	100	100.0	117805	PASS
96	95	5	9	6.6	7723	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	83.5	98325	PASS
175	174	4	9	7.6	7472	PASS
176	174	93	101	96.6	94960	PASS
177	176	5	9	6.5	6172	PASS

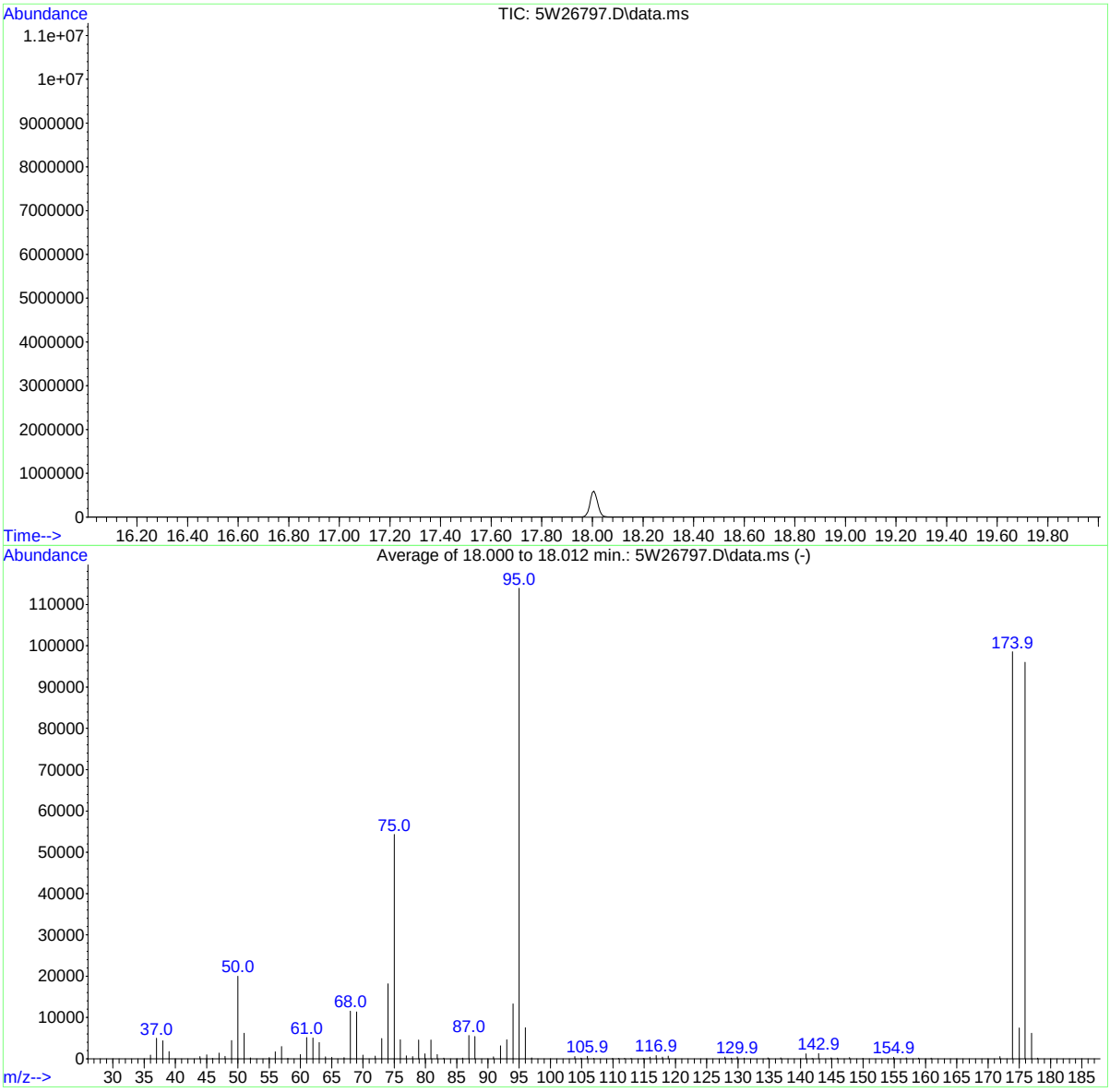
5W26741.D m5w1007.M Tue Sep 19 12:06:57 2017
1212

SGS ACCUTEST JC52053

BFB

Data File : [redacted]1\data\5W26797.D Vial: 1
Acq On : 21 Sep 2017 8:58 am Operator: [redacted]
Sample : bfb Inst : A1r5w
Misc : MS20248,v5w1053,,,,,1 Multiplr: 1.00
MS Integration Params: Rteint.p

Method : [redacted]1\methods\m5w1007.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2356, 2357, 2358; Background Corrected with Scan 2346

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.5	19952	PASS
75	95	30	66	47.7	54323	PASS
95	95	100	100	100.0	113936	PASS
96	95	5	9	6.6	7521	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	86.5	98587	PASS
175	174	4	9	7.5	7439	PASS
176	174	93	101	97.4	96013	PASS
177	176	5	9	6.4	6171	PASS

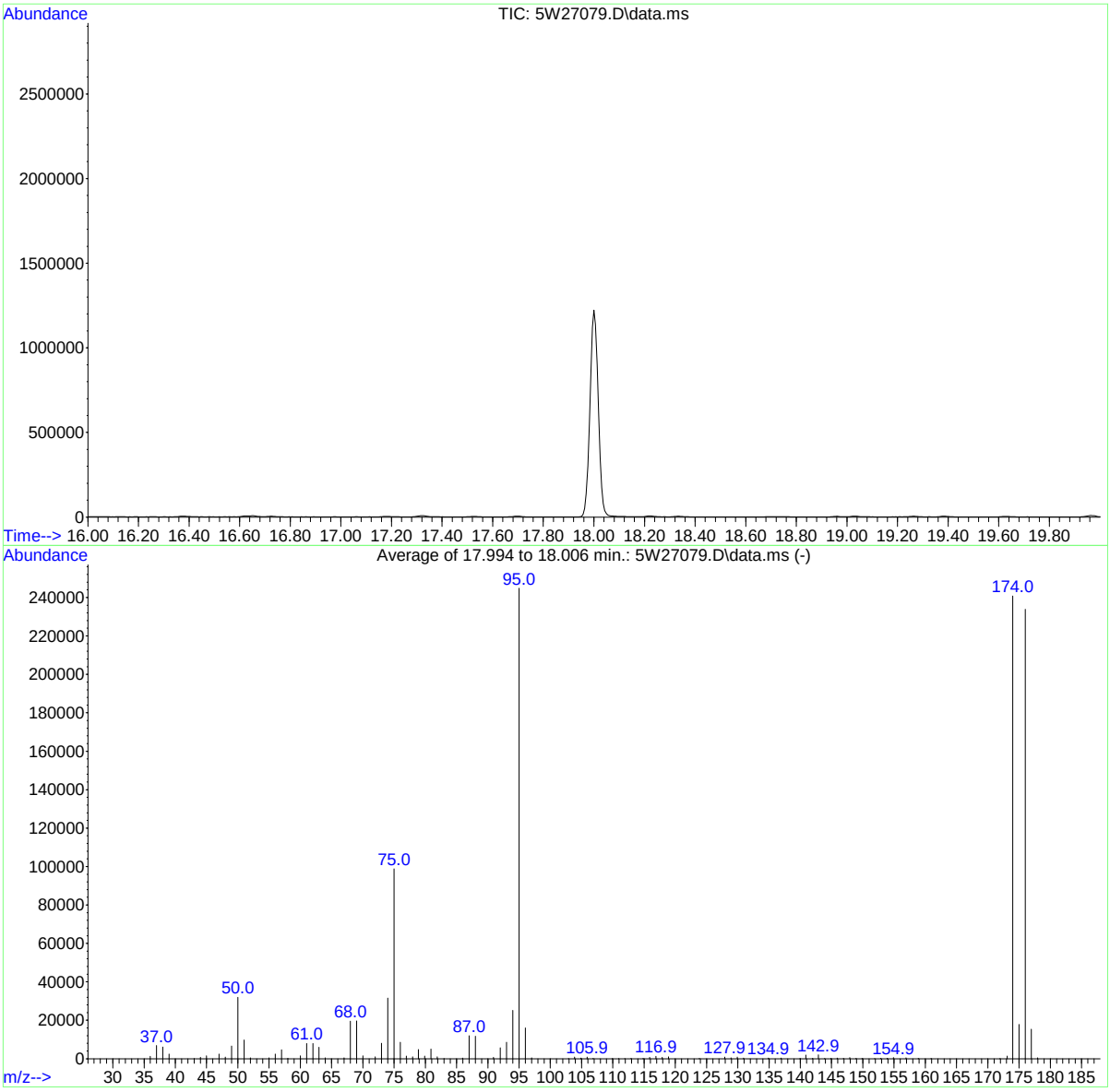
5W26797.D m5w1007.M Thu Sep 21 12:57:36 2017

BFB

Data File : [redacted]1\data\5W27079.D
Acq On : 6 Oct 2017 12:05 pm
Sample : bfb
Misc : MS20430,v5w1065,,,,,1
MS Integration Params: Rteint.p

Vial: 1
Operator: [redacted]
Inst : A1r5w
Multiplr: 1.00

Method : [redacted]1\methods\m5w1065.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2355, 2356, 2357; Background Corrected with Scan 2344

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.0	31941	PASS
75	95	30	66	40.4	98781	PASS
95	95	100	100	100.0	244800	PASS
96	95	5	9	6.6	16052	PASS
173	174	0.00	2	0.6	1412	PASS
174	95	50	120	98.4	240832	PASS
175	174	4	9	7.4	17781	PASS
176	174	93	101	97.1	233813	PASS
177	176	5	9	6.5	15298	PASS

5W27079.D m5w1065.M Sat Oct 07 09:16:28 2017
1214

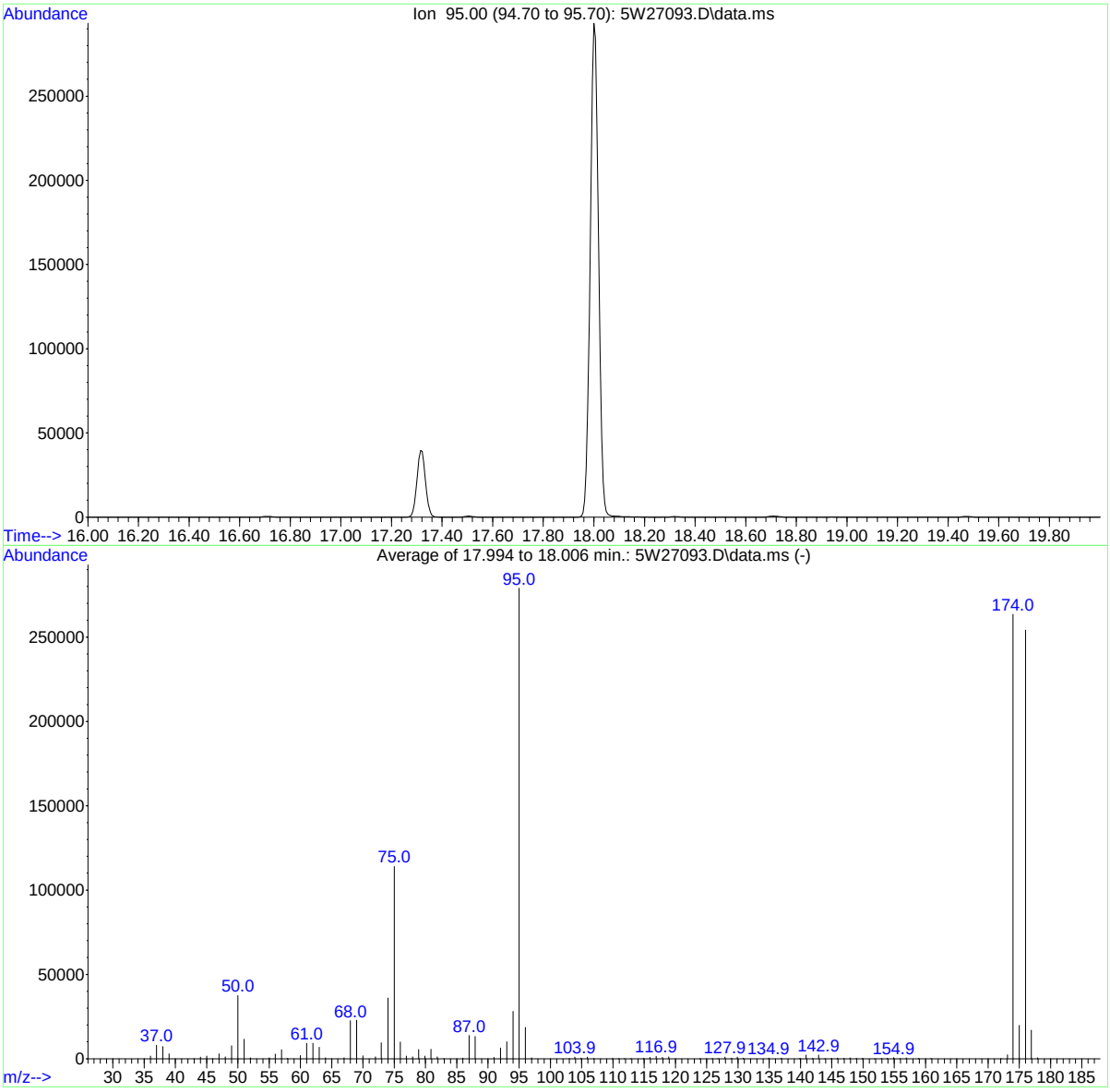
SGS ACCUTEST JC52053

BFB

Data File : [redacted]1\data\5W27093.D
Acq On : 7 Oct 2017 9:34 am
Sample : cc1065-10
Misc : MS20430,v5w1066,,,,,1
MS Integration Params: Rteint.p

Vial: 3
Operator: [redacted]
Inst : A1r5w
Multiplr: 1.00

Method : [redacted]1\methods\m5w1065.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2355, 2356, 2357; Background Corrected with Scan 2344

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.4	37509	PASS
75	95	30	66	40.9	113981	PASS
95	95	100	100	100.0	278976	PASS
96	95	5	9	6.6	18499	PASS
173	174	0.00	2	0.9	2382	PASS
174	95	50	120	94.4	263467	PASS
175	174	4	9	7.5	19680	PASS
176	174	93	101	96.4	254101	PASS
177	176	5	9	6.6	16890	PASS

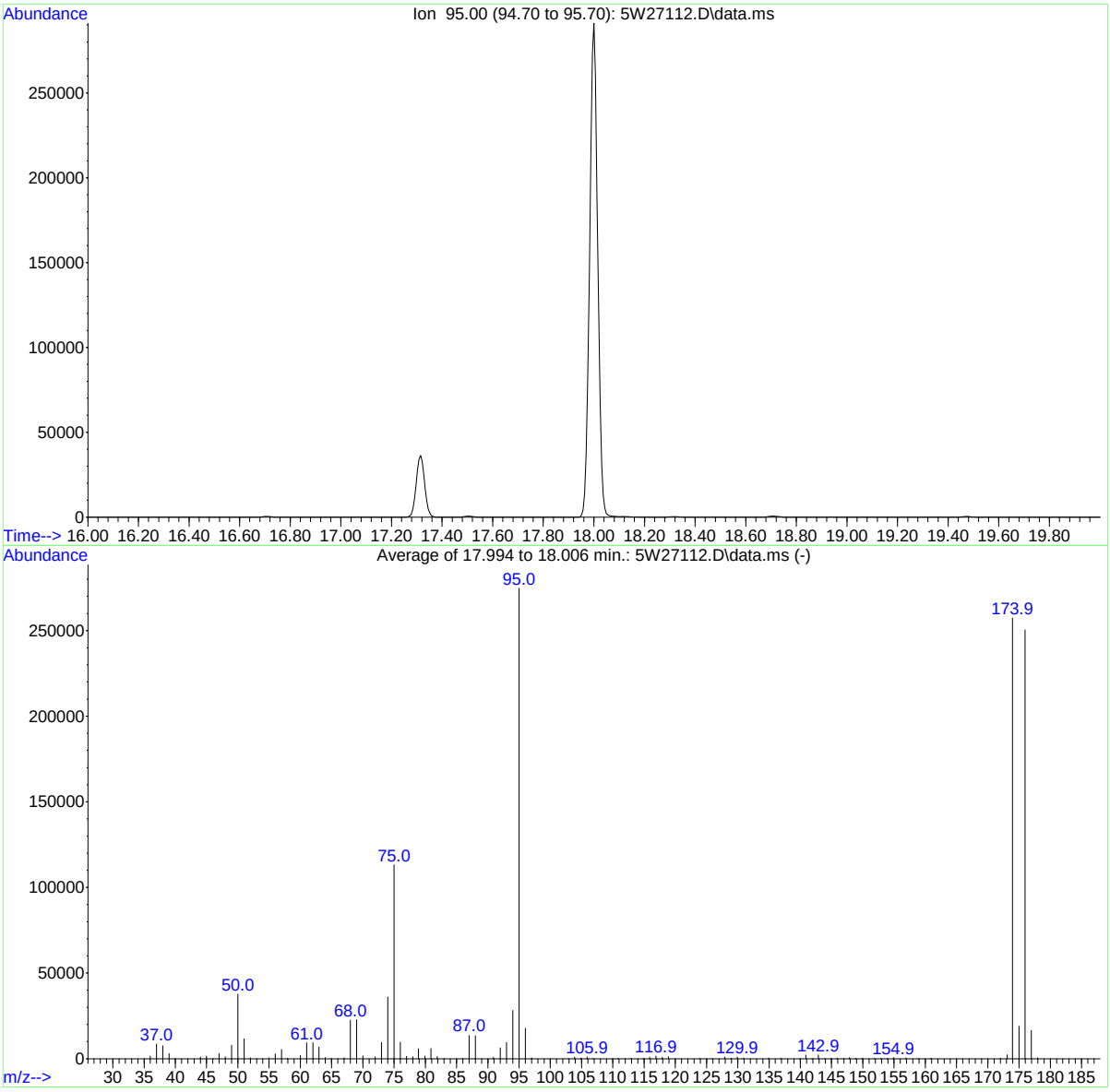
5W27093.D m5w1065.M Sun Oct 08 11:20:00 2017
1215

BFB

Data File : [redacted]1\data\5W27112.D
Acq On : 8 Oct 2017 9:31 am
Sample : cc1065-10
Misc : MS20781,v5w1067,,,,,1
MS Integration Params: Rteint.p

Vial: 3
Operator: [redacted]
Inst : A1r5w
Multiplr: 1.00

Method : [redacted]1\methods\m5w1065.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2355, 2356, 2357; Background Corrected with Scan 2344

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	37803	PASS
75	95	30	66	41.2	113291	PASS
95	95	100	100	100.0	274709	PASS
96	95	5	9	6.5	17866	PASS
173	174	0.00	2	0.9	2343	PASS
174	95	50	120	93.7	257301	PASS
175	174	4	9	7.4	19000	PASS
176	174	93	101	97.3	250389	PASS
177	176	5	9	6.6	16553	PASS

5W27112.D m5w1065.M Sun Oct 08 13:53:39 2017

SGS ACCUTEST JC52053

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60362.D
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : 1c2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.698	128	162331	10.00	PPBV	-0.02
53) 1,4-DIFLUOROBENZENE	9.742	114	661874	10.00	PPBV	-0.01
72) CHLOROBENZENE-D5	14.372	82	261098	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	304278	9.52	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.20%			
Target Compounds						Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.488	69	1118	0.05	PPBV #	86
3) FREON 115	3.871	85	1448	0.04	PPBV #	89
4) FREON 152A	3.792	65	937	0.04	PPBV	92
6) CHLOROTRIFLUOROETHENE	3.640	116	754	0.04	PPBV #	78
7) DICHLORODIFLUOROMETHANE	3.689	85	1578m	0.05	PPBV	
9) 1-CHLORO-1,1-DIFLUOROE...	3.792	65	937	0.04	PPBV #	86
10) FREON 114	3.871	85	1448	0.04	PPBV	88
11) CHLOROMETHANE	3.823	52	168	0.04	PPBV #	1
12) VINYL CHLORIDE	3.969	62	516	0.04	PPBV #	83
13) 1,3-BUTADIENE	4.072	54	397	0.04	PPBV #	81
17) DICHLOROFLUOROMETHANE	4.443	67	1382	0.05	PPBV #	15
19) FREON 123	4.729	83	1521	0.04	PPBV	87
20) FREON 123A	4.772	117	1402	0.07	PPBV #	72
21) TRICHLOROFLUOROMETHANE	4.954	101	1393	0.04	PPBV #	89
22) 1,1-DICHLORO-1-FLUOROE...	5.033	81	1502	0.05	PPBV #	72
27) IODOMETHANE	5.423	142	1638	0.04	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.471	96	729	0.05	PPBV #	63
29) CARBON DISULFIDE	5.879	76	1982	0.04	PPBV	92
31) BROMOETHENE	4.644	106	627	0.04	PPBV #	79
35) FREON 113	5.806	151	860	0.03	PPBV	95
37) TERTIARY BUTYL ALCOHOL	5.581	59	919	0.04	PPBV #	50
38) METHYL TERTIARY BUTYL ...	6.785	73	1279	0.04	PPBV	83
42) 1,1-DICHLOROETHANE	6.670	63	779	0.03	PPBV #	78
44) cis-1,2-DICHLOROETHYLENE	7.515	96	495	0.03	PPBV	92
47) METHYL ACRYLATE	7.777	55	621	0.03	PPBV #	61
48) CHLOROFORM	7.832	83	1007	0.04	PPBV	84
49) 2,4-DIMETHYLPENTANE	8.683	57	1214	0.05	PPBV	75
50) 1,1,1-TRICHLOROETHANE	8.878	97	900	0.03	PPBV	84
51) CARBON TETRACHLORIDE	9.523	117	862	0.03	PPBV	91
54) BENZENE	9.365	78	1552	0.04	PPBV #	86
55) CYCLOHEXANE	9.669	84	587	0.04	PPBV #	79
56) 2,3-DIMETHYLPENTANE	9.912	71	401	0.05	PPBV #	92
57) TRICHLOROETHYLENE	10.496	95	601	0.03	PPBV	94
58) 1,2-DICHLOROPROPANE	10.235	63	555	0.04	PPBV #	39
59) DIBROMOMETHANE	10.204	174	908	0.05	PPBV	89
60) ETHYL ACRYLATE	10.283	55	818	0.04	PPBV #	71
61) BROMODICHLOROMETHANE	10.442	83	1023	0.04	PPBV	96
62) 2,2,4-TRIMETHYLPENTANE	10.527	57	2755	0.05	PPBV #	92
64) HEPTANE	10.813	43	1006	0.06	PPBV	79
65) METHYL METHACRYLATE	10.740	69	449	0.04	PPBV #	63
67) cis-1,3-DICHLOROPROPENE	11.421	75	569	0.03	PPBV	81
68) TOLUENE	12.455	92	1010	0.04	PPBV #	84
69) 1,3-DICHLOROPROPANE	12.492	76	603	0.03	PPBV #	87
70) trans-1,3-DICHLOROPROPENE	11.987	75	514	0.03	PPBV	94
71) 1,1,2-TRICHLOROETHANE	12.157	83	489	0.04	PPBV	97
74) ETHYL METHACRYLATE	12.790	69	621	0.04	PPBV #	70
75) TETRACHLOROETHYLENE	13.684	164	787	0.04	PPBV	97
76) DIBROMOCHLOROMETHANE	12.911	129	794	0.03	PPBV	92
77) 1,2-DIBROMOETHANE	13.179	107	724	0.03	PPBV #	94
78) OCTANE	13.538	43	1112	0.05	PPBV	84
79) 1,1,1,2-TETRACHLOROETHANE	14.402	131	640	0.03	PPBV	71
80) CHLOROBENZENE	14.420	112	1360	0.04	PPBV	92
81) ETHYLBENZENE	14.834	91	1958	0.04	PPBV	95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60362.D
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : 1C2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration

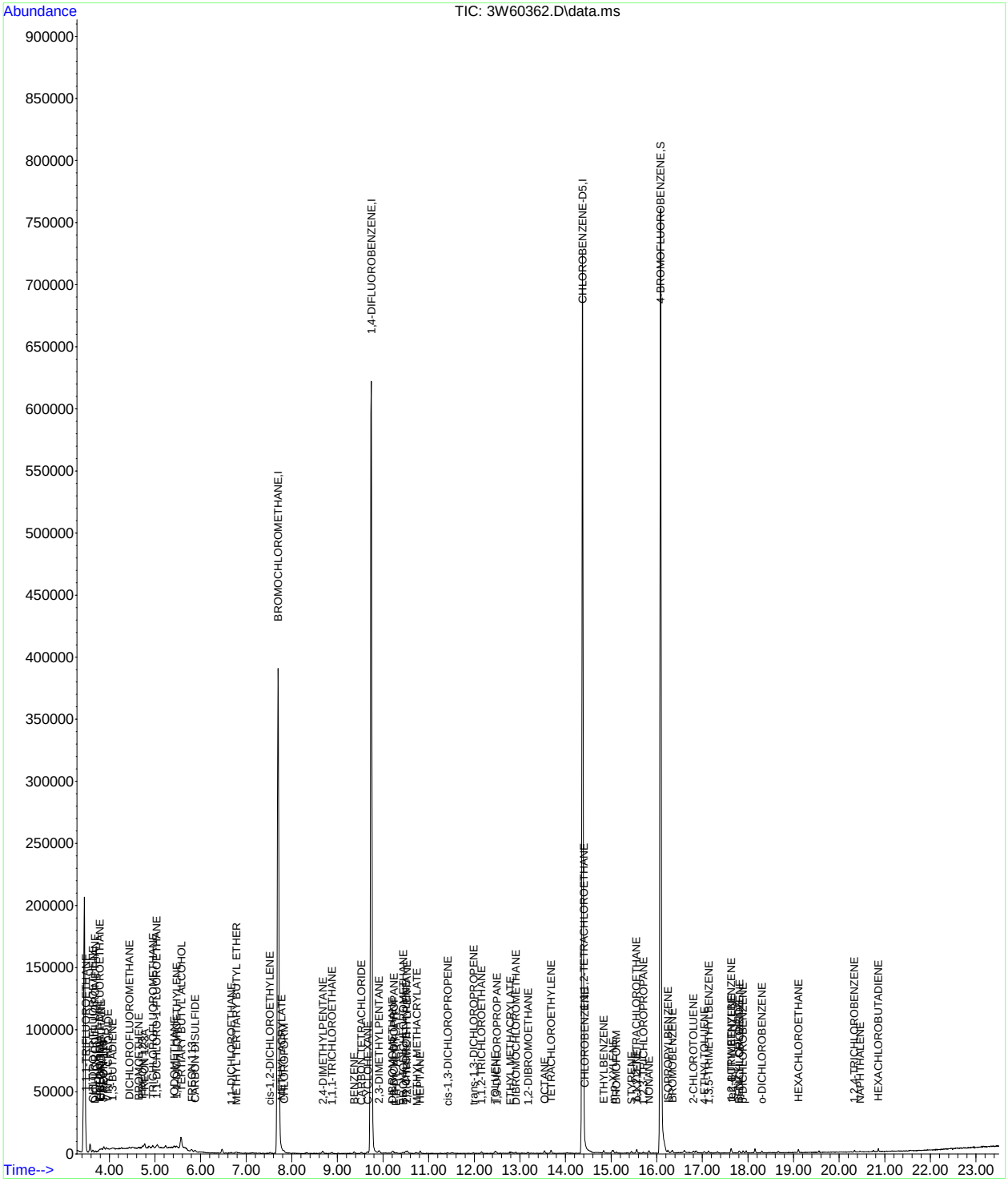
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
82)	m,p-XYLENE	15.041	106	1534	0.07	PPBV		93
83)	o-XYLENE	15.564	106	802	0.04	PPBV		97
84)	STYRENE	15.448	104	960	0.03	PPBV		95
85)	NONANE	15.832	43	954	0.04	PPBV	#	92
86)	BROMOFORM	15.114	173	707	0.03	PPBV	#	92
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	1180	0.04	PPBV	#	95
89)	1,2,3-TRICHLOROPROPANE	15.710	75	672	0.03	PPBV		73
90)	ISOPROPYLBENZENE	16.245	105	2030	0.04	PPBV		89
91)	BROMOBENZENE	16.343	77	962	0.04	PPBV		87
92)	2-CHLOROTOLUENE	16.805	126	482	0.03	PPBV	#	42
94)	4-ETHYLTOLUENE	17.042	105	1423m	0.03	PPBV		
95)	1,3,5-TRIMETHYLBENZENE	17.140	105	1446	0.03	PPBV	#	90
97)	tert-BUTYLBENZENE	17.638	134	282	0.03	PPBV	#	43
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	1222	0.03	PPBV	#	84
99)	m-DICHLOROBENZENE	17.815	146	899	0.03	PPBV		96
100)	BENZYL CHLORIDE	17.803	91	748	0.03	PPBV	#	58
101)	p-DICHLOROBENZENE	17.894	146	1017	0.04	PPBV		97
104)	o-DICHLOROBENZENE	18.308	146	932	0.03	PPBV		98
106)	HEXACHLOROETHANE	19.105	117	577	0.03	PPBV		92
107)	HEXACHLOROBUTADIENE	20.857	225	592	0.03	PPBV		97
108)	1,2,4-TRICHLOROBENZENE	20.333	180	592	0.05	PPBV	#	84
109)	NAPHTHALENE	20.455	128	944	0.04	PPBV	#	70

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60362.D
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : 1c2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	V3W2293-IC2293	**Method:**	TO-15
Lab FileID:	3W60362.D	**Analyst approved:**	06/23/17 09:39
Injection Time:	06/21/17 12:54	**Supervisor approved:**	06/26/17 13:53

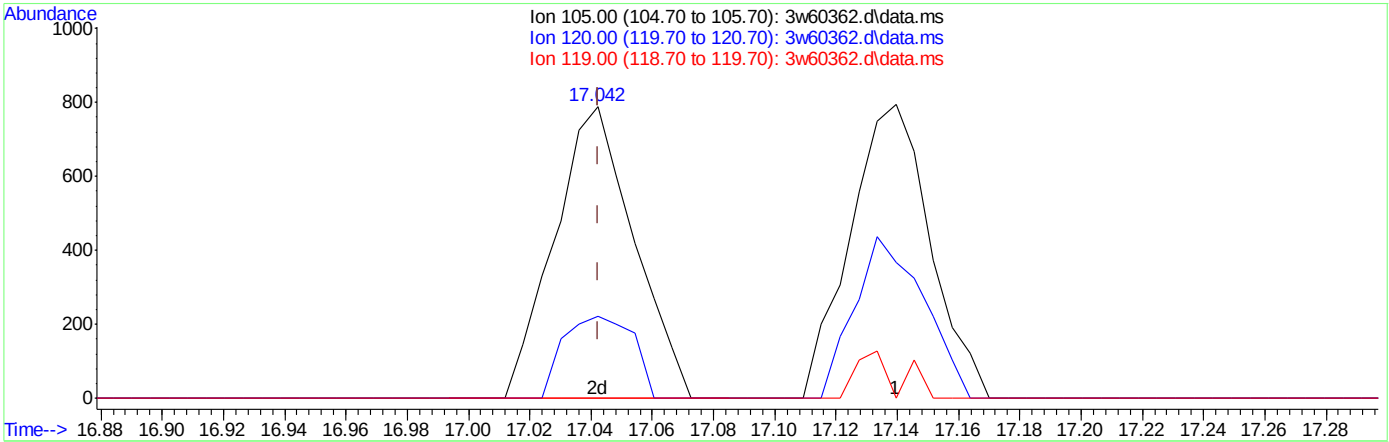
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.69	Missed peak
4-Ethyltoluene	622-96-8		17.04	Missed peak

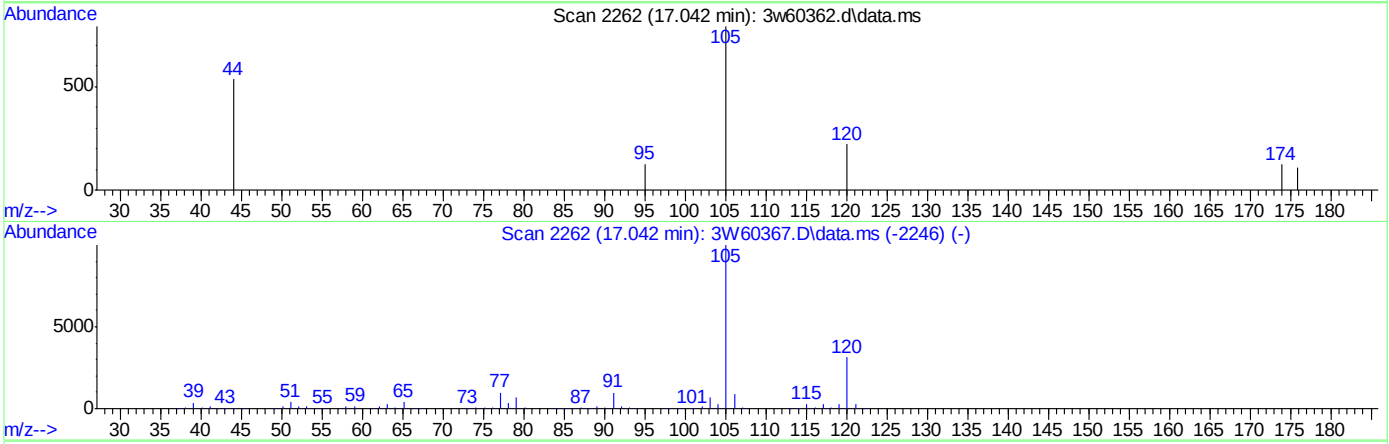
SGS ACCUTEST
JC52053

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60362.d
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : ic2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 08:58:19 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration





TIC: 3w60362.d\data.ms

(94) 4-ETHYLTOLUENE

17.042min (-0.000) 0.03PPBV m

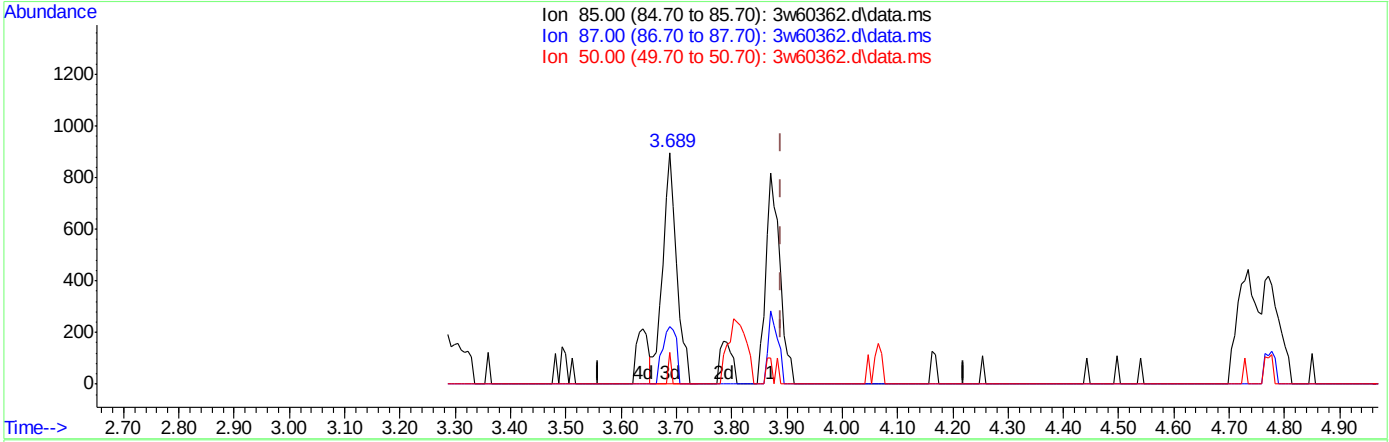
response 1423

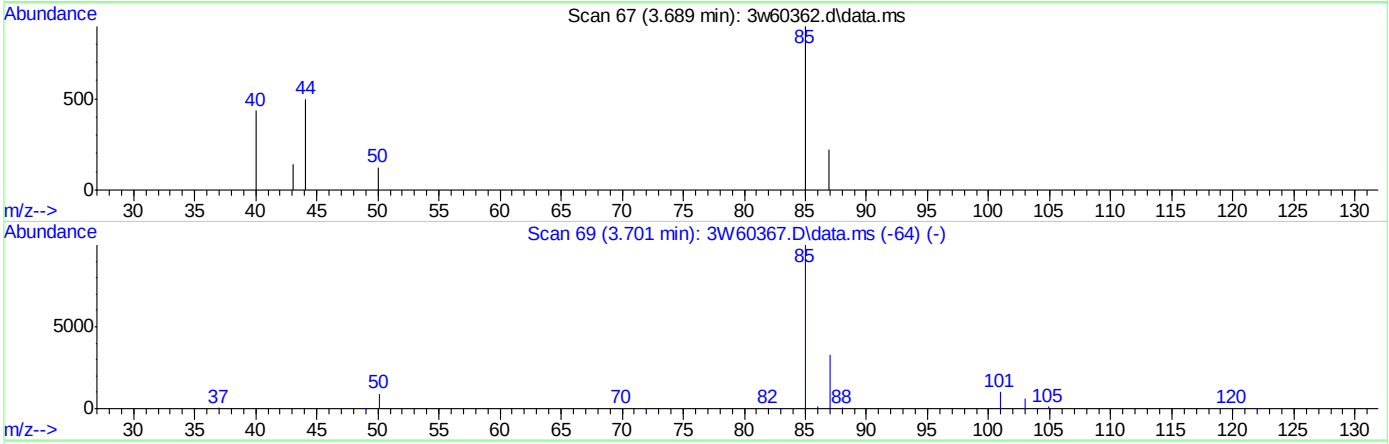
Ion	Exp%	Act%
105.00	100	100
120.00	30.60	48.42
119.00	2.40	8.64
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60362.d
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : ic2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration





TIC: 3w60362.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.689min (-0.201) 0.05PPBV m

response 1578

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	21.67
50.00	6.90	7.10
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60363.D
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : 1c2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	160222	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	673835	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	266874	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.087	95	308914	9.33	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 93.30%			
Target Compounds						Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	2461	0.11	PPBV #	93
3) FREON 115	3.890	85	3522	0.10	PPBV #	22
4) FREON 152A	3.798	65	2137	0.10	PPBV	95
5) CHLORODIFLUOROMETHANE	3.622	67	353	0.12	PPBV	84
6) CHLOROTRIFLUOROETHENE	3.652	116	1807	0.10	PPBV #	100
7) DICHLORODIFLUOROMETHANE	3.701	85	3204m	0.09	PPBV	
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	2137	0.10	PPBV #	89
10) FREON 114	3.890	85	3522	0.10	PPBV	87
11) CHLOROMETHANE	3.823	52	401	0.10	PPBV #	52
12) VINYL CHLORIDE	3.981	62	1347	0.10	PPBV #	94
13) 1,3-BUTADIENE	4.084	54	1040	0.11	PPBV #	75
14) n-BUTANE	4.115	43	1788	0.10	PPBV	81
15) BROMOMETHANE	4.279	94	2156	0.13	PPBV #	76
16) CHLOROETHANE	4.395	64	556	0.08	PPBV #	74
17) DICHLOROFLUOROMETHANE	4.449	67	3195	0.11	PPBV #	88
18) ACETONITRILE	4.693	41	1097	0.12	PPBV #	62
19) FREON 123	4.741	83	4150	0.11	PPBV #	56
20) FREON 123A	4.784	117	3663	0.19	PPBV #	70
21) TRICHLOROFLUOROMETHANE	4.973	101	3030	0.10	PPBV	92
22) 1,1-DICHLORO-1-FLUOROE...	5.052	81	3118	0.11	PPBV #	91
25) PENTANE	5.246	42	1124	0.10	PPBV	87
27) IODOMETHANE	5.435	142	4252	0.10	PPBV	97
28) 1,1-DICHLOROETHYLENE	5.484	96	1646	0.12	PPBV	95
29) CARBON DISULFIDE	5.891	76	4558	0.10	PPBV	85
31) BROMOETHENE	4.656	106	1545	0.10	PPBV	88
32) ACRYLONITRILE	5.240	52	674	0.09	PPBV #	80
34) 3-CHLOROPROPENE	5.703	76	556	0.09	PPBV #	5
35) FREON 113	5.812	151	2228	0.09	PPBV	88
37) TERTIARY BUTYL ALCOHOL	5.605	59	2236	0.09	PPBV #	88
38) METHYL TERTIARY BUTYL ...	6.792	73	3178	0.09	PPBV	76
39) TETRAHYDROFURAN	8.343	72	384	0.07	PPBV #	44
42) 1,1-DICHLOROETHANE	6.682	63	2118	0.09	PPBV	97
44) cis-1,2-DICHLOROETHYLENE	7.528	96	1447	0.10	PPBV	98
45) DIISOPROPYL ETHER	7.777	59	395	0.07	PPBV #	51
47) METHYL ACRYLATE	7.789	55	2200	0.11	PPBV #	60
48) CHLOROFORM	7.838	83	2564	0.09	PPBV #	77
49) 2,4-DIMETHYLPENTANE	8.684	57	2596	0.12	PPBV	86
50) 1,1,1-TRICHLOROETHANE	8.890	97	2463	0.10	PPBV	97
51) CARBON TETRACHLORIDE	9.529	117	2427	0.09	PPBV	98
52) 1,2-DICHLOROETHANE	8.623	62	1201	0.08	PPBV #	83
54) BENZENE	9.377	78	3931	0.10	PPBV	97
55) CYCLOHEXANE	9.663	84	1628	0.10	PPBV	84
56) 2,3-DIMETHYLPENTANE	9.918	71	908	0.11	PPBV #	97
57) TRICHLOROETHYLENE	10.496	95	1761	0.10	PPBV	94
58) 1,2-DICHLOROPROPANE	10.241	63	1393	0.10	PPBV	90
59) DIBROMOMETHANE	10.217	174	2067	0.11	PPBV	92
60) ETHYL ACRYLATE	10.284	55	2092	0.09	PPBV #	76
61) BROMODICHLOROMETHANE	10.448	83	2576	0.09	PPBV	98
62) 2,2,4-TRIMETHYLPENTANE	10.533	57	6259	0.11	PPBV	96
64) HEPTANE	10.819	43	2168	0.12	PPBV	90
65) METHYL METHACRYLATE	10.734	69	1076	0.09	PPBV #	76
67) cis-1,3-DICHLOROPROPENE	11.421	75	1746	0.08	PPBV	94
68) TOLUENE	12.461	92	2553	0.09	PPBV	94

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60363.D
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : 1c2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

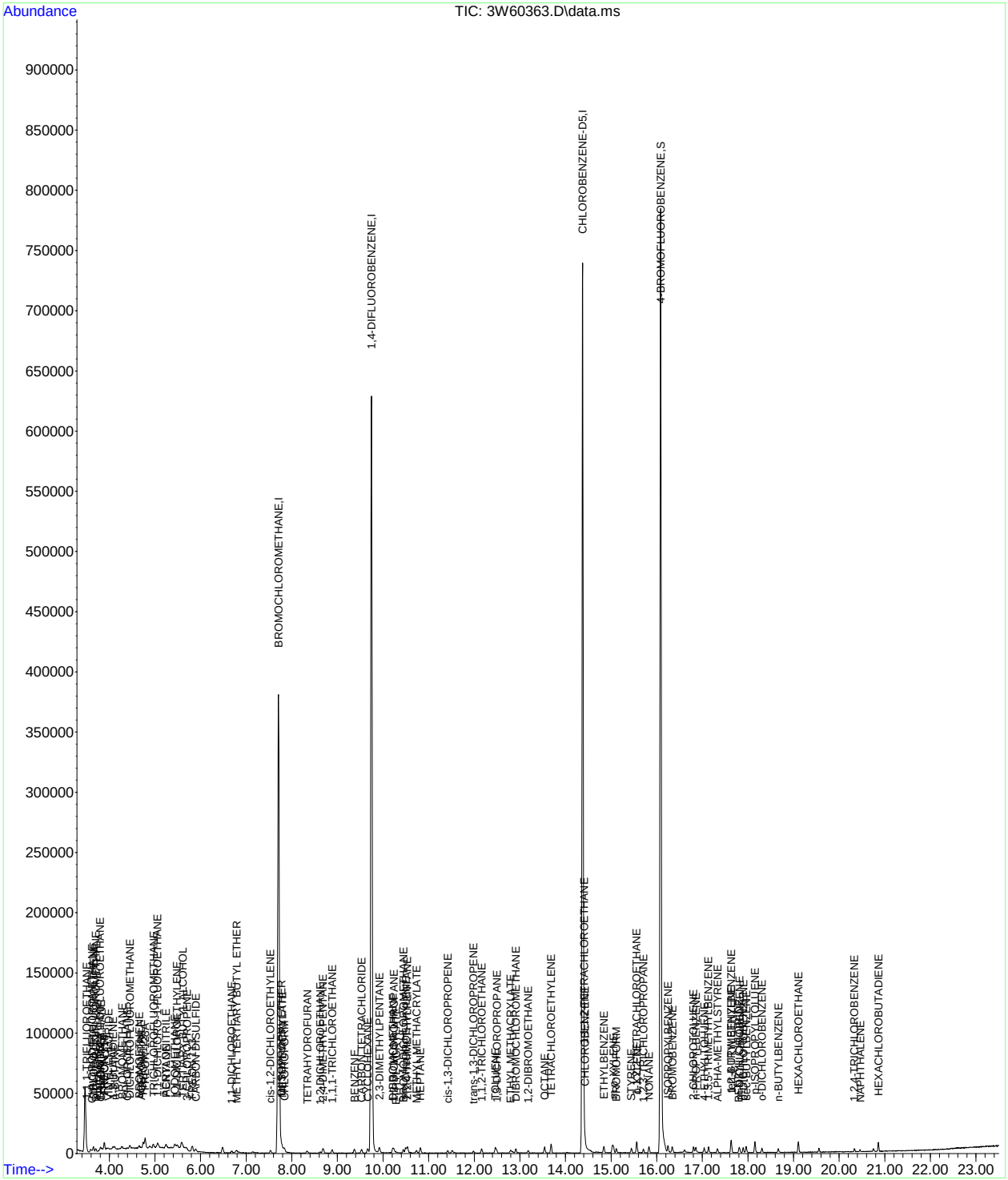
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
69)	1,3-DICHLOROPROPANE	12.492	76	1691	0.09	PPBV	#	99
70)	trans-1,3-DICHLOROPROPENE	11.981	75	1408	0.08	PPBV		90
71)	1,1,2-TRICHLOROETHANE	12.163	83	1294	0.09	PPBV		97
74)	ETHYL METHACRYLATE	12.796	69	1510	0.08	PPBV	#	88
75)	TETRACHLOROETHYLENE	13.684	164	2298	0.11	PPBV		97
76)	DIBROMOCHLOROMETHANE	12.912	129	2481	0.09	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	2084	0.09	PPBV	#	97
78)	OCTANE	13.544	43	2586	0.11	PPBV		89
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	1870	0.09	PPBV		94
80)	CHLOROBENZENE	14.426	112	3369	0.09	PPBV		98
81)	ETHYLBENZENE	14.840	91	5013	0.09	PPBV		95
82)	m,p-XYLENE	15.053	106	3998	0.18	PPBV	#	86
83)	o-XYLENE	15.564	106	1947	0.09	PPBV		91
84)	STYRENE	15.442	104	2609	0.08	PPBV		98
85)	NONANE	15.832	43	2263	0.10	PPBV	#	92
86)	BROMOFORM	15.114	173	2193	0.08	PPBV		90
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	2969	0.09	PPBV		98
89)	1,2,3-TRICHLOROPROPANE	15.710	75	1893	0.08	PPBV		87
90)	ISOPROPYLBENZENE	16.245	105	5315	0.09	PPBV		95
91)	BROMOBENZENE	16.343	77	2312	0.09	PPBV		96
92)	2-CHLOROTOLUENE	16.805	126	1296	0.08	PPBV		95
93)	n-PROPYLBENZENE	16.860	120	1098	0.07	PPBV		91
94)	4-ETHYLTOLUENE	17.042	105	3910m	0.07	PPBV		
95)	1,3,5-TRIMETHYLBENZENE	17.134	105	3805	0.08	PPBV		94
96)	ALPHA-METHYLSTYRENE	17.334	118	1408	0.06	PPBV		91
97)	tert-BUTYLBENZENE	17.632	134	945	0.08	PPBV	#	87
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	3136	0.07	PPBV	#	87
99)	m-DICHLOROBENZENE	17.815	146	2389	0.08	PPBV		98
100)	BENZYL CHLORIDE	17.797	91	1868	0.07	PPBV	#	81
101)	p-DICHLOROBENZENE	17.900	146	2424	0.08	PPBV		96
102)	sec-BUTYLBENZENE	17.967	134	937	0.07	PPBV	#	69
103)	p-ISOPROPYLTOLUENE	18.156	134	885	0.06	PPBV	#	75
104)	o-DICHLOROBENZENE	18.308	146	2218	0.08	PPBV		96
105)	n-BUTYLBENZENE	18.667	134	582	0.06	PPBV	#	73
106)	HEXACHLOROETHANE	19.105	117	1687	0.09	PPBV		90
107)	HEXACHLOROBUTADIENE	20.863	225	1672	0.08	PPBV		97
108)	1,2,4-TRICHLOROBENZENE	20.334	180	1177	0.10	PPBV		96
109)	NAPHTHALENE	20.461	128	1460	0.06	PPBV		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60363.D
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : 1c2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration



Manual Integration Approval Summary

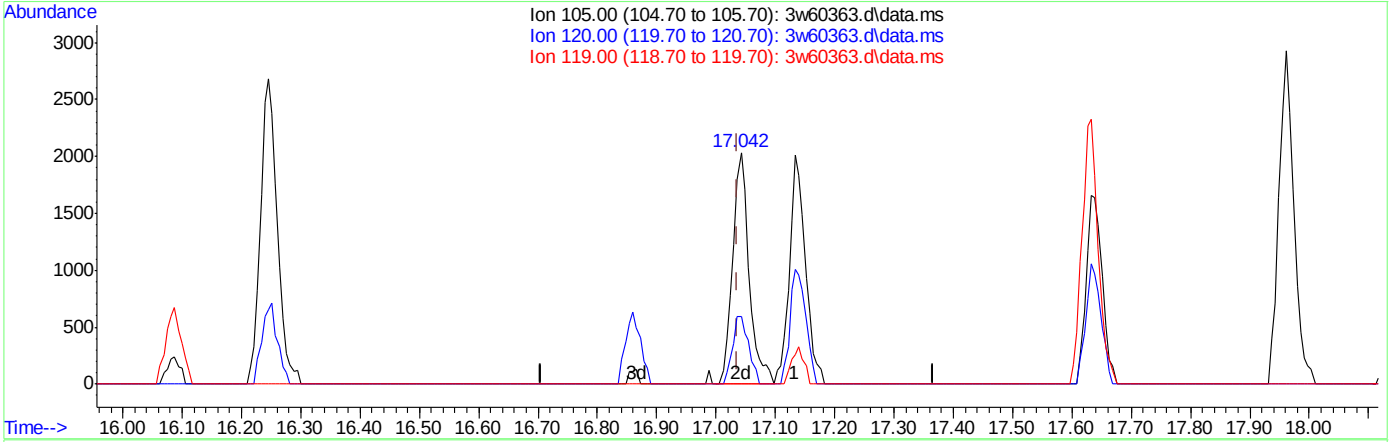
Sample Number: V3W2293-IC2293
Lab FileID: 3W60363.D
Injection Time: 06/21/17 13:35
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

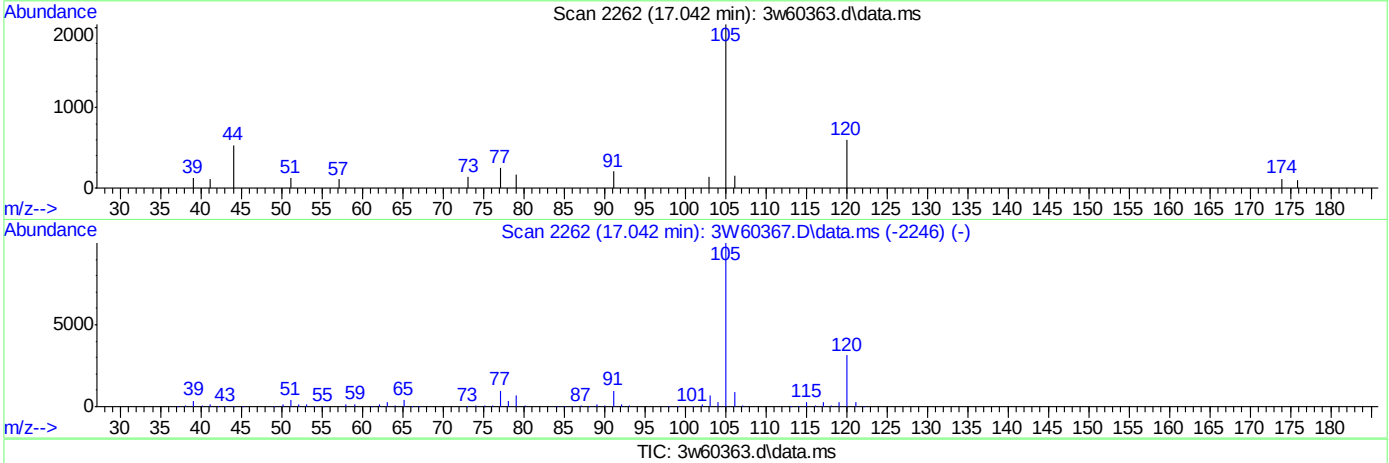
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak
4-Ethyltoluene	622-96-8		17.04	Missed peak

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60363.d
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : ic2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 08:55:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration





TIC: 3w60363.d\data.ms

(94) 4-ETHYLTOLUENE

17.042min (+0.006) 0.07PPBV m

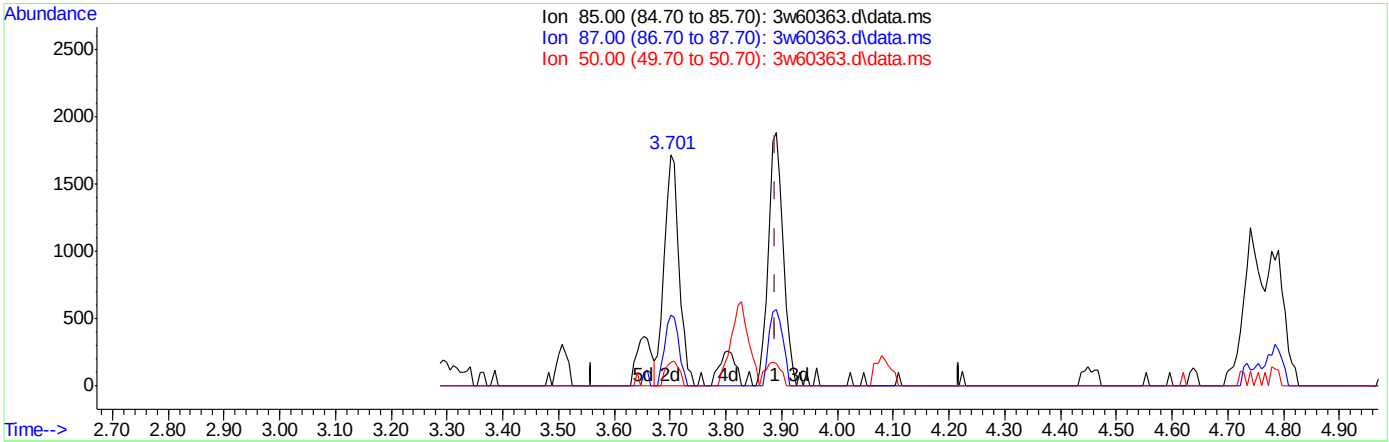
response 3910

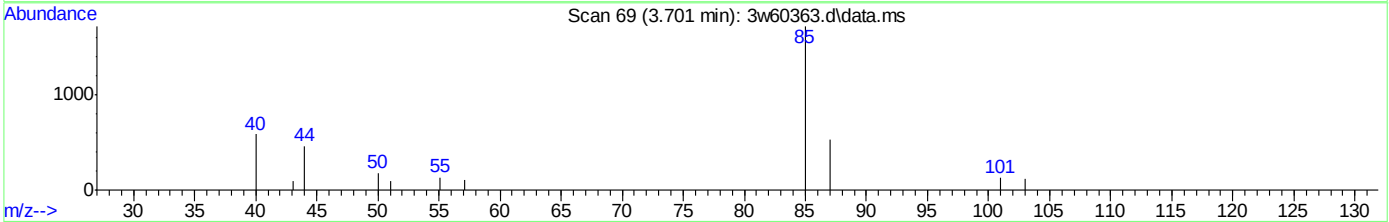
Ion	Exp%	Act%
105.00	100	100
120.00	32.10	48.16
119.00	2.60	12.30
0.00	0.00	0.00

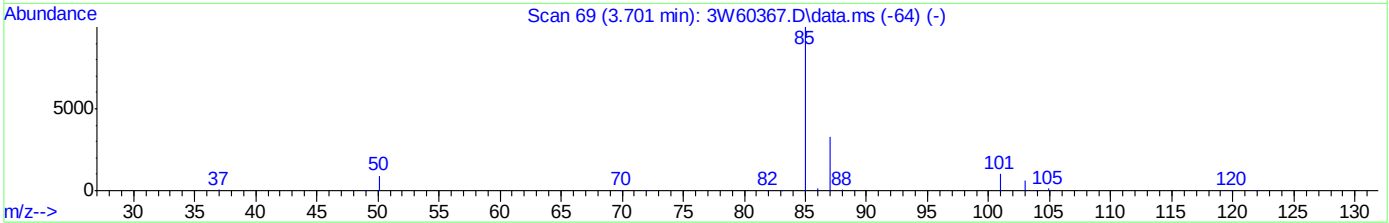
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60363.d
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : ic2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration







TIC: 3w60363.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 0.09PPBV m

response 3204

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	31.34
50.00	7.30	11.11
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60364.D
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : 1c2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	162274	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	677314	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.372	82	272804	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	325691	9.50	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.00%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	4691	0.21	PPBV		99
3) FREON 115	3.890	85	7017	0.20	PPBV	#	19
4) FREON 152A	3.798	65	4391	0.20	PPBV		94
5) CHLORODIFLUOROMETHANE	3.628	67	593	0.20	PPBV		83
6) CHLOROTRIFLUOROETHENE	3.652	116	3931	0.21	PPBV	#	98
7) DICHLORODIFLUOROMETHANE	3.701	85	6493m	0.19	PPBV		
8) PROPYLENE	3.652	41	2140	0.24	PPBV		88
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	4391	0.20	PPBV		93
10) FREON 114	3.890	85	7017	0.20	PPBV		92
11) CHLOROMETHANE	3.823	52	850	0.22	PPBV	#	86
12) VINYL CHLORIDE	3.987	62	2834	0.20	PPBV	#	94
13) 1,3-BUTADIENE	4.078	54	2058	0.21	PPBV		88
14) n-BUTANE	4.115	43	3570	0.21	PPBV		92
15) BROMOMETHANE	4.279	94	3771	0.24	PPBV		89
16) CHLOROETHANE	4.401	64	1404	0.21	PPBV		89
17) DICHLOROFLUOROMETHANE	4.449	67	6314	0.22	PPBV		99
18) ACETONITRILE	4.680	41	1846	0.20	PPBV	#	83
19) FREON 123	4.741	83	7903	0.22	PPBV	#	51
20) FREON 123A	4.784	117	7829	0.41	PPBV	#	74
21) TRICHLOROFLUOROMETHANE	4.966	101	6314	0.20	PPBV		97
22) 1,1-DICHLORO-1-FLUOROE...	5.052	81	5836	0.21	PPBV	#	98
23) ISOPROPYL ALCOHOL	5.064	45	7747	0.31	PPBV		86
24) ACETONE	4.881	58	1513	0.25	PPBV	#	61
25) PENTANE	5.246	42	2324	0.20	PPBV		92
26) TVHC as EQUIV PENTANE	5.240	TIC	15696m	0.26	PPBV		
27) IODOMETHANE	5.435	142	9052	0.20	PPBV		100
28) 1,1-DICHLOROETHYLENE	5.490	96	3059	0.22	PPBV		98
29) CARBON DISULFIDE	5.897	76	9238	0.21	PPBV		97
31) BROMOETHENE	4.656	106	3125	0.21	PPBV		95
32) ACRYLONITRILE	5.234	52	1606	0.21	PPBV	#	91
33) METHYLENE CHLORIDE	5.581	84	4058	0.29	PPBV		95
34) 3-CHLOROPROPENE	5.696	76	1136	0.18	PPBV	#	28
35) FREON 113	5.818	151	4898	0.20	PPBV		91
36) TRANS-1,2-DICHLOROETHY...	6.481	96	4278	0.28	PPBV		95
37) TERTIARY BUTYL ALCOHOL	5.593	59	5106	0.21	PPBV		69
38) METHYL TERTIARY BUTYL ...	6.779	73	7251	0.21	PPBV		87
39) TETRAHYDROFURAN	8.325	72	1132	0.19	PPBV		92
40) HEXANE	7.753	57	4355	0.24	PPBV		94
41) VINYL ACETATE	6.852	86	197	0.09	PPBV	#	1
42) 1,1-DICHLOROETHANE	6.682	63	4615	0.20	PPBV		99
43) METHYL ETHYL KETONE	7.132	72	943	0.16	PPBV		94
44) cis-1,2-DICHLOROETHYLENE	7.534	96	3002	0.20	PPBV		97
45) DIISOPROPYL ETHER	7.771	59	1029	0.19	PPBV	#	82
46) ETHYL ACETATE	7.789	61	592	0.16	PPBV	#	1
47) METHYL ACRYLATE	7.783	55	4524	0.22	PPBV	#	69
48) CHLOROFORM	7.838	83	5728	0.21	PPBV		86
49) 2,4-DIMETHYLPENTANE	8.683	57	4740	0.22	PPBV		94
50) 1,1,1-TRICHLOROETHANE	8.890	97	5175	0.21	PPBV		99
51) CARBON TETRACHLORIDE	9.529	117	5141	0.19	PPBV		99
52) 1,2-DICHLOROETHANE	8.623	62	2883	0.20	PPBV		94
54) BENZENE	9.371	78	8368	0.21	PPBV		98
55) CYCLOHEXANE	9.663	84	3442	0.21	PPBV		90
56) 2,3-DIMETHYLPENTANE	9.924	71	1802	0.23	PPBV		99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60364.D
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : 1c2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration

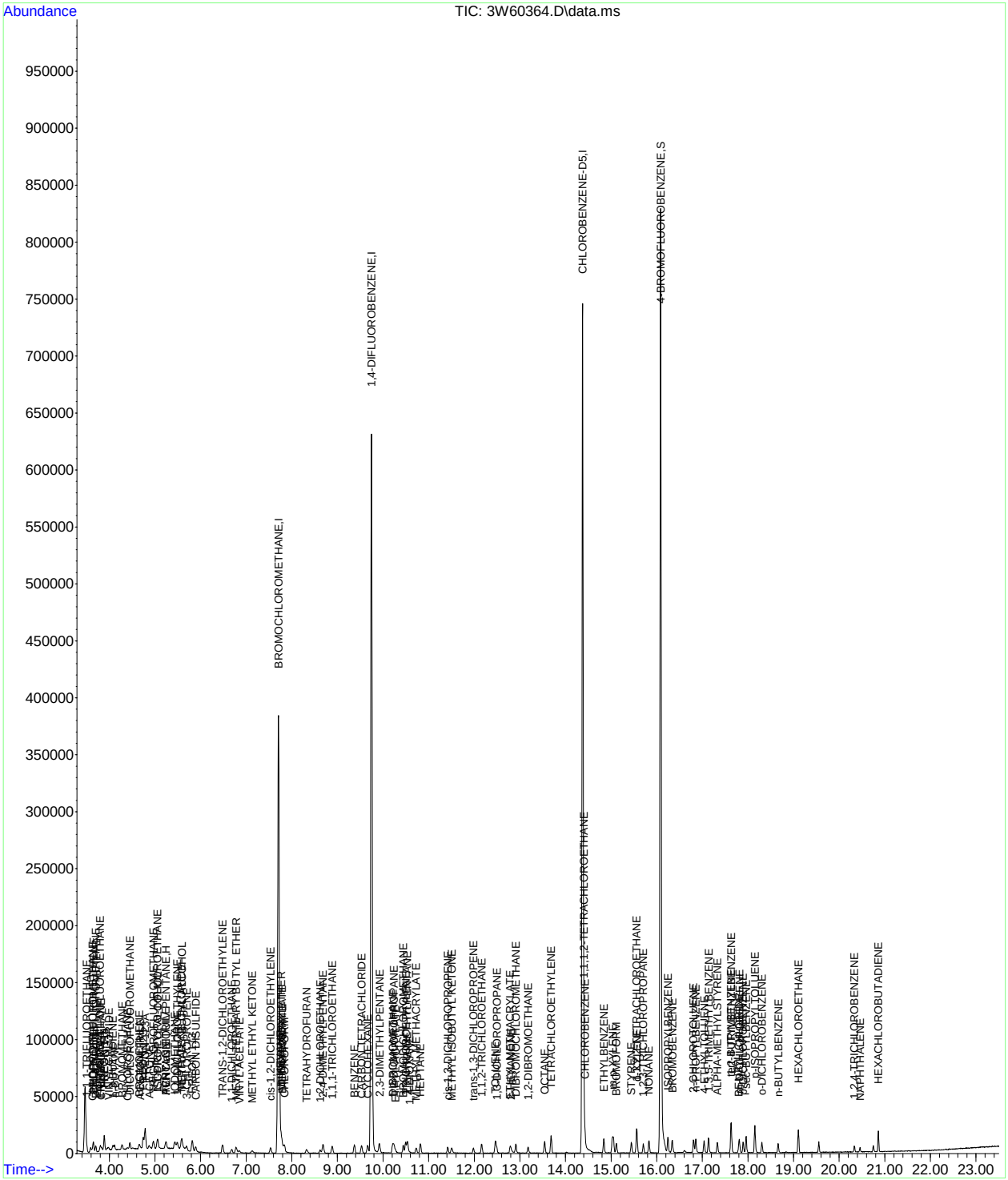
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
57)	TRICHLOROETHYLENE	10.496	95	3584	0.21	PPBV		96
58)	1,2-DICHLOROPROPANE	10.241	63	3040	0.22	PPBV		97
59)	DIBROMOMETHANE	10.210	174	4202	0.22	PPBV		93
60)	ETHYL ACRYLATE	10.271	55	4394	0.18	PPBV	#	89
61)	BROMODICHLOROMETHANE	10.442	83	5562	0.20	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	12653	0.23	PPBV		97
63)	1,4-DIOXANE	10.582	88	1392	0.20	PPBV	#	1
64)	HEPTANE	10.819	43	3922	0.22	PPBV		95
65)	METHYL METHACRYLATE	10.721	69	2561	0.20	PPBV		91
66)	METHYL ISOBUTYL KETONE	11.506	58	1762	0.17	PPBV	#	70
67)	cis-1,3-DICHLOROPROPENE	11.421	75	3949	0.19	PPBV		93
68)	TOLUENE	12.461	92	5432	0.20	PPBV		92
69)	1,3-DICHLOROPROPANE	12.492	76	3915	0.20	PPBV	#	99
70)	trans-1,3-DICHLOROPROPENE	11.981	75	3342	0.19	PPBV		96
71)	1,1,2-TRICHLOROETHANE	12.163	83	2806	0.20	PPBV		99
73)	2-HEXANONE	12.802	58	2082	0.17	PPBV	#	56
74)	ETHYL METHACRYLATE	12.784	69	3296	0.17	PPBV	#	84
75)	TETRACHLOROETHYLENE	13.684	164	4748	0.22	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.912	129	5453	0.19	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	4829	0.20	PPBV	#	96
78)	OCTANE	13.538	43	4819	0.21	PPBV		94
79)	1,1,1,2-TETRACHLOROETHANE	14.402	131	4340	0.20	PPBV		99
80)	CHLOROBENZENE	14.426	112	7453	0.20	PPBV		94
81)	ETHYLBENZENE	14.840	91	11158	0.20	PPBV		95
82)	m,p-XYLENE	15.035	106	9078	0.40	PPBV		97
83)	o-XYLENE	15.564	106	4374	0.20	PPBV	#	87
84)	STYRENE	15.442	104	5913	0.18	PPBV		97
85)	NONANE	15.826	43	4528	0.20	PPBV		93
86)	BROMOFORM	15.114	173	4894	0.18	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	6954	0.21	PPBV		96
89)	1,2,3-TRICHLOROPROPANE	15.704	75	4475	0.19	PPBV		94
90)	ISOPROPYLBENZENE	16.245	105	11859	0.20	PPBV		96
91)	BROMOBENZENE	16.343	77	5199	0.20	PPBV		97
92)	2-CHLOROTOLUENE	16.805	126	3143	0.19	PPBV		99
93)	n-PROPYLBENZENE	16.854	120	2854	0.17	PPBV		100
94)	4-ETHYLTOLUENE	17.042	105	9540	0.17	PPBV		96
95)	1,3,5-TRIMETHYLBENZENE	17.140	105	9281	0.19	PPBV		99
96)	ALPHA-METHYLSTYRENE	17.328	118	3659	0.15	PPBV		97
97)	tert-BUTYLBENZENE	17.626	134	2394	0.20	PPBV	#	87
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	8196	0.18	PPBV		89
99)	m-DICHLOROBENZENE	17.815	146	5507	0.18	PPBV		100
100)	BENZYL CHLORIDE	17.797	91	4506	0.15	PPBV		90
101)	p-DICHLOROBENZENE	17.894	146	5575	0.18	PPBV		98
102)	sec-BUTYLBENZENE	17.961	134	2400	0.18	PPBV	#	73
103)	p-ISOPROPYLTOLUENE	18.156	134	2444	0.16	PPBV	#	81
104)	o-DICHLOROBENZENE	18.308	146	5465	0.18	PPBV		97
105)	n-BUTYLBENZENE	18.667	134	1460	0.13	PPBV	#	80
106)	HEXACHLOROETHANE	19.105	117	3869	0.19	PPBV		94
107)	HEXACHLOROBUTADIENE	20.857	225	4122	0.20	PPBV		96
108)	1,2,4-TRICHLOROBENZENE	20.333	180	2254	0.18	PPBV		96
109)	NAPHTHALENE	20.455	128	3880	0.15	PPBV		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60364.D
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : 1C2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60364.D
Injection Time: 06/21/17 14:15
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

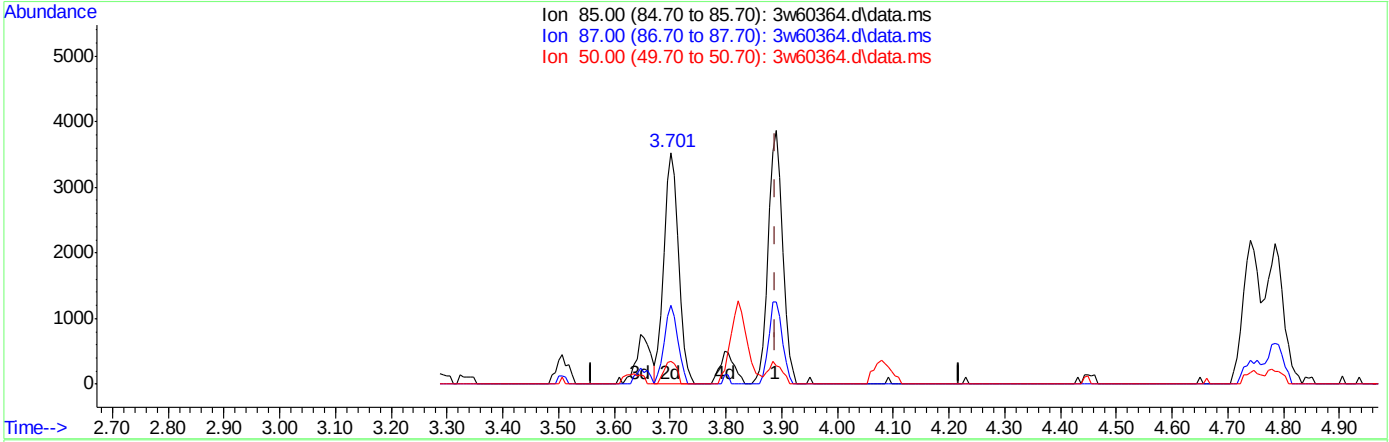
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak

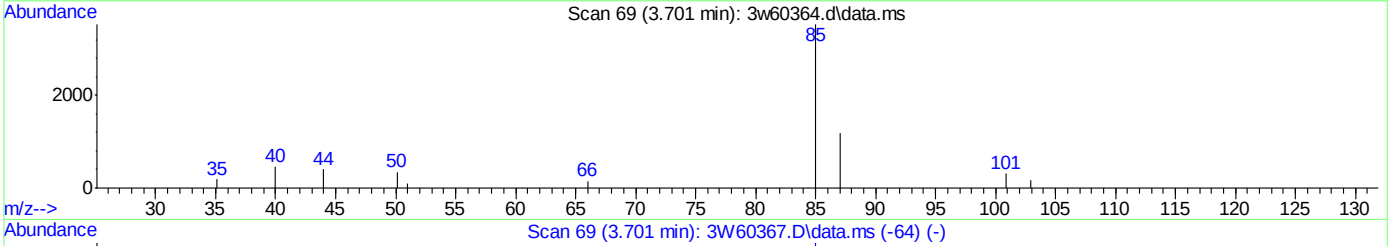
SGS ACCUTEST
JC52053

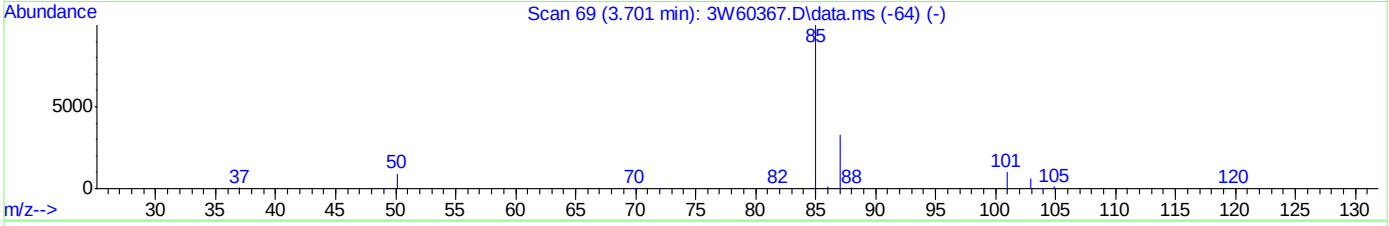
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60364.d
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : ic2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration







TIC: 3w60364.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 0.19PPBV m

response 6493

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	33.13
50.00	7.30	9.03
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60365.D
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : 1c2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	165414	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	680663	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.371	82	279703	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	343220	9.65	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 96.50%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	12044	0.53	PPBV		99
3) FREON 115	3.890	85	17732	0.50	PPBV	#	17
4) FREON 152A	3.804	65	11203	0.51	PPBV		82
5) CHLORODIFLUOROMETHANE	3.628	67	1584	0.54	PPBV		98
6) CHLOROTRIFLUOROETHENE	3.652	116	9621	0.50	PPBV	#	98
7) DICHLORODIFLUOROMETHANE	3.701	85	16566m	0.47	PPBV		
8) PROPYLENE	3.652	41	5044	0.58	PPBV		92
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	11203	0.51	PPBV	#	88
10) FREON 114	3.890	85	17732	0.50	PPBV		95
11) CHLOROMETHANE	3.823	52	2112	0.54	PPBV	#	89
12) VINYL CHLORIDE	3.981	62	7091	0.50	PPBV		99
13) 1,3-BUTADIENE	4.078	54	5095	0.51	PPBV		90
14) n-BUTANE	4.115	43	8647	0.48	PPBV		93
15) BROMOMETHANE	4.279	94	8567	0.56	PPBV		94
16) CHLOROETHANE	4.401	64	3486	0.51	PPBV		88
17) DICHLOROFLUOROMETHANE	4.449	67	15410	0.54	PPBV		97
18) ACETONITRILE	4.668	41	5429	0.61	PPBV		90
19) FREON 123	4.741	83	19365	0.53	PPBV	#	58
20) FREON 123A	4.784	117	20229	1.05	PPBV	#	79
21) TRICHLOROFLUOROMETHANE	4.966	101	15961	0.49	PPBV		98
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	14485	0.53	PPBV		98
23) ISOPROPYL ALCOHOL	5.045	45	14573	0.60	PPBV		95
24) ACETONE	4.863	58	3659m	0.65	PPBV		
25) PENTANE	5.240	42	6037	0.51	PPBV		98
26) TVHC as EQUIV PENTANE	5.240	TIC	36295m	0.63	PPBV		
27) IODOMETHANE	5.435	142	23156	0.52	PPBV		97
28) 1,1-DICHLOROETHYLENE	5.489	96	7078	0.50	PPBV		88
29) CARBON DISULFIDE	5.891	76	22805	0.51	PPBV		98
30) ETHANOL	4.504	45	3271	0.89	PPBV		76
31) BROMOETHENE	4.656	106	7905	0.52	PPBV		95
32) ACRYLONITRILE	5.216	52	4302	0.60	PPBV		93
33) METHYLENE CHLORIDE	5.581	84	8443	0.64	PPBV		96
34) 3-CHLOROPROPENE	5.696	76	3278	0.52	PPBV	#	78
35) FREON 113	5.818	151	12428	0.50	PPBV		90
36) TRANS-1,2-DICHLOROETHY...	6.481	96	9232	0.64	PPBV		95
37) TERTIARY BUTYL ALCOHOL	5.569	59	11538	0.44	PPBV		86
38) METHYL TERTIARY BUTYL ...	6.767	73	18738	0.54	PPBV		96
39) TETRAHYDROFURAN	8.306	72	3056	0.51	PPBV		92
40) HEXANE	7.753	57	9313	0.50	PPBV		91
41) VINYL ACETATE	6.840	86	1010	0.45	PPBV	#	79
42) 1,1-DICHLOROETHANE	6.682	63	11984	0.52	PPBV		99
43) METHYL ETHYL KETONE	7.114	72	3118	0.52	PPBV		92
44) cis-1,2-DICHLOROETHYLENE	7.534	96	7794	0.53	PPBV		97
45) DIISOPROPYL ETHER	7.753	59	2846	0.52	PPBV	#	88
46) ETHYL ACETATE	7.777	61	1807	0.48	PPBV	#	63
47) METHYL ACRYLATE	7.771	55	10754	0.52	PPBV	#	91
48) CHLOROFORM	7.832	83	14644	0.55	PPBV		97
49) 2,4-DIMETHYLPENTANE	8.683	57	10483	0.48	PPBV		97
50) 1,1,1-TRICHLOROETHANE	8.884	97	13401	0.53	PPBV		99
51) CARBON TETRACHLORIDE	9.529	117	13881	0.52	PPBV		99
52) 1,2-DICHLOROETHANE	8.616	62	7781	0.53	PPBV		97
54) BENZENE	9.371	78	21971	0.57	PPBV		98
55) CYCLOHEXANE	9.663	84	8438	0.51	PPBV		93

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60365.D
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : 1c2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration

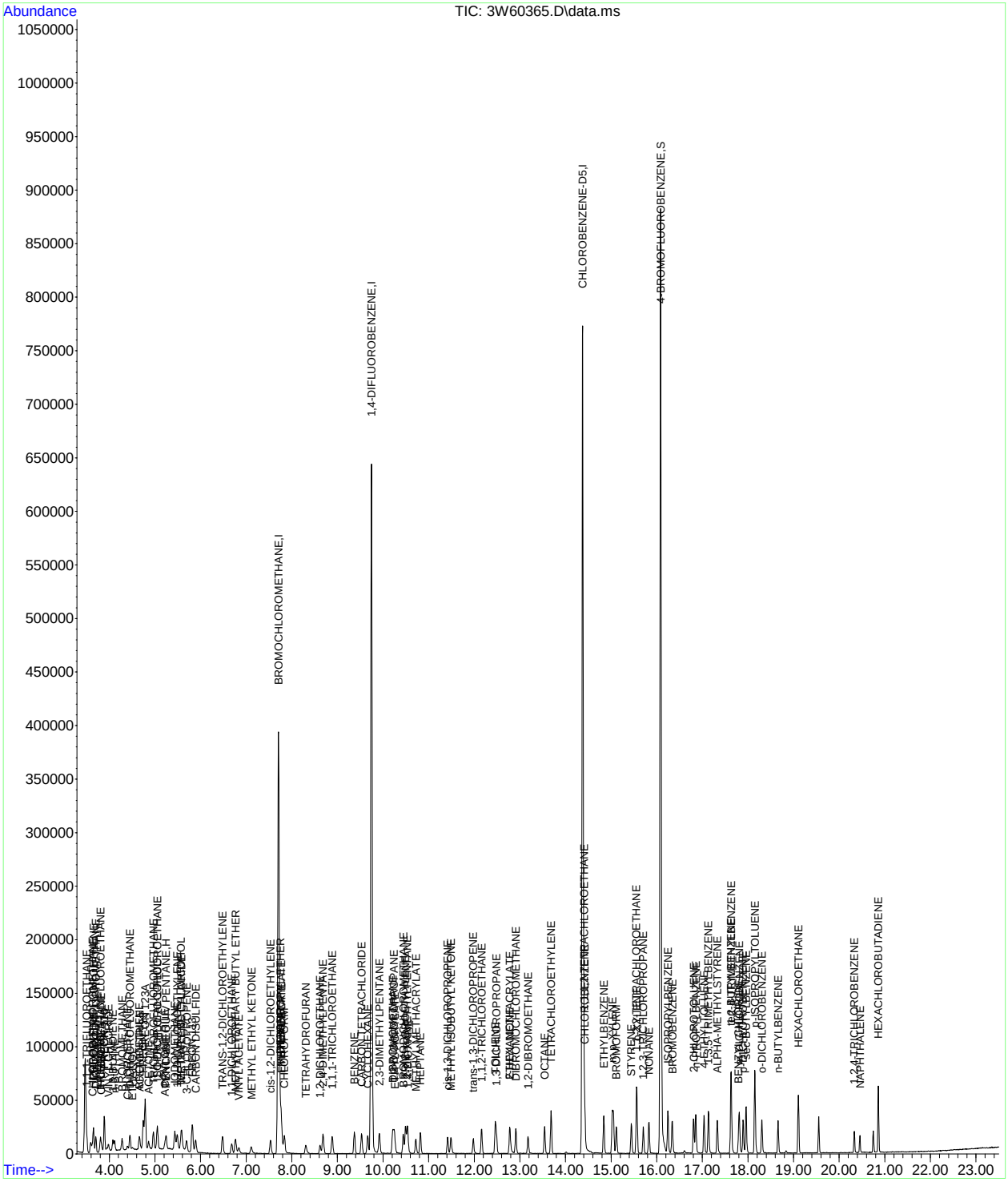
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.918	71	4163	0.53	PPBV		97
57)	TRICHLOROETHYLENE	10.490	95	9615	0.58	PPBV		94
58)	1,2-DICHLOROPROPANE	10.241	63	7818	0.58	PPBV		98
59)	DIBROMOMETHANE	10.210	174	11004	0.61	PPBV		93
60)	ETHYL ACRYLATE	10.259	55	13324	0.58	PPBV	#	95
61)	BROMODICHLOROMETHANE	10.448	83	15112	0.58	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	28823	0.53	PPBV		98
63)	1,4-DIOXANE	10.551	88	3499	0.52	PPBV	#	81
64)	HEPTANE	10.819	43	8929	0.51	PPBV		97
65)	METHYL METHACRYLATE	10.721	69	6955	0.58	PPBV		93
66)	METHYL ISOBUTYL KETONE	11.488	58	5493	0.56	PPBV	#	87
67)	cis-1,3-DICHLOROPROPENE	11.415	75	11443	0.57	PPBV		93
68)	TOLUENE	12.461	92	14773	0.56	PPBV		96
69)	1,3-DICHLOROPROPANE	12.486	76	11012	0.57	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.975	75	9821	0.57	PPBV		96
71)	1,1,2-TRICHLOROETHANE	12.163	83	7826	0.58	PPBV		98
73)	2-HEXANONE	12.778	58	7131	0.58	PPBV		96
74)	ETHYL METHACRYLATE	12.778	69	10352	0.56	PPBV		91
75)	TETRACHLOROETHYLENE	13.684	164	11913	0.58	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.911	129	15605	0.57	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	14163	0.60	PPBV		100
78)	OCTANE	13.538	43	12036	0.52	PPBV		97
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	11766	0.56	PPBV		97
80)	CHLOROBENZENE	14.420	112	20706	0.58	PPBV		99
81)	ETHYLBENZENE	14.840	91	30880	0.56	PPBV		97
82)	m,p-XYLENE	15.029	106	25021	1.13	PPBV		93
83)	o-XYLENE	15.564	106	12301	0.56	PPBV		92
84)	STYRENE	15.442	104	17800	0.56	PPBV		98
85)	NONANE	15.832	43	12065	0.53	PPBV		97
86)	BROMOFORM	15.114	173	14554	0.54	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	19451	0.60	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	13074	0.59	PPBV		94
90)	ISOPROPYLBENZENE	16.245	105	33535	0.56	PPBV		97
91)	BROMOBENZENE	16.343	77	14807	0.59	PPBV		99
92)	2-CHLOROTOLUENE	16.811	126	8807	0.55	PPBV		99
93)	n-PROPYLBENZENE	16.860	120	8768	0.52	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	29919	0.53	PPBV		97
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	27247	0.56	PPBV		99
96)	ALPHA-METHYLSTYRENE	17.328	118	12236	0.50	PPBV		98
97)	tert-BUTYLBENZENE	17.626	134	6636	0.56	PPBV	#	87
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	25193	0.54	PPBV		96
99)	m-DICHLOROBENZENE	17.809	146	17394	0.57	PPBV		100
100)	BENZYL CHLORIDE	17.790	91	14946	0.49	PPBV		96
101)	p-DICHLOROBENZENE	17.894	146	17179	0.58	PPBV		99
102)	sec-BUTYLBENZENE	17.961	134	7396	0.55	PPBV	#	79
103)	p-ISOPROPYLTOLUENE	18.155	134	7969	0.52	PPBV	#	84
104)	o-DICHLOROBENZENE	18.308	146	17130	0.56	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	5330	0.46	PPBV	#	82
106)	HEXACHLOROETHANE	19.105	117	11167	0.57	PPBV		95
107)	HEXACHLOROBUTADIENE	20.857	225	13064	0.70	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.333	180	7392	0.62	PPBV		99
109)	NAPHTHALENE	20.455	128	13619	0.55	PPBV		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60365.D
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : 1C2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293 **Method:** TO-15
Lab FileID: 3W60365.D **Analyst approved:** 06/23/17 09:39
Injection Time: 06/21/17 14:55 **Supervisor approved:** 06/26/17 13:53 [redacted]

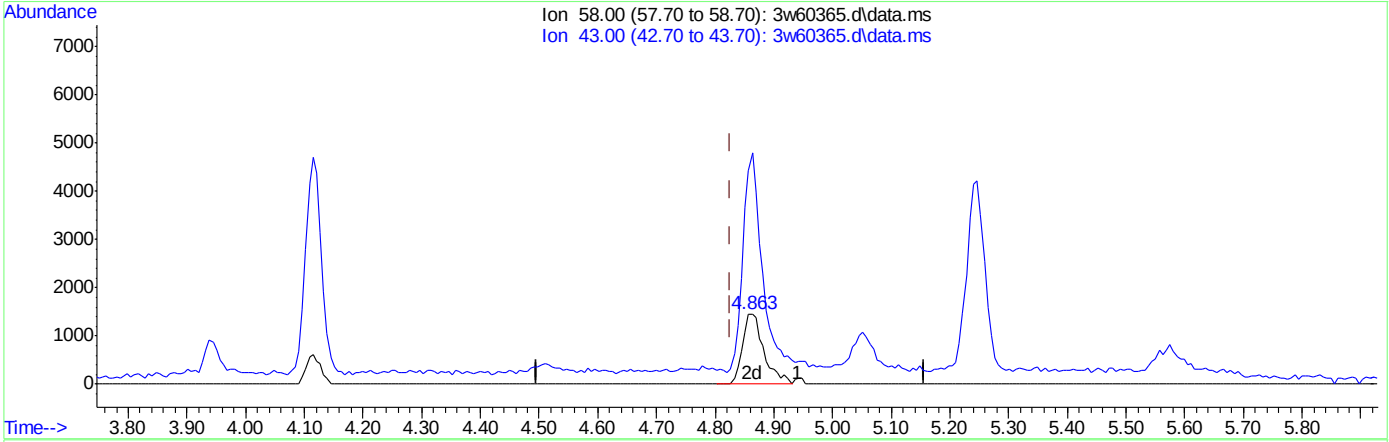
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak
Acetone	67-64-1		4.86	Missed peak

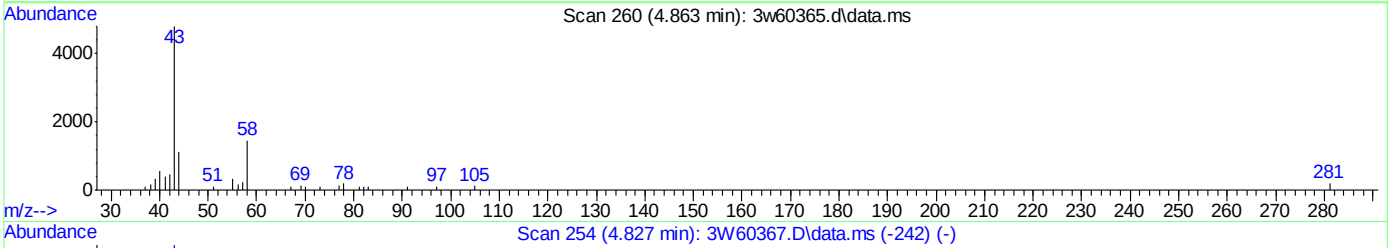
SGS ACCUTEST
JC52053

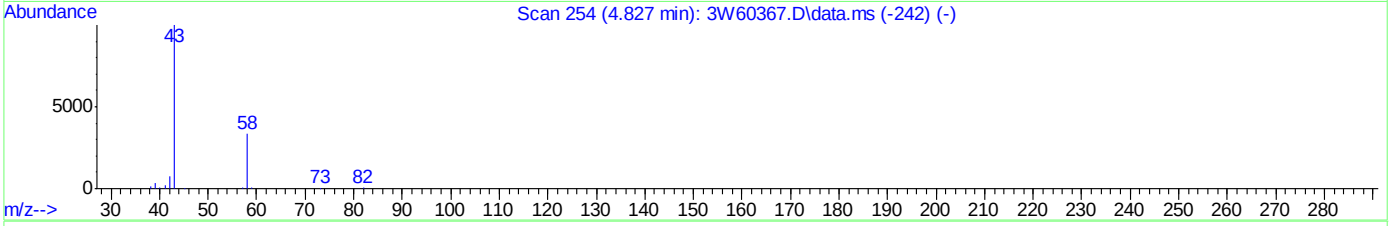
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60365.d
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : ic2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 21 16:21:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration







TIC: 3w60365.d\data.ms

(24) ACETONE

4.863min (+0.036) 0.65PPBV m

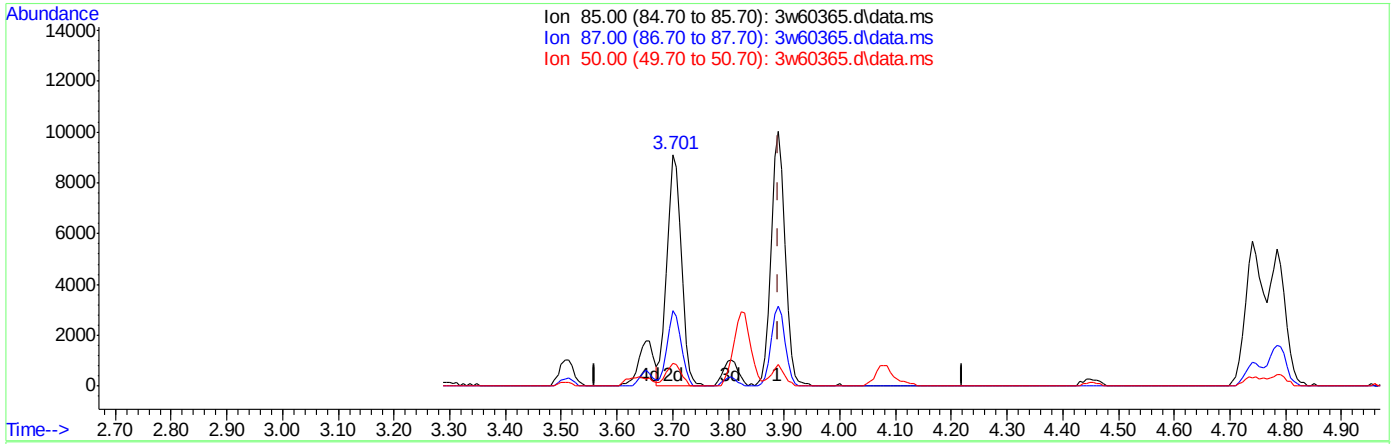
response 3659

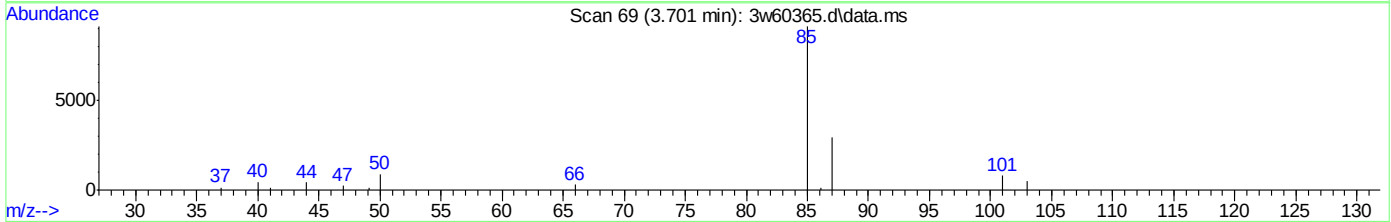
Ion	Exp%	Act%
58.00	100	100
43.00	266.80	9.21#
0.00	0.00	0.00
0.00	0.00	0.00

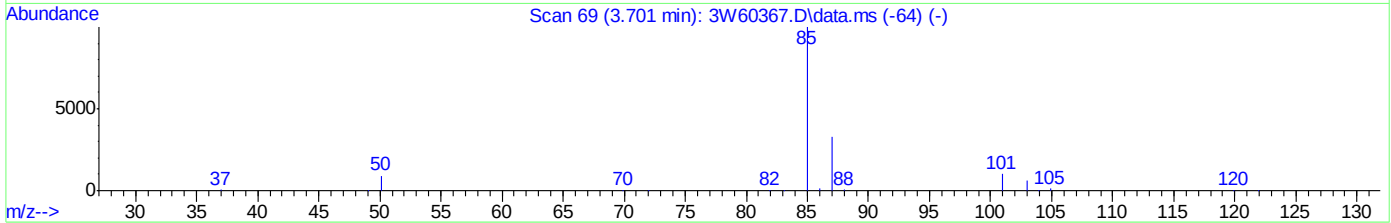
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60365.d
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : ic2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration







TIC: 3w60365.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 0.47PPBV m

response 16566

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	33.44
50.00	7.30	8.70
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60366.D
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : 1c2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	160276	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	694445	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	285192	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	356234	9.64	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 96.40%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	108472	4.86	PPBV		99
3) FREON 115	3.889	85	169390	4.90	PPBV	#	16
4) FREON 152A	3.804	65	104773	4.91	PPBV		98
5) CHLORODIFLUOROMETHANE	3.622	67	14281	4.96	PPBV		97
6) CHLOROTRIFLUOROETHENE	3.652	116	92602	5.00	PPBV	#	99
7) DICHLORODIFLUOROMETHANE	3.701	85	152384m	4.41	PPBV		
8) PROPYLENE	3.646	41	41539	4.84	PPBV		97
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	104773	4.91	PPBV		97
10) FREON 114	3.889	85	169390	4.90	PPBV		97
11) CHLOROMETHANE	3.823	52	18370	4.74	PPBV		92
12) VINYL CHLORIDE	3.981	62	67459	4.80	PPBV		100
13) 1,3-BUTADIENE	4.078	54	47418	4.77	PPBV		94
14) n-BUTANE	4.115	43	83441	4.64	PPBV		97
15) BROMOMETHANE	4.279	94	73466	4.92	PPBV		99
16) CHLOROETHANE	4.394	64	32664	4.84	PPBV		84
17) DICHLOROFLUOROMETHANE	4.449	67	139279	4.99	PPBV		99
18) ACETONITRILE	4.638	41	41910	4.72	PPBV		99
19) FREON 123	4.741	83	175893	4.99	PPBV	#	55
20) FREON 123A	4.784	117	188698	10.17	PPBV		83
21) TRICHLOROFLUOROMETHANE	4.966	101	156955	5.03	PPBV		100
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	132729	5.06	PPBV		97
23) ISOPROPYL ALCOHOL	5.015	45	117449	5.06	PPBV		95
24) ACETONE	4.832	58	26476	4.67	PPBV	#	82
25) PENTANE	5.240	42	55108	4.69	PPBV		94
26) TVHC as EQUIV PENTANE	5.630	TIC	270151m	4.71	PPBV		
27) IODOMETHANE	5.435	142	217005	5.00	PPBV		96
28) 1,1-DICHLOROETHYLENE	5.489	96	67636	4.94	PPBV		87
29) CARBON DISULFIDE	5.891	76	214978	4.90	PPBV		99
30) ETHANOL	4.473	45	17628	4.93	PPBV		94
31) BROMOETHENE	4.656	106	73458	4.95	PPBV		98
32) ACRYLONITRILE	5.191	52	34281	4.86	PPBV		97
33) METHYLENE CHLORIDE	5.581	84	62484	4.82	PPBV		95
34) 3-CHLOROPROPENE	5.696	76	30271	4.93	PPBV	#	88
35) FREON 113	5.818	151	122171	5.06	PPBV		91
36) TRANS-1,2-DICHLOROETHY...	6.481	96	71052	5.17	PPBV		94
37) TERTIARY BUTYL ALCOHOL	5.520	59	129108	5.25	PPBV		97
38) METHYL TERTIARY BUTYL ...	6.737	73	170871	5.15	PPBV		100
39) TETRAHYDROFURAN	8.270	72	29124	5.06	PPBV		97
40) HEXANE	7.753	57	92844	5.25	PPBV		96
41) VINYL ACETATE	6.822	86	10774	4.98	PPBV	#	68
42) 1,1-DICHLOROETHANE	6.682	63	111452	4.97	PPBV		100
43) METHYL ETHYL KETONE	7.077	72	29319	5.04	PPBV		96
44) cis-1,2-DICHLOROETHYLENE	7.534	96	71293	5.08	PPBV		98
45) DIISOPROPYL ETHER	7.740	59	26405	5.05	PPBV		96
46) ETHYL ACETATE	7.759	61	18145	4.90	PPBV		97
47) METHYL ACRYLATE	7.753	55	100105	5.09	PPBV		96
48) CHLOROFORM	7.844	83	131377	5.12	PPBV		99
49) 2,4-DIMETHYLPENTANE	8.683	57	105778	5.04	PPBV		98
50) 1,1,1-TRICHLOROETHANE	8.884	97	124704	5.25	PPBV		99
51) CARBON TETRACHLORIDE	9.535	117	134780	5.52	PPBV		100
52) 1,2-DICHLOROETHANE	8.616	62	71211	5.02	PPBV		98
54) BENZENE	9.371	78	200011	5.15	PPBV		99
55) CYCLOHEXANE	9.663	84	85693	5.16	PPBV		97

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60366.D
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : 1c2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration

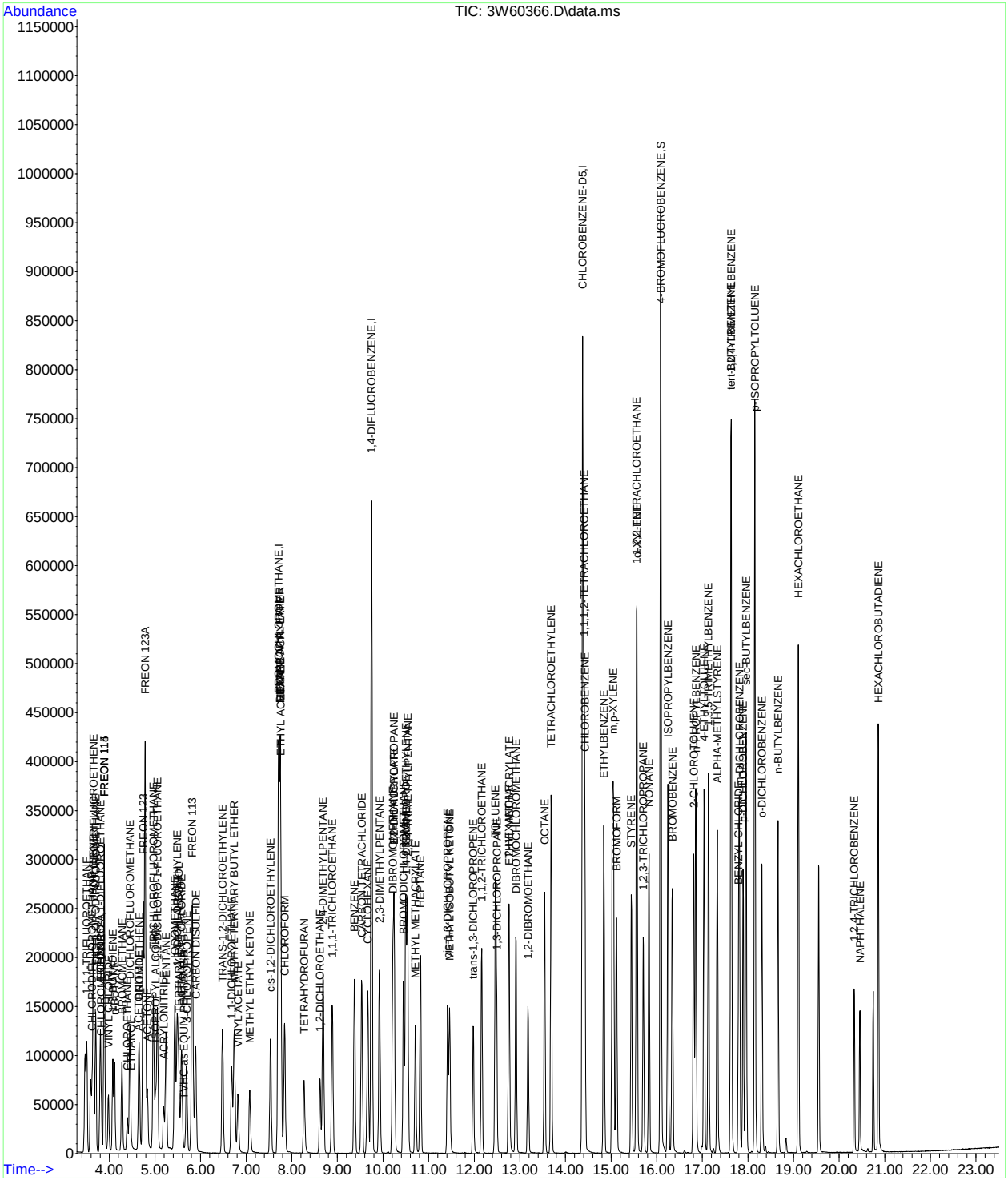
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.924	71	40718	5.10	PPBV		93
57)	TRICHLOROETHYLENE	10.496	95	86847	5.30	PPBV		96
58)	1,2-DICHLOROPROPANE	10.241	63	69786	5.18	PPBV		100
59)	DIBROMOMETHANE	10.216	174	93983	5.28	PPBV		95
60)	ETHYL ACRYLATE	10.241	55	117192	5.04	PPBV		98
61)	BROMODICHLOROMETHANE	10.448	83	135484	5.29	PPBV		98
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	284854	5.19	PPBV		97
63)	1,4-DIOXANE	10.508	88	36393	5.57	PPBV	#	1
64)	HEPTANE	10.819	43	91826	5.23	PPBV		98
65)	METHYL METHACRYLATE	10.709	69	61936	5.17	PPBV		96
66)	METHYL ISOBUTYL KETONE	11.457	58	50335	4.98	PPBV		95
67)	cis-1,3-DICHLOROPROPENE	11.415	75	104855	5.19	PPBV		94
68)	TOLUENE	12.461	92	137493	5.16	PPBV		98
69)	1,3-DICHLOROPROPANE	12.492	76	100038	5.21	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.975	75	90505	5.27	PPBV		98
71)	1,1,2-TRICHLOROETHANE	12.163	83	69626	5.19	PPBV		98
73)	2-HEXANONE	12.759	58	62772	5.05	PPBV		96
74)	ETHYL METHACRYLATE	12.765	69	96759	5.20	PPBV		97
75)	TETRACHLOROETHYLENE	13.684	164	109504	5.39	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.917	129	148632	5.63	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	123330	5.32	PPBV		99
78)	OCTANE	13.544	43	122202	5.33	PPBV		98
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	113142	5.57	PPBV		97
80)	CHLOROBENZENE	14.426	112	189520	5.34	PPBV		98
81)	ETHYLBENZENE	14.840	91	289545	5.35	PPBV		98
82)	m,p-XYLENE	15.047	106	232910	10.59	PPBV		94
83)	o-XYLENE	15.564	106	115281	5.33	PPBV		94
84)	STYRENE	15.442	104	164438	5.17	PPBV		99
85)	NONANE	15.832	43	118570	5.25	PPBV		97
86)	BROMOFORM	15.120	173	146116	5.59	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	170970	5.28	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	116606	5.27	PPBV		95
90)	ISOPROPYLBENZENE	16.245	105	313097	5.33	PPBV		98
91)	BROMOBENZENE	16.343	77	131109	5.20	PPBV		99
92)	2-CHLOROTOLUENE	16.811	126	83582	5.25	PPBV		100
93)	n-PROPYLBENZENE	16.860	120	87370	5.19	PPBV		99
94)	4-ETHYLTOLUENE	17.036	105	297112	5.26	PPBV		98
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	254675	5.27	PPBV		98
96)	ALPHA-METHYLSTYRENE	17.328	118	125866	5.04	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	61161	5.18	PPBV	#	88
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	240244	5.17	PPBV		99
99)	m-DICHLOROBENZENE	17.815	146	156569	5.05	PPBV		99
100)	BENZYL CHLORIDE	17.790	91	153214	4.86	PPBV		97
101)	p-DICHLOROBENZENE	17.894	146	152089	4.99	PPBV		100
102)	sec-BUTYLBENZENE	17.961	134	70406	5.21	PPBV	#	84
103)	p-ISOPROPYLTOLUENE	18.155	134	78931m	5.10	PPBV		
104)	o-DICHLOROBENZENE	18.308	146	156358	5.08	PPBV		100
105)	n-BUTYLBENZENE	18.660	134	56986	4.68	PPBV	#	83
106)	HEXACHLOROETHANE	19.104	117	107777	5.88	PPBV		97
107)	HEXACHLOROBUTADIENE	20.863	225	93378	4.87	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	61212	4.99	PPBV		100
109)	NAPHTHALENE	20.455	128	125249	4.83	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60366.D
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : 1c2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293 **Method:** TO-15
Lab FileID: 3W60366.D **Analyst approved:** 06/23/17 09:39
Injection Time: 06/21/17 15:35 **Supervisor approved:** 06/26/17 13:53 [redacted]

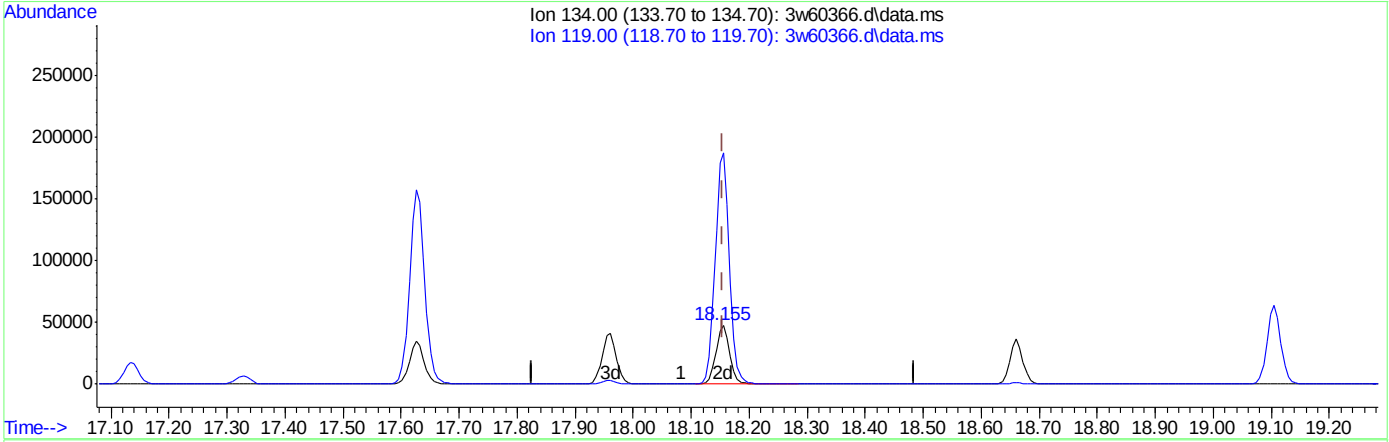
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak
p-Isopropyltoluene	99-87-6		18.16	Missed peak

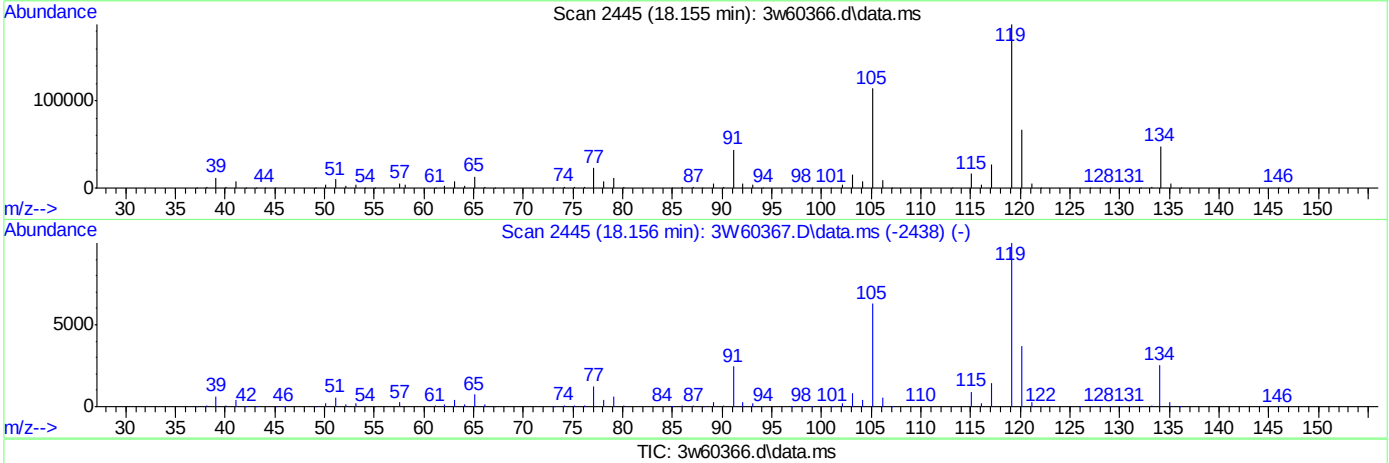
SGS ACCUTEST
JC52053

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60366.d
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : ic2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 21 16:18:45 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration





TIC: 3w60366.d\data.ms

(103) p-ISOPROPYLTOLUENE

18.155min (-0.000) 5.10PPBV m

response 78931

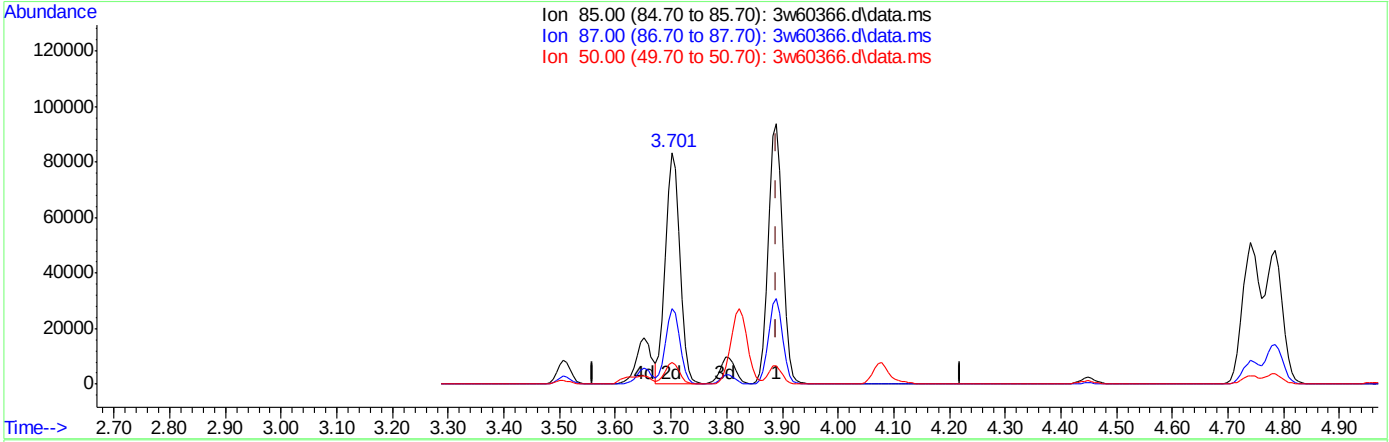
Ion	Exp%	Act%
134.00	100	100
119.00	384.00	1.27#
0.00	0.00	0.00
0.00	0.00	0.00

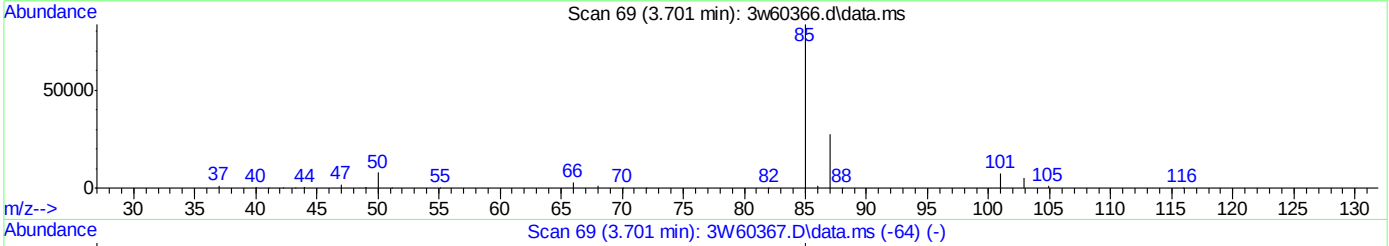
SGS ACCUTEST JC52053

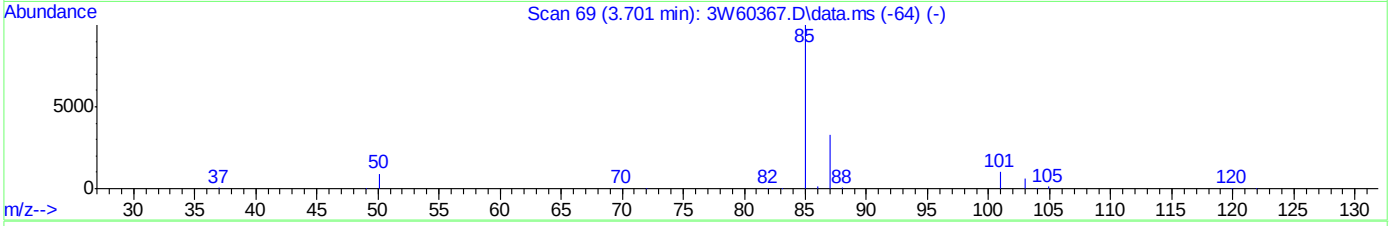
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60366.d
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : ic2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration







TIC: 3w60366.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 4.41PPBV m

response 152384

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.18
50.00	7.30	7.93
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60367.D
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : 1C2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.716	128	155655	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.754	114	690506	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	294329	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	369538	10.11	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.10%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	225817	10.27	PPBV		99
3) FREON 115	3.890	85	345251	10.34	PPBV	#	16
4) FREON 152A	3.805	65	216588	10.41	PPBV		99
5) CHLORODIFLUOROMETHANE	3.622	67	29391	10.32	PPBV		93
6) CHLOROTRIFLUOROETHENE	3.652	116	190805	10.47	PPBV	#	99
7) DICHLORODIFLUOROMETHANE	3.701	85	312034m	9.37	PPBV		
8) PROPYLENE	3.652	41	84919	9.39	PPBV		96
9) 1-CHLORO-1,1-DIFLUOROE...	3.805	65	216588	10.41	PPBV		98
10) FREON 114	3.890	85	345251	10.34	PPBV		97
11) CHLOROMETHANE	3.823	52	37407	9.73	PPBV	#	89
12) VINYL CHLORIDE	3.981	62	138119	10.29	PPBV		100
13) 1,3-BUTADIENE	4.078	54	97124	10.13	PPBV		93
14) n-BUTANE	4.115	43	171737	10.24	PPBV		97
15) BROMOMETHANE	4.279	94	149596	9.50	PPBV		99
16) CHLOROETHANE	4.395	64	65840	10.05	PPBV		85
17) DICHLOROFLUOROMETHANE	4.449	67	280788	9.90	PPBV		99
18) ACETONITRILE	4.638	41	86206	9.62	PPBV		99
19) FREON 123	4.741	83	355264	9.95	PPBV	#	59
20) FREON 123A	4.784	117	382324	20.62	PPBV		84
21) TRICHLOROFLUOROMETHANE	4.966	101	323591	10.69	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.052	81	271310	10.19	PPBV		97
23) ISOPROPYL ALCOHOL	5.009	45	239546	8.72	PPBV		95
24) ACETONE	4.827	58	55103	8.89	PPBV	#	81
25) PENTANE	5.246	42	112684	10.10	PPBV		93
26) TVHC as EQUIV PENTANE	5.240	TIC	546729m	8.72	PPBV		
27) IODOMETHANE	5.435	142	440203	10.28	PPBV		96
28) 1,1-DICHLOROETHYLENE	5.490	96	138029	10.14	PPBV		88
29) CARBON DISULFIDE	5.891	76	431991	10.07	PPBV		99
30) ETHANOL	4.474	45	35570	8.18	PPBV		96
31) BROMOETHENE	4.656	106	149283	10.20	PPBV		98
32) ACRYLONITRILE	5.192	52	70822	9.67	PPBV		97
33) METHYLENE CHLORIDE	5.587	84	125412	8.35	PPBV		95
34) 3-CHLOROPROPENE	5.696	76	61522	10.49	PPBV	#	87
35) FREON 113	5.818	151	250720	10.66	PPBV		92
36) TRANS-1,2-DICHLOROETHY...	6.481	96	141009	8.67	PPBV		95
37) TERTIARY BUTYL ALCOHOL	5.514	59	254245	10.68	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	343237	10.14	PPBV		100
39) TETRAHYDROFURAN	8.264	72	59605	10.63	PPBV		97
40) HEXANE	7.753	57	176751	9.60	PPBV		94
41) VINYL ACETATE	6.822	86	23071	13.11	PPBV	#	69
42) 1,1-DICHLOROETHANE	6.682	63	223909	10.17	PPBV		100
43) METHYL ETHYL KETONE	7.077	72	59654	10.98	PPBV	#	91
44) cis-1,2-DICHLOROETHYLENE	7.540	96	143739	10.17	PPBV		98
45) DIISOPROPYL ETHER	7.741	59	54123	10.56	PPBV		98
46) ETHYL ACETATE	7.759	61	38823	11.62	PPBV	#	88
47) METHYL ACRYLATE	7.753	55	201740	10.02	PPBV		98
48) CHLOROFORM	7.850	83	266370	10.10	PPBV		99
49) 2,4-DIMETHYLPENTANE	8.690	57	208600	10.00	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.890	97	254656	10.47	PPBV		99
51) CARBON TETRACHLORIDE	9.535	117	276950	11.00	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	143284	10.22	PPBV		98
54) BENZENE	9.377	78	402963	9.73	PPBV		100
55) CYCLOHEXANE	9.669	84	173589	10.18	PPBV		99

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60367.D
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : 1c2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

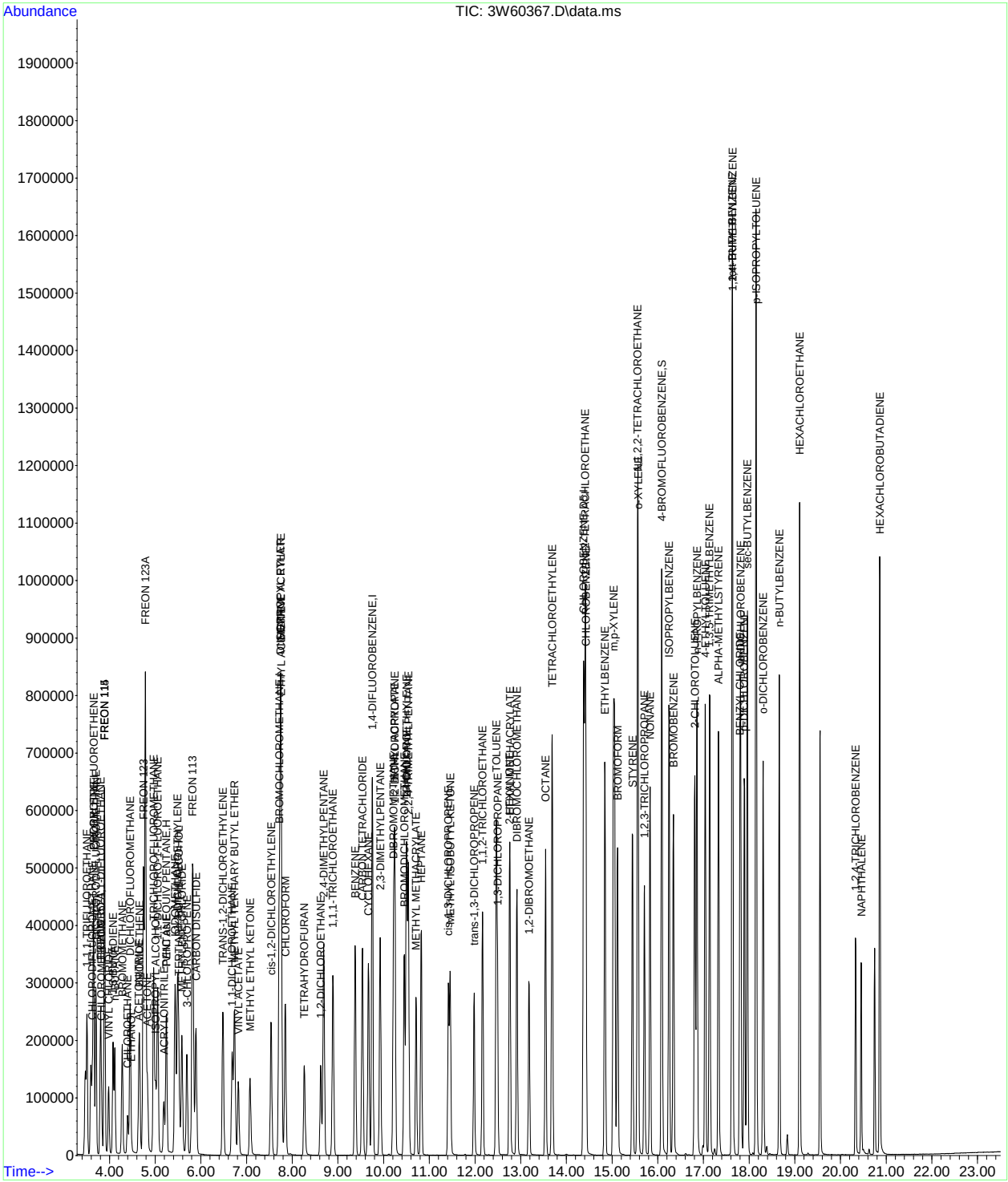
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.925	71	82954	9.85	PPBV		95
57)	TRICHLOROETHYLENE	10.496	95	173836	9.75	PPBV		96
58)	1,2-DICHLOROPROPANE	10.247	63	141989	9.69	PPBV		99
59)	DIBROMOMETHANE	10.217	174	190465	9.51	PPBV		96
60)	ETHYL ACRYLATE	10.241	55	249845	10.43	PPBV		98
61)	BROMODICHLOROMETHANE	10.454	83	275747	9.90	PPBV		98
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	564172	9.64	PPBV		97
63)	1,4-DIOXANE	10.496	88	75957	10.88	PPBV	#	1
64)	HEPTANE	10.825	43	178386	9.66	PPBV		98
65)	METHYL METHACRYLATE	10.709	69	129613	10.09	PPBV		96
66)	METHYL ISOBUTYL KETONE	11.458	58	108819	10.83	PPBV		97
67)	cis-1,3-DICHLOROPROPENE	11.415	75	215053	10.20	PPBV		95
68)	TOLUENE	12.467	92	284143	10.19	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	204496	10.06	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	186977	10.38	PPBV		98
71)	1,1,2-TRICHLOROETHANE	12.163	83	141893	9.89	PPBV		99
73)	2-HEXANONE	12.753	58	138138	10.62	PPBV		97
74)	ETHYL METHACRYLATE	12.766	69	208087	10.57	PPBV		97
75)	TETRACHLOROETHYLENE	13.690	164	220761	9.37	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.918	129	307165	10.22	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	252893	9.61	PPBV		100
78)	OCTANE	13.544	43	241699	9.65	PPBV		98
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	235315	10.18	PPBV		97
80)	CHLOROBENZENE	14.426	112	388226	9.74	PPBV		98
81)	ETHYLBENZENE	14.840	91	599449	9.96	PPBV		98
82)	m,p-XYLENE	15.035	106	485030	19.89	PPBV		95
83)	o-XYLENE	15.570	106	239320	10.01	PPBV		94
84)	STYRENE	15.448	104	353730	10.39	PPBV		99
85)	NONANE	15.832	43	243850	9.99	PPBV		97
86)	BROMOFORM	15.120	173	318239	11.15	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	359931	9.78	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.710	75	245302	9.95	PPBV		96
90)	ISOPROPYLBENZENE	16.245	105	646902	9.96	PPBV		98
91)	BROMOBENZENE	16.343	77	280425	9.99	PPBV		99
92)	2-CHLOROTOLUENE	16.811	126	176448	10.20	PPBV		100
93)	n-PROPYLBENZENE	16.860	120	185843	10.73	PPBV		99
94)	4-ETHYLTOLUENE	17.042	105	640572	10.95	PPBV		97
95)	1,3,5-TRIMETHYLBENZENE	17.134	105	537569	10.25	PPBV		98
96)	ALPHA-METHYLSTYRENE	17.328	118	278440	11.45	PPBV		98
97)	tert-BUTYLBENZENE	17.626	134	129461	10.02	PPBV	#	90
98)	1,2,4-TRIMETHYLBENZENE	17.639	105	521267	10.70	PPBV		96
99)	m-DICHLOROBENZENE	17.815	146	352590	10.80	PPBV		99
100)	BENZYL CHLORIDE	17.797	91	367465	12.25	PPBV		97
101)	p-DICHLOROBENZENE	17.894	146	342008	10.60	PPBV		99
102)	sec-BUTYLBENZENE	17.961	134	150968	10.60	PPBV	#	85
103)	p-ISOPROPYLTOLUENE	18.156	134	173384	11.15	PPBV		92
104)	o-DICHLOROBENZENE	18.308	146	349015	10.77	PPBV		100
105)	n-BUTYLBENZENE	18.661	134	137720	12.69	PPBV	#	84
106)	HEXACHLOROETHANE	19.105	117	234919	10.98	PPBV		97
107)	HEXACHLOROBUTADIENE	20.863	225	221117	9.96	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	138432	10.45	PPBV		100
109)	NAPHTHALENE	20.455	128	291187	11.40	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60367.D
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : 1c2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration



M3W2293.M Fri Jun 23 09:33:21 2017 GCMS6W Page: 3

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SGS ACCUTEST JC52053

Manual Integration Approval Summary

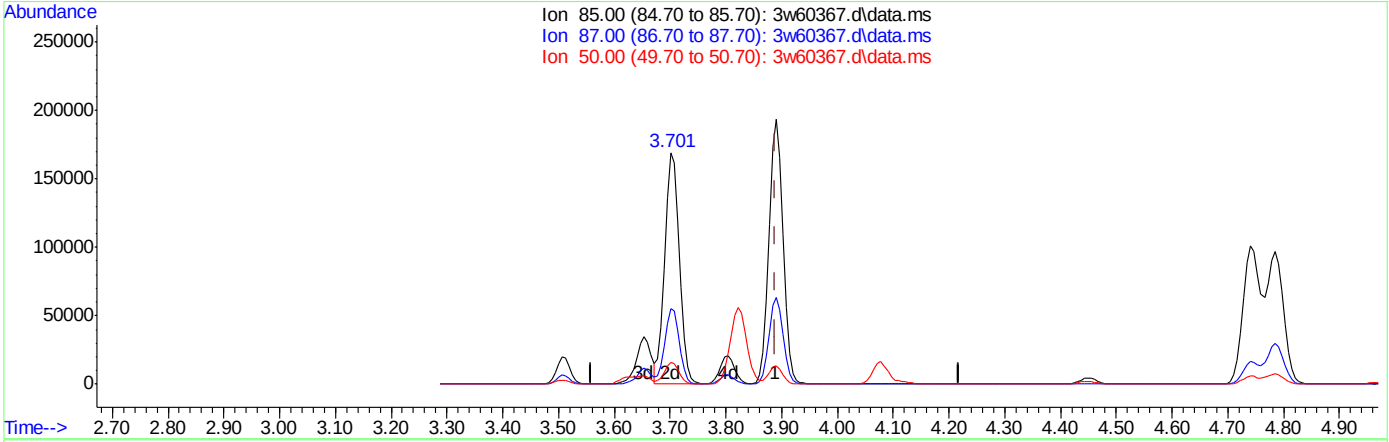
Sample Number: V3W2293-ICC2293 **Method:** TO-15
Lab FileID: 3W60367.D **Analyst approved:** 06/23/17 09:39
Injection Time: 06/21/17 16:16 **Supervisor approved:** 06/26/17 13:53 [redacted]

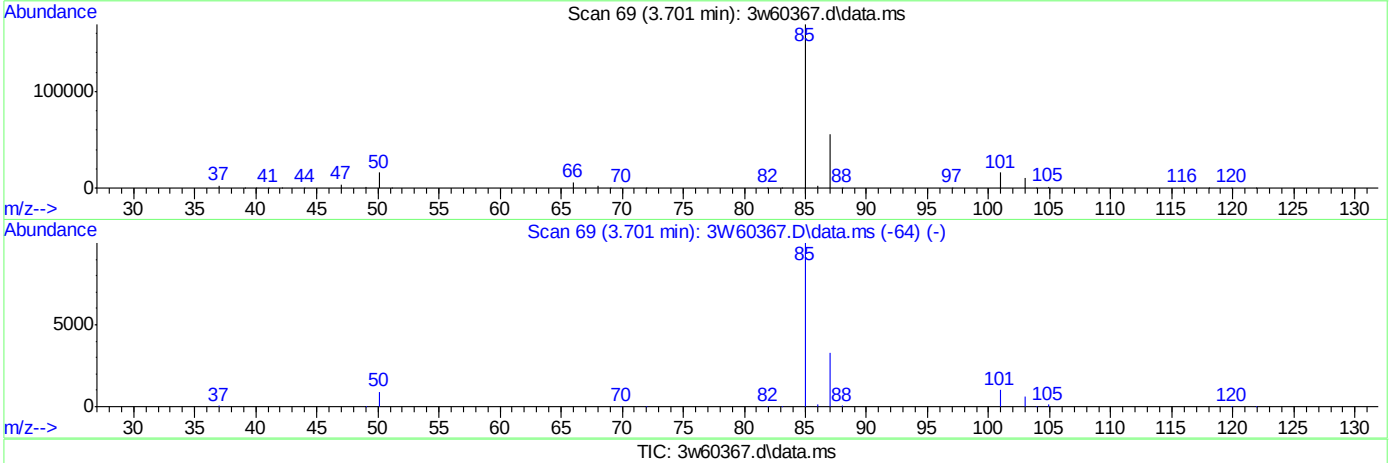
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60367.d
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : icc2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration





TIC: 3w60367.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 9.37PPBV m

response 312034

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.16
50.00	7.30	7.57
0.00	0.00	0.00

3W60370.D

Manual Integrations APPROVED (compounds with "m" flag)

[redacted]

06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60370.D
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : 1C2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.728	128	158824	10.00	PPBV		0.01
53) 1,4-DIFLUOROBENZENE	9.760	114	726608	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.384	82	350562	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.093	95	430300	9.92	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.20%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	890616	39.44	PPBV		98
3) FREON 115	3.889	85	1343802	39.18	PPBV	#	99
4) FREON 152A	3.804	65	872096	40.63	PPBV		100
5) CHLORODIFLUOROMETHANE	3.622	67	119469	40.60	PPBV		99
6) CHLOROTRIFLUOROETHENE	3.652	116	766325	40.54	PPBV		99
7) DICHLORODIFLUOROMETHANE	3.707	85	1215567m	35.53	PPBV		
8) PROPYLENE	3.652	41	331607	36.52	PPBV		99
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	872096	40.63	PPBV		100
10) FREON 114	3.889	85	1343802	39.18	PPBV		99
11) CHLOROMETHANE	3.823	52	150286m	38.71	PPBV		
12) VINYL CHLORIDE	3.981	62	563483	40.91	PPBV		100
13) 1,3-BUTADIENE	4.078	54	400252	40.88	PPBV		100
14) n-BUTANE	4.115	43	692283	40.61	PPBV		100
15) BROMOMETHANE	4.279	94	597329	37.55	PPBV		100
16) CHLOROETHANE	4.400	64	269670	40.45	PPBV		100
17) DICHLOROFLUOROMETHANE	4.455	67	1129217	39.03	PPBV		100
18) ACETONITRILE	4.638	41	358309	39.59	PPBV		100
19) FREON 123	4.747	83	1402264	38.49	PPBV		98
20) FREON 123A	4.790	117	1497314	78.25	PPBV		97
21) TRICHLOROFLUOROMETHANE	4.972	101	1295794	41.04	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.064	81	1101820	40.07	PPBV		99
23) ISOPROPYL ALCOHOL	5.015	45	827586	30.47	PPBV		99
24) ACETONE	4.832	58	230437	37.32	PPBV		98
25) PENTANE	5.252	42	467566	41.14	PPBV		100
26) TVHC as EQUIV PENTANE	5.240	TIC	2228117m	34.19	PPBV		
27) IODOMETHANE	5.447	142	1703099	38.73	PPBV		97
28) 1,1-DICHLOROETHYLENE	5.496	96	547130	39.33	PPBV		99
29) CARBON DISULFIDE	5.897	76	1708470	39.14	PPBV		100
30) ETHANOL	4.473	45	122707	29.42	PPBV		99
31) BROMOETHENE	4.656	106	601988	40.05	PPBV		100
32) ACRYLONITRILE	5.197	52	304904	40.72	PPBV		99
33) METHYLENE CHLORIDE	5.593	84	308801	22.42	PPBV		92
34) 3-CHLOROPROPENE	5.702	76	250590	41.59	PPBV		97
35) FREON 113	5.830	151	1008689	41.18	PPBV		100
36) TRANS-1,2-DICHLOROETHY...	6.493	96	575632	35.47	PPBV		100
37) TERTIARY BUTYL ALCOHOL	5.520	59	691790	29.15	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	1401545	40.24	PPBV		100
39) TETRAHYDROFURAN	8.264	72	248179	42.51	PPBV		98
40) HEXANE	7.765	57	715004	38.24	PPBV		99
41) VINYL ACETATE	6.828	86	103473	52.78	PPBV	#	93
42) 1,1-DICHLOROETHANE	6.700	63	920236	40.69	PPBV		100
43) METHYL ETHYL KETONE	7.083	72	257576	45.04	PPBV		97
44) cis-1,2-DICHLOROETHYLENE	7.552	96	598492	41.05	PPBV		99
45) DIISOPROPYL ETHER	7.753	59	216557	40.72	PPBV	#	93
46) ETHYL ACETATE	7.771	61	157155	44.05	PPBV	#	96
47) METHYL ACRYLATE	7.765	55	830885	40.08	PPBV		99
48) CHLOROFORM	7.862	83	1109908	40.71	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.695	57	883981	41.28	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.902	97	1053228	41.37	PPBV		99
51) CARBON TETRACHLORIDE	9.541	117	1170067	43.29	PPBV		100
52) 1,2-DICHLOROETHANE	8.635	62	616970	42.62	PPBV		100
54) BENZENE	9.389	78	1683997	38.58	PPBV		99
55) CYCLOHEXANE	9.675	84	715797	39.52	PPBV		100

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60370.D
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : 1C2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration

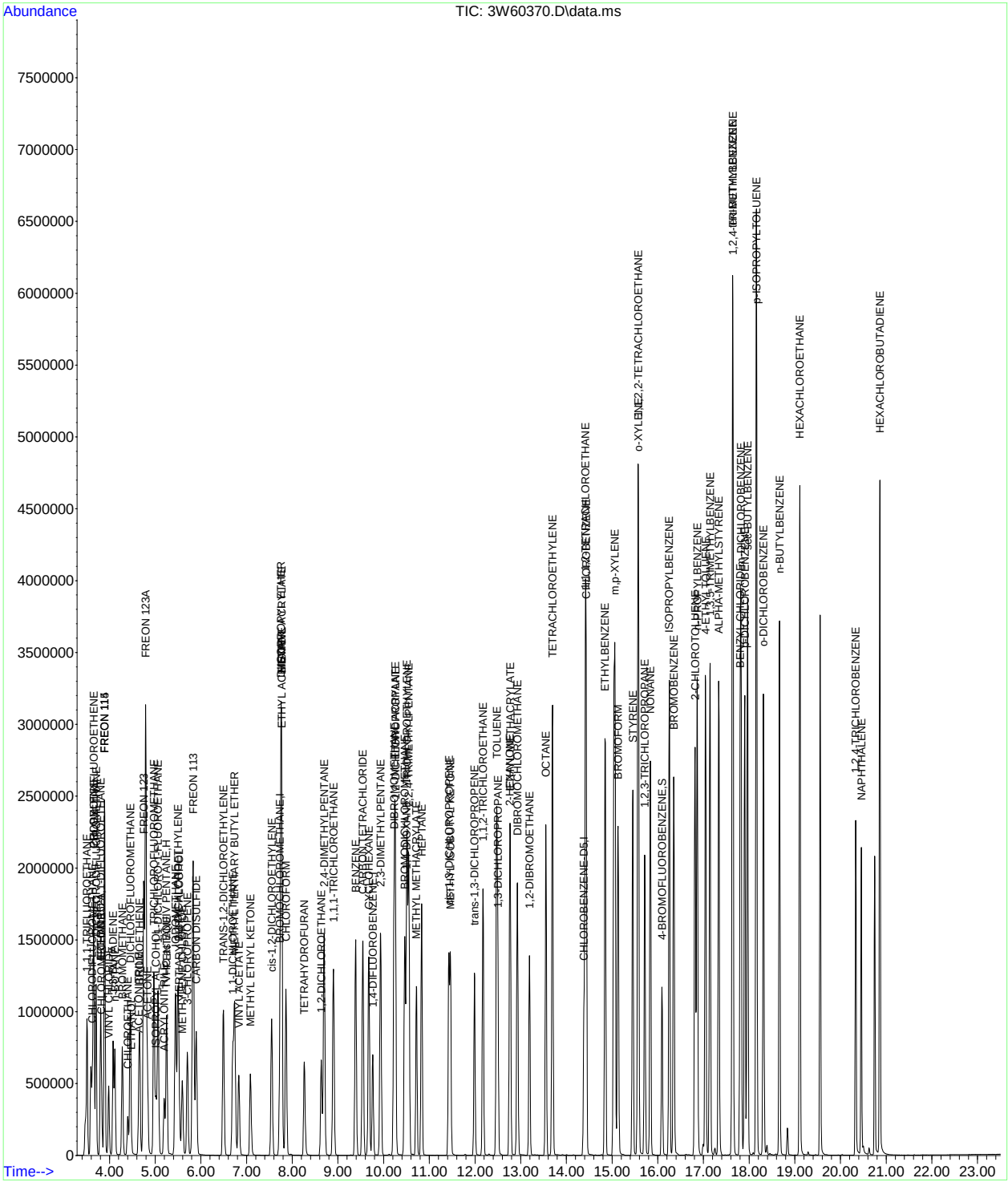
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.937	71	352336	39.58	PPBV		99
57)	TRICHLOROETHYLENE	10.508	95	750799	39.68	PPBV		99
58)	1,2-DICHLOROPROPANE	10.259	63	578413	37.45	PPBV		97
59)	DIBROMOMETHANE	10.229	174	803123	38.01	PPBV		100
60)	ETHYL ACRYLATE	10.253	55	1071788	41.61	PPBV		100
61)	BROMODICHLOROMETHANE	10.460	83	1191053	40.01	PPBV		100
62)	2,2,4-TRIMETHYLPENTANE	10.551	57	2359053	38.29	PPBV		100
63)	1,4-DIOXANE	10.496	88	269532	35.77	PPBV		91
64)	HEPTANE	10.831	43	771543	39.76	PPBV		99
65)	METHYL METHACRYLATE	10.715	69	563000	40.98	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.464	58	466259	42.99	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.427	75	959875	42.42	PPBV		100
68)	TOLUENE	12.473	92	1205539	40.42	PPBV		100
69)	1,3-DICHLOROPROPANE	12.504	76	899249	41.30	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.987	75	848090	43.50	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.175	83	611653	40.16	PPBV		99
73)	2-HEXANONE	12.759	58	615055	39.10	PPBV		99
74)	ETHYL METHACRYLATE	12.771	69	905207	38.05	PPBV		100
75)	TETRACHLOROETHYLENE	13.696	164	948633	34.18	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.930	129	1351545	36.95	PPBV		99
77)	1,2-DIBROMOETHANE	13.191	107	1128195	36.16	PPBV		100
78)	OCTANE	13.550	43	1032646	35.06	PPBV		98
79)	1,1,1,2-TETRACHLOROETHANE	14.414	131	964417	34.57	PPBV		97
80)	CHLOROBENZENE	14.432	112	1664599	35.11	PPBV		99
81)	ETHYLBENZENE	14.846	91	2546255	35.44	PPBV		99
82)	m,p-XYLENE	15.059	106	2042522	70.27	PPBV		99
83)	o-XYLENE	15.576	106	988917	34.71	PPBV		100
84)	STYRENE	15.454	104	1576463	38.30	PPBV		98
85)	NONANE	15.838	43	1055698	36.37	PPBV		98
86)	BROMOFORM	15.132	173	1438814	40.21	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.570	83	1467377	33.63	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.716	75	1075709	36.56	PPBV		99
90)	ISOPROPYLBENZENE	16.251	105	2686073	34.78	PPBV		98
91)	BROMOBENZENE	16.349	77	1264431	37.56	PPBV		100
92)	2-CHLOROTOLUENE	16.817	126	765417	36.92	PPBV		99
93)	n-PROPYLBENZENE	16.866	120	808717	38.53	PPBV		100
94)	4-ETHYLTOLUENE	17.048	105	2729687	38.17	PPBV		98
95)	1,3,5-TRIMETHYLBENZENE	17.146	105	2278742	36.22	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.334	118	1238782	41.31	PPBV		99
97)	tert-BUTYLBENZENE	17.638	134	519263	33.92	PPBV		98
98)	1,2,4-TRIMETHYLBENZENE	17.644	105	2164879	36.69	PPBV		96
99)	m-DICHLOROBENZENE	17.821	146	1610440	40.21	PPBV		99
100)	BENZYL CHLORIDE	17.803	91	1857056	48.12	PPBV		99
101)	p-DICHLOROBENZENE	17.906	146	1620955	41.05	PPBV		99
102)	sec-BUTYLBENZENE	17.967	134	647837	37.64	PPBV		93
103)	p-ISOPROPYLTOLUENE	18.162	134	711781	37.50	PPBV		94
104)	o-DICHLOROBENZENE	18.314	146	1576831	39.84	PPBV		99
105)	n-BUTYLBENZENE	18.666	134	655565	47.40	PPBV		94
106)	HEXACHLOROETHANE	19.111	117	1011575	37.65	PPBV		99
107)	HEXACHLOROBUTADIENE	20.863	225	979245	36.64	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.333	180	829154	50.06	PPBV		99
109)	NAPHTHALENE	20.455	128	1711859	52.80	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60370.D
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : 1c2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293 **Method:** TO-15
Lab FileID: 3W60370.D **Analyst approved:** 06/23/17 09:39
Injection Time: 06/21/17 18:21 **Supervisor approved:** 06/26/17 13:53 [redacted]

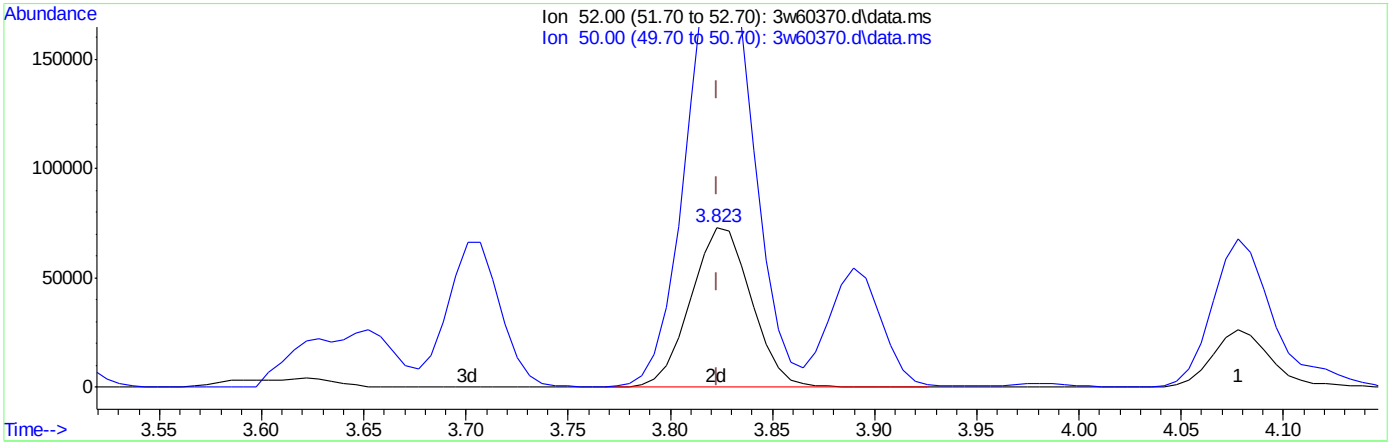
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.71	Missed peak
Chloromethane	74-87-3		3.82	Missed peak

SGS ACCUTEST
JC52053

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60370.d
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : ic2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 08:48:24 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration



TIC: 3w60370.d\data.ms

(11) CHLOROMETHANE

3.823min (-0.000) 38.71PPBV m

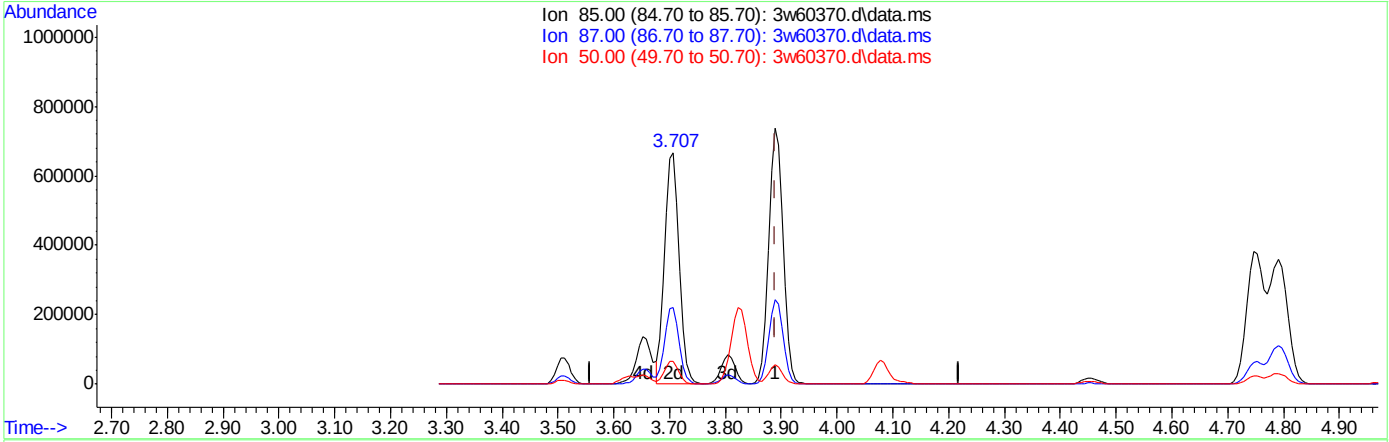
response 150286

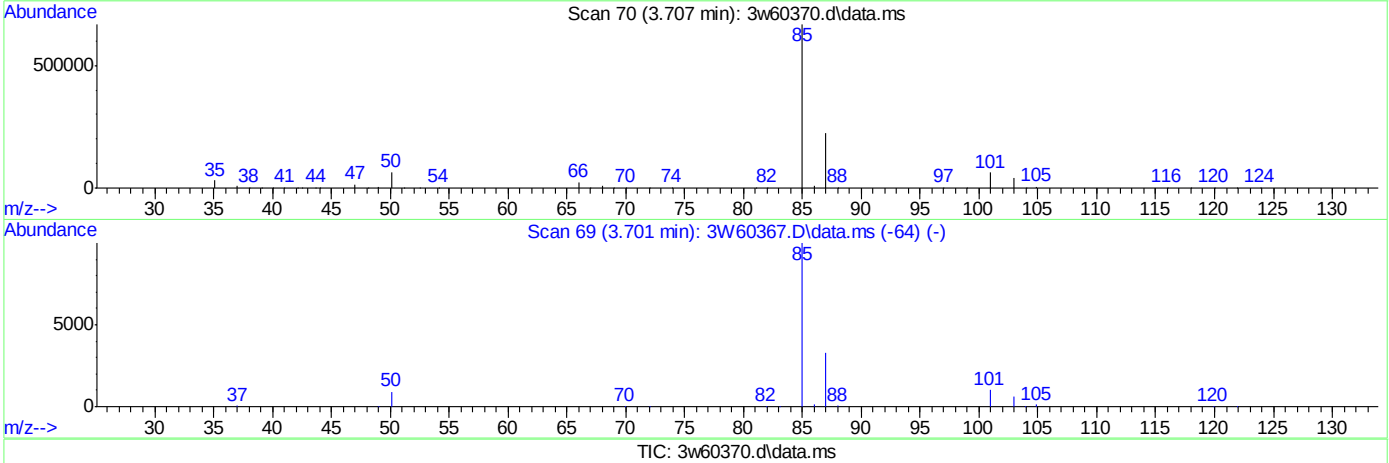
Ion	Exp%	Act%
52.00	100	100
50.00	265.70	300.76#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60370.d
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : ic2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration





TIC: 3w60370.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.707min (-0.183) 35.53PPBV m

response 1215567

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.56
50.00	6.90	7.88
0.00	0.00	0.00

SGS ACCUTEST JC52053

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60372.D
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : 1C2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.722	128	159146	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.760	114	709572	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	317938	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	401366	10.19	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.90%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	446785	19.74	PPBV		99
3) FREON 115	3.896	85	687067	19.95	PPBV	#	100
4) FREON 152A	3.804	65	430135	19.92	PPBV		100
5) CHLORODIFLUOROMETHANE	3.628	67	58949	20.01	PPBV		100
6) CHLOROTRIFLUOROETHENE	3.658	116	380538	20.05	PPBV		99
7) DICHLORODIFLUOROMETHANE	3.707	85	612198m	17.81	PPBV		
8) PROPYLENE	3.652	41	167175	18.35	PPBV		99
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	430135	19.92	PPBV		100
10) FREON 114	3.896	85	687067	19.95	PPBV		100
11) CHLOROMETHANE	3.829	52	74963	19.23	PPBV		99
12) VINYL CHLORIDE	3.987	62	278963	20.17	PPBV		100
13) 1,3-BUTADIENE	4.078	54	196230	19.99	PPBV		100
14) n-BUTANE	4.121	43	342740	20.01	PPBV		100
15) BROMOMETHANE	4.279	94	296700	18.56	PPBV		100
16) CHLOROETHANE	4.401	64	131875	19.65	PPBV		100
17) DICHLOROFLUOROMETHANE	4.455	67	559333	19.22	PPBV		100
18) ACETONITRILE	4.638	41	174181	19.14	PPBV		99
19) FREON 123	4.747	83	705635	19.26	PPBV		99
20) FREON 123A	4.790	117	757146	39.33	PPBV		99
21) TRICHLOROFLUOROMETHANE	4.972	101	645198	20.35	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.058	81	543393	19.64	PPBV		100
23) ISOPROPYL ALCOHOL	5.015	45	444297	16.17	PPBV		99
24) ACETONE	4.833	58	111715	17.97	PPBV		100
25) PENTANE	5.246	42	229302	20.08	PPBV		99
26) TVHC as EQUIV PENTANE	5.240	TIC	1093651m	16.82	PPBV		
27) IODOMETHANE	5.441	142	865546	19.56	PPBV		99
28) 1,1-DICHLOROETHYLENE	5.496	96	270673	19.34	PPBV		99
29) CARBON DISULFIDE	5.897	76	853525	19.48	PPBV		100
30) ETHANOL	4.474	45	65698	15.57	PPBV		100
31) BROMOETHENE	4.662	106	298471	19.75	PPBV		100
32) ACRYLONITRILE	5.198	52	146324	19.46	PPBV		99
33) METHYLENE CHLORIDE	5.593	84	152333	11.05	PPBV		92
34) 3-CHLOROPROPENE	5.702	76	120210	19.93	PPBV		97
35) FREON 113	5.830	151	498043	20.18	PPBV		100
36) TRANS-1,2-DICHLOROETHY...	6.493	96	280808	17.24	PPBV		100
37) TERTIARY BUTYL ALCOHOL	5.520	59	400757	16.55	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	677009	19.26	PPBV		100
39) TETRAHYDROFURAN	8.264	72	118797	20.15	PPBV		99
40) HEXANE	7.765	57	357925	19.04	PPBV		100
41) VINYL ACETATE	6.828	86	48270	24.46	PPBV	#	95
42) 1,1-DICHLOROETHANE	6.694	63	451797	19.90	PPBV		100
43) METHYL ETHYL KETONE	7.083	72	122127	21.15	PPBV		97
44) cis-1,2-DICHLOROETHYLENE	7.546	96	289377	19.74	PPBV		100
45) DIISOPROPYL ETHER	7.747	59	106859	19.93	PPBV		97
46) ETHYL ACETATE	7.765	61	78399	21.80	PPBV	#	96
47) METHYL ACRYLATE	7.759	55	409706	19.62	PPBV		100
48) CHLOROFORM	7.856	83	540389	19.72	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.696	57	430808	20.01	PPBV		100
50) 1,1,1-TRICHLOROETHANE	8.896	97	511648	19.99	PPBV		99
51) CARBON TETRACHLORIDE	9.541	117	568290	20.91	PPBV		100
52) 1,2-DICHLOROETHANE	8.629	62	292587	20.09	PPBV		100
54) BENZENE	9.383	78	824273	19.31	PPBV		100
55) CYCLOHEXANE	9.675	84	349508	19.69	PPBV		100

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60372.D
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : 1c2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration

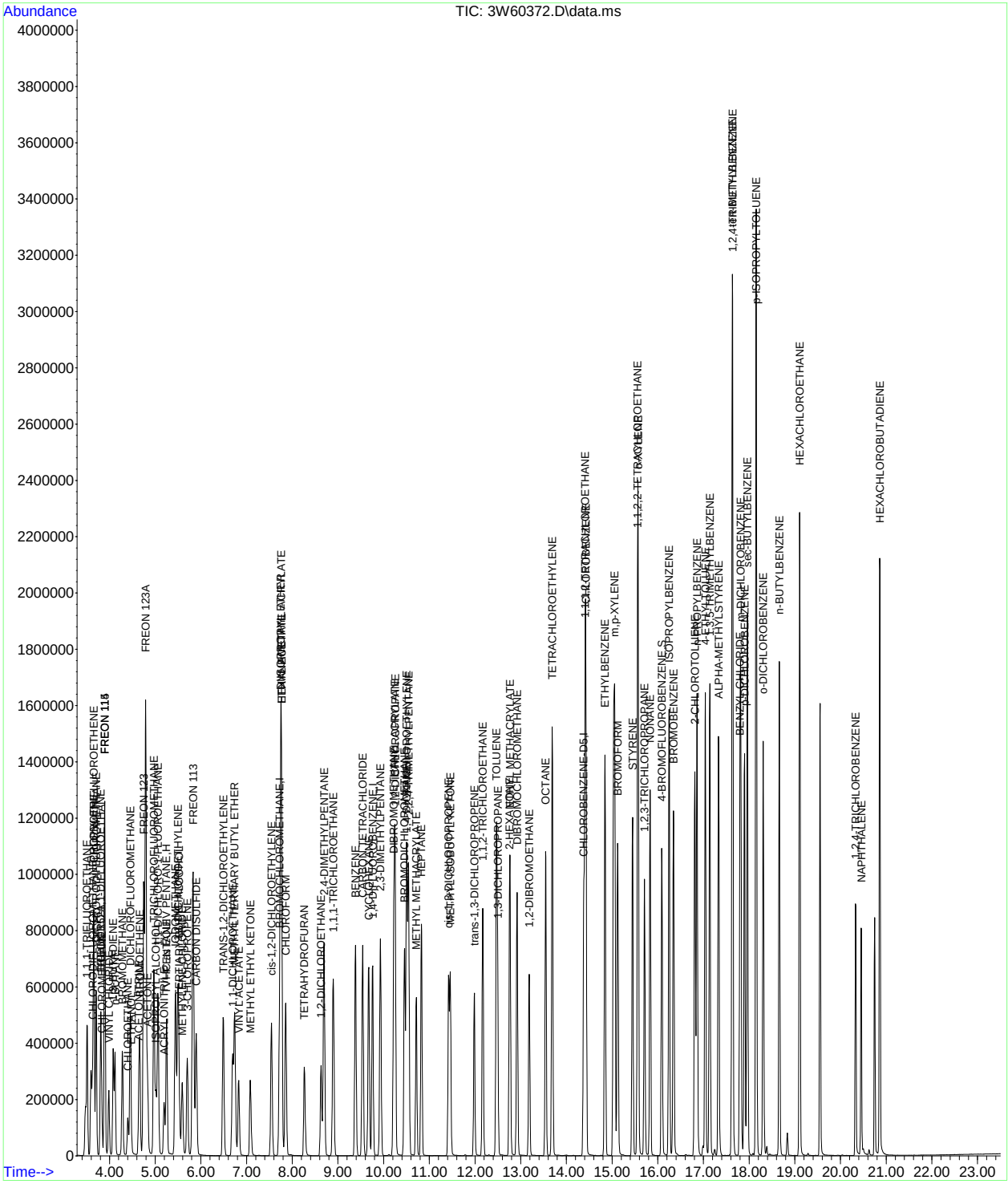
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.931	71	170102	19.53	PPBV		100
57)	TRICHLOROETHYLENE	10.502	95	359243	19.42	PPBV		100
58)	1,2-DICHLOROPROPANE	10.253	63	286721	18.99	PPBV		99
59)	DIBROMOMETHANE	10.223	174	388916	18.84	PPBV		100
60)	ETHYL ACRYLATE	10.247	55	506857	19.97	PPBV		100
61)	BROMODICHLOROMETHANE	10.454	83	573530	19.72	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.545	57	1165698	19.38	PPBV		100
63)	1,4-DIOXANE	10.496	88	139346	18.65	PPBV		95
64)	HEPTANE	10.825	43	369770	19.47	PPBV		100
65)	METHYL METHACRYLATE	10.715	69	263854	19.54	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.458	58	216161	20.14	PPBV		100
67)	cis-1,3-DICHLOROPROPENE	11.421	75	448566	20.24	PPBV		99
68)	TOLUENE	12.467	92	581601	19.92	PPBV		100
69)	1,3-DICHLOROPROPANE	12.498	76	428034	20.08	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.987	75	390206	20.40	PPBV		100
71)	1,1,2-TRICHLOROETHANE	12.169	83	290739	19.49	PPBV		100
73)	2-HEXANONE	12.753	58	281411	19.49	PPBV		100
74)	ETHYL METHACRYLATE	12.765	69	421843	19.33	PPBV		99
75)	TETRACHLOROETHYLENE	13.690	164	456524	18.14	PPBV		100
76)	DIBROMOCHLOROMETHANE	12.924	129	646233	19.48	PPBV		100
77)	1,2-DIBROMOETHANE	13.185	107	526635	18.57	PPBV		100
78)	OCTANE	13.544	43	495468	18.55	PPBV		99
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	476342	18.81	PPBV		99
80)	CHLOROBENZENE	14.426	112	805855	18.71	PPBV		100
81)	ETHYLBENZENE	14.846	91	1226242	18.75	PPBV		100
82)	m,p-XYLENE	15.053	106	990019	37.40	PPBV		99
83)	o-XYLENE	15.570	106	483883	18.66	PPBV		100
84)	STYRENE	15.448	104	736848	19.66	PPBV		100
85)	NONANE	15.832	43	500790	19.00	PPBV		99
86)	BROMOFORM	15.120	173	674084	20.71	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	722737	18.16	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.710	75	502863	18.74	PPBV		99
90)	ISOPROPYLBENZENE	16.251	105	1304354	18.53	PPBV		100
91)	BROMOBENZENE	16.343	77	583872	19.04	PPBV		100
92)	2-CHLOROTOLUENE	16.811	126	359663	19.03	PPBV		99
93)	n-PROPYLBENZENE	16.860	120	381439	19.92	PPBV		100
94)	4-ETHYLTOLUENE	17.042	105	1305700	20.02	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.140	105	1087822	18.97	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.334	118	574344	20.95	PPBV		100
97)	tert-BUTYLBENZENE	17.632	134	255247	18.31	PPBV		100
98)	1,2,4-TRIMETHYLBENZENE	17.638	105	1052476	19.56	PPBV		98
99)	m-DICHLOROBENZENE	17.815	146	739538	20.20	PPBV		99
100)	BENZYL CHLORIDE	17.797	91	818186	23.14	PPBV		100
101)	p-DICHLOROBENZENE	17.900	146	733244	20.35	PPBV		99
102)	sec-BUTYLBENZENE	17.961	134	305026	19.41	PPBV		98
103)	p-ISOPROPYLTOLUENE	18.156	134	347653	20.06	PPBV		98
104)	o-DICHLOROBENZENE	18.308	146	722800	19.99	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	290161	22.85	PPBV		99
106)	HEXACHLOROETHANE	19.105	117	489903	20.07	PPBV		100
107)	HEXACHLOROBUTADIENE	20.863	225	455398	18.65	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.333	180	331252	21.99	PPBV		100
109)	NAPHTHALENE	20.455	128	681197	23.01	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60372.D
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : 1c2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60372.D
Injection Time: 06/21/17 19:43
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

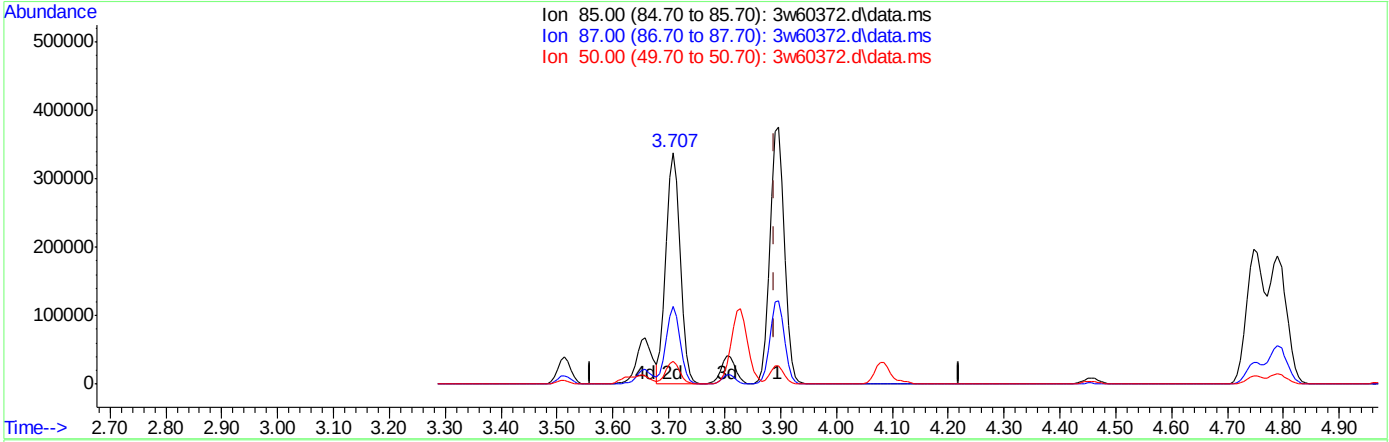
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.71	Missed peak

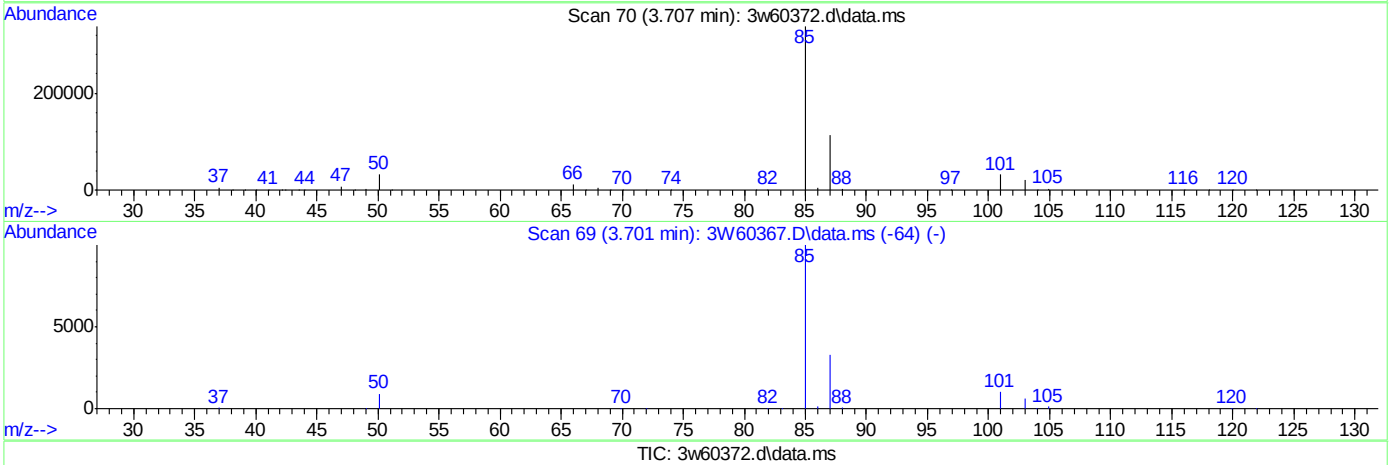
SGS ACCUTEST
JC52053

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60372.d
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : ic2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration





TIC: 3w60372.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.707min (-0.183) 17.81PPBV m

response 612198

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.55
50.00	6.90	7.92
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60374.D
Acq On : 21 Jun 2017 9:03 pm
Operator : [redacted]
Sample : icv2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:31:32 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	159909	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.754	114	684080	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	297347	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	384020	10.61	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 106.10%				
Target Compounds							Qvalue
3) FREON 115	3.883	85	369899	10.67	PPBV	#	93
4) FREON 152A	3.798	65	217643	9.98	PPBV		100
5) CHLORODIFLUOROMETHANE	3.622	67	29075	9.53	PPBV		97
7) DICHLORODIFLUOROMETHANE	3.701	85	313441	9.69	PPBV		94
8) PROPYLENE	3.646	41	83777	9.30	PPBV		100
10) FREON 114	3.883	85	369899	10.67	PPBV		95
11) CHLOROMETHANE	3.823	52	38239	9.72	PPBV	#	88
12) VINYL CHLORIDE	3.975	62	138877	10.13	PPBV		99
13) 1,3-BUTADIENE	4.072	54	93852	9.44	PPBV		100
14) n-BUTANE	4.115	43	172780	9.99	PPBV		100
15) BROMOMETHANE	4.273	94	149728	8.99	PPBV		100
16) CHLOROETHANE	4.394	64	66499	10.14	PPBV		99
17) DICHLOROFLUOROMETHANE	4.449	67	296144	9.87	PPBV		100
18) ACETONITRILE	4.632	41	84312	9.01	PPBV		99
19) FREON 123	4.741	83	336113	9.04	PPBV		98
20) FREON 123A	4.784	117	195435	10.37	PPBV		95
21) TRICHLOROFLUOROMETHANE	4.966	101	327154	10.22	PPBV		100
23) ISOPROPYL ALCOHOL	5.009	45	204682	7.80	PPBV		99
24) ACETONE	4.826	58	52849	8.60	PPBV		99
25) PENTANE	5.240	42	118959	10.38	PPBV		100
26) TVHC as EQUIV PENTANE	5.240	TIC	571929m	9.31	PPBV		
27) IODOMETHANE	5.435	142	439495	10.13	PPBV		99
28) 1,1-DICHLOROETHYLENE	5.483	96	131731	8.92	PPBV		99
29) CARBON DISULFIDE	5.891	76	407048	9.12	PPBV		100
30) ETHANOL	4.467	45	45985	11.56	PPBV		98
31) BROMOETHENE	4.650	106	144354	9.49	PPBV		99
32) ACRYLONITRILE	5.185	52	72365	9.72	PPBV		99
33) METHYLENE CHLORIDE	5.581	84	121379	9.45	PPBV		100
34) 3-CHLOROPROPENE	5.690	76	67024	11.12	PPBV		99
35) FREON 113	5.818	151	240241	10.00	PPBV		99
36) TRANS-1,2-DICHLOROETHY...	6.481	96	144658	9.02	PPBV		99
37) TERTIARY BUTYL ALCOHOL	5.514	59	235944	10.38	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	335973	9.82	PPBV		100
39) TETRAHYDROFURAN	8.264	72	59188	10.50	PPBV		99
40) HEXANE	7.753	57	177750	9.51	PPBV		99
41) VINYL ACETATE	6.822	86	25369	12.20	PPBV		99
42) 1,1-DICHLOROETHANE	6.682	63	223420	10.08	PPBV		100
43) METHYL ETHYL KETONE	7.077	72	57235	9.74	PPBV		99
44) cis-1,2-DICHLOROETHYLENE	7.534	96	142846	9.93	PPBV		100
45) DIISOPROPYL ETHER	7.740	59	52848	10.23	PPBV		99
46) ETHYL ACETATE	7.759	61	37008	10.13	PPBV	#	95
47) METHYL ACRYLATE	7.753	55	196705	9.68	PPBV		100
48) CHLOROFORM	7.844	83	265392	9.85	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.689	57	214298	9.22	PPBV		100
50) 1,1,1-TRICHLOROETHANE	8.890	97	272649	10.83	PPBV		100
51) CARBON TETRACHLORIDE	9.535	117	285074	10.81	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	144478	10.07	PPBV		99
54) BENZENE	9.377	78	406033	9.99	PPBV		100
55) CYCLOHEXANE	9.669	84	178715	10.68	PPBV		100
56) 2,3-DIMETHYLPENTANE	9.924	71	84720	9.71	PPBV		100
57) TRICHLOROETHYLENE	10.496	95	175554	10.02	PPBV		99
58) 1,2-DICHLOROPROPANE	10.247	63	139272	9.71	PPBV		100
59) DIBROMOMETHANE	10.216	174	190195	9.35	PPBV		99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60374.D
Acq On : 21 Jun 2017 9:03 pm
Operator : [redacted]
Sample : icv2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:31:32 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

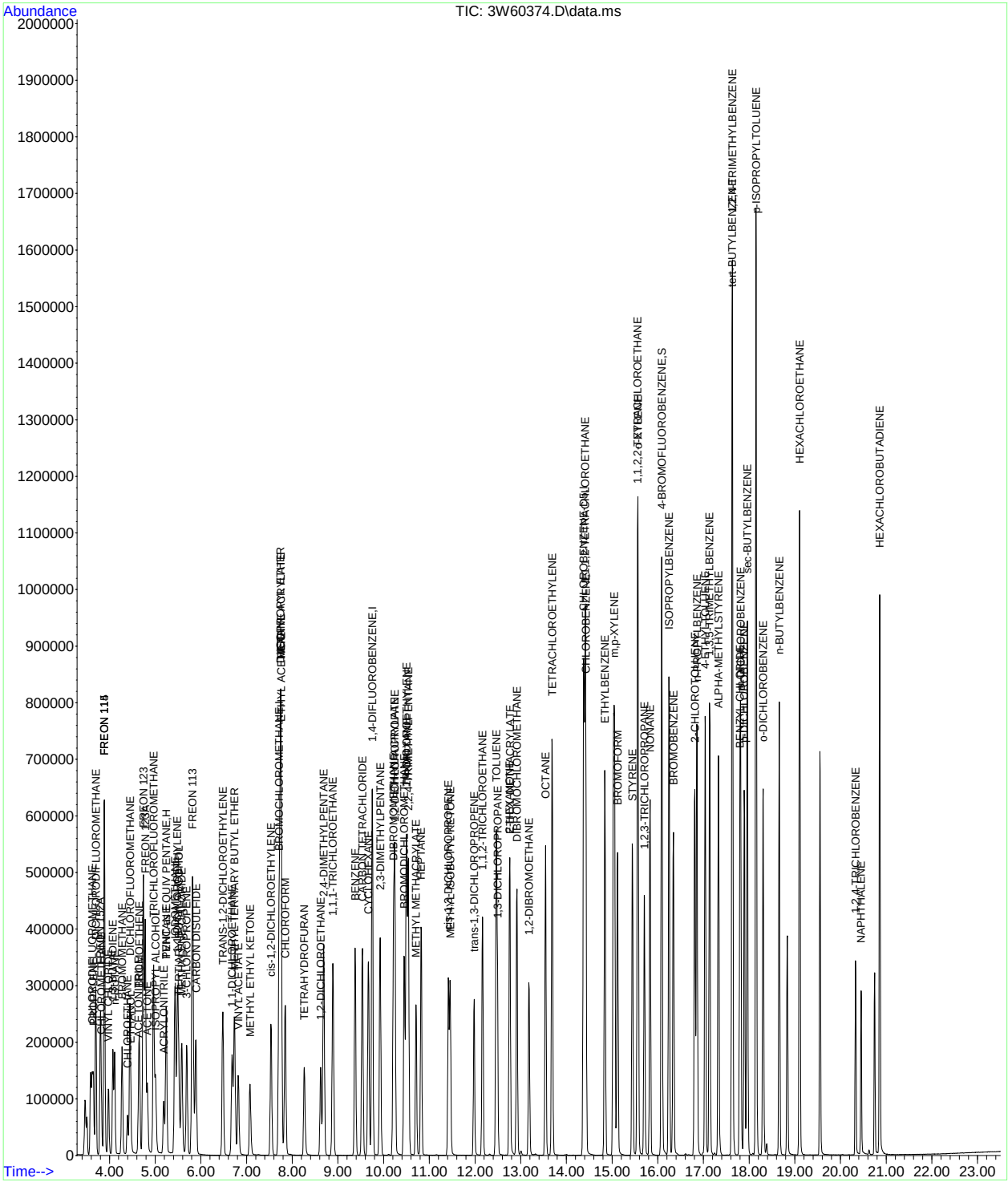
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
60)	ETHYL ACRYLATE	10.241	55	238304	10.10	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	278547	10.10	PPBV		100
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	587991	9.79	PPBV		100
63)	1,4-DIOXANE	10.496	88	89716	12.87	PPBV		98
64)	HEPTANE	10.819	43	182929	9.29	PPBV		100
65)	METHYL METHACRYLATE	10.709	69	125639	10.01	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.457	58	103209	9.98	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.415	75	224330	11.11	PPBV		99
68)	TOLUENE	12.467	92	279956	10.14	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	198126	10.13	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	182342	10.47	PPBV		100
71)	1,1,2-TRICHLOROETHANE	12.163	83	140659	10.06	PPBV		100
73)	2-HEXANONE	12.753	58	132984	10.00	PPBV		99
74)	ETHYL METHACRYLATE	12.765	69	202355	10.47	PPBV		99
75)	TETRACHLOROETHYLENE	13.690	164	221248	9.53	PPBV		100
76)	DIBROMOCHLOROMETHANE	12.918	129	314820	10.76	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	251715	10.06	PPBV		100
78)	OCTANE	13.544	43	247734	9.56	PPBV		100
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	233495	10.51	PPBV		99
80)	CHLOROBENZENE	14.426	112	383110	9.80	PPBV		100
81)	ETHYLBENZENE	14.840	91	590992	10.05	PPBV		100
82)	m,p-XYLENE	15.047	106	475328	20.12	PPBV		99
83)	o-XYLENE	15.564	106	234152	10.05	PPBV		100
84)	STYRENE	15.448	104	347743	10.52	PPBV		100
85)	NONANE	15.832	43	240540	9.73	PPBV		99
86)	BROMOFORM	15.120	173	314601	11.10	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	351875	9.95	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.710	75	242762	10.34	PPBV		100
90)	ISOPROPYLBENZENE	16.245	105	680418	10.85	PPBV		100
91)	BROMOBENZENE	16.343	77	269870	9.69	PPBV		100
92)	2-CHLOROTOLUENE	16.811	126	175111	10.59	PPBV		100
93)	n-PROPYLBENZENE	16.860	120	178847	10.57	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	613330	11.02	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	524768	10.53	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	265304	10.98	PPBV		100
97)	tert-BUTYLBENZENE	17.626	134	124291	10.52	PPBV		99
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	501050	10.96	PPBV		100
99)	m-DICHLOROBENZENE	17.815	146	340044	10.62	PPBV		99
100)	BENZYL CHLORIDE	17.797	91	350314	11.43	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	331400	10.28	PPBV		100
102)	sec-BUTYLBENZENE	17.961	134	153095	11.03	PPBV		100
103)	p-ISOPROPYLTOLUENE	18.155	134	168225	11.17	PPBV		100
104)	o-DICHLOROBENZENE	18.308	146	332052	10.52	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	132021	11.69	PPBV		98
106)	HEXACHLOROETHANE	19.105	117	240794	11.29	PPBV		100
107)	HEXACHLOROBUTADIENE	20.857	225	206330	9.73	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.327	180	124998	8.49	PPBV		99
109)	NAPHTHALENE	20.449	128	243011	8.96	PPBV		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60374.D
Acq On : 21 Jun 2017 9:03 pm
Operator : [redacted]
Sample : icv2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:31:32 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60487.D
Acq On : 27 Jun 2017 10:37 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:00:14 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	154664	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	688631	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.372	82	315502	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.081	95	401319	10.45	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.50%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.500	69	225474	9.91	PPBV		98
3) FREON 115	3.883	85	335157	10.00	PPBV	#	99
4) FREON 152A	3.798	65	204439	9.69	PPBV		100
5) CHLORODIFLUOROMETHANE	3.622	67	28219	9.57	PPBV		100
6) CHLOROTRIFLUOROETHENE	3.652	116	187428	10.26	PPBV		98
7) DICHLORODIFLUOROMETHANE	3.701	85	300927	9.62	PPBV		94
8) PROPYLENE	3.646	41	87829	10.08	PPBV		98
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	204439	9.69	PPBV		100
10) FREON 114	3.883	85	335157	10.00	PPBV		99
11) CHLOROMETHANE	3.823	52	37786	9.93	PPBV		98
12) VINYL CHLORIDE	3.975	62	136264	10.28	PPBV		100
13) 1,3-BUTADIENE	4.072	54	95114	9.89	PPBV		98
14) n-BUTANE	4.115	43	167342	10.00	PPBV		100
15) BROMOMETHANE	4.273	94	143101	8.88	PPBV		100
16) CHLOROETHANE	4.394	64	64313	10.14	PPBV		99
17) DICHLOROFLUOROMETHANE	4.449	67	263536	9.08	PPBV		100
18) ACETONITRILE	4.638	41	80672	8.91	PPBV		99
19) FREON 123	4.741	83	331324	9.21	PPBV		97
20) FREON 123A	4.784	117	353669	19.41	PPBV		98
21) TRICHLOROFLUOROMETHANE	4.966	101	307535	9.93	PPBV		100
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	251878	8.89	PPBV		99
23) ISOPROPYL ALCOHOL	5.009	45	224520	8.84	PPBV		99
24) ACETONE	4.832	58	50625	8.51	PPBV		96
25) PENTANE	5.240	42	106904	9.65	PPBV		97
26) TVHC as EQUIV PENTANE	5.240	TIC	504713m	8.49	PPBV		
27) IODOMETHANE	5.435	142	402083	9.58	PPBV		98
28) 1,1-DICHLOROETHYLENE	5.483	96	128446	8.99	PPBV		100
29) CARBON DISULFIDE	5.891	76	412403	9.55	PPBV		100
30) ETHANOL	4.474	45	34709	9.02	PPBV		99
31) BROMOETHENE	4.650	106	140744	9.57	PPBV		100
32) ACRYLONITRILE	5.191	52	64267	8.93	PPBV		98
33) METHYLENE CHLORIDE	5.581	84	116169	9.35	PPBV		99
34) 3-CHLOROPROPENE	5.690	76	56600	9.71	PPBV		98
35) FREON 113	5.818	151	229666	9.89	PPBV		99
36) TRANS-1,2-DICHLOROETHY...	6.481	96	130187	8.40	PPBV		96
37) TERTIARY BUTYL ALCOHOL	5.514	59	226646	10.31	PPBV		98
38) METHYL TERTIARY BUTYL ...	6.737	73	310450	9.38	PPBV		99
39) TETRAHYDROFURAN	8.270	72	56022	10.27	PPBV		95
40) HEXANE	7.753	57	174482	9.65	PPBV		98
41) VINYL ACETATE	6.822	86	20570	10.23	PPBV		99
42) 1,1-DICHLOROETHANE	6.682	63	215260	10.04	PPBV		99
43) METHYL ETHYL KETONE	7.077	72	56603	9.95	PPBV		97
44) cis-1,2-DICHLOROETHYLENE	7.534	96	137933	9.91	PPBV		99
45) DIISOPROPYL ETHER	7.747	59	50382	10.08	PPBV	#	93
46) ETHYL ACETATE	7.759	61	36974	10.47	PPBV		99
47) METHYL ACRYLATE	7.753	55	192335	9.79	PPBV		99
48) CHLOROFORM	7.844	83	255660	9.81	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.683	57	213176	9.49	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.890	97	241112	9.90	PPBV		98
51) CARBON TETRACHLORIDE	9.529	117	272944	10.70	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	139330	10.04	PPBV		99
54) BENZENE	9.371	78	397270	9.71	PPBV		99
55) CYCLOHEXANE	9.663	84	167536	9.95	PPBV		98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60487.D
Acq On : 27 Jun 2017 10:37 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:00:14 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

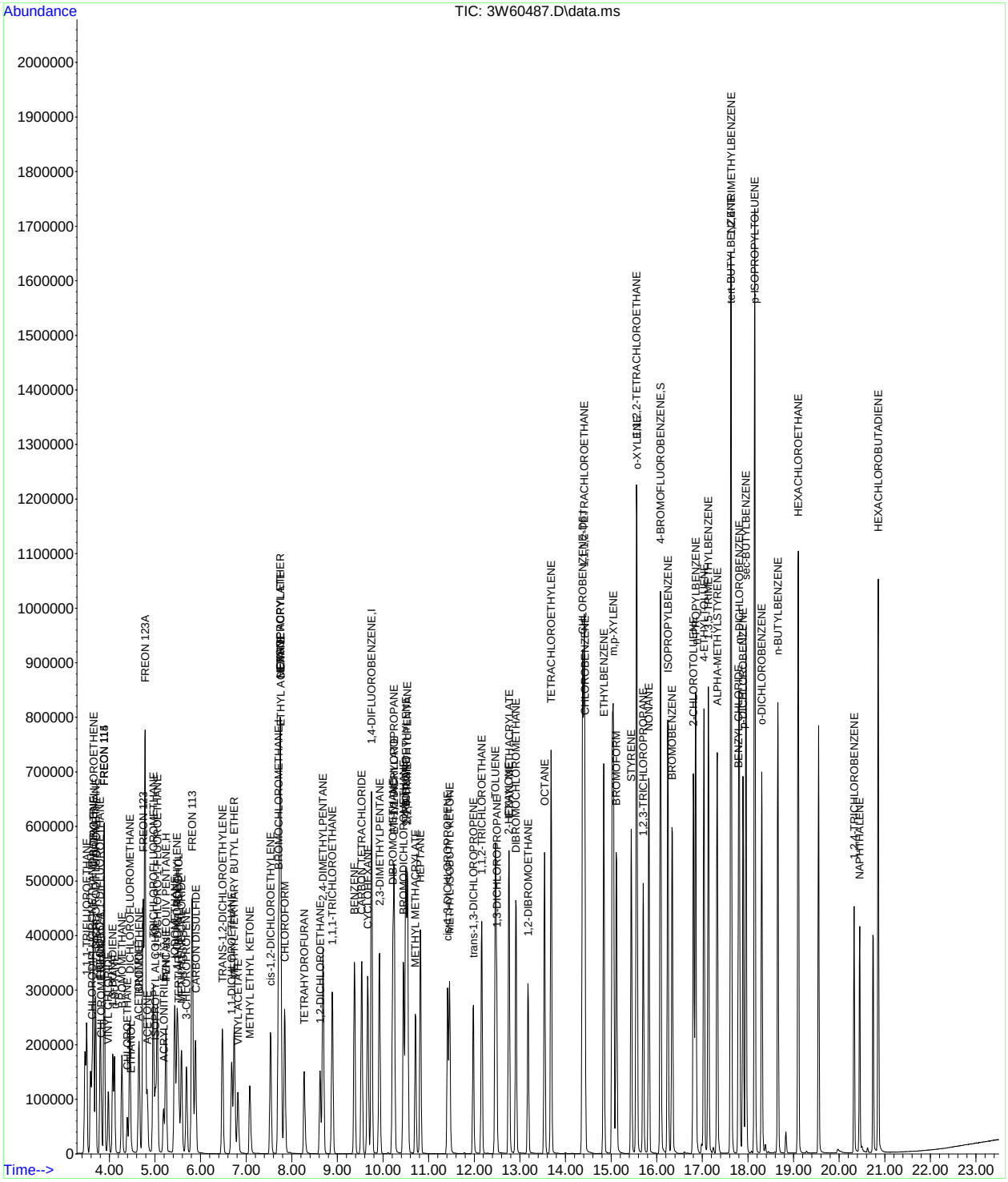
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.924	71	80843	9.21	PPBV		99
57)	TRICHLOROETHYLENE	10.496	95	167433	9.49	PPBV		99
58)	1,2-DICHLOROPROPANE	10.241	63	140192	9.70	PPBV		98
59)	DIBROMOMETHANE	10.216	174	176619	8.62	PPBV		97
60)	ETHYL ACRYLATE	10.247	55	232927	9.80	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	269191	9.69	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	566865	9.38	PPBV		100
63)	1,4-DIOXANE	10.502	88	69627	9.92	PPBV	#	60
64)	HEPTANE	10.819	43	187521	9.46	PPBV		98
65)	METHYL METHACRYLATE	10.709	69	121254	9.59	PPBV		98
66)	METHYL ISOBUTYL KETONE	11.458	58	106605	10.24	PPBV		97
67)	cis-1,3-DICHLOROPROPENE	11.415	75	215319	10.59	PPBV		90
68)	TOLUENE	12.461	92	283018	10.19	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	206478	10.49	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	186351	10.63	PPBV		100
71)	1,1,2-TRICHLOROETHANE	12.163	83	142251	10.11	PPBV		98
73)	2-HEXANONE	12.753	58	139888	9.92	PPBV		98
74)	ETHYL METHACRYLATE	12.765	69	204252	9.96	PPBV		98
75)	TETRACHLOROETHYLENE	13.684	164	219420	8.90	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.911	129	313842	10.11	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	253638	9.56	PPBV		100
78)	OCTANE	13.538	43	269372	9.80	PPBV		96
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	236953	10.05	PPBV		99
80)	CHLOROBENZENE	14.426	112	397222	9.58	PPBV		99
81)	ETHYLBENZENE	14.840	91	609451	9.77	PPBV		100
82)	m,p-XYLENE	15.047	106	499348	19.92	PPBV		99
83)	o-XYLENE	15.564	106	247112	10.00	PPBV		100
84)	STYRENE	15.442	104	361046	10.30	PPBV		99
85)	NONANE	15.826	43	284220	10.83	PPBV		97
86)	BROMOFORM	15.114	173	328315	10.91	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	378646	10.09	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	263346	10.57	PPBV		97
90)	ISOPROPYLBENZENE	16.245	105	664615	9.99	PPBV		100
91)	BROMOBENZENE	16.337	77	303134	10.26	PPBV		93
92)	2-CHLOROTOLUENE	16.805	126	180856	10.31	PPBV		100
93)	n-PROPYLBENZENE	16.854	120	191037	10.64	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	653857	11.07	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	551666	10.43	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	280422	10.94	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	129333	10.32	PPBV		96
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	533253	10.99	PPBV		100
99)	m-DICHLOROBENZENE	17.809	146	356671	10.50	PPBV		99
100)	BENZYL CHLORIDE	17.791	91	388676	11.95	PPBV		99
101)	p-DICHLOROBENZENE	17.894	146	346390	10.13	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	152678	10.36	PPBV		98
103)	p-ISOPROPYLTOLUENE	18.149	134	175156	10.96	PPBV		100
104)	o-DICHLOROBENZENE	18.302	146	348250	10.40	PPBV		99
105)	n-BUTYLBENZENE	18.654	134	136776	11.42	PPBV		96
106)	HEXACHLOROETHANE	19.098	117	246866	10.91	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	217777	9.68	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	156883	10.04	PPBV		99
109)	NAPHTHALENE	20.449	128	332848	11.57	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60487.D
Acq On : 27 Jun 2017 10:37 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:00:14 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60516.D
Acq On : 28 Jun 2017 10:07 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS17009,V3W2299,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 14:43:21 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	173612	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	779248	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.372	82	336441	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.081	95	421459	10.29	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 102.90%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	250288	9.80	PPBV		98
3) FREON 115	3.890	85	366696	9.74	PPBV	#	98
4) FREON 152A	3.804	65	224395	9.48	PPBV		99
5) CHLORODIFLUOROMETHANE	3.622	67	31081	9.39	PPBV		99
6) CHLOROTRIFLUOROETHENE	3.652	116	203970	9.95	PPBV		99
7) DICHLORODIFLUOROMETHANE	3.701	85	331996	9.46	PPBV		94
8) PROPYLENE	3.646	41	103514	10.58	PPBV		98
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	224395	9.48	PPBV		99
10) FREON 114	3.890	85	366696	9.74	PPBV		98
11) CHLOROMETHANE	3.823	52	42720	10.00	PPBV	#	88
12) VINYL CHLORIDE	3.981	62	152186	10.22	PPBV		100
13) 1,3-BUTADIENE	4.078	54	105712	9.80	PPBV		99
14) n-BUTANE	4.115	43	195121	10.39	PPBV		99
15) BROMOMETHANE	4.279	94	155660	8.61	PPBV		99
16) CHLOROETHANE	4.394	64	73887	10.38	PPBV		99
17) DICHLOROFLUOROMETHANE	4.449	67	303854	9.33	PPBV		100
18) ACETONITRILE	4.644	41	94845	9.33	PPBV		98
19) FREON 123	4.741	83	373150	9.24	PPBV		94
20) FREON 123A	4.784	117	391840	19.16	PPBV		95
21) TRICHLOROFLUOROMETHANE	4.966	101	330332	9.50	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	284895	8.96	PPBV		100
23) ISOPROPYL ALCOHOL	5.015	45	259802	9.11	PPBV		99
24) ACETONE	4.832	58	58465	8.76	PPBV		94
25) PENTANE	5.240	42	121273	9.75	PPBV		96
26) TVHC as EQUIV PENTANE	5.240	TIC	579774m	8.69	PPBV		
27) IODOMETHANE	5.435	142	432758	9.19	PPBV		98
28) 1,1-DICHLOROETHYLENE	5.490	96	137783	8.59	PPBV		97
29) CARBON DISULFIDE	5.891	76	458584	9.46	PPBV		100
30) ETHANOL	4.474	45	41763	9.67	PPBV		100
31) BROMOETHENE	4.656	106	152507	9.24	PPBV		99
32) ACRYLONITRILE	5.191	52	75503	9.34	PPBV		99
33) METHYLENE CHLORIDE	5.587	84	128663	9.22	PPBV		97
34) 3-CHLOROPROPENE	5.690	76	64040	9.79	PPBV		95
35) FREON 113	5.818	151	255939	9.82	PPBV		97
36) TRANS-1,2-DICHLOROETHY...	6.481	96	148815	8.55	PPBV		96
37) TERTIARY BUTYL ALCOHOL	5.520	59	261147	10.58	PPBV		98
38) METHYL TERTIARY BUTYL ...	6.743	73	349135	9.40	PPBV		98
39) TETRAHYDROFURAN	8.276	72	63191	10.32	PPBV		93
40) HEXANE	7.753	57	201454	9.93	PPBV		99
41) VINYL ACETATE	6.822	86	23164	10.26	PPBV	#	85
42) 1,1-DICHLOROETHANE	6.682	63	244863	10.17	PPBV		100
43) METHYL ETHYL KETONE	7.083	72	62801	9.84	PPBV		93
44) cis-1,2-DICHLOROETHYLENE	7.534	96	149915	9.60	PPBV		97
45) DIISOPROPYL ETHER	7.747	59	58199	10.38	PPBV	#	93
46) ETHYL ACETATE	7.765	61	43002	10.84	PPBV	#	96
47) METHYL ACRYLATE	7.753	55	221047	10.02	PPBV		98
48) CHLOROFORM	7.844	83	281661	9.63	PPBV		99
49) 2,4-DIMETHYLPENTANE	8.683	57	236370	9.37	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.890	97	264343	9.67	PPBV		99
51) CARBON TETRACHLORIDE	9.529	117	296622	10.36	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	151007	9.70	PPBV		99
54) BENZENE	9.377	78	434904	9.39	PPBV		99
55) CYCLOHEXANE	9.663	84	185710	9.75	PPBV		95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60516.D
Acq On : 28 Jun 2017 10:07 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS17009,V3W2299,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 14:43:21 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.918	71	89770	9.03	PPBV		95
57)	TRICHLOROETHYLENE	10.496	95	182832	9.16	PPBV		98
58)	1,2-DICHLOROPROPANE	10.241	63	156021	9.54	PPBV		98
59)	DIBROMOMETHANE	10.216	174	189370	8.17	PPBV		96
60)	ETHYL ACRYLATE	10.247	55	264723	9.84	PPBV		99
61)	BROMODICHLOROMETHANE	10.448	83	293125	9.33	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	633528	9.26	PPBV		100
63)	1,4-DIOXANE	10.508	88	78468	9.88	PPBV	#	1
64)	HEPTANE	10.819	43	208921	9.32	PPBV		96
65)	METHYL METHACRYLATE	10.715	69	135410	9.47	PPBV		96
66)	METHYL ISOBUTYL KETONE	11.458	58	116582	9.90	PPBV		95
67)	cis-1,3-DICHLOROPROPENE	11.415	75	230507	10.02	PPBV		90
68)	TOLUENE	12.461	92	295722	9.41	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	219518	9.86	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.975	75	199146	10.04	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.163	83	149033	9.36	PPBV		98
73)	2-HEXANONE	12.753	58	149670	9.95	PPBV		97
74)	ETHYL METHACRYLATE	12.765	69	219713	10.05	PPBV		98
75)	TETRACHLOROETHYLENE	13.684	164	221727	8.44	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.911	129	324657	9.81	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	264860	9.36	PPBV		100
78)	OCTANE	13.538	43	275568	9.40	PPBV		96
79)	1,1,1,2-TETRACHLOROETHANE	14.402	131	240026	9.54	PPBV		99
80)	CHLOROBENZENE	14.420	112	403767	9.13	PPBV		99
81)	ETHYLBENZENE	14.840	91	613913	9.23	PPBV		100
82)	m,p-XYLENE	15.047	106	501655	18.76	PPBV		99
83)	o-XYLENE	15.564	106	248319	9.42	PPBV		99
84)	STYRENE	15.442	104	360375	9.64	PPBV		100
85)	NONANE	15.826	43	274256	9.80	PPBV		98
86)	BROMOFORM	15.114	173	332560	10.37	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	378678	9.47	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	261886	9.86	PPBV		97
90)	ISOPROPYLBENZENE	16.239	105	663446	9.35	PPBV		100
91)	BROMOBENZENE	16.337	77	301249	9.56	PPBV		95
92)	2-CHLOROTOLUENE	16.805	126	179739	9.60	PPBV		99
93)	n-PROPYLBENZENE	16.854	120	190139	9.93	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	653279	10.37	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	551697	9.78	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	279660	10.23	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	130107	9.74	PPBV		96
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	535574	10.35	PPBV		100
99)	m-DICHLOROBENZENE	17.809	146	356617	9.84	PPBV		99
100)	BENZYL CHLORIDE	17.791	91	384782	11.10	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	350489	9.61	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	152800	9.73	PPBV		98
103)	p-ISOPROPYLTOLUENE	18.149	134	175831	10.32	PPBV		99
104)	o-DICHLOROBENZENE	18.302	146	350472	9.81	PPBV		98
105)	n-BUTYLBENZENE	18.654	134	141127	11.05	PPBV		99
106)	HEXACHLOROETHANE	19.098	117	248189	10.28	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	221776	9.25	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	150713	9.05	PPBV		99
109)	NAPHTHALENE	20.449	128	316278	10.31	PPBV		99

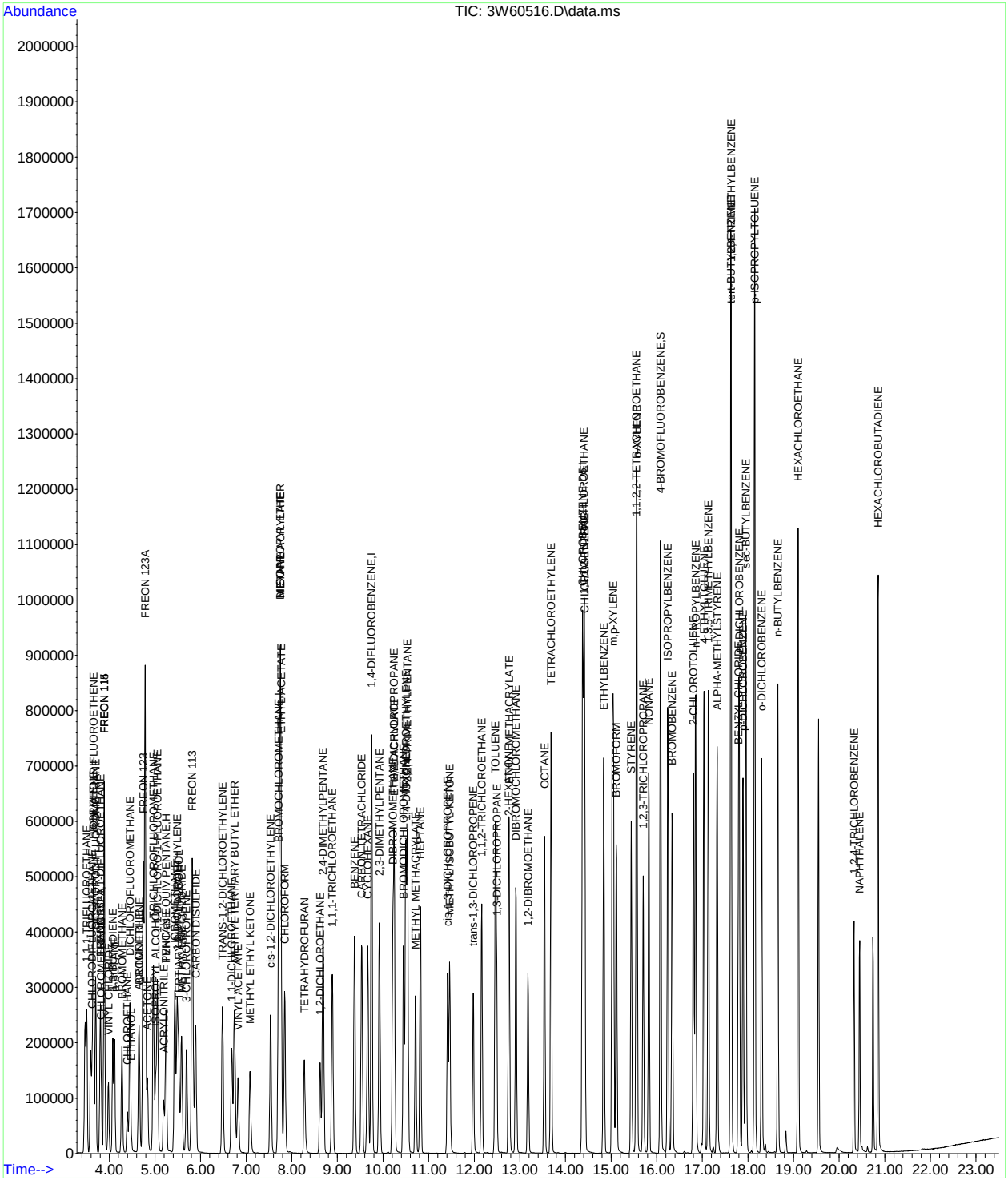
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60516.D
Acq On : 28 Jun 2017 10:07 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS17009,V3W2299,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 14:43:21 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25535.D
Acq On : 26 Jul 2017 8:08 pm
Operator : [redacted]
Sample : ic1007-0.04
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 27 10:46:07 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:31:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.120	130	163557	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.267	114	602833	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	258719	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.120	130	163557	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.012	95	344571	9.59	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.90%			
Target Compounds						Qvalue
3) Freon 152A	3.905	65	465	0.05	ppb(v#	51
4) Chlorodifluoromethane	3.941	67	137	0.04	ppb(v#	41
6) Chlorotrifluoroethene	3.972	116	974	0.04	ppb(v#	80
7) Dichlorodifluoromethane	4.021	85	1875	0.05	ppb(v#	88
9) Chloromethane	4.156	50	612	0.05	ppb(v	90
10) Dichlorotetrafluoroethane	4.223	85	2001	0.05	ppb(v	95
11) Vinyl Chloride	4.321	62	646	0.04	ppb(v#	98
12) 1,3-Butadiene	4.431	54	565	0.06	ppb(v#	89
14) Bromomethane	4.639	94	1007	0.06	ppb(v#	84
15) Chloroethane	4.761	64	307	0.04	ppb(v#	49
16) Dichlorofluoromethane	4.841	67	1652	0.05	ppb(v#	80
18) Freon 123	5.165	83	2154	0.05	ppb(v#	96
19) Freon 123A	5.214	117	1983	0.09	ppb(v	99
20) Bromoethene	5.049	106	667	0.04	ppb(v#	89
21) Trichlorofluoromethane	5.379	101	1822	0.05	ppb(v	99
24) 1,1-Dichloro-1-fluoroe...	5.483	81	1497	0.05	ppb(v#	85
25) Iodomethane	5.869	142	2199	0.05	ppb(v	95
27) 1,1-Dichloroethene	5.930	61	985	0.04	ppb(v	94
28) Freon 113	6.266	101	1476	0.04	ppb(v	97
30) Carbon Disulfide	6.309	76	2043	0.04	ppb(v	93
32) Acrylonitrile	5.673	53	394	0.04	ppb(v#	81
33) 3-Chloropropene	6.144	76	195	0.03	ppb(v#	66
34) trans-1,2-Dichloroethene	6.902	61	923	0.04	ppb(v	94
35) tert-Butyl Alcohol	6.046	59	1284	0.04	ppb(v#	43
36) Methyl tert-Butyl Ether	7.214	73	1928	0.05	ppb(v#	72
38) 1,1-Dichloroethane	7.104	63	1241	0.04	ppb(v#	90
41) cis-1,2-Dichloroethene	7.949	61	822	0.04	ppb(v	84
42) Di-isopropyl Ether	8.187	87	463	0.03	ppb(v#	86
44) Methyl Acrylate	8.224	55	1427	0.05	ppb(v#	75
45) Chloroform	8.261	83	1640	0.05	ppb(v#	92
48) 1,1,1-Trichloroethane	9.319	97	1456	0.05	ppb(v#	83
49) 1,2-Dichloroethane	9.050	62	710	0.04	ppb(v#	87
50) Benzene	9.839	78	2306	0.05	ppb(v	93
51) Carbon Tetrachloride	10.004	117	1245	0.04	ppb(v	95
52) Cyclohexane	10.133	56	1139	0.05	ppb(v#	83
55) 2,2,4-Trimethylpentane	11.093	57	4120	0.05	ppb(v#	95
56) Heptane	11.448	71	917	0.06	ppb(v#	79
57) Trichloroethene	11.087	95	1092	0.05	ppb(v	91
58) 1,2-Dichloropropane	10.793	63	762	0.04	ppb(v#	92
59) Dibromomethane	10.775	174	1172	0.05	ppb(v	94
60) Ethyl Acrylate	10.903	55	1193	0.03	ppb(v#	77
61) Methyl Methacrylate	11.411	69	587	0.03	ppb(v	89
63) Bromodichloromethane	11.044	83	1586	0.04	ppb(v#	89
64) cis-1,3-Dichloropropene	12.170	75	1094	0.04	ppb(v#	74
66) trans-1,3-Dichloropropene	12.849	75	760	0.03	ppb(v#	64
67) Toluene	13.393	91	2807	0.05	ppb(v	99
68) 1,1,2-Trichloroethane	13.051	97	956	0.04	ppb(v	93
69) 1,3-Dichloropropane	13.448	76	1068	0.04	ppb(v#	66
71) Ethyl Methacrylate	13.840	69	1226	0.04	ppb(v#	61
72) Dibromochloromethane	13.950	129	1325	0.04	ppb(v#	86
73) Tetrachloroethene	14.898	166	1458	0.05	ppb(v	95
74) 1,2-Dibromoethane	14.262	107	1346	0.04	ppb(v#	87

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25535.D
Acq On : 26 Jul 2017 8:08 pm
Operator : [redacted]
Sample : ic1007-0.04
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 27 10:46:07 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:31:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
76) 1,1,1,2-Tetrachloroethane	15.816	131	1068	0.04	ppb(v#	1
78) Chlorobenzene	15.834	112	2230	0.05	ppb(v	93
79) Ethylbenzene	16.391	91	3593	0.05	ppb(v	98
80) m,p-Xylene	16.660	91	5754	0.10	ppb(v	98
81) Styrene	17.205	104	1503	0.04	ppb(v	93
82) Nonane	17.706	43	2142	0.06	ppb(v#	91
83) o-Xylene	17.327	91	2730	0.05	ppb(v	97
84) Bromoform	16.740	173	1039	0.03	ppb(v#	96
85) 1,1,2,2-Tetrachloroethane	17.345	83	1773	0.04	ppb(v#	94
86) 1,2,3-Trichloropropane	17.541	75	1177	0.04	ppb(v	95
87) Isopropylbenzene	18.239	105	3302	0.05	ppb(v	98
88) Bromobenzene	18.349	156	965	0.04	ppb(v	94
89) 2-Chlorotoluene	18.979	126	614	0.03	ppb(v#	79
90) n-Propylbenzene	19.046	120	667	0.03	ppb(v	100
92) 4-Ethyltoluene	19.285	105	2969	0.04	ppb(v#	91
93) 1,3,5-Trimethylbenzene	19.401	105	2503	0.04	ppb(v	92
94) alpha-Methylstyrene	19.652	118	924	0.03	ppb(v	96
95) tert-Butylbenzene	19.970	134	462	0.04	ppb(v	89
96) 1,2,4-Trimethylbenzene	19.994	105	2350	0.04	ppb(v#	76
97) 1,3-Dichlorobenzene	20.196	146	1303	0.04	ppb(v	93
98) Benzyl Chloride	20.196	91	1255	0.03	ppb(v#	63
99) 1,4-Dichlorobenzene	20.294	146	1306	0.04	ppb(v	97
100) sec-Butylbenzene	20.368	134	557	0.04	ppb(v	89
101) p-Isopropyltoluene	20.606	134	535	0.03	ppb(v	91
102) 1,2-Dichlorobenzene	20.759	146	1283	0.04	ppb(v	93
104) Hexachloroethane	21.646	201	506	0.03	ppb(v	98
107) Hexachlorobutadiene	23.567	225	586	0.04	ppb(v	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.12

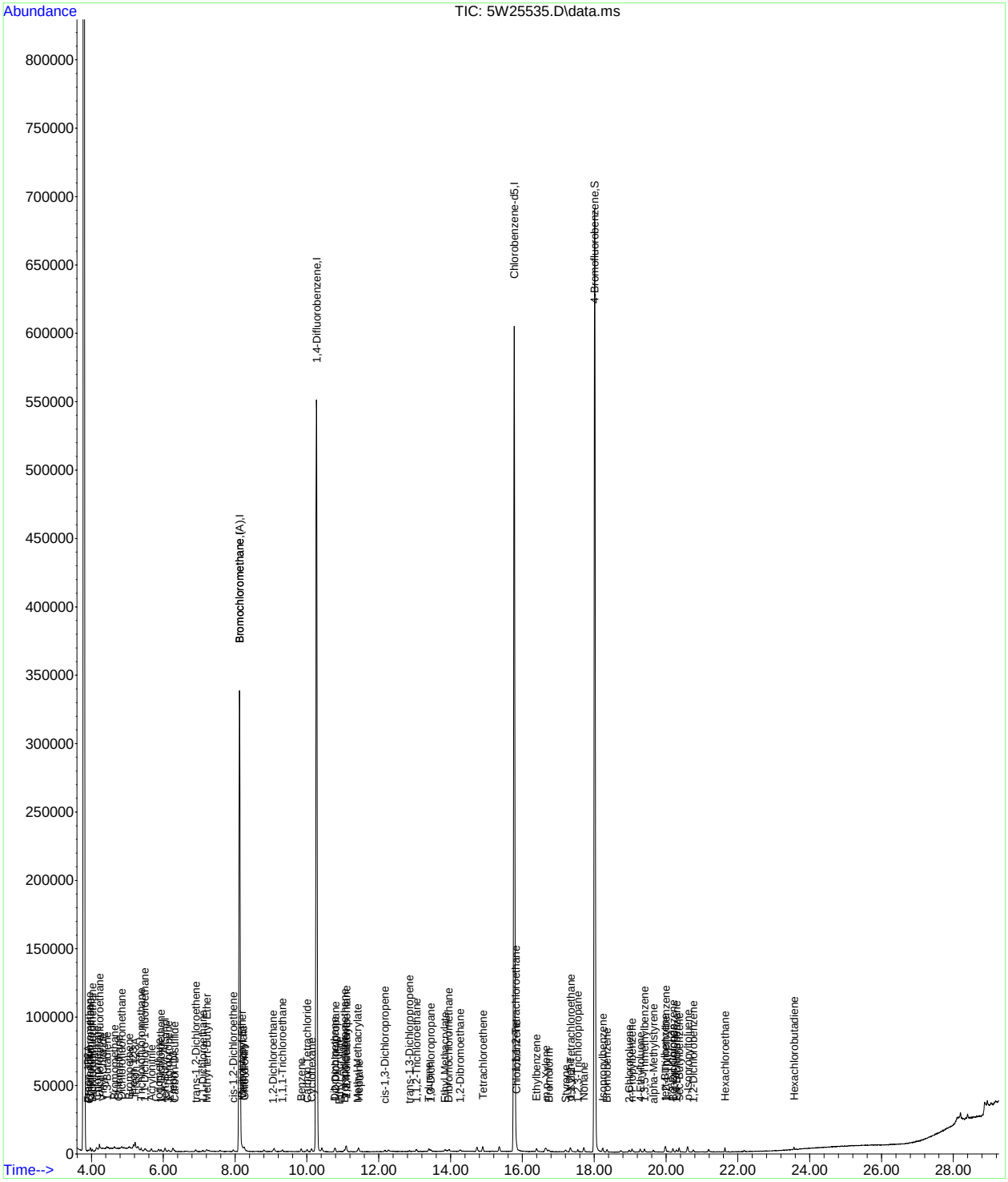
7

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25535.D
Acq On : 26 Jul 2017 8:08 pm
Operator : [redacted]
Sample : 1c1007-0.04
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 27 10:46:07 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:31:48 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25539.D
Acq On : 26 Jul 2017 11:07 pm
Operator : [redacted]
Sample : ic1007-5
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:08:22 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:31:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.114	130	154026	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.261	114	564193	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	259455	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.114	130	154026	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.012	95	348421	9.67	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 96.70%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	45770	5.42	ppb(v	98
4) Chlorodifluoromethane	3.935	67	18322	5.48	ppb(v	99
5) Propene	3.960	41	52500	5.49	ppb(v	99
6) Chlorotrifluoroethene	3.966	116	114102	5.40	ppb(v	99
7) Dichlorodifluoromethane	4.015	85	193993	5.43	ppb(v	100
9) Chloromethane	4.143	50	66545	5.38	ppb(v	98
10) Dichlorotetrafluoroethane	4.217	85	200386	5.35	ppb(v	96
11) Vinyl Chloride	4.309	62	75675	5.28	ppb(v	98
12) 1,3-Butadiene	4.413	54	51569	5.52	ppb(v	99
13) n-Butane	4.449	58	11333	5.64	ppb(v	92
14) Bromomethane	4.627	94	82296	5.36	ppb(v	99
15) Chloroethane	4.755	64	36416	5.33	ppb(v	100
16) Dichlorofluoromethane	4.829	67	160662	5.37	ppb(v	99
17) Acetonitrile	5.049	41	47155	5.32	ppb(v	100
18) Freon 123	5.159	83	199311	5.40	ppb(v	100
19) Freon 123A	5.202	117	219250	10.79	ppb(v	100
20) Bromoethene	5.037	106	80738	5.35	ppb(v	99
21) Trichlorofluoromethane	5.373	101	199423	5.42	ppb(v	99
22) Acetone	5.263	58	32083	5.47	ppb(v	98
23) Pentane	5.655	57	19448	5.46	ppb(v	97
25) Iodomethane	5.856	142	241541	5.40	ppb(v	98
26) Isopropyl Alcohol	5.471	43	20648	5.57	ppb(v	96
27) 1,1-Dichloroethene	5.924	61	124076	5.38	ppb(v	99
28) Freon 113	6.254	101	175554	5.37	ppb(v	99
29) Methylene Chloride	6.040	84	72324	5.36	ppb(v	98
30) Carbon Disulfide	6.297	76	247457	5.41	ppb(v	100
31) Ethanol	4.871	45	19779	5.40	ppb(v	98
32) Acrylonitrile	5.648	53	56214	5.32	ppb(v	96
33) 3-Chloropropene	6.138	76	34737	5.40	ppb(v	99
34) trans-1,2-Dichloroethene	6.890	61	115039	5.40	ppb(v	100
35) tert-Butyl Alcohol	5.985	59	152339	5.33	ppb(v	99
36) Methyl tert-Butyl Ether	7.166	73	215048	5.35	ppb(v	99
37) Vinyl Acetate	7.251	43	170122	5.27	ppb(v	99
38) 1,1-Dichloroethane	7.092	63	145282	5.41	ppb(v	99
39) 2-Butanone	7.520	72	38793	5.33	ppb(v	98
40) Hexane	8.126	57	118135	5.29	ppb(v	97
41) cis-1,2-Dichloroethene	7.943	61	109900	5.44	ppb(v	99
42) Di-isopropyl Ether	8.157	87	68375	5.40	ppb(v	98
43) Ethyl Acetate	8.206	61	26510	5.29	ppb(v	93
44) Methyl Acrylate	8.187	55	134695	5.36	ppb(v	100
45) Chloroform	8.255	83	170750	5.41	ppb(v	100
46) 2,4-Dimethylpentane	9.080	57	139951	5.38	ppb(v	99
47) Tetrahydrofuran	8.719	72	37150	5.35	ppb(v	99
48) 1,1,1-Trichloroethane	9.313	97	156514	5.41	ppb(v	99
49) 1,2-Dichloroethane	9.044	62	101278	5.37	ppb(v	98
50) Benzene	9.833	78	251705	5.35	ppb(v	99
51) Carbon Tetrachloride	9.998	117	149457	5.20	ppb(v	99
52) Cyclohexane	10.127	56	118992	5.40	ppb(v	99
53) 2,3-Dimethylpentane	10.408	71	53450	5.36	ppb(v	99
55) 2,2,4-Trimethylpentane	11.093	57	387560	5.33	ppb(v	100
56) Heptane	11.436	71	80602	5.30	ppb(v	99
57) Trichloroethene	11.075	95	116831	5.31	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25539.D
Acq On : 26 Jul 2017 11:07 pm
Operator : [redacted]
Sample : 1c1007-5
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:08:22 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:31:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 1,2-Dichloropropane	10.787	63	95328	5.29	ppb(v	99
59) Dibromomethane	10.769	174	111014	5.29	ppb(v	99
60) Ethyl Acrylate	10.842	55	179440	5.21	ppb(v	99
61) Methyl Methacrylate	11.368	69	88162	5.22	ppb(v	99
62) 1,4-Dioxane	11.130	88	48527	5.38	ppb(v	91
63) Bromodichloromethane	11.038	83	173570	5.25	ppb(v	98
64) cis-1,3-Dichloropropene	12.152	75	146606	5.33	ppb(v	100
65) 4-Methyl-2-pentanone	12.219	58	73171	5.22	ppb(v	99
66) trans-1,3-Dichloropropene	12.824	75	131665	5.43	ppb(v	99
67) Toluene	13.381	91	304971	5.37	ppb(v	99
68) 1,1,2-Trichloroethane	13.039	97	107198	5.32	ppb(v	99
69) 1,3-Dichloropropane	13.430	76	143307	5.41	ppb(v	99
70) 2-Hexanone	13.779	58	99271	5.20	ppb(v	98
71) Ethyl Methacrylate	13.809	69	143608	5.24	ppb(v	99
72) Dibromochloromethane	13.944	129	173023	5.46	ppb(v	100
73) Tetrachloroethene	14.886	166	158823	5.33	ppb(v	99
74) 1,2-Dibromoethane	14.250	107	170520	5.43	ppb(v	99
75) Octane	14.727	43	177925	5.30	ppb(v	99
76) 1,1,1,2-Tetrachloroethane	15.816	131	129660	5.38	ppb(v	98
78) Chlorobenzene	15.834	112	242112	5.32	ppb(v	99
79) Ethylbenzene	16.379	91	379159	5.28	ppb(v	99
80) m,p-Xylene	16.648	91	574813	10.33	ppb(v	99
81) Styrene	17.174	104	215626	5.10	ppb(v	99
82) Nonane	17.706	43	169946	5.10	ppb(v	99
83) o-Xylene	17.321	91	288951	5.19	ppb(v	99
84) Bromoform	16.728	173	165464	5.32	ppb(v	99
85) 1,1,2,2-Tetrachloroethane	17.327	83	208069	5.16	ppb(v	100
86) 1,2,3-Trichloropropane	17.517	75	153260	5.15	ppb(v	99
87) Isopropylbenzene	18.233	105	378801	5.17	ppb(v	100
88) Bromobenzene	18.337	156	131013	5.17	ppb(v	99
89) 2-Chlorotoluene	18.961	126	97298	5.15	ppb(v	98
90) n-Propylbenzene	19.034	120	103677	5.07	ppb(v	97
92) 4-Ethyltoluene	19.266	105	365885	5.21	ppb(v	100
93) 1,3,5-Trimethylbenzene	19.389	105	299182	5.12	ppb(v	99
94) alpha-Methylstyrene	19.627	118	147681	5.03	ppb(v	99
95) tert-Butylbenzene	19.970	134	65247	5.08	ppb(v	99
96) 1,2,4-Trimethylbenzene	19.982	105	282886	5.06	ppb(v	98
97) 1,3-Dichlorobenzene	20.172	146	181689	5.03	ppb(v	100
98) Benzyl Chloride	20.166	91	198147	4.84	ppb(v	100
99) 1,4-Dichlorobenzene	20.276	146	176085	4.99	ppb(v	99
100) sec-Butylbenzene	20.361	134	75228	5.12	ppb(v	99
101) p-Isopropyltoluene	20.594	134	84112	5.05	ppb(v	96
102) 1,2-Dichlorobenzene	20.747	146	166244	5.01	ppb(v	99
103) n-Butylbenzene	21.175	134	68709	5.07	ppb(v	98
104) Hexachloroethane	21.640	201	87441	4.84	ppb(v	99
105) 1,2,4-Trichlorobenzene	22.986	180	53069	4.43	ppb(v	100
106) Naphthalene	23.108	128	97569	4.19	ppb(v	99
107) Hexachlorobutadiene	23.561	225	66809	5.07	ppb(v	99
109) TVHC as equiv Pentane	5.655	TIC	453433	5.40	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

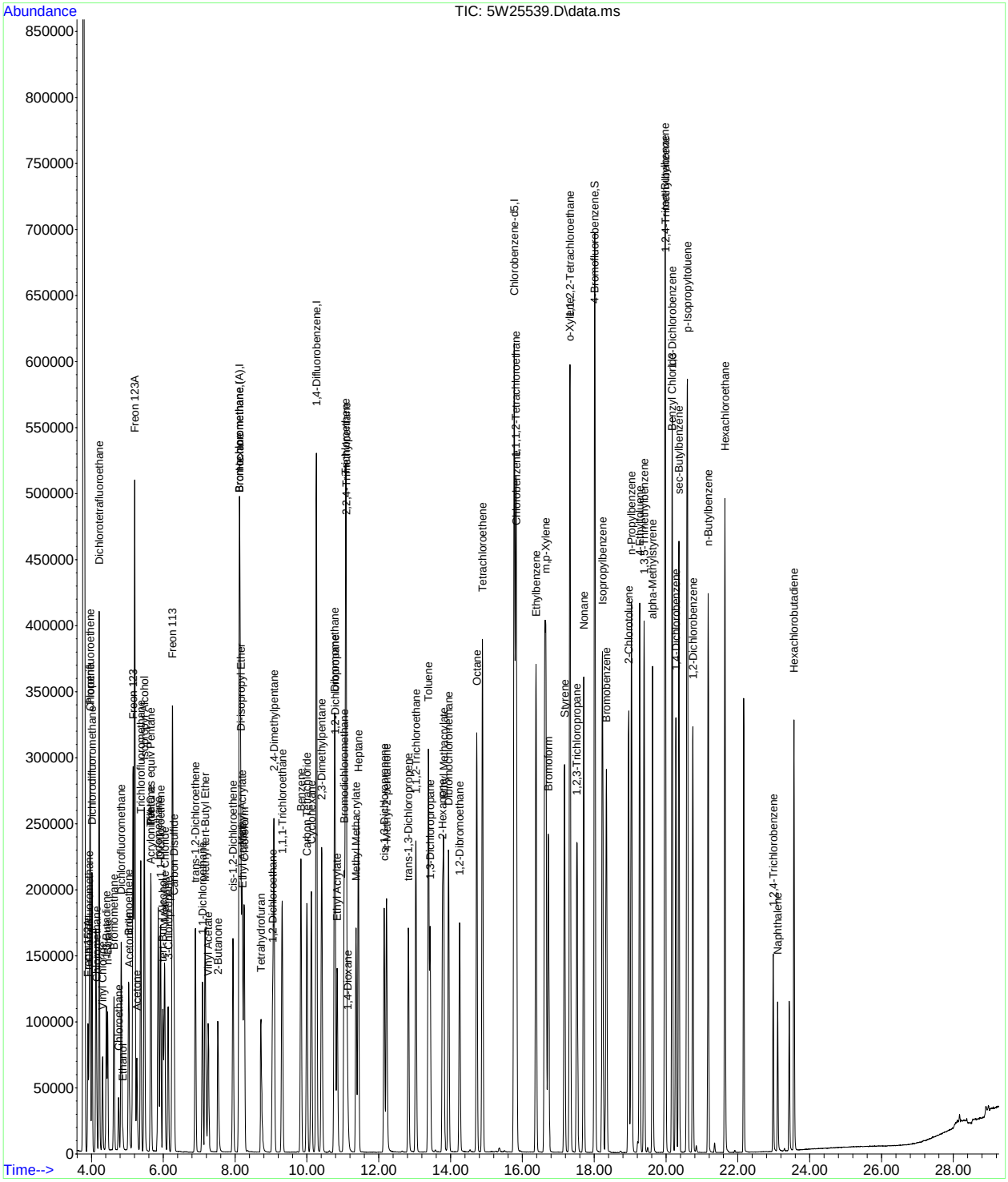
7.7.13

7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25539.D
Acq On : 26 Jul 2017 11:07 pm
Operator : [redacted]
Sample : 1c1007-5
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:08:22 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:31:48 2017
Response via : Initial Calibration



7.7.13
7
SGS
514 of 609
ACCUTEST
JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25540.D
Acq On : 26 Jul 2017 11:53 pm
Operator : [redacted]
Sample : icc1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:03 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Wed Jul 05 17:35:20 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.114	130	156094	10.00	ppb(v	-0.01
54) 1,4-Difluorobenzene	10.261	114	564228	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	253838	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.114	130	156094	10.00	ppb(v	-0.01
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.019	95	352693	10.94	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 109.40%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	85518	9.32	ppb(v	97
4) Chlorodifluoromethane	3.936	67	33909	10.29	ppb(v	100
5) Propene	3.954	41	96939	9.43	ppb(v	99
6) Chlorotrifluoroethene	3.960	116	214331	10.03	ppb(v	99
7) Dichlorodifluoromethane	4.015	85	362005	9.71	ppb(v	99
9) Chloromethane	4.144	50	125445	9.33	ppb(v	98
10) Dichlorotetrafluoroethane	4.211	85	379354	10.08	ppb(v	98
11) Vinyl Chloride	4.309	62	145218	10.19	ppb(v	100
12) 1,3-Butadiene	4.413	54	94652	9.29	ppb(v	98
13) n-Butane	4.450	58	20377	10.08	ppb(v	98
14) Bromomethane	4.627	94	155550	8.98	ppb(v	98
15) Chloroethane	4.755	64	69203	10.17	ppb(v	99
16) Dichlorofluoromethane	4.829	67	303165	9.82	ppb(v	99
17) Acetonitrile	5.049	41	89875	10.51	ppb(v	100
18) Freon 123	5.159	83	374100	10.05	ppb(v	99
19) Freon 123A	5.202	117	411740	20.82	ppb(v	97
20) Bromoethene	5.037	106	153065	10.57	ppb(v	98
21) Trichlorofluoromethane	5.373	101	372959	9.86	ppb(v	100
22) Acetone	5.257	58	59468	8.56	ppb(v	93
23) Pentane	5.661	57	36110	10.12	ppb(v	99
25) Iodomethane	5.857	142	452900	9.79	ppb(v	99
26) Isopropyl Alcohol	5.465	43	37579	8.47	ppb(v	95
27) 1,1-Dichloroethene	5.918	61	233737	9.83	ppb(v	98
28) Freon 113	6.254	101	331224	9.97	ppb(v	100
29) Methylene Chloride	6.034	84	136758	8.47	ppb(v	95
30) Carbon Disulfide	6.297	76	463281	9.84	ppb(v	100
31) Ethanol	4.872	45	37115	9.24	ppb(v	99
32) Acrylonitrile	5.649	53	107094	10.50	ppb(v	99
33) 3-Chloropropene	6.138	76	65215	10.21	ppb(v	91
34) trans-1,2-Dichloroethene	6.890	61	215867	9.72	ppb(v	97
35) tert-Butyl Alcohol	5.985	59	289476	9.80	ppb(v	99
36) Methyl tert-Butyl Ether	7.166	73	407078	9.96	ppb(v	99
37) Vinyl Acetate	7.251	43	327135	9.63	ppb(v	99
38) 1,1-Dichloroethane	7.092	63	272221	9.79	ppb(v	100
39) 2-Butanone	7.514	72	73718	10.27	ppb(v	87
40) Hexane	8.126	57	226476	9.51	ppb(v	91
41) cis-1,2-Dichloroethene	7.943	61	204667	9.90	ppb(v	99
42) Di-isopropyl Ether	8.151	87	128244	10.24	ppb(v	95
43) Ethyl Acetate	8.200	61	50765	10.61	ppb(v	93
44) Methyl Acrylate	8.187	55	254905	10.12	ppb(v	99
45) Chloroform	8.255	83	320065	9.63	ppb(v	98
46) 2,4-Dimethylpentane	9.081	57	263405	9.76	ppb(v	99
47) Tetrahydrofuran	8.714	72	70354	10.25	ppb(v	94
48) 1,1,1-Trichloroethane	9.313	97	292921	9.90	ppb(v	100
49) 1,2-Dichloroethane	9.044	62	191000	10.17	ppb(v	98
50) Benzene	9.833	78	476463	9.51	ppb(v	99
51) Carbon Tetrachloride	10.004	117	291225	10.09	ppb(v	99
52) Cyclohexane	10.127	56	223217	9.89	ppb(v	99
53) 2,3-Dimethylpentane	10.414	71	101100	10.00	ppb(v	97
55) 2,2,4-Trimethylpentane	11.093	57	727625	10.02	ppb(v	99
56) Heptane	11.436	71	152125	9.87	ppb(v	99
57) Trichloroethene	11.075	95	220001	9.91	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25540.D
Acq On : 26 Jul 2017 11:53 pm
Operator : [redacted]
Sample : icc1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:03 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Wed Jul 05 17:35:20 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 1,2-Dichloropropane	10.787	63	180082	9.93	ppb(v	99
59) Dibromomethane	10.769	174	209817	9.53	ppb(v	98
60) Ethyl Acrylate	10.843	55	344183	10.84	ppb(v	99
61) Methyl Methacrylate	11.369	69	168980	10.11	ppb(v	95
62) 1,4-Dioxane	11.124	88	90201	10.09	ppb(v	100
63) Bromodichloromethane	11.038	83	330501	9.87	ppb(v	100
64) cis-1,3-Dichloropropene	12.152	75	274971	10.12	ppb(v	99
65) 4-Methyl-2-pentanone	12.213	58	140065	10.45	ppb(v	94
66) trans-1,3-Dichloropropene	12.825	75	242325	10.62	ppb(v	99
67) Toluene	13.381	91	567962	9.49	ppb(v	99
68) 1,1,2-Trichloroethane	13.039	97	201440	9.80	ppb(v	99
69) 1,3-Dichloropropane	13.430	76	265075	9.91	ppb(v	98
70) 2-Hexanone	13.779	58	190863	10.88	ppb(v	96
71) Ethyl Methacrylate	13.810	69	273855	10.54	ppb(v	99
72) Dibromochloromethane	13.944	129	317002	9.46	ppb(v	99
73) Tetrachloroethene	14.886	166	297918	9.55	ppb(v	99
74) 1,2-Dibromoethane	14.256	107	313983	9.84	ppb(v	100
75) Octane	14.727	43	335743	10.17	ppb(v	96
76) 1,1,1,2-Tetrachloroethane	15.816	131	241217	9.90	ppb(v	100
78) Chlorobenzene	15.835	112	445548	9.61	ppb(v	100
79) Ethylbenzene	16.379	91	703169	9.77	ppb(v	99
80) m,p-Xylene	16.654	91	1089167	19.23	ppb(v	100
81) Styrene	17.174	104	413607	10.73	ppb(v	99
82) Nonane	17.707	43	326086	10.53	ppb(v	98
83) o-Xylene	17.321	91	544393	9.82	ppb(v	100
84) Bromoform	16.728	173	304511	10.47	ppb(v	100
85) 1,1,2,2-Tetrachloroethane	17.333	83	394403	9.67	ppb(v	100
86) 1,2,3-Trichloropropane	17.523	75	291119	9.87	ppb(v	99
87) Isopropylbenzene	18.233	105	716361	10.09	ppb(v	99
88) Bromobenzene	18.337	156	247820	10.27	ppb(v	99
89) 2-Chlorotoluene	18.961	126	184827	10.55	ppb(v	98
90) n-Propylbenzene	19.034	120	199868	10.56	ppb(v	97
92) 4-Ethyltoluene	19.267	105	687094	10.14	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.389	105	571149	9.97	ppb(v	99
94) alpha-Methylstyrene	19.628	118	287145	10.71	ppb(v	100
95) tert-Butylbenzene	19.970	134	125750	10.03	ppb(v	99
96) 1,2,4-Trimethylbenzene	19.982	105	546542	10.20	ppb(v	96
97) 1,3-Dichlorobenzene	20.172	146	353574	9.84	ppb(v	99
98) Benzyl Chloride	20.166	91	400621	10.75	ppb(v	99
99) 1,4-Dichlorobenzene	20.276	146	345419	9.67	ppb(v	100
100) sec-Butylbenzene	20.362	134	143826	9.80	ppb(v	100
101) p-Isopropyltoluene	20.600	134	162891	10.00	ppb(v	97
102) 1,2-Dichlorobenzene	20.747	146	324690	9.81	ppb(v	98
103) n-Butylbenzene	21.175	134	132563	10.23	ppb(v	100
104) Hexachloroethane	21.640	201	176761	9.67	ppb(v	100
105) 1,2,4-Trichlorobenzene	22.986	180	117208	11.40	ppb(v	99
106) Naphthalene	23.109	128	228001	10.30	ppb(v	100
107) Hexachlorobutadiene	23.561	225	128891	8.63	ppb(v	99
109) TVHC as equiv Pentane	5.655	TIC	851603	10.32	ppb(v	100

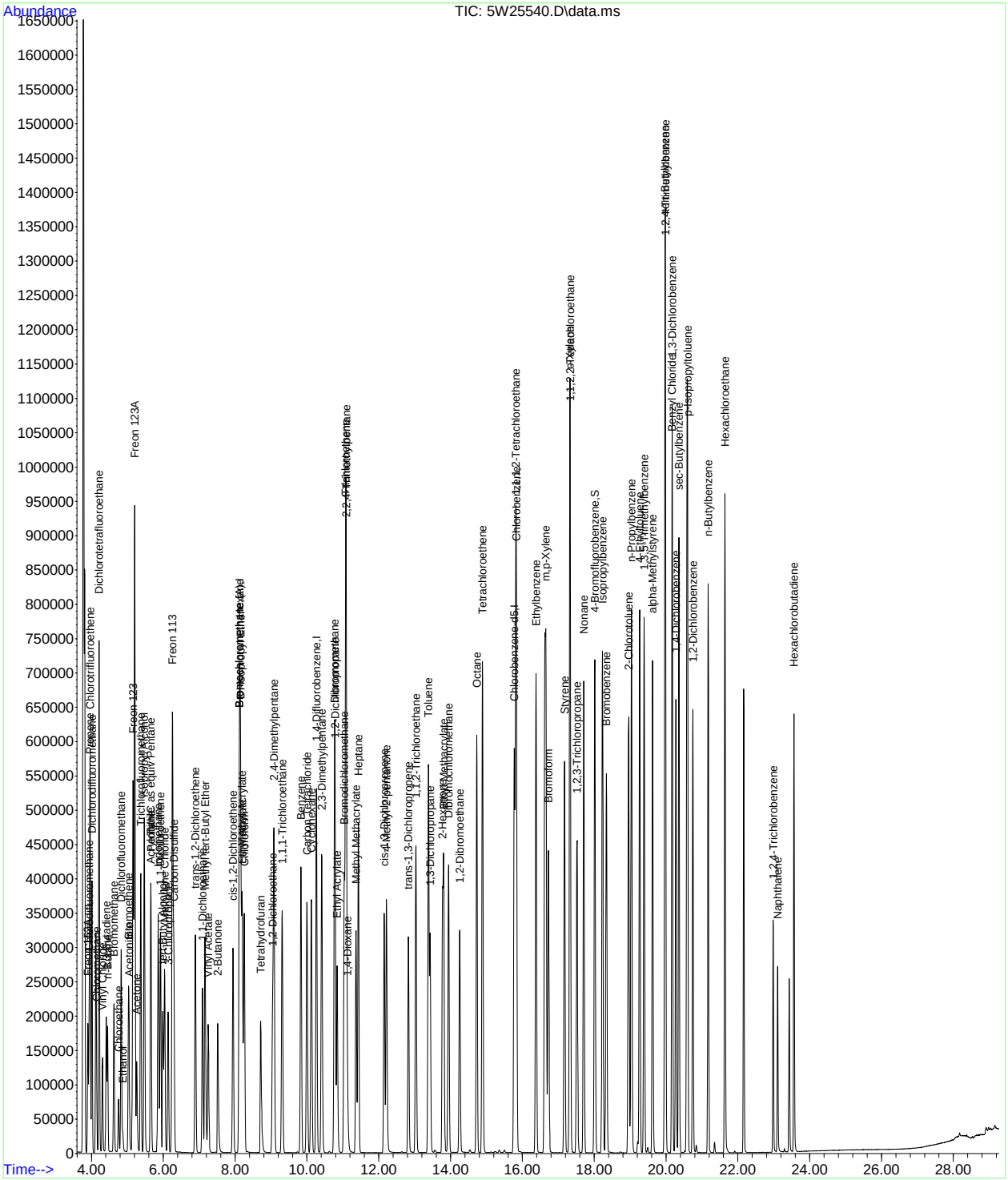
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.14

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25540.D
Acq On : 26 Jul 2017 11:53 pm
Operator : [redacted]
Sample : icc1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:03 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Wed Jul 05 17:35:20 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25541.D
Acq On : 27 Jul 2017 12:40 am
Operator : [redacted]
Sample : ic1007-20
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:17 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:36:13 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.120	130	157177	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.267	114	563734	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	263530	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.120	130	157177	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.012	95	352442	9.79	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 97.90%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	165654	18.45	ppb(v	100
4) Chlorodifluoromethane	3.935	67	65629	18.35	ppb(v	99
5) Propene	3.954	41	186427	18.21	ppb(v	99
6) Chlorotrifluoroethene	3.960	116	411728	18.35	ppb(v	99
7) Dichlorodifluoromethane	4.015	85	690112	18.15	ppb(v	100
9) Chloromethane	4.137	50	238237	18.18	ppb(v	99
10) Dichlorotetrafluoroethane	4.211	85	712288	18.01	ppb(v	98
11) Vinyl Chloride	4.309	62	275022	18.29	ppb(v	99
12) 1,3-Butadiene	4.407	54	187525	18.70	ppb(v	99
13) n-Butane	4.443	58	39120	17.93	ppb(v	99
14) Bromomethane	4.621	94	283311	17.46	ppb(v	99
15) Chloroethane	4.755	64	127765	17.74	ppb(v	99
16) Dichlorofluoromethane	4.829	67	567524	17.93	ppb(v	99
17) Acetonitrile	5.049	41	165478	17.72	ppb(v	99
18) Freon 123	5.153	83	686538	17.53	ppb(v	99
19) Freon 123A	5.202	117	762485	35.38	ppb(v	96
20) Bromoethene	5.031	106	287602	18.04	ppb(v	100
21) Trichlorofluoromethane	5.373	101	711266	18.18	ppb(v	100
22) Acetone	5.257	58	123454	19.70	ppb(v	98
23) Pentane	5.655	57	68596	18.04	ppb(v	99
25) Iodomethane	5.856	142	868652	18.31	ppb(v	100
26) Isopropyl Alcohol	5.465	43	68791	17.20	ppb(v	95
27) 1,1-Dichloroethene	5.918	61	444362	18.19	ppb(v	99
28) Freon 113	6.254	101	632597	18.29	ppb(v	99
29) Methylene Chloride	6.034	84	264297	18.53	ppb(v	97
30) Carbon Disulfide	6.297	76	895242	18.43	ppb(v	100
31) Ethanol	4.871	45	69351	17.84	ppb(v	100
32) Acrylonitrile	5.648	53	206940	18.60	ppb(v	99
33) 3-Chloropropene	6.132	76	127175	18.63	ppb(v	98
34) trans-1,2-Dichloroethene	6.890	61	417908	18.49	ppb(v	98
35) tert-Butyl Alcohol	5.985	59	560498	18.61	ppb(v	100
36) Methyl tert-Butyl Ether	7.159	73	783533	18.46	ppb(v	100
37) Vinyl Acetate	7.251	43	636571	18.82	ppb(v	100
38) 1,1-Dichloroethane	7.092	63	524719	18.39	ppb(v	100
39) 2-Butanone	7.514	72	144863	18.89	ppb(v	93
40) Hexane	8.126	57	439379	18.73	ppb(v	99
41) cis-1,2-Dichloroethene	7.943	61	398176	18.50	ppb(v	99
42) Di-isopropyl Ether	8.151	87	249553	18.58	ppb(v	98
43) Ethyl Acetate	8.199	61	97834	18.60	ppb(v	95
44) Methyl Acrylate	8.187	55	491239	18.48	ppb(v	100
45) Chloroform	8.255	83	613827	18.30	ppb(v	99
46) 2,4-Dimethylpentane	9.080	57	510333	18.53	ppb(v	99
47) Tetrahydrofuran	8.707	72	136451	18.61	ppb(v	99
48) 1,1,1-Trichloroethane	9.313	97	571734	18.61	ppb(v	100
49) 1,2-Dichloroethane	9.044	62	367352	18.41	ppb(v	99
50) Benzene	9.833	78	919122	18.50	ppb(v	100
51) Carbon Tetrachloride	10.004	117	577972	19.32	ppb(v	99
52) Cyclohexane	10.127	56	432479	18.50	ppb(v	99
53) 2,3-Dimethylpentane	10.414	71	196145	18.60	ppb(v	99
55) 2,2,4-Trimethylpentane	11.093	57	1388444	18.49	ppb(v	100
56) Heptane	11.436	71	291073	18.60	ppb(v	100
57) Trichloroethene	11.081	95	423061	18.67	ppb(v	97

SGS ACCUTEST

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25541.D
Acq On : 27 Jul 2017 12:40 am
Operator : [redacted]
Sample : ic1007-20
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:17 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:36:13 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.787	63	344979	18.63	ppb(v	100
59)	Dibromomethane	10.769	174	410029	19.01	ppb(v	99
60)	Ethyl Acrylate	10.842	55	663795	18.90	ppb(v	100
61)	Methyl Methacrylate	11.368	69	328505	19.04	ppb(v	98
62)	1,4-Dioxane	11.124	88	176113	18.83	ppb(v	99
63)	Bromodichloromethane	11.038	83	642508	18.98	ppb(v	100
64)	cis-1,3-Dichloropropene	12.152	75	530470	18.69	ppb(v	99
65)	4-Methyl-2-pentanone	12.213	58	271413	18.97	ppb(v	97
66)	trans-1,3-Dichloropropene	12.831	75	473936	18.76	ppb(v	99
67)	Toluene	13.387	91	1090482	18.53	ppb(v	99
68)	1,1,2-Trichloroethane	13.039	97	389376	18.74	ppb(v	100
69)	1,3-Dichloropropane	13.430	76	509222	18.48	ppb(v	100
70)	2-Hexanone	13.779	58	370326	19.04	ppb(v	98
71)	Ethyl Methacrylate	13.809	69	532835	19.01	ppb(v	100
72)	Dibromochloromethane	13.944	129	639782	19.31	ppb(v	99
73)	Tetrachloroethene	14.892	166	575093	18.70	ppb(v	98
74)	1,2-Dibromoethane	14.256	107	609462	18.62	ppb(v	100
75)	Octane	14.727	43	641743	18.57	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.816	131	474084	18.96	ppb(v	99
78)	Chlorobenzene	15.834	112	868189	18.19	ppb(v	99
79)	Ethylbenzene	16.379	91	1374686	18.33	ppb(v	99
80)	m,p-Xylene	16.654	91	2090043	36.37	ppb(v	100
81)	Styrene	17.174	104	810671	18.69	ppb(v	99
82)	Nonane	17.706	43	623040	18.22	ppb(v	100
83)	o-Xylene	17.321	91	1059954	18.40	ppb(v	100
84)	Bromoform	16.728	173	625360	19.18	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.327	83	767007	18.43	ppb(v	99
86)	1,2,3-Trichloropropane	17.517	75	561490	18.30	ppb(v	100
87)	Isopropylbenzene	18.233	105	1384988	18.31	ppb(v	99
88)	Bromobenzene	18.337	156	484789	18.52	ppb(v	99
89)	2-Chlorotoluene	18.961	126	361347	18.55	ppb(v	98
90)	n-Propylbenzene	19.034	120	386360	18.48	ppb(v	98
92)	4-Ethyltoluene	19.260	105	1323606	18.17	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.389	105	1098889	18.30	ppb(v	99
94)	alpha-Methylstyrene	19.627	118	562698	18.82	ppb(v	99
95)	tert-Butylbenzene	19.970	134	243040	18.48	ppb(v	100
96)	1,2,4-Trimethylbenzene	19.982	105	1041527	18.24	ppb(v	96
97)	1,3-Dichlorobenzene	20.172	146	700613	19.03	ppb(v	100
98)	Benzyl Chloride	20.166	91	822548	20.10	ppb(v	99
99)	1,4-Dichlorobenzene	20.276	146	681548	19.03	ppb(v	99
100)	sec-Butylbenzene	20.361	134	278842	18.46	ppb(v	95
101)	p-Isopropyltoluene	20.594	134	316200	18.60	ppb(v	99
102)	1,2-Dichlorobenzene	20.741	146	637288	18.89	ppb(v	99
103)	n-Butylbenzene	21.175	134	260467	18.79	ppb(v	95
104)	Hexachloroethane	21.640	201	360425	19.96	ppb(v	97
105)	1,2,4-Trichlorobenzene	22.980	180	246939	21.52	ppb(v	99
106)	Naphthalene	23.102	128	497844	22.89	ppb(v	100
107)	Hexachlorobutadiene	23.561	225	245754	18.24	ppb(v	99
109)	TVHC as equiv Pentane	5.655	TIC	1624675	18.22	ppb(v	100

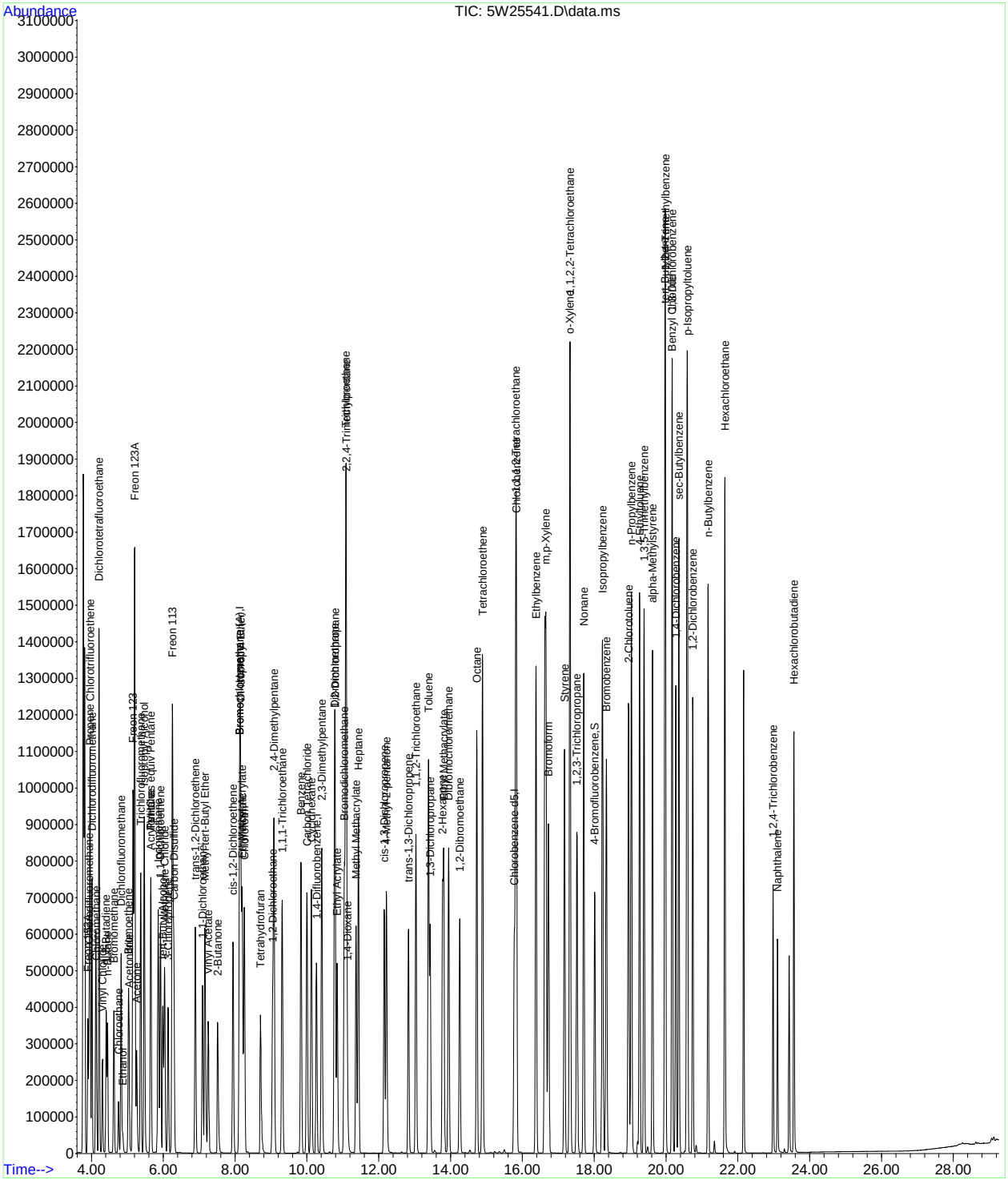
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25541.D
Acq On : 27 Jul 2017 12:40 am
Operator : [redacted]
Sample : 1c1007-20
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:17 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:36:13 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25542.D
Acq On : 27 Jul 2017 1:31 am
Operator : [redacted]
Sample : ic1007-40
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:31 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:37:29 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.150	130	171241	10.00	ppb(v	0.04
54) 1,4-Difluorobenzene	10.286	114	602293	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.779	82	276947	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.150	130	171241	10.00	ppb(v	0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.018	95	303502	8.08	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 80.80%			
Target Compounds						Qvalue
3) Freon 152A	3.942	65	357857	37.56	ppb(v	99
4) Chlorodifluoromethane	3.978	67	139486	36.81	ppb(v	100
5) Propene	3.997	41	389250	35.97	ppb(v	99
6) Chlorotrifluoroethene	4.003	116	890170	37.45	ppb(v	99
7) Dichlorodifluoromethane	4.058	85	1452980	36.19	ppb(v	100
9) Chloromethane	4.180	50	500014	36.11	ppb(v	99
10) Dichlorotetrafluoroethane	4.254	85	1481635	35.57	ppb(v	96
11) Vinyl Chloride	4.351	62	571716	35.93	ppb(v	100
12) 1,3-Butadiene	4.449	54	398102	37.25	ppb(v	99
13) n-Butane	4.486	58	83808	36.51	ppb(v	97
14) Bromomethane	4.663	94	621347	36.70	ppb(v	99
15) Chloroethane	4.798	64	279837	37.07	ppb(v	100
16) Dichlorofluoromethane	4.871	67	1200651	36.06	ppb(v	100
17) Acetonitrile	5.092	41	358191	36.60	ppb(v	99
18) Freon 123	5.196	83	1421445	34.74	ppb(v	99
19) Freon 123A	5.238	117	1550234	68.67	ppb(v	95
20) Bromoethene	5.073	106	617373	36.74	ppb(v	99
21) Trichlorofluoromethane	5.410	101	1497334	36.22	ppb(v	100
22) Acetone	5.294	58	242728	35.73	ppb(v	98
23) Pentane	5.697	57	145927	36.41	ppb(v	97
25) Iodomethane	5.899	142	1837358	36.57	ppb(v	99
26) Isopropyl Alcohol	5.508	43	144245	34.73	ppb(v	89
27) 1,1-Dichloroethene	5.960	61	939159	36.38	ppb(v	97
28) Freon 113	6.291	101	1341579	36.64	ppb(v	99
29) Methylene Chloride	6.077	84	563789	37.19	ppb(v	96
30) Carbon Disulfide	6.334	76	1905990	36.98	ppb(v	100
31) Ethanol	4.914	45	152326	37.31	ppb(v	99
32) Acrylonitrile	5.685	53	438975	37.07	ppb(v	99
33) 3-Chloropropene	6.174	76	274173	37.72	ppb(v	94
34) trans-1,2-Dichloroethene	6.927	61	892101	37.16	ppb(v	98
35) tert-Butyl Alcohol	6.028	59	1186720	37.02	ppb(v	99
36) Methyl tert-Butyl Ether	7.190	73	1679270	37.27	ppb(v	100
37) Vinyl Acetate	7.288	43	1366241	37.81	ppb(v	99
38) 1,1-Dichloroethane	7.129	63	1124107	37.16	ppb(v	100
39) 2-Butanone	7.545	72	310244	37.83	ppb(v	91
40) Hexane	8.157	57	920495	36.80	ppb(v	96
41) cis-1,2-Dichloroethene	7.973	61	845596	36.99	ppb(v	99
42) Di-isopropyl Ether	8.181	87	533479	37.34	ppb(v	91
43) Ethyl Acetate	8.230	61	207985	37.16	ppb(v	91
44) Methyl Acrylate	8.218	55	1039127	36.82	ppb(v	99
45) Chloroform	8.285	83	1292481	36.40	ppb(v	99
46) 2,4-Dimethylpentane	9.105	57	1084919	37.06	ppb(v	99
47) Tetrahydrofuran	8.732	72	295470	37.86	ppb(v	96
48) 1,1,1-Trichloroethane	9.337	97	1219782	37.31	ppb(v	100
49) 1,2-Dichloroethane	9.068	62	768955	36.34	ppb(v	98
50) Benzene	9.857	78	1953940	37.03	ppb(v	99
51) Carbon Tetrachloride	10.023	117	1273767	39.53	ppb(v	99
52) Cyclohexane	10.145	56	921430	37.10	ppb(v	99
53) 2,3-Dimethylpentane	10.432	71	420362	37.46	ppb(v	98
55) 2,2,4-Trimethylpentane	11.111	57	2835170	36.26	ppb(v	99
56) Heptane	11.454	71	620948	38.02	ppb(v	99
57) Trichloroethene	11.099	95	888053	37.51	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25542.D
Acq On : 27 Jul 2017 1:31 am
Operator : [redacted]
Sample : 1c1007-40
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:31 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:37:29 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.806	63	724637	37.48	ppb(v	99
59)	Dibromomethane	10.793	174	874073	38.56	ppb(v	94
60)	Ethyl Acrylate	10.861	55	1385860	37.62	ppb(v	99
61)	Methyl Methacrylate	11.387	69	694478	38.29	ppb(v	97
62)	1,4-Dioxane	11.136	88	347256	35.44	ppb(v#	84
63)	Bromodichloromethane	11.056	83	1362817	38.33	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	1123241	37.87	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	573675	38.18	ppb(v	94
66)	trans-1,3-Dichloropropene	12.843	75	967162	36.59	ppb(v	98
67)	Toluene	13.399	91	2264119	36.92	ppb(v	99
68)	1,1,2-Trichloroethane	13.051	97	804177	37.01	ppb(v	100
69)	1,3-Dichloropropane	13.442	76	1028137	35.83	ppb(v	99
70)	2-Hexanone	13.791	58	794627	38.86	ppb(v	97
71)	Ethyl Methacrylate	13.822	69	1120497	38.04	ppb(v	100
72)	Dibromochloromethane	13.956	129	1287006	36.79	ppb(v	98
73)	Tetrachloroethene	14.898	166	1250142	38.89	ppb(v	99
74)	1,2-Dibromoethane	14.268	107	1202631	35.21	ppb(v	100
75)	Octane	14.739	43	1328737	36.87	ppb(v	96
76)	1,1,1,2-Tetrachloroethane	15.828	131	905181	34.48	ppb(v	99
78)	Chlorobenzene	15.847	112	1621827	33.34	ppb(v	100
79)	Ethylbenzene	16.385	91	2522564	32.92	ppb(v	99
80)	m,p-Xylene	16.660	91	3820424	65.24	ppb(v	99
81)	Styrene	17.180	104	1461676	32.78	ppb(v	99
82)	Nonane	17.712	43	1239014	35.54	ppb(v	98
83)	o-Xylene	17.333	91	1831459	31.08	ppb(v	99
84)	Bromoform	16.734	173	1005550	29.75	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.339	83	1475715	34.65	ppb(v	100
86)	1,2,3-Trichloropropane	17.529	75	1036838	33.10	ppb(v	99
87)	Isopropylbenzene	18.239	105	2499455	32.35	ppb(v	99
88)	Bromobenzene	18.343	156	817838	30.49	ppb(v	100
89)	2-Chlorotoluene	18.967	126	632508	31.67	ppb(v	96
90)	n-Propylbenzene	19.040	120	729835	34.08	ppb(v	94
92)	4-Ethyltoluene	19.272	105	2537201	34.19	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.395	105	2179474	35.55	ppb(v	99
94)	alpha-Methylstyrene	19.633	118	1146080	37.20	ppb(v	99
95)	tert-Butylbenzene	19.976	134	499902	37.10	ppb(v	96
96)	1,2,4-Trimethylbenzene	19.988	105	2099768	36.05	ppb(v	98
97)	1,3-Dichlorobenzene	20.184	146	1419414	37.29	ppb(v	98
98)	Benzyl Chloride	20.172	91	1690438	39.24	ppb(v	98
99)	1,4-Dichlorobenzene	20.282	146	1403616	37.90	ppb(v	99
100)	sec-Butylbenzene	20.368	134	585297	37.84	ppb(v	92
101)	p-Isopropyltoluene	20.606	134	686289	39.33	ppb(v	92
102)	1,2-Dichlorobenzene	20.753	146	1347503	38.72	ppb(v	99
103)	n-Butylbenzene	21.181	134	593015	41.55	ppb(v	90
104)	Hexachloroethane	21.646	201	734590	38.74	ppb(v	92
105)	1,2,4-Trichlorobenzene	22.986	180	580027	46.91	ppb(v	99
106)	Naphthalene	23.108	128	1182912	49.38	ppb(v	100
107)	Hexachlorobutadiene	23.561	225	584543	42.52	ppb(v	100
109)	TVHC as equiv Pentane	5.691	TIC	3421379	36.30	ppb(v	100

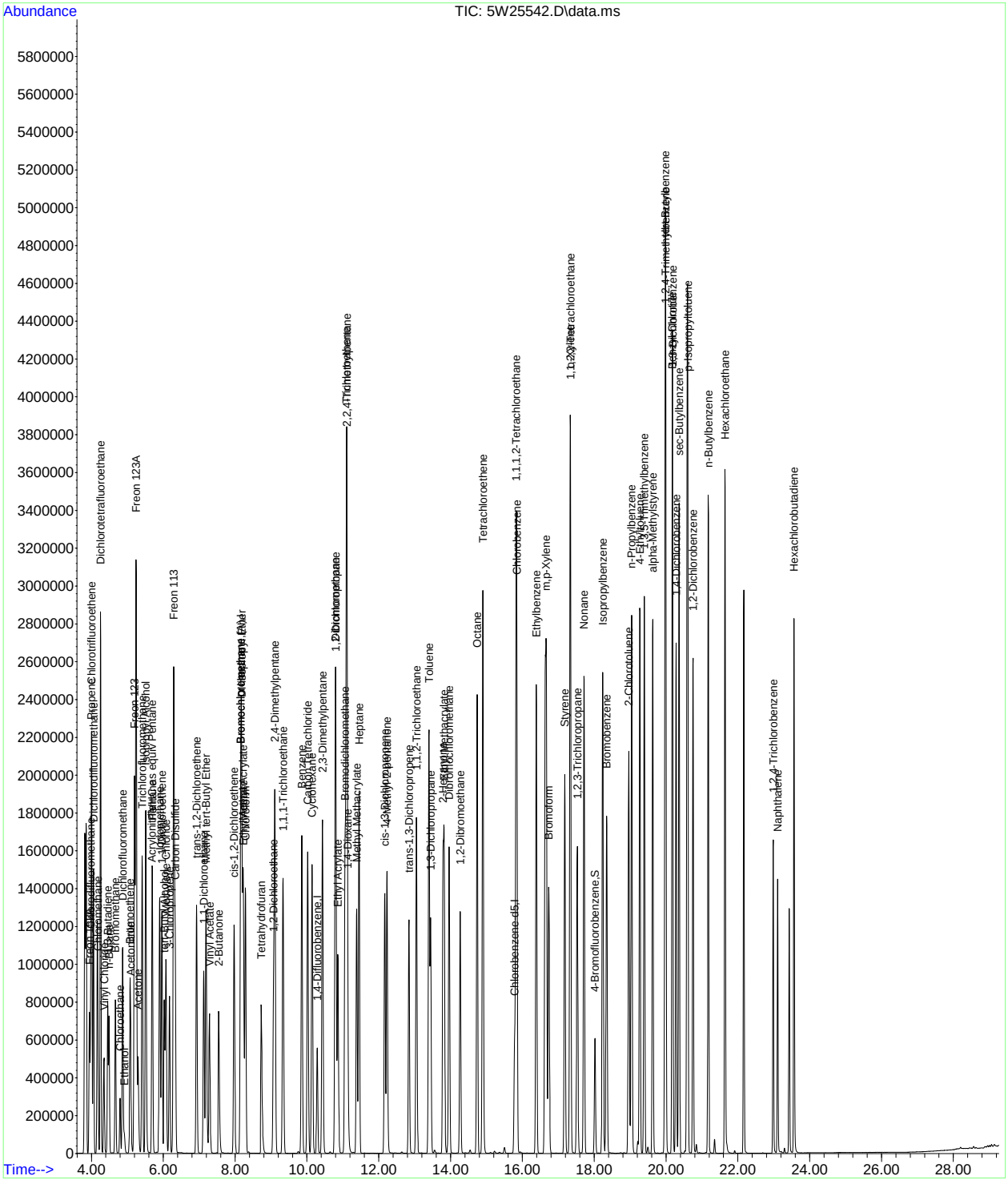
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25542.D
Acq On : 27 Jul 2017 1:31 am
Operator : [redacted]
Sample : 1c1007-40
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 12:09:31 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:37:29 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
07/28/17 10:38

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25545.D
Acq On : 27 Jul 2017 8:56 am
Operator : [redacted]
Sample : ic1007-0.5
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:09:48 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:38:51 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.114	130	157714	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.261	114	574672	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	255925	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.114	130	157714	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.012	95	352668	10.67	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 106.70%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	4443	0.51	ppb(v	97
4) Chlorodifluoromethane	3.936	67	1680	0.49	ppb(v	91
5) Propene	3.954	41	5678	0.58	ppb(v#	95
6) Chlorotrifluoroethene	3.960	116	10314	0.48	ppb(v	99
7) Dichlorodifluoromethane	4.015	85	18111	0.50	ppb(v	99
9) Chloromethane	4.137	50	6139	0.49	ppb(v	99
10) Dichlorotetrafluoroethane	4.211	85	18711	0.50	ppb(v	99
11) Vinyl Chloride	4.309	62	7329	0.51	ppb(v#	100
12) 1,3-Butadiene	4.413	54	5196	0.54	ppb(v	98
13) n-Butane	4.443	58	1120	0.54	ppb(v#	86
14) Bromomethane	4.627	94	8301	0.54	ppb(v	99
15) Chloroethane	4.755	64	3536	0.52	ppb(v	97
16) Dichlorofluoromethane	4.829	67	15652	0.52	ppb(v	97
17) Acetonitrile	5.055	41	4791	0.54	ppb(v	80
18) Freon 123	5.153	83	19369	0.53	ppb(v	100
19) Freon 123A	5.202	117	20645	1.03	ppb(v	98
20) Bromoethene	5.037	106	7856	0.52	ppb(v	98
21) Trichlorofluoromethane	5.373	101	18640	0.50	ppb(v	98
22) Acetone	5.275	58	3826	0.63	ppb(v	91
23) Pentane	5.655	57	1894	0.52	ppb(v	93
25) Iodomethane	5.856	142	22730	0.50	ppb(v	96
26) Isopropyl Alcohol	5.489	43	2471	0.67	ppb(v#	41
27) 1,1-Dichloroethene	5.918	61	11932	0.51	ppb(v	99
28) Freon 113	6.254	101	16220	0.49	ppb(v	97
29) Methylene Chloride	6.034	84	7381	0.54	ppb(v	96
30) Carbon Disulfide	6.297	76	23267	0.50	ppb(v	100
31) Ethanol	4.878	45	2944	0.80	ppb(v#	90
32) Acrylonitrile	5.655	53	5202	0.49	ppb(v	97
33) 3-Chloropropene	6.138	76	3264	0.49	ppb(v	97
34) trans-1,2-Dichloroethene	6.890	61	10621	0.49	ppb(v	99
35) tert-Butyl Alcohol	6.003	59	14468	0.50	ppb(v	98
36) Methyl tert-Butyl Ether	7.184	73	19911	0.49	ppb(v	97
37) Vinyl Acetate	7.257	43	16614	0.51	ppb(v	99
38) 1,1-Dichloroethane	7.092	63	13884	0.51	ppb(v	99
39) 2-Butanone	7.545	72	3635	0.49	ppb(v	89
40) Hexane	8.126	57	11342	0.50	ppb(v	93
41) cis-1,2-Dichloroethene	7.943	61	10281	0.50	ppb(v	99
42) Di-isopropyl Ether	8.163	87	6054	0.47	ppb(v	88
43) Ethyl Acetate	8.218	61	2358	0.47	ppb(v	99
44) Methyl Acrylate	8.200	55	12702	0.50	ppb(v	98
45) Chloroform	8.248	83	16427	0.51	ppb(v	98
46) 2,4-Dimethylpentane	9.081	57	13058	0.49	ppb(v	99
47) Tetrahydrofuran	8.750	72	3363	0.47	ppb(v	97
48) 1,1,1-Trichloroethane	9.313	97	14651	0.49	ppb(v	97
49) 1,2-Dichloroethane	9.044	62	9637	0.51	ppb(v	96
50) Benzene	9.833	78	23710	0.50	ppb(v	100
51) Carbon Tetrachloride	9.998	117	13468	0.46	ppb(v	99
52) Cyclohexane	10.127	56	11157	0.50	ppb(v	98
53) 2,3-Dimethylpentane	10.408	71	4979	0.49	ppb(v	98
55) 2,2,4-Trimethylpentane	11.093	57	36015	0.49	ppb(v	97
56) Heptane	11.436	71	7313	0.48	ppb(v	98
57) Trichloroethene	11.075	95	11512	0.52	ppb(v	98

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25545.D
Acq On : 27 Jul 2017 8:56 am
Operator : [redacted]
Sample : 1c1007-0.5
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:09:48 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:38:51 2017
Response via : Initial Calibration

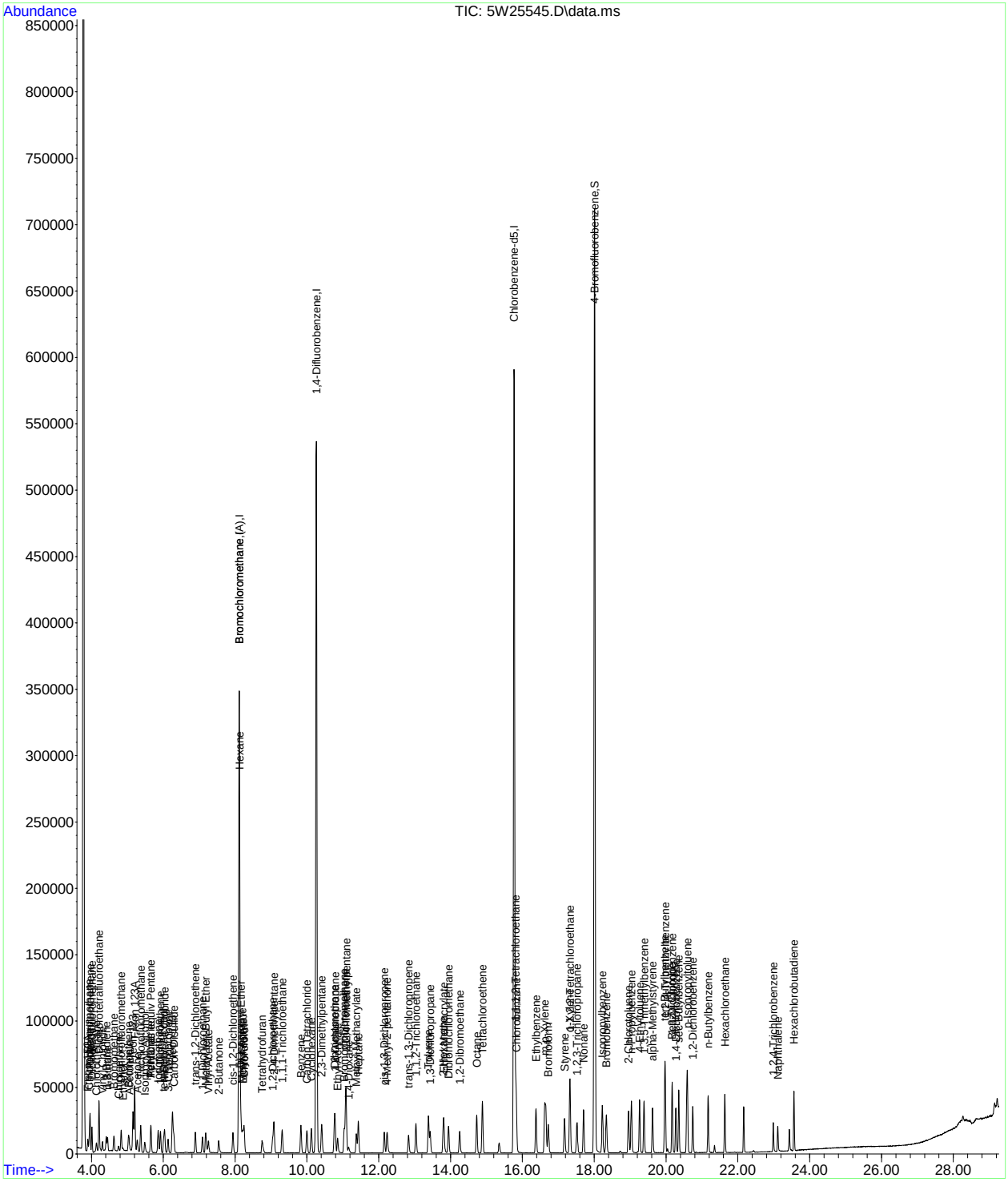
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
58) 1,2-Dichloropropane	10.787	63	8987	0.49 ppb(v	98
59) Dibromomethane	10.769	174	10572	0.49 ppb(v	98
60) Ethyl Acrylate	10.855	55	16258	0.47 ppb(v	99
61) Methyl Methacrylate	11.375	69	8383	0.49 ppb(v	97
62) 1,4-Dioxane	11.161	88	4766	0.52 ppb(v#	88
63) Bromodichloromethane	11.032	83	15825	0.47 ppb(v	97
64) cis-1,3-Dichloropropene	12.152	75	13405	0.48 ppb(v	98
65) 4-Methyl-2-pentanone	12.231	58	6596	0.47 ppb(v	92
66) trans-1,3-Dichloropropene	12.831	75	11436	0.46 ppb(v	99
67) Toluene	13.381	91	28263	0.49 ppb(v	98
68) 1,1,2-Trichloroethane	13.039	97	10081	0.50 ppb(v	95
69) 1,3-Dichloropropane	13.430	76	13323	0.50 ppb(v	96
70) 2-Hexanone	13.797	58	8826	0.46 ppb(v	91
71) Ethyl Methacrylate	13.816	69	13013	0.47 ppb(v	100
72) Dibromochloromethane	13.938	129	15859	0.48 ppb(v	100
73) Tetrachloroethene	14.886	166	16160	0.53 ppb(v	97
74) 1,2-Dibromoethane	14.256	107	16699	0.53 ppb(v	97
75) Octane	14.727	43	16518	0.49 ppb(v	98
76) 1,1,1,2-Tetrachloroethane	15.810	131	11688	0.48 ppb(v#	21
78) Chlorobenzene	15.834	112	23951	0.56 ppb(v	97
79) Ethylbenzene	16.379	91	35762	0.53 ppb(v	99
80) m,p-Xylene	16.624	91	54653	1.06 ppb(v	95
81) Styrene	17.174	104	20067	0.51 ppb(v	99
82) Nonane	17.700	43	15816	0.50 ppb(v	98
83) o-Xylene	17.321	91	27996	0.54 ppb(v	99
84) Bromoform	16.722	173	15098	0.52 ppb(v	97
85) 1,1,2,2-Tetrachloroethane	17.327	83	20157	0.53 ppb(v	98
86) 1,2,3-Trichloropropane	17.523	75	15316	0.55 ppb(v	98
87) Isopropylbenzene	18.226	105	35925	0.53 ppb(v	99
88) Bromobenzene	18.337	156	13354	0.57 ppb(v	95
89) 2-Chlorotoluene	18.954	126	9852	0.56 ppb(v	98
90) n-Propylbenzene	19.034	120	10013	0.53 ppb(v	93
92) 4-Ethyltoluene	19.260	105	34402	0.52 ppb(v	98
93) 1,3,5-Trimethylbenzene	19.389	105	29761	0.54 ppb(v	99
94) alpha-Methylstyrene	19.627	118	14135	0.51 ppb(v	100
95) tert-Butylbenzene	19.964	134	6499	0.53 ppb(v	94
96) 1,2,4-Trimethylbenzene	19.976	105	27895	0.53 ppb(v	96
97) 1,3-Dichlorobenzene	20.172	146	19834	0.57 ppb(v	98
98) Benzyl Chloride	20.166	91	16868	0.43 ppb(v	98
99) 1,4-Dichlorobenzene	20.276	146	19270	0.57 ppb(v	98
100) sec-Butylbenzene	20.355	134	7545	0.54 ppb(v	95
101) p-Isopropyltoluene	20.594	134	8662	0.54 ppb(v	95
102) 1,2-Dichlorobenzene	20.741	146	18689	0.59 ppb(v	99
103) n-Butylbenzene	21.175	134	6981	0.52 ppb(v	99
104) Hexachloroethane	21.640	201	7905	0.45 ppb(v	98
105) 1,2,4-Trichlorobenzene	22.986	180	8284	0.70 ppb(v	99
106) Naphthalene	23.115	128	20005	0.85 ppb(v	99
107) Hexachlorobutadiene	23.561	225	9404	0.73 ppb(v	97
109) TVHC as equiv Pentane	5.655	TIC	44026m	0.52 ppb(v	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25545.D
Acq On : 27 Jul 2017 8:56 am
Operator : [redacted]
Sample : 1c1007-0.5
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:09:48 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 08:38:51 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Manual Integration Approval Summary

Sample Number:	V5W1007-IC1007	**Method:**	TO-15
Lab FileID:	5W25545.D	**Analyst approved:**	07/27/17 12:16
Injection Time:	07/27/17 08:56	**Supervisor approved:**	07/28/17 10:38 [redacted]

Parameter	CAS	Sig#	R.T. (min.)	Reason
TVHC As Equiv Pentane			5.65	Missed peak

SGS ACCUTEST
JC52053

5W25546.D

Manual Integrations APPROVED (compounds with "m" flag)

[redacted]

07/28/17 10:38

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25546.D
Acq On : 27 Jul 2017 9:42 am
Operator : [redacted]
Sample : ic1007-0.2
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:10:00 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 09:35:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.138	130	166556	10.00	ppb(v	0.02
54) 1,4-Difluorobenzene	10.274	114	606362	10.00	ppb(v	0.01
77) Chlorobenzene-d5	15.773	82	273130	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.138	130	166556	10.00	ppb(v	0.02
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.012	95	356670	9.98	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.80%			
Target Compounds						Qvalue
3) Freon 152A	3.936	65	1811	0.20	ppb(v	99
4) Chlorodifluoromethane	3.972	67	697	0.19	ppb(v	97
5) Propene	3.997	41	2228	0.21	ppb(v#	84
6) Chlorotrifluoroethene	4.003	116	4412	0.20	ppb(v	98
7) Dichlorodifluoromethane	4.052	85	7948	0.21	ppb(v	97
9) Chloromethane	4.180	50	2778	0.21	ppb(v	98
10) Dichlorotetrafluoroethane	4.254	85	8040	0.20	ppb(v	95
11) Vinyl Chloride	4.346	62	3115	0.21	ppb(v#	96
12) 1,3-Butadiene	4.449	54	2184	0.21	ppb(v	96
13) n-Butane	4.486	58	393	0.18	ppb(v#	58
14) Bromomethane	4.664	94	3599	0.22	ppb(v	93
15) Chloroethane	4.798	64	1585	0.22	ppb(v#	95
16) Dichlorofluoromethane	4.872	67	6973	0.22	ppb(v	98
17) Acetonitrile	5.098	41	3216	0.34	ppb(v#	67
18) Freon 123	5.196	83	8445	0.22	ppb(v	97
19) Freon 123A	5.239	117	8926	0.42	ppb(v	99
20) Bromoethene	5.074	106	3352	0.21	ppb(v	95
21) Trichlorofluoromethane	5.410	101	7901	0.20	ppb(v	99
22) Acetone	5.312	58	1639	0.24	ppb(v	96
23) Pentane	5.691	57	796	0.21	ppb(v	95
25) Iodomethane	5.893	142	9503	0.20	ppb(v	99
26) Isopropyl Alcohol	5.526	43	1180	0.28	ppb(v#	21
27) 1,1-Dichloroethene	5.954	61	4786	0.19	ppb(v	96
28) Freon 113	6.291	101	6811	0.20	ppb(v	98
29) Methylene Chloride	6.071	84	3195	0.22	ppb(v	95
30) Carbon Disulfide	6.328	76	9567	0.19	ppb(v	98
32) Acrylonitrile	5.691	53	2052	0.18	ppb(v	96
33) 3-Chloropropene	6.169	76	1271	0.18	ppb(v	94
34) trans-1,2-Dichloroethene	6.921	61	4355	0.19	ppb(v	99
35) tert-Butyl Alcohol	6.046	59	5821	0.19	ppb(v#	87
36) Methyl tert-Butyl Ether	7.221	73	8391	0.20	ppb(v	97
37) Vinyl Acetate	7.288	43	7410	0.21	ppb(v	98
38) 1,1-Dichloroethane	7.123	63	5830	0.20	ppb(v#	93
39) 2-Butanone	7.576	72	1412	0.18	ppb(v#	86
40) Hexane	8.151	57	4720	0.20	ppb(v	91
41) cis-1,2-Dichloroethene	7.967	61	4157	0.19	ppb(v	93
42) Di-isopropyl Ether	8.194	87	2464	0.18	ppb(v	97
43) Ethyl Acetate	8.242	61	848	0.16	ppb(v#	88
44) Methyl Acrylate	8.230	55	4892	0.18	ppb(v	96
45) Chloroform	8.273	83	6880	0.20	ppb(v	96
46) 2,4-Dimethylpentane	9.099	57	5491	0.20	ppb(v	96
47) Tetrahydrofuran	8.787	72	1297	0.17	ppb(v	92
48) 1,1,1-Trichloroethane	9.331	97	6034	0.19	ppb(v	98
49) 1,2-Dichloroethane	9.062	62	3910	0.19	ppb(v#	94
50) Benzene	9.851	78	9997	0.20	ppb(v	97
51) Carbon Tetrachloride	10.017	117	5698	0.19	ppb(v	97
52) Cyclohexane	10.145	56	4478	0.19	ppb(v	92
53) 2,3-Dimethylpentane	10.427	71	2020	0.19	ppb(v	99
55) 2,2,4-Trimethylpentane	11.106	57	15019	0.20	ppb(v	98
56) Heptane	11.442	71	3185	0.20	ppb(v	98
57) Trichloroethene	11.093	95	4702	0.20	ppb(v	96
58) 1,2-Dichloropropane	10.800	63	3635	0.19	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25546.D
Acq On : 27 Jul 2017 9:42 am
Operator : [redacted]
Sample : 1c1007-0.2
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:10:00 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 09:35:28 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
59)	Dibromomethane	10.787	174	4541	0.20	ppb(v	95
60)	Ethyl Acrylate	10.879	55	6274	0.17	ppb(v	100
61)	Methyl Methacrylate	11.399	69	3200	0.18	ppb(v	96
62)	1,4-Dioxane	11.191	88	1778	0.18	ppb(v#	87
63)	Bromodichloromethane	11.044	83	6896	0.20	ppb(v	98
64)	cis-1,3-Dichloropropene	12.164	75	5371	0.18	ppb(v	98
65)	4-Methyl-2-pentanone	12.250	58	2456	0.17	ppb(v	98
66)	trans-1,3-Dichloropropene	12.843	75	4413	0.17	ppb(v	98
67)	Toluene	13.394	91	11721	0.19	ppb(v	98
68)	1,1,2-Trichloroethane	13.045	97	4055	0.19	ppb(v	95
69)	1,3-Dichloropropane	13.443	76	5428	0.19	ppb(v	98
70)	2-Hexanone	13.816	58	2762	0.14	ppb(v	91
71)	Ethyl Methacrylate	13.828	69	4721	0.16	ppb(v#	97
72)	Dibromochloromethane	13.950	129	6874	0.20	ppb(v	98
73)	Tetrachloroethene	14.892	166	6490	0.20	ppb(v	97
74)	1,2-Dibromoethane	14.262	107	6465	0.19	ppb(v	99
75)	Octane	14.733	43	6766	0.19	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.816	131	4890	0.19	ppb(v#	1
78)	Chlorobenzene	15.835	112	9229	0.20	ppb(v	98
79)	Ethylbenzene	16.385	91	14305	0.20	ppb(v	99
80)	m,p-Xylene	16.636	91	21982	0.39	ppb(v	99
81)	Styrene	17.180	104	7179	0.17	ppb(v	95
82)	Nonane	17.707	43	6393	0.19	ppb(v	98
83)	o-Xylene	17.327	91	11345	0.20	ppb(v	97
84)	Bromoform	16.734	173	5739	0.18	ppb(v	98
85)	1,1,2,2-Tetrachloroethane	17.333	83	7838	0.19	ppb(v#	99
86)	1,2,3-Trichloropropane	17.529	75	6000	0.20	ppb(v	98
87)	Isopropylbenzene	18.233	105	14578	0.20	ppb(v	98
88)	Bromobenzene	18.343	156	4911	0.19	ppb(v	95
89)	2-Chlorotoluene	18.961	126	3610	0.19	ppb(v	98
90)	n-Propylbenzene	19.040	120	3726	0.18	ppb(v	94
92)	4-Ethyltoluene	19.267	105	13328	0.19	ppb(v	95
93)	1,3,5-Trimethylbenzene	19.389	105	11792	0.20	ppb(v	98
94)	alpha-Methylstyrene	19.634	118	4938	0.17	ppb(v	98
95)	tert-Butylbenzene	19.970	134	2550	0.19	ppb(v	96
96)	1,2,4-Trimethylbenzene	19.982	105	10687	0.19	ppb(v	99
97)	1,3-Dichlorobenzene	20.178	146	6310	0.17	ppb(v	95
98)	Benzyl Chloride	20.172	91	5323	0.13	ppb(v	98
99)	1,4-Dichlorobenzene	20.282	146	6034	0.16	ppb(v	98
100)	sec-Butylbenzene	20.362	134	2821	0.18	ppb(v	94
101)	p-Isopropyltoluene	20.600	134	3184	0.18	ppb(v	95
102)	1,2-Dichlorobenzene	20.747	146	6082	0.17	ppb(v	96
103)	n-Butylbenzene	21.175	134	2257	0.16	ppb(v	91
104)	Hexachloroethane	21.640	201	3002	0.16	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.992	180	1409	0.10	ppb(v	90
106)	Naphthalene	23.127	128	2897	0.10	ppb(v	94
107)	Hexachlorobutadiene	23.561	225	3213	0.21	ppb(v	98
109)	TVHC as equiv Pentane	5.691	TIC	17112m	0.19	ppb(v	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

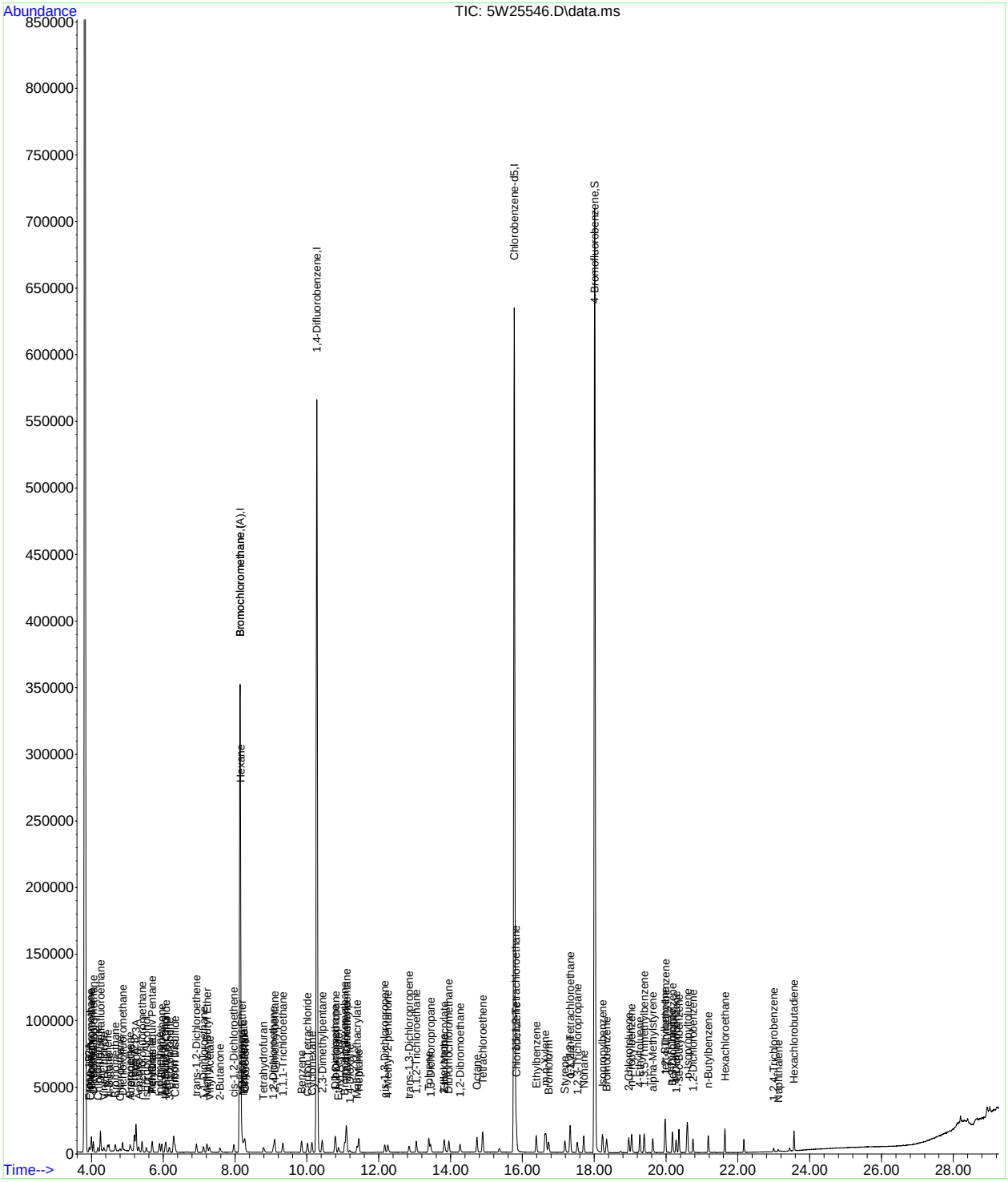
7.7.18

7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25546.D
Acq On : 27 Jul 2017 9:42 am
Operator : [redacted]
Sample : 1c1007-0.2
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:10:00 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 09:35:28 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Manual Integration Approval Summary

Sample Number:	V5W1007-IC1007	**Method:**	TO-15
Lab FileID:	5W25546.D	**Analyst approved:**	07/27/17 12:16
Injection Time:	07/27/17 09:42	**Supervisor approved:**	07/28/17 10:38 [redacted]

Parameter	CAS	Sig#	R.T. (min.)	Reason
TVHC As Equiv Pentane			5.69	Missed peak

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25547.D
Acq On : 27 Jul 2017 10:26 am
Operator : [redacted]
Sample : 1c1007-0.1
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:10:13 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 10:45:51 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.120	130	154115	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.261	114	568804	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	251979	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.120	130	154115	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.012	95	332832	10.07	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 100.70%			
Target Compounds						Qvalue
3) Freon 152A	3.905	65	862	0.10	ppb(v	88
4) Chlorodifluoromethane	3.942	67	309	0.09	ppb(v#	41
5) Propene	3.960	41	1097	0.11	ppb(v#	69
6) Chlorotrifluoroethene	3.966	116	2115	0.10	ppb(v	99
7) Dichlorodifluoromethane	4.021	85	3789	0.10	ppb(v	97
9) Chloromethane	4.150	50	1295	0.10	ppb(v	93
10) Dichlorotetrafluoroethane	4.217	85	3964	0.10	ppb(v	97
11) Vinyl Chloride	4.315	62	1423	0.10	ppb(v#	97
12) 1,3-Butadiene	4.419	54	1051	0.10	ppb(v	94
13) n-Butane	4.456	58	200	0.10	ppb(v#	40
14) Bromomethane	4.633	94	1813	0.11	ppb(v	94
15) Chloroethane	4.762	64	732	0.11	ppb(v#	74
16) Dichlorofluoromethane	4.835	67	3174	0.10	ppb(v	98
18) Freon 123	5.165	83	4041	0.10	ppb(v	98
19) Freon 123A	5.208	117	4165	0.20	ppb(v	93
20) Bromoethene	5.049	106	1557	0.10	ppb(v#	94
21) Trichlorofluoromethane	5.379	101	3692	0.10	ppb(v	94
23) Pentane	5.667	57	385	0.11	ppb(v	60
25) Iodomethane	5.863	142	4436	0.10	ppb(v	98
27) 1,1-Dichloroethene	5.924	61	2290	0.10	ppb(v	97
28) Freon 113	6.260	101	3238	0.10	ppb(v	99
29) Methylene Chloride	6.046	84	1695	0.12	ppb(v	92
30) Carbon Disulfide	6.297	76	4586	0.10	ppb(v	99
32) Acrylonitrile	5.673	53	912	0.09	ppb(v	91
33) 3-Chloropropene	6.144	76	601	0.10	ppb(v#	92
34) trans-1,2-Dichloroethene	6.897	61	1971	0.09	ppb(v	98
35) tert-Butyl Alcohol	6.034	59	2689	0.09	ppb(v#	88
36) Methyl tert-Butyl Ether	7.209	73	3925	0.10	ppb(v	96
37) Vinyl Acetate	7.270	43	3578	0.11	ppb(v	98
38) 1,1-Dichloroethane	7.098	63	2705	0.10	ppb(v#	95
39) 2-Butanone	7.563	72	619	0.09	ppb(v	81
40) Hexane	8.132	57	2326	0.11	ppb(v	88
41) cis-1,2-Dichloroethene	7.943	61	1995	0.10	ppb(v	92
42) Di-isopropyl Ether	8.175	87	1099	0.09	ppb(v	82
43) Ethyl Acetate	8.236	61	363	0.08	ppb(v#	83
44) Methyl Acrylate	8.212	55	2242	0.09	ppb(v	92
45) Chloroform	8.255	83	3364	0.10	ppb(v	97
46) 2,4-Dimethylpentane	9.081	57	2567	0.10	ppb(v	97
47) Tetrahydrofuran	8.787	72	500	0.07	ppb(v	88
48) 1,1,1-Trichloroethane	9.313	97	2801	0.09	ppb(v	97
49) 1,2-Dichloroethane	9.044	62	1816	0.10	ppb(v#	91
50) Benzene	9.833	78	4631	0.10	ppb(v	98
51) Carbon Tetrachloride	10.004	117	2493	0.09	ppb(v	94
52) Cyclohexane	10.133	56	2196	0.10	ppb(v	92
53) 2,3-Dimethylpentane	10.414	71	959	0.10	ppb(v#	83
55) 2,2,4-Trimethylpentane	11.093	57	7011	0.09	ppb(v	95
56) Heptane	11.436	71	1439	0.09	ppb(v	95
57) Trichloroethene	11.081	95	2088	0.09	ppb(v	97
58) 1,2-Dichloropropane	10.794	63	1719	0.10	ppb(v	99
59) Dibromomethane	10.769	174	2232	0.10	ppb(v	88
60) Ethyl Acrylate	10.885	55	2592	0.08	ppb(v#	77
61) Methyl Methacrylate	11.393	69	1321	0.08	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25547.D
Acq On : 27 Jul 2017 10:26 am
Operator : [redacted]
Sample : ic1007-0.1
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:10:13 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 10:45:51 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
62) 1,4-Dioxane	11.191	88	663	0.07	ppb(v#	90
63) Bromodichloromethane	11.038	83	3287	0.10	ppb(v	97
64) cis-1,3-Dichloropropene	12.170	75	2303	0.09	ppb(v	96
65) 4-Methyl-2-pentanone	12.256	58	874	0.06	ppb(v	94
66) trans-1,3-Dichloropropene	12.849	75	1884	0.08	ppb(v#	87
67) Toluene	13.394	91	5459	0.09	ppb(v	94
68) 1,1,2-Trichloroethane	13.051	97	1811	0.09	ppb(v	96
69) 1,3-Dichloropropane	13.443	76	2295	0.09	ppb(v	92
70) 2-Hexanone	13.840	58	856	0.05	ppb(v#	78
71) Ethyl Methacrylate	13.828	69	2014	0.08	ppb(v#	96
72) Dibromochloromethane	13.944	129	3036	0.09	ppb(v#	90
73) Tetrachloroethene	14.892	166	2909	0.09	ppb(v	90
74) 1,2-Dibromoethane	14.262	107	2839	0.09	ppb(v#	98
75) Octane	14.733	43	3325	0.10	ppb(v	89
76) 1,1,1,2-Tetrachloroethane	15.816	131	2208	0.09	ppb(v#	1
78) Chlorobenzene	15.835	112	4484	0.10	ppb(v	97
79) Ethylbenzene	16.385	91	6779	0.10	ppb(v	99
80) m,p-Xylene	16.636	91	10021	0.19	ppb(v	93
81) Styrene	17.187	104	3220	0.09	ppb(v	98
82) Nonane	17.707	43	3018	0.09	ppb(v#	96
83) o-Xylene	17.333	91	5388	0.10	ppb(v	99
84) Bromoform	16.734	173	2499	0.09	ppb(v#	95
85) 1,1,2,2-Tetrachloroethane	17.340	83	3626	0.09	ppb(v#	96
86) 1,2,3-Trichloropropane	17.535	75	2722	0.10	ppb(v	95
87) Isopropylbenzene	18.233	105	6754	0.10	ppb(v	97
88) Bromobenzene	18.349	156	2255	0.10	ppb(v	94
89) 2-Chlorotoluene	18.967	126	1692	0.10	ppb(v	93
90) n-Propylbenzene	19.046	120	1636	0.09	ppb(v	88
92) 4-Ethyltoluene	19.273	105	6071	0.09	ppb(v	98
93) 1,3,5-Trimethylbenzene	19.395	105	5281	0.09	ppb(v	96
94) alpha-Methylstyrene	19.634	118	2154	0.08	ppb(v	96
95) tert-Butylbenzene	19.964	134	1136	0.09	ppb(v	96
96) 1,2,4-Trimethylbenzene	19.988	105	4903	0.09	ppb(v	88
97) 1,3-Dichlorobenzene	20.184	146	2858	0.08	ppb(v	97
98) Benzyl Chloride	20.184	91	2362	0.07	ppb(v#	87
99) 1,4-Dichlorobenzene	20.288	146	2769	0.08	ppb(v	97
100) sec-Butylbenzene	20.362	134	1210	0.09	ppb(v	84
101) p-Isopropyltoluene	20.600	134	1399	0.09	ppb(v	90
102) 1,2-Dichlorobenzene	20.753	146	2760	0.09	ppb(v	91
103) n-Butylbenzene	21.181	134	873	0.07	ppb(v	60
104) Hexachloroethane	21.640	201	1309	0.08	ppb(v	93
105) 1,2,4-Trichlorobenzene	23.005	180	598	0.05	ppb(v#	72
107) Hexachlorobutadiene	23.561	225	1579	0.11	ppb(v	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

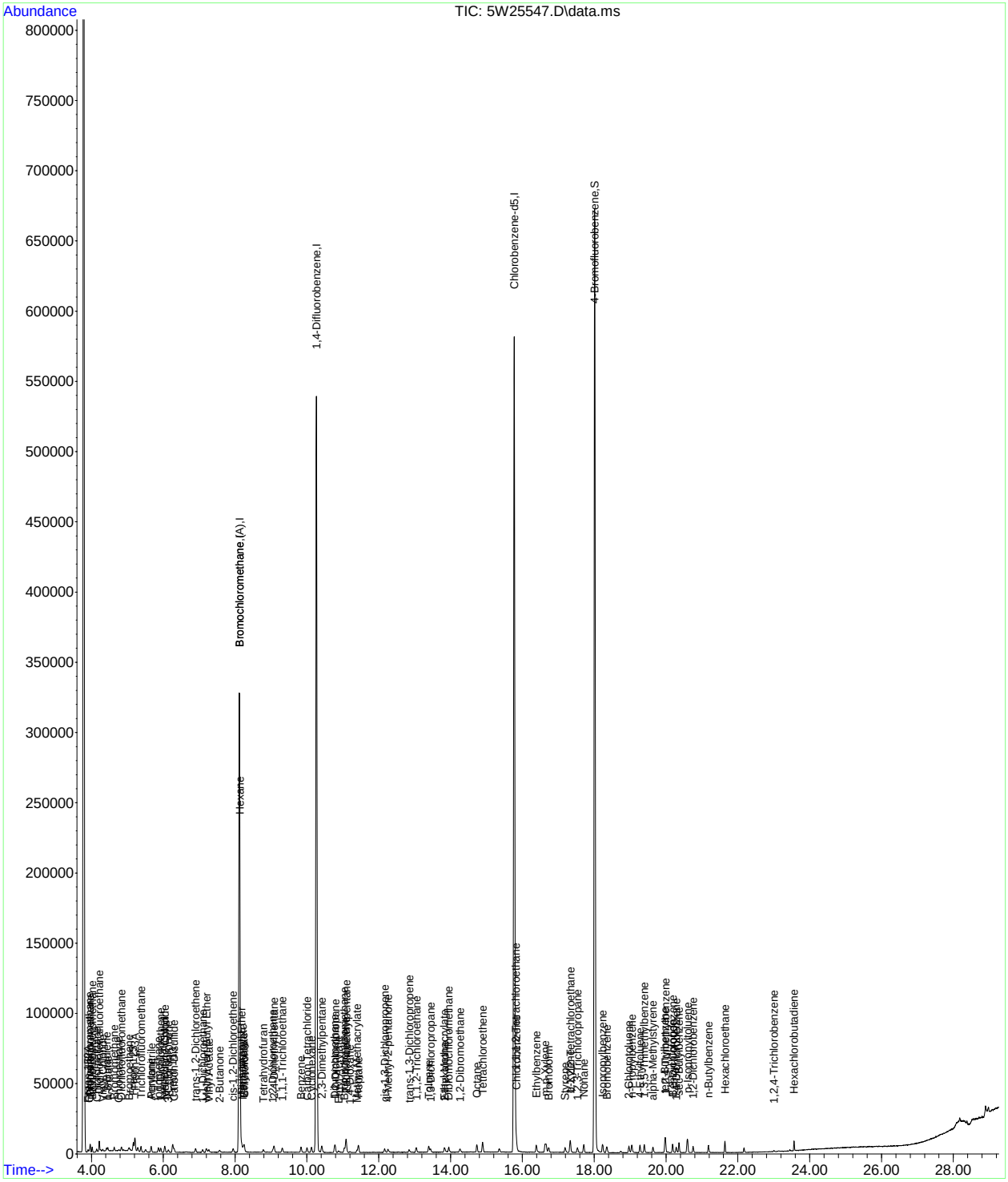
7.7.19

7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25547.D
Acq On : 27 Jul 2017 10:26 am
Operator : [redacted]
Sample : 1c1007-0.1
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 12:10:13 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 10:45:51 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25548.D
Acq On : 27 Jul 2017 11:11 am
Operator : [redacted]
Sample : icv1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 12:06:12 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 12:05:49 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.120	130	153060	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.261	114	557122	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	255801	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.120	130	153060	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.018	95	354153	10.55	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 105.50%			
Target Compounds						Qvalue
3) Freon 152A	3.899	65	86198	9.86	ppb(v	99
4) Chlorodifluoromethane	3.936	67	33620	10.34	ppb(v	99
5) Propene	3.960	41	97748	9.79	ppb(v	99
7) Dichlorodifluoromethane	4.015	85	364076	9.93	ppb(v	100
9) Chloromethane	4.144	50	126829	10.13	ppb(v	99
10) Dichlorotetrafluoroethane	4.217	85	403565	10.61	ppb(v	97
11) Vinyl Chloride	4.309	62	146721	10.37	ppb(v	99
12) 1,3-Butadiene	4.413	54	96711	9.51	ppb(v	99
13) n-Butane	4.449	58	21553	10.78	ppb(v	97
14) Bromomethane	4.627	94	154862	9.28	ppb(v	100
15) Chloroethane	4.755	64	68354	9.93	ppb(v	99
16) Dichlorofluoromethane	4.829	67	313963	10.10	ppb(v	100
17) Acetonitrile	5.049	41	92751	9.54	ppb(v	99
18) Freon 123	5.159	83	356080	9.24	ppb(v	99
19) Freon 123A	5.202	117	208514	10.28	ppb(v	95
20) Bromoethene	5.037	106	146657	9.73	ppb(v	99
21) Trichlorofluoromethane	5.373	101	367222	9.92	ppb(v	99
22) Acetone	5.263	58	61106	9.50	ppb(v	97
23) Pentane	5.661	57	37886	10.54	ppb(v	97
25) Iodomethane	5.856	142	433800	9.67	ppb(v	100
26) Isopropyl Alcohol	5.471	43	42613	10.40	ppb(v	58
27) 1,1-Dichloroethene	5.924	61	220910	9.76	ppb(v	99
28) Freon 113	6.254	101	305731	9.49	ppb(v	98
29) Methylene Chloride	6.040	84	128391	9.07	ppb(v	99
30) Carbon Disulfide	6.297	76	429290	9.45	ppb(v	100
31) Ethanol	4.872	45	51903	12.93	ppb(v	100
32) Acrylonitrile	5.648	53	112886	11.38	ppb(v	98
33) 3-Chloropropene	6.138	76	68551	11.35	ppb(v	97
34) trans-1,2-Dichloroethene	6.896	61	215140	10.36	ppb(v	100
35) tert-Butyl Alcohol	5.991	59	269905	9.64	ppb(v	99
36) Methyl tert-Butyl Ether	7.166	73	407829	10.21	ppb(v	98
37) Vinyl Acetate	7.257	43	370341	11.31	ppb(v	99
38) 1,1-Dichloroethane	7.098	63	267873	9.93	ppb(v	100
39) 2-Butanone	7.514	72	72530	10.44	ppb(v	95
40) Hexane	8.132	57	223444	10.13	ppb(v	92
41) cis-1,2-Dichloroethene	7.949	61	202727	10.25	ppb(v	98
42) Di-isopropyl Ether	8.157	87	126931	10.68	ppb(v	98
43) Ethyl Acetate	8.206	61	50006	11.03	ppb(v	99
44) Methyl Acrylate	8.187	55	255460	10.13	ppb(v	99
45) Chloroform	8.255	83	315746	9.74	ppb(v	98
46) 2,4-Dimethylpentane	9.081	57	267375	10.47	ppb(v	98
47) Tetrahydrofuran	8.713	72	72299	11.25	ppb(v	97
48) 1,1,1-Trichloroethane	9.313	97	308898	10.61	ppb(v	100
49) 1,2-Dichloroethane	9.044	62	192415	10.60	ppb(v	99
50) Benzene	9.833	78	467156	9.91	ppb(v	99
51) Carbon Tetrachloride	10.004	117	292559	10.59	ppb(v	99
52) Cyclohexane	10.127	56	225114	10.12	ppb(v	98
53) 2,3-Dimethylpentane	10.414	71	100723	10.38	ppb(v	99
55) 2,2,4-Trimethylpentane	11.093	57	746007	10.20	ppb(v	99
56) Heptane	11.436	71	151112	9.77	ppb(v	99
57) Trichloroethene	11.075	95	216817	9.86	ppb(v	98
58) 1,2-Dichloropropane	10.787	63	178575	10.28	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25548.D
Acq On : 27 Jul 2017 11:11 am
Operator : [redacted]
Sample : icv1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 12:06:12 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 12:05:49 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
59)	Dibromomethane	10.769	174	200593	9.25	ppb(v	97
60)	Ethyl Acrylate	10.842	55	338527	10.94	ppb(v	99
61)	Methyl Methacrylate	11.369	69	166042	10.73	ppb(v	99
62)	1,4-Dioxane	11.124	88	108595	12.86	ppb(v	99
63)	Bromodichloromethane	11.038	83	329702	10.09	ppb(v	99
64)	cis-1,3-Dichloropropene	12.152	75	286207	11.07	ppb(v	99
65)	4-Methyl-2-pentanone	12.219	58	140314	11.21	ppb(v	100
66)	trans-1,3-Dichloropropene	12.831	75	233813	10.74	ppb(v	100
67)	Toluene	13.387	91	558245	9.93	ppb(v	99
68)	1,1,2-Trichloroethane	13.039	97	195677	9.98	ppb(v	99
69)	1,3-Dichloropropane	13.430	76	256324	10.18	ppb(v	99
70)	2-Hexanone	13.779	58	191173	11.81	ppb(v	97
71)	Ethyl Methacrylate	13.810	69	276726	10.93	ppb(v	99
72)	Dibromochloromethane	13.944	129	321835	10.32	ppb(v	98
73)	Tetrachloroethene	14.886	166	285021	9.44	ppb(v	100
74)	1,2-Dibromoethane	14.256	107	308426	10.13	ppb(v	100
75)	Octane	14.727	43	352052	10.88	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.816	131	237657	10.27	ppb(v	99
78)	Chlorobenzene	15.834	112	437358	9.61	ppb(v	99
79)	Ethylbenzene	16.379	91	701995	9.91	ppb(v	99
80)	m,p-Xylene	16.654	91	1071911	19.74	ppb(v	100
81)	Styrene	17.174	104	410361	10.91	ppb(v	99
82)	Nonane	17.706	43	337393	9.98	ppb(v	99
83)	o-Xylene	17.321	91	541294	9.91	ppb(v	100
84)	Bromoform	16.728	173	308431	10.97	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.333	83	397241	10.26	ppb(v	99
86)	1,2,3-Trichloropropane	17.523	75	296457	10.49	ppb(v	100
87)	Isopropylbenzene	18.233	105	758715	10.80	ppb(v	100
88)	Bromobenzene	18.343	156	238982	10.08	ppb(v	99
89)	2-Chlorotoluene	18.961	126	184793	10.64	ppb(v	99
90)	n-Propylbenzene	19.034	120	197066	10.74	ppb(v	98
92)	4-Ethyltoluene	19.266	105	686355	10.35	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.389	105	573598	10.19	ppb(v	100
94)	alpha-Methylstyrene	19.627	118	279813	10.77	ppb(v	99
95)	tert-Butylbenzene	19.970	134	125187	10.35	ppb(v	99
96)	1,2,4-Trimethylbenzene	19.982	105	542847	10.25	ppb(v	98
97)	1,3-Dichlorobenzene	20.178	146	350537	10.44	ppb(v	99
98)	Benzyl Chloride	20.166	91	393336	11.57	ppb(v	100
99)	1,4-Dichlorobenzene	20.276	146	335663	10.24	ppb(v	99
100)	sec-Butylbenzene	20.362	134	150987	10.91	ppb(v	99
101)	p-Isopropyltoluene	20.600	134	163162	10.54	ppb(v	100
102)	1,2-Dichlorobenzene	20.747	146	317947	10.05	ppb(v	99
103)	n-Butylbenzene	21.175	134	135485	10.95	ppb(v	97
104)	Hexachloroethane	21.640	201	177466	11.34	ppb(v	94
105)	1,2,4-Trichlorobenzene	22.986	180	114555	10.43	ppb(v	99
106)	Naphthalene	23.108	128	211753	8.63	ppb(v	100
107)	Hexachlorobutadiene	23.561	225	131646	9.08	ppb(v	99
109)	TVHC as equiv Pentane	5.655	TIC	909330	11.06	ppb(v	100

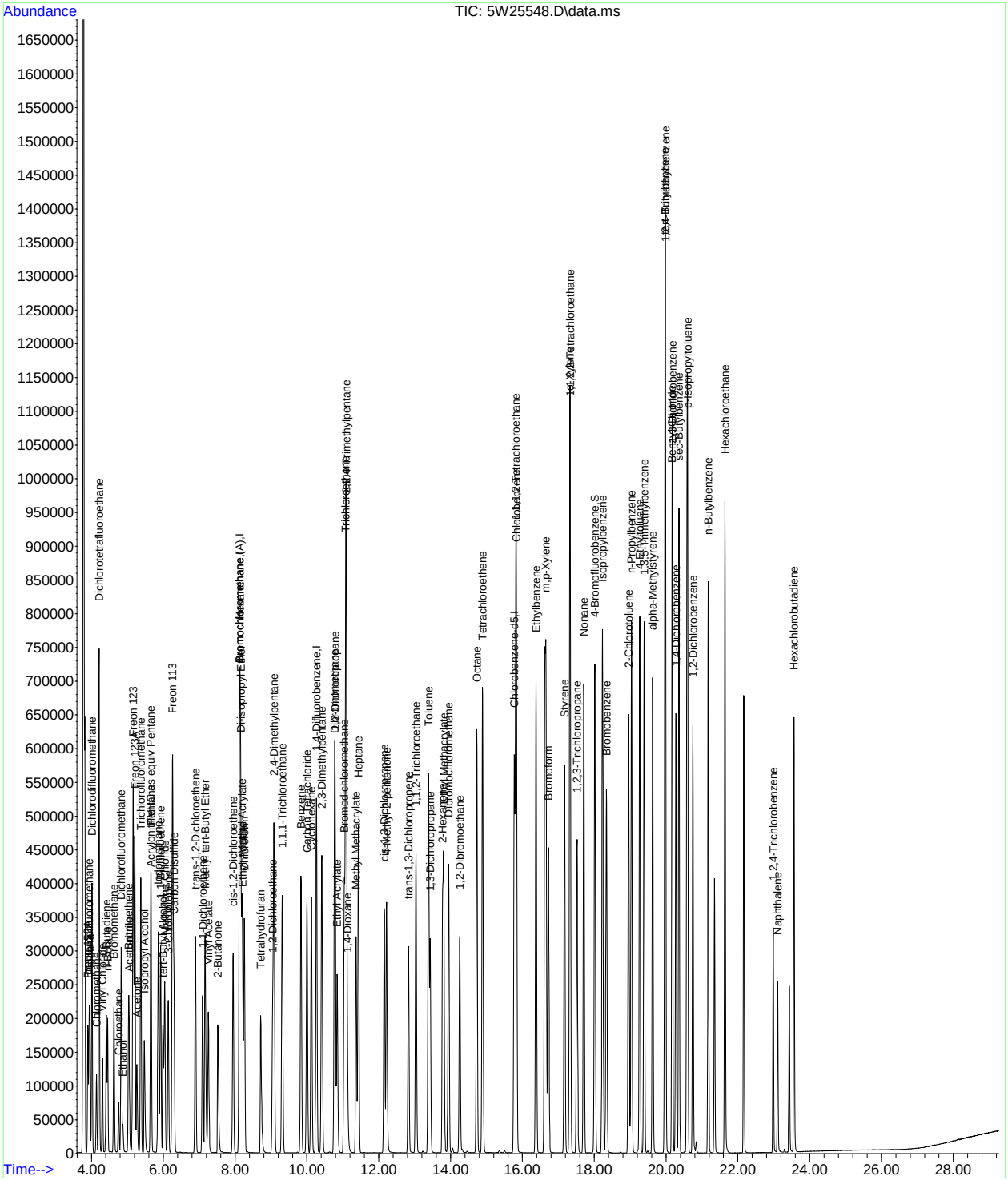
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W25548.D
Acq On : 27 Jul 2017 11:11 am
Operator : [redacted]
Sample : icv1007-10
Misc : MS18215,v5w1007,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 12:06:12 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Jul 27 12:05:49 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26742.D
Acq On : 19 Sep 2017 9:46 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:07:32 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	136145	10.00	ppb(v	# 0.04
54) 1,4-Difluorobenzene	10.286	114	471089	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	228260	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	136145	10.00	ppb(v	# 0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	305344	10.19	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.90%			
Target Compounds						Qvalue
3) Freon 152A	3.887	65	77352	9.95	ppb(v	91
4) Chlorodifluoromethane	4.009	67	35126	12.14	ppb(v	99
5) Propene	4.033	41	91103	10.26	ppb(v	98
6) Chlorotrifluoroethene	4.040	116	179966	9.65	ppb(v	97
7) Dichlorodifluoromethane	4.088	85	350000	10.73	ppb(v	99
9) Chloromethane	4.217	50	126115	11.32	ppb(v	100
10) Dichlorotetrafluoroethane	4.290	85	350737	10.37	ppb(v	94
11) Vinyl Chloride	4.382	62	136921	10.88	ppb(v#	98
12) 1,3-Butadiene	4.486	54	99292	10.98	ppb(v	88
13) n-Butane	4.523	58	20239	11.38	ppb(v	71
14) Bromomethane	4.700	94	142227	9.58	ppb(v	97
15) Chloroethane	4.829	64	66840	10.91	ppb(v	94
16) Dichlorofluoromethane	4.902	67	333174	12.05	ppb(v#	99
17) Acetonitrile	5.122	41	104638	12.10	ppb(v	96
18) Freon 123	5.226	83	369931	10.79	ppb(v	99
19) Freon 123A	5.269	117	373200	20.68	ppb(v	81
20) Bromoethene	5.104	106	129722	9.68	ppb(v#	95
21) Trichlorofluoromethane	5.440	101	396252	12.04	ppb(v	99
22) Acetone	5.330	58	61480	10.74	ppb(v	61
23) Pentane	5.722	57	29995	9.38	ppb(v	83
25) Iodomethane	5.924	142	320233	8.02	ppb(v	87
26) Isopropyl Alcohol	5.538	43	45923	12.60	ppb(v	70
27) 1,1-Dichloroethene	5.985	61	205276	10.19	ppb(v	94
28) Freon 113	6.315	101	288363	10.07	ppb(v	95
29) Methylene Chloride	6.101	84	116007	9.21	ppb(v	89
30) Carbon Disulfide	6.358	76	416431	10.31	ppb(v	100
31) Ethanol	4.945	45	39477	11.06	ppb(v#	96
32) Acrylonitrile	5.716	53	94349	10.69	ppb(v	99
33) 3-Chloropropene	6.199	76	48725	9.07	ppb(v	81
34) trans-1,2-Dichloroethene	6.945	61	176998	9.58	ppb(v	95
35) tert-Butyl Alcohol	6.052	59	226962	9.11	ppb(v#	87
36) Methyl tert-Butyl Ether	7.215	73	305800	8.61	ppb(v#	91
37) Vinyl Acetate	7.300	43	289253	9.93	ppb(v	94
38) 1,1-Dichloroethane	7.147	63	241118	10.05	ppb(v	100
39) 2-Butanone	7.563	72	56836	9.20	ppb(v	77
40) Hexane	8.169	57	191540	9.76	ppb(v	92
41) cis-1,2-Dichloroethene	7.985	61	168807	9.59	ppb(v	93
42) Di-isopropyl Ether	8.193	87	98415	9.31	ppb(v	67
43) Ethyl Acetate	8.242	61	43317	10.74	ppb(v	81
44) Methyl Acrylate	8.230	55	227454	10.14	ppb(v	97
45) Chloroform	8.291	83	295460	10.25	ppb(v	97
46) 2,4-Dimethylpentane	9.111	57	221778	9.76	ppb(v	96
47) Tetrahydrofuran	8.750	72	51887	9.08	ppb(v	83
48) 1,1,1-Trichloroethane	9.344	97	262339	10.13	ppb(v	99
49) 1,2-Dichloroethane	9.074	62	187049	11.58	ppb(v	98
50) Benzene	9.857	78	378163	9.02	ppb(v	97
51) Carbon Tetrachloride	10.029	117	271923	11.06	ppb(v	99
52) Cyclohexane	10.151	56	182090	9.21	ppb(v	94
53) 2,3-Dimethylpentane	10.432	71	82307	9.53	ppb(v	85
55) 2,2,4-Trimethylpentane	11.105	57	644406	10.42	ppb(v	97
56) Heptane	11.448	71	124873	9.55	ppb(v	96
57) Trichloroethene	11.093	95	190346	10.24	ppb(v	95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26742.D
Acq On : 19 Sep 2017 9:46 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:07:32 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

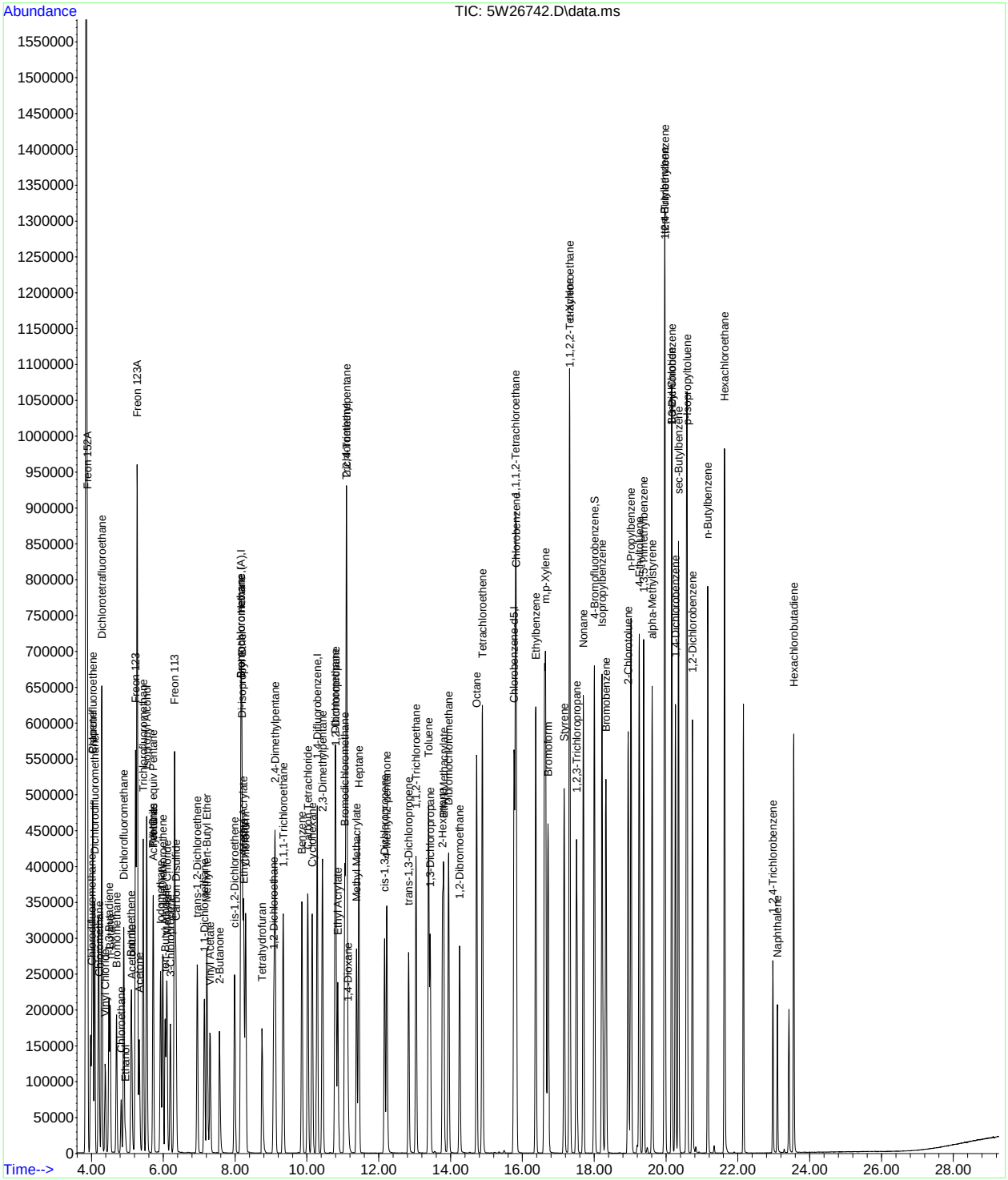
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 1,2-Dichloropropane	10.806	63	156193	10.63	ppb(v	96
59) Dibromomethane	10.787	174	160575	8.76	ppb(v	87
60) Ethyl Acrylate	10.861	55	293846	11.23	ppb(v	98
61) Methyl Methacrylate	11.381	69	137600	10.51	ppb(v	92
62) 1,4-Dioxane	11.142	88	71791	10.05	ppb(v	97
63) Bromodichloromethane	11.050	83	314596	11.39	ppb(v	99
64) cis-1,3-Dichloropropene	12.164	75	210346	9.62	ppb(v	98
65) 4-Methyl-2-pentanone	12.225	58	119290	11.27	ppb(v	90
66) trans-1,3-Dichloropropene	12.831	75	192654	10.46	ppb(v	98
67) Toluene	13.387	91	439129	9.24	ppb(v	99
68) 1,1,2-Trichloroethane	13.039	97	167543	10.10	ppb(v	97
69) 1,3-Dichloropropane	13.430	76	230001	10.81	ppb(v	94
70) 2-Hexanone	13.779	58	160916	11.76	ppb(v	86
71) Ethyl Methacrylate	13.809	69	235503	11.00	ppb(v	96
72) Dibromochloromethane	13.944	129	293372	11.12	ppb(v	99
73) Tetrachloroethene	14.886	166	234123	9.17	ppb(v	99
74) 1,2-Dibromoethane	14.250	107	260548	10.12	ppb(v	99
75) Octane	14.721	43	297483	10.88	ppb(v	95
76) 1,1,1,2-Tetrachloroethane	15.810	131	217813	11.13	ppb(v	99
78) Chlorobenzene	15.828	112	377364	9.30	ppb(v	98
79) Ethylbenzene	16.373	91	579444	9.17	ppb(v	98
80) m,p-Xylene	16.642	91	926192	19.11	ppb(v	97
81) Styrene	17.162	104	320607	9.55	ppb(v	98
82) Nonane	17.694	43	298123	9.89	ppb(v	98
83) o-Xylene	17.315	91	476334	9.78	ppb(v	97
84) Bromoform	16.715	173	293247	11.69	ppb(v	99
85) 1,1,2,2-Tetrachloroethane	17.321	83	374353	10.84	ppb(v	99
86) 1,2,3-Trichloropropane	17.511	75	266441	10.56	ppb(v	98
87) Isopropylbenzene	18.220	105	601001	9.59	ppb(v	99
88) Bromobenzene	18.324	156	211974	10.02	ppb(v	94
89) 2-Chlorotoluene	18.948	126	152299	9.83	ppb(v	97
90) n-Propylbenzene	19.022	120	169231	10.34	ppb(v	88
92) 4-Ethyltoluene	19.254	105	591891	10.00	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	488481	9.72	ppb(v	99
94) alpha-Methylstyrene	19.615	118	232651	10.03	ppb(v	98
95) tert-Butylbenzene	19.958	134	106887	9.90	ppb(v	89
96) 1,2,4-Trimethylbenzene	19.970	105	485609	10.28	ppb(v	98
97) 1,3-Dichlorobenzene	20.166	146	315823	10.54	ppb(v	99
98) Benzyl Chloride	20.154	91	371819	12.25	ppb(v	98
99) 1,4-Dichlorobenzene	20.264	146	302045	10.33	ppb(v	98
100) sec-Butylbenzene	20.349	134	124576	10.09	ppb(v	94
101) p-Isopropyltoluene	20.588	134	143443	10.38	ppb(v	99
102) 1,2-Dichlorobenzene	20.735	146	284142	10.06	ppb(v	98
103) n-Butylbenzene	21.163	134	113143	10.25	ppb(v	89
104) Hexachloroethane	21.628	201	179429	12.85	ppb(v	88
105) 1,2,4-Trichlorobenzene	22.974	180	83550	8.52	ppb(v	98
106) Naphthalene	23.102	128	162965	7.44	ppb(v	99
107) Hexachlorobutadiene	23.555	225	113241	8.76	ppb(v	98
109) TVHC as equiv Pentane	5.722	TIC	796423	10.89	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26742.D
Acq On : 19 Sep 2017 9:46 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20160,v5w1051,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 19 12:07:32 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26770.D
Acq On : 20 Sep 2017 9:59 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20264,v5w1052,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 20 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.163	130	114761	10.00	ppb(v	# 0.05
54) 1,4-Difluorobenzene	10.292	114	402370	10.00	ppb(v	0.03
77) Chlorobenzene-d5	15.767	82	197496	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.163	130	114761	10.00	ppb(v	# 0.05
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	264746	10.21	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 102.10%			
Target Compounds						Qvalue
3) Freon 152A	3.984	65	84581	12.91	ppb(v	91
4) Chlorodifluoromethane	4.021	67	31109	12.76	ppb(v	99
5) Propene	4.046	41	83814	11.20	ppb(v	97
6) Chlorotrifluoroethene	4.052	116	156189	9.94	ppb(v	97
7) Dichlorodifluoromethane	4.101	85	306119	11.14	ppb(v	99
9) Chloromethane	4.229	50	111022	11.83	ppb(v	99
10) Dichlorotetrafluoroethane	4.303	85	300999	10.56	ppb(v	95
11) Vinyl Chloride	4.394	62	121235	11.42	ppb(v#	98
12) 1,3-Butadiene	4.492	54	88379	11.59	ppb(v	88
13) n-Butane	4.529	58	17808	11.88	ppb(v	55
14) Bromomethane	4.712	94	120711	9.65	ppb(v	99
15) Chloroethane	4.841	64	57267	11.09	ppb(v	93
16) Dichlorofluoromethane	4.914	67	289837	12.43	ppb(v#	98
17) Acetonitrile	5.135	41	95718	13.13	ppb(v	95
18) Freon 123	5.239	83	314155	10.87	ppb(v	98
19) Freon 123A	5.281	117	312592	20.55	ppb(v	79
20) Bromoethene	5.116	106	111621	9.88	ppb(v#	93
21) Trichlorofluoromethane	5.453	101	346480	12.49	ppb(v	99
22) Acetone	5.336	58	52974	10.98	ppb(v#	55
23) Pentane	5.734	57	26681	9.90	ppb(v	82
25) Iodomethane	5.936	142	287067	8.53	ppb(v	89
26) Isopropyl Alcohol	5.544	43	38831	12.64	ppb(v	73
27) 1,1-Dichloroethene	5.991	61	185993	10.96	ppb(v	91
28) Freon 113	6.321	101	244603	10.13	ppb(v	93
29) Methylene Chloride	6.107	84	100147	9.44	ppb(v	88
30) Carbon Disulfide	6.364	76	356644	10.48	ppb(v	100
31) Ethanol	4.957	45	37060	12.32	ppb(v	98
32) Acrylonitrile	5.728	53	84937	11.42	ppb(v	99
33) 3-Chloropropene	6.205	76	43967	9.71	ppb(v#	71
34) trans-1,2-Dichloroethene	6.958	61	161202	10.35	ppb(v	94
35) tert-Butyl Alcohol	6.058	59	211484	10.07	ppb(v#	89
36) Methyl tert-Butyl Ether	7.227	73	276533	9.23	ppb(v	93
37) Vinyl Acetate	7.312	43	266556	10.86	ppb(v	95
38) 1,1-Dichloroethane	7.153	63	216080	10.68	ppb(v	99
39) 2-Butanone	7.569	72	50900	9.77	ppb(v	69
40) Hexane	8.175	57	170820	10.33	ppb(v	92
41) cis-1,2-Dichloroethene	7.991	61	152868	10.30	ppb(v	91
42) Di-isopropyl Ether	8.199	87	85250	9.57	ppb(v	63
43) Ethyl Acetate	8.248	61	38617	11.36	ppb(v	70
44) Methyl Acrylate	8.236	55	206311	10.91	ppb(v	96
45) Chloroform	8.303	83	258574	10.64	ppb(v	97
46) 2,4-Dimethylpentane	9.117	57	193630	10.11	ppb(v	95
47) Tetrahydrofuran	8.756	72	46996	9.75	ppb(v	83
48) 1,1,1-Trichloroethane	9.350	97	230310	10.55	ppb(v	99
49) 1,2-Dichloroethane	9.080	62	162367	11.93	ppb(v	98
50) Benzene	9.864	78	329400	9.32	ppb(v	97
51) Carbon Tetrachloride	10.029	117	236858	11.43	ppb(v	98
52) Cyclohexane	10.151	56	162099	9.72	ppb(v	92
53) 2,3-Dimethylpentane	10.439	71	71832	9.87	ppb(v	89
55) 2,2,4-Trimethylpentane	11.112	57	563890	10.67	ppb(v	97
56) Heptane	11.448	71	108644	9.72	ppb(v	95
57) Trichloroethene	11.099	95	162920	10.26	ppb(v	95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26770.D
Acq On : 20 Sep 2017 9:59 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20264,v5w1052,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 20 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

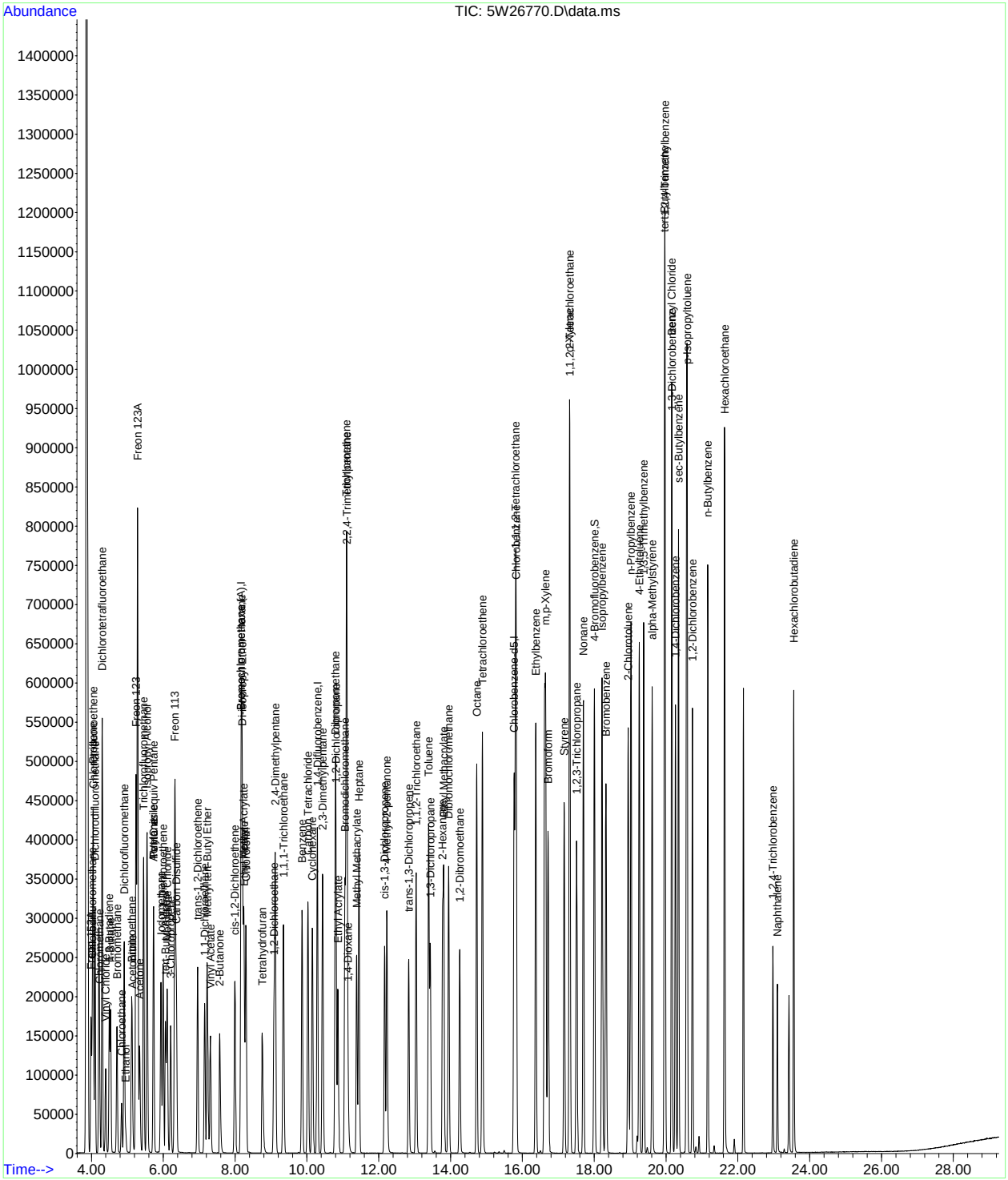
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 1,2-Dichloropropane	10.812	63	138579	11.04	ppb(v	98
59) Dibromomethane	10.793	174	137292	8.77	ppb(v	82
60) Ethyl Acrylate	10.867	55	266497	11.92	ppb(v	97
61) Methyl Methacrylate	11.387	69	122941	11.00	ppb(v	88
62) 1,4-Dioxane	11.142	88	63334	10.38	ppb(v	88
63) Bromodichloromethane	11.056	83	275981	11.70	ppb(v	98
64) cis-1,3-Dichloropropene	12.164	75	189361	10.14	ppb(v	97
65) 4-Methyl-2-pentanone	12.225	58	107418	11.89	ppb(v	89
66) trans-1,3-Dichloropropene	12.837	75	175629	11.17	ppb(v	98
67) Toluene	13.387	91	382084	9.42	ppb(v	98
68) 1,1,2-Trichloroethane	13.045	97	143625	10.14	ppb(v	96
69) 1,3-Dichloropropane	13.436	76	202059	11.12	ppb(v	94
70) 2-Hexanone	13.779	58	145451	12.44	ppb(v	86
71) Ethyl Methacrylate	13.809	69	208471	11.40	ppb(v	95
72) Dibromochloromethane	13.944	129	255156	11.33	ppb(v	100
73) Tetrachloroethene	14.886	166	195341	8.96	ppb(v	99
74) 1,2-Dibromoethane	14.256	107	229454	10.43	ppb(v	98
75) Octane	14.727	43	272891	11.68	ppb(v	91
76) 1,1,1,2-Tetrachloroethane	15.810	131	186132	11.13	ppb(v	99
78) Chlorobenzene	15.828	112	320089	9.11	ppb(v	96
79) Ethylbenzene	16.373	91	514036	9.40	ppb(v	98
80) m,p-Xylene	16.642	91	815755	19.46	ppb(v	98
81) Styrene	17.162	104	285913	9.85	ppb(v	97
82) Nonane	17.694	43	284302	10.90	ppb(v	95
83) o-Xylene	17.315	91	425731	10.10	ppb(v	97
84) Bromoform	16.715	173	259195	11.94	ppb(v	99
85) 1,1,2,2-Tetrachloroethane	17.321	83	334691	11.20	ppb(v	99
86) 1,2,3-Trichloropropane	17.511	75	240458	11.02	ppb(v	97
87) Isopropylbenzene	18.220	105	552572	10.19	ppb(v	98
88) Bromobenzene	18.324	156	187340	10.24	ppb(v	92
89) 2-Chlorotoluene	18.948	126	137688	10.27	ppb(v	94
90) n-Propylbenzene	19.022	120	150321	10.61	ppb(v	86
92) 4-Ethyltoluene	19.254	105	528784	10.33	ppb(v	98
93) 1,3,5-Trimethylbenzene	19.377	105	458006	10.54	ppb(v	99
94) alpha-Methylstyrene	19.615	118	214279	10.68	ppb(v	99
95) tert-Butylbenzene	19.958	134	96133	10.29	ppb(v	85
96) 1,2,4-Trimethylbenzene	19.970	105	444669	10.88	ppb(v	96
97) 1,3-Dichlorobenzene	20.166	146	279955	10.80	ppb(v	98
98) Benzyl Chloride	20.160	91	342647	13.05	ppb(v	99
99) 1,4-Dichlorobenzene	20.264	146	270895	10.71	ppb(v	98
100) sec-Butylbenzene	20.349	134	112679	10.55	ppb(v	88
101) p-Isopropyltoluene	20.588	134	135610	11.35	ppb(v	96
102) 1,2-Dichlorobenzene	20.735	146	260231	10.65	ppb(v	97
103) n-Butylbenzene	21.163	134	105280	11.02	ppb(v	86
104) Hexachloroethane	21.634	201	169194	14.01	ppb(v	96
105) 1,2,4-Trichlorobenzene	22.974	180	83313	9.82	ppb(v	99
106) Naphthalene	23.102	128	169865	8.96	ppb(v	99
107) Hexachlorobutadiene	23.555	225	112585	10.06	ppb(v	99
109) TVHC as equiv Pentane	5.734	TIC	710522	11.53	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26770.D
Acq On : 20 Sep 2017 9:59 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20264,v5w1052,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 20 12:59:11 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26798.D
Acq On : 21 Sep 2017 9:44 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:58:18 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	130808	10.00	ppb(v	0.04
54) 1,4-Difluorobenzene	10.286	114	448911	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	211128	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	130808	10.00	ppb(v	0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	290643	10.49	ppb(v	-0.01
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.90%			
Target Compounds						Qvalue
3) Freon 152A	3.886	65	74182	9.93	ppb(v	89
4) Chlorodifluoromethane	4.015	67	32979	11.87	ppb(v	99
5) Propene	4.033	41	80473	9.43	ppb(v	97
6) Chlorotrifluoroethene	4.039	116	175948	9.82	ppb(v	99
7) Dichlorodifluoromethane	4.094	85	336369	10.74	ppb(v	100
9) Chloromethane	4.217	50	120820	11.29	ppb(v	100
10) Dichlorotetrafluoroethane	4.290	85	336187	10.34	ppb(v	94
11) Vinyl Chloride	4.382	62	132170	10.93	ppb(v#	98
12) 1,3-Butadiene	4.486	54	90182	10.38	ppb(v	89
13) n-Butane	4.523	58	18773	10.99	ppb(v	78
14) Bromomethane	4.700	94	136127	9.54	ppb(v	99
15) Chloroethane	4.829	64	61857	10.51	ppb(v	95
16) Dichlorofluoromethane	4.902	67	312098	11.75	ppb(v	99
17) Acetonitrile	5.122	41	95959	11.55	ppb(v	96
18) Freon 123	5.226	83	352856	10.71	ppb(v	98
19) Freon 123A	5.275	117	360194	20.78	ppb(v	89
20) Bromoethene	5.110	106	125790	9.77	ppb(v#	94
21) Trichlorofluoromethane	5.440	101	386813	12.23	ppb(v	99
22) Acetone	5.330	58	56153	10.21	ppb(v	61
23) Pentane	5.722	57	27891	9.08	ppb(v	82
25) Iodomethane	5.924	142	323656	8.44	ppb(v	90
26) Isopropyl Alcohol	5.538	43	42076	12.02	ppb(v	71
27) 1,1-Dichloroethene	5.985	61	195497	10.10	ppb(v	95
28) Freon 113	6.315	101	281816	10.24	ppb(v	96
29) Methylene Chloride	6.101	84	112304	9.28	ppb(v	97
30) Carbon Disulfide	6.358	76	395608	10.19	ppb(v	100
31) Ethanol	4.945	45	36599	10.67	ppb(v#	95
32) Acrylonitrile	5.716	53	87748	10.35	ppb(v	99
33) 3-Chloropropene	6.199	76	47403	9.18	ppb(v	90
34) trans-1,2-Dichloroethene	6.945	61	167290	9.43	ppb(v	97
35) tert-Butyl Alcohol	6.052	59	216050	9.03	ppb(v	89
36) Methyl tert-Butyl Ether	7.215	73	290838	8.52	ppb(v	94
37) Vinyl Acetate	7.300	43	260573	9.31	ppb(v	96
38) 1,1-Dichloroethane	7.147	63	227019	9.84	ppb(v	99
39) 2-Butanone	7.563	72	53788	9.06	ppb(v	86
40) Hexane	8.169	57	174715	9.27	ppb(v	92
41) cis-1,2-Dichloroethene	7.985	61	156945	9.28	ppb(v	95
42) Di-isopropyl Ether	8.193	87	95071	9.36	ppb(v	80
43) Ethyl Acetate	8.242	61	40075	10.34	ppb(v	88
44) Methyl Acrylate	8.230	55	207499	9.63	ppb(v	97
45) Chloroform	8.291	83	281000	10.14	ppb(v	98
46) 2,4-Dimethylpentane	9.111	57	201368	9.22	ppb(v	97
47) Tetrahydrofuran	8.750	72	49695	9.05	ppb(v	92
48) 1,1,1-Trichloroethane	9.343	97	254004	10.21	ppb(v	99
49) 1,2-Dichloroethane	9.074	62	174128	11.22	ppb(v	98
50) Benzene	9.857	78	351343	8.72	ppb(v	98
51) Carbon Tetrachloride	10.023	117	261854	11.09	ppb(v	98
52) Cyclohexane	10.145	56	165948	8.73	ppb(v	95
53) 2,3-Dimethylpentane	10.432	71	76218	9.19	ppb(v	94
55) 2,2,4-Trimethylpentane	11.105	57	578952	9.82	ppb(v	97
56) Heptane	11.448	71	115874	9.29	ppb(v	98
57) Trichloroethene	11.093	95	178622	10.09	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26798.D
Acq On : 21 Sep 2017 9:44 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:58:18 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

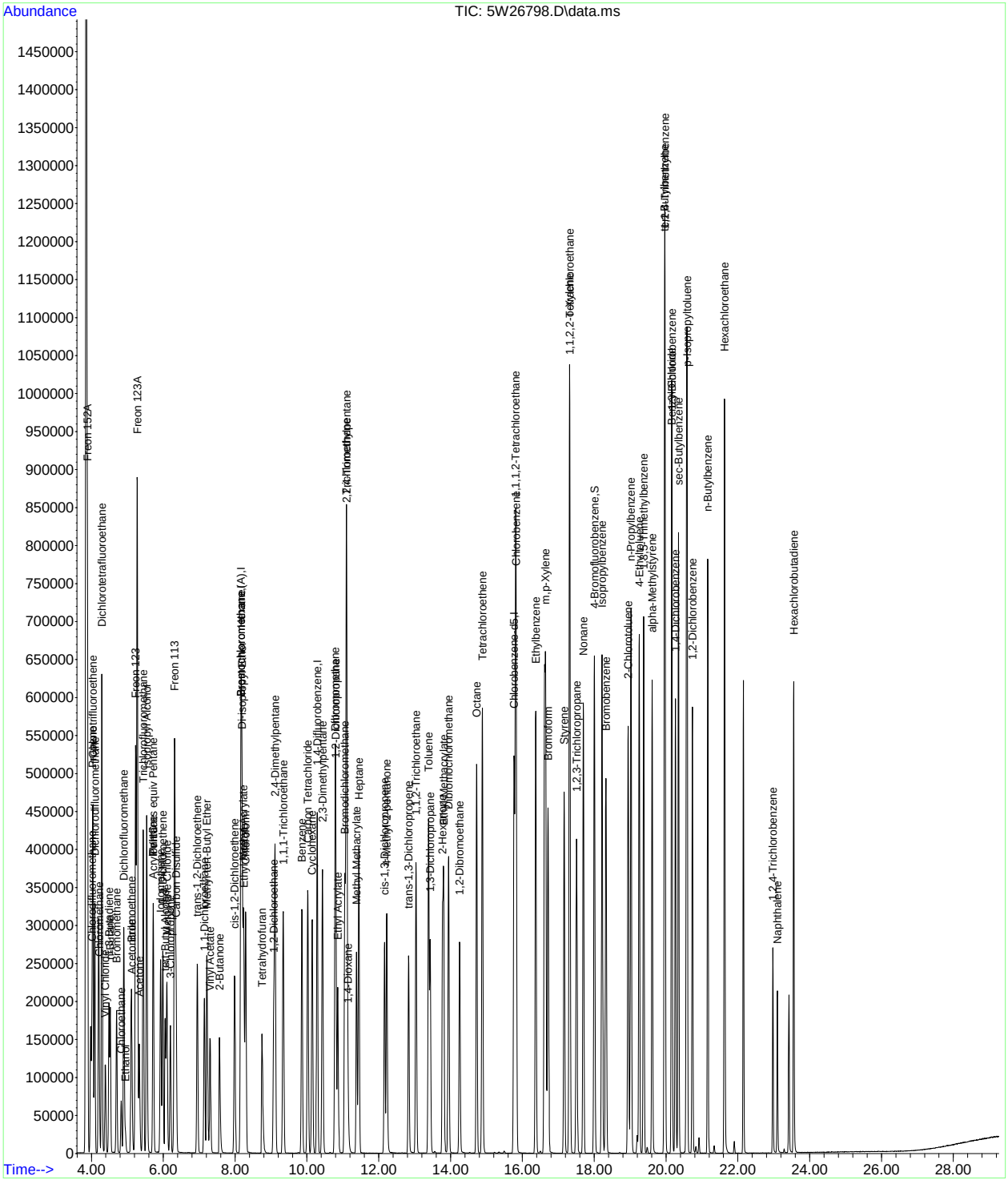
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 1,2-Dichloropropane	10.806	63	140267	10.02	ppb(v	96
59) Dibromomethane	10.787	174	157544	9.02	ppb(v	87
60) Ethyl Acrylate	10.861	55	266613	10.69	ppb(v	99
61) Methyl Methacrylate	11.381	69	128353	10.29	ppb(v	94
62) 1,4-Dioxane	11.142	88	69110	10.15	ppb(v	97
63) Bromodichloromethane	11.050	83	289050	10.98	ppb(v	98
64) cis-1,3-Dichloropropene	12.164	75	197203	9.47	ppb(v	99
65) 4-Methyl-2-pentanone	12.225	58	108699	10.78	ppb(v	92
66) trans-1,3-Dichloropropene	12.831	75	183965	10.49	ppb(v	99
67) Toluene	13.387	91	405820	8.96	ppb(v	99
68) 1,1,2-Trichloroethane	13.039	97	157754	9.98	ppb(v	98
69) 1,3-Dichloropropane	13.430	76	213004	10.50	ppb(v	97
70) 2-Hexanone	13.779	58	148790	11.41	ppb(v	91
71) Ethyl Methacrylate	13.809	69	218688	10.72	ppb(v	97
72) Dibromochloromethane	13.944	129	278085	11.06	ppb(v	99
73) Tetrachloroethene	14.886	166	221389	9.10	ppb(v	99
74) 1,2-Dibromoethane	14.250	107	247916	10.10	ppb(v	99
75) Octane	14.721	43	267714	10.27	ppb(v	97
76) 1,1,1,2-Tetrachloroethane	15.810	131	211110	11.32	ppb(v	99
78) Chlorobenzene	15.828	112	360379	9.60	ppb(v	98
79) Ethylbenzene	16.373	91	552685	9.45	ppb(v	99
80) m,p-Xylene	16.642	91	889680	19.85	ppb(v	99
81) Styrene	17.162	104	307447	9.90	ppb(v	99
82) Nonane	17.694	43	270700	9.71	ppb(v	99
83) o-Xylene	17.315	91	463444	10.28	ppb(v	99
84) Bromoform	16.715	173	292179	12.59	ppb(v	99
85) 1,1,2,2-Tetrachloroethane	17.321	83	354539	11.10	ppb(v	100
86) 1,2,3-Trichloropropane	17.511	75	250729	10.74	ppb(v	99
87) Isopropylbenzene	18.220	105	594195	10.25	ppb(v	99
88) Bromobenzene	18.324	156	208462	10.65	ppb(v	99
89) 2-Chlorotoluene	18.948	126	149670	10.44	ppb(v	99
90) n-Propylbenzene	19.022	120	166257	10.98	ppb(v	95
92) 4-Ethyltoluene	19.254	105	563478	10.30	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.376	105	486930	10.48	ppb(v	99
94) alpha-Methylstyrene	19.615	118	229680	10.71	ppb(v	100
95) tert-Butylbenzene	19.958	134	104587	10.48	ppb(v	90
96) 1,2,4-Trimethylbenzene	19.970	105	472128	10.80	ppb(v	98
97) 1,3-Dichlorobenzene	20.166	146	307698	11.10	ppb(v	99
98) Benzyl Chloride	20.153	91	350809	12.50	ppb(v	99
99) 1,4-Dichlorobenzene	20.264	146	296082	10.95	ppb(v	99
100) sec-Butylbenzene	20.349	134	123267	10.79	ppb(v	96
101) p-Isopropyltoluene	20.588	134	147627	11.55	ppb(v	98
102) 1,2-Dichlorobenzene	20.735	146	282069	10.80	ppb(v	97
103) n-Butylbenzene	21.163	134	113984	11.16	ppb(v	93
104) Hexachloroethane	21.628	201	183902	14.24	ppb(v	92
105) 1,2,4-Trichlorobenzene	22.974	180	85985	9.49	ppb(v	98
106) Naphthalene	23.102	128	172588	8.52	ppb(v	99
107) Hexachlorobutadiene	23.555	225	122932	10.28	ppb(v	97
109) TVHC as equiv Pentane	5.722	TIC	728063	10.36	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26798.D
Acq On : 21 Sep 2017 9:44 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS20248,v5w1053,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 21 12:58:18 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26825.D
Acq On : 22 Sep 2017 10:09 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS19983,v5w1054,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 22 13:47:45 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	130917	10.00	ppb(v	0.04
54) 1,4-Difluorobenzene	10.280	114	442323	10.00	ppb(v	0.02
77) Chlorobenzene-d5	15.767	82	189285	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	130917	10.00	ppb(v	0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	295013	11.87	ppb(v	-0.02
Spiked Amount 10.000	Range 65 - 128		Recovery = 118.70%			
Target Compounds						Qvalue
3) Freon 152A	3.881	65	73431	9.82	ppb(v	86
4) Chlorodifluoromethane	4.009	67	34449	12.38	ppb(v	99
5) Propene	4.027	41	87328	10.23	ppb(v	98
6) Chlorotrifluoroethene	4.040	116	177010	9.87	ppb(v	97
7) Dichlorodifluoromethane	4.089	85	340818	10.87	ppb(v	99
9) Chloromethane	4.211	50	119481	11.16	ppb(v	98
10) Dichlorotetrafluoroethane	4.284	85	345912	10.63	ppb(v	93
11) Vinyl Chloride	4.376	62	132646	10.96	ppb(v#	99
12) 1,3-Butadiene	4.480	54	94324	10.85	ppb(v	89
13) n-Butane	4.517	58	19548	11.43	ppb(v	66
14) Bromomethane	4.694	94	135451	9.49	ppb(v	99
15) Chloroethane	4.823	64	62830	10.67	ppb(v#	93
16) Dichlorofluoromethane	4.896	67	319016	12.00	ppb(v#	98
17) Acetonitrile	5.116	41	104360	12.55	ppb(v	96
18) Freon 123	5.226	83	350865	10.64	ppb(v	98
19) Freon 123A	5.269	117	350138	20.18	ppb(v	83
20) Bromoethene	5.104	106	122779	9.52	ppb(v#	94
21) Trichlorofluoromethane	5.434	101	382691	12.09	ppb(v	99
22) Acetone	5.324	58	56576	10.28	ppb(v#	51
23) Pentane	5.722	57	28075	9.13	ppb(v	79
25) Iodomethane	5.918	142	308539	8.04	ppb(v	87
26) Isopropyl Alcohol	5.532	43	44491	12.70	ppb(v	71
27) 1,1-Dichloroethene	5.979	61	197533	10.20	ppb(v	94
28) Freon 113	6.309	101	273739	9.94	ppb(v	94
29) Methylene Chloride	6.095	84	109341	9.03	ppb(v	90
30) Carbon Disulfide	6.352	76	391246	10.07	ppb(v	100
31) Ethanol	4.939	45	39360	11.47	ppb(v	98
32) Acrylonitrile	5.710	53	91202	10.75	ppb(v	98
33) 3-Chloropropene	6.193	76	46272	8.96	ppb(v	76
34) trans-1,2-Dichloroethene	6.945	61	169393	9.54	ppb(v	96
35) tert-Butyl Alcohol	6.046	59	218952	9.14	ppb(v#	87
36) Methyl tert-Butyl Ether	7.209	73	289091	8.46	ppb(v#	92
37) Vinyl Acetate	7.300	43	271625	9.70	ppb(v	96
38) 1,1-Dichloroethane	7.141	63	229089	9.93	ppb(v	99
39) 2-Butanone	7.557	72	53731	9.05	ppb(v	68
40) Hexane	8.163	57	178071	9.44	ppb(v	96
41) cis-1,2-Dichloroethene	7.986	61	159675	9.43	ppb(v	94
42) Di-isopropyl Ether	8.194	87	92995	9.15	ppb(v	73
43) Ethyl Acetate	8.236	61	40841	10.53	ppb(v	77
44) Methyl Acrylate	8.224	55	214233	9.93	ppb(v	97
45) Chloroform	8.291	83	279879	10.09	ppb(v	98
46) 2,4-Dimethylpentane	9.111	57	206120	9.43	ppb(v	96
47) Tetrahydrofuran	8.744	72	49985	9.09	ppb(v	86
48) 1,1,1-Trichloroethane	9.338	97	250719	10.07	ppb(v	99
49) 1,2-Dichloroethane	9.074	62	174993	11.27	ppb(v	98
50) Benzene	9.858	78	340633	8.45	ppb(v	97
51) Carbon Tetrachloride	10.023	117	257250	10.88	ppb(v	98
52) Cyclohexane	10.145	56	167170	8.79	ppb(v	96
53) 2,3-Dimethylpentane	10.426	71	76753	9.24	ppb(v	88
55) 2,2,4-Trimethylpentane	11.106	57	600220	10.33	ppb(v	97
56) Heptane	11.442	71	117421	9.56	ppb(v	96
57) Trichloroethene	11.093	95	174131	9.98	ppb(v	96

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26825.D
Acq On : 22 Sep 2017 10:09 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS19983,v5w1054,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 22 13:47:45 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58)	1,2-Dichloropropane	10.806	63	139829	10.14	ppb(v	97
59)	Dibromomethane	10.787	174	146805	8.53	ppb(v	87
60)	Ethyl Acrylate	10.855	55	281323	11.45	ppb(v	98
61)	Methyl Methacrylate	11.381	69	131084	10.67	ppb(v	91
62)	1,4-Dioxane	11.136	88	69575	10.37	ppb(v	92
63)	Bromodichloromethane	11.050	83	282698	10.90	ppb(v	98
64)	cis-1,3-Dichloropropene	12.158	75	189562	9.24	ppb(v	97
65)	4-Methyl-2-pentanone	12.219	58	113908	11.47	ppb(v	89
66)	trans-1,3-Dichloropropene	12.831	75	172468	9.98	ppb(v	98
67)	Toluene	13.387	91	371576	8.33	ppb(v	98
68)	1,1,2-Trichloroethane	13.039	97	144368	9.27	ppb(v	98
69)	1,3-Dichloropropane	13.430	76	197755	9.90	ppb(v	94
70)	2-Hexanone	13.779	58	154334	12.01	ppb(v	88
71)	Ethyl Methacrylate	13.810	69	222992	11.09	ppb(v	96
72)	Dibromochloromethane	13.938	129	240072	9.69	ppb(v	99
73)	Tetrachloroethene	14.886	166	200560	8.37	ppb(v	99
74)	1,2-Dibromoethane	14.250	107	222281	9.19	ppb(v	98
75)	Octane	14.721	43	279443	10.88	ppb(v	94
76)	1,1,1,2-Tetrachloroethane	15.804	131	183121	9.96	ppb(v	98
78)	Chlorobenzene	15.828	112	313839	9.32	ppb(v	97
79)	Ethylbenzene	16.367	91	521079	9.94	ppb(v	98
80)	m,p-Xylene	16.642	91	855347	21.29	ppb(v	98
81)	Styrene	17.162	104	309303	11.11	ppb(v	98
82)	Nonane	17.694	43	297567	11.90	ppb(v	98
83)	o-Xylene	17.309	91	451228	11.17	ppb(v	98
84)	Bromoform	16.715	173	262052	12.59	ppb(v	98
85)	1,1,2,2-Tetrachloroethane	17.315	83	368132	12.85	ppb(v	98
86)	1,2,3-Trichloropropane	17.511	75	258447	12.35	ppb(v	98
87)	Isopropylbenzene	18.220	105	605073	11.64	ppb(v	99
88)	Bromobenzene	18.324	156	205047	11.69	ppb(v	96
89)	2-Chlorotoluene	18.948	126	150455	11.71	ppb(v	98
90)	n-Propylbenzene	19.022	120	165768	12.21	ppb(v	89
92)	4-Ethyltoluene	19.254	105	578002	11.78	ppb(v	98
93)	1,3,5-Trimethylbenzene	19.377	105	503683	12.09	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	233931	12.16	ppb(v	99
95)	tert-Butylbenzene	19.958	134	108910	12.17	ppb(v	90
96)	1,2,4-Trimethylbenzene	19.970	105	493691	12.60	ppb(v	99
97)	1,3-Dichlorobenzene	20.160	146	315273	12.69	ppb(v	98
98)	Benzyl Chloride	20.154	91	362864	14.42	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	302354	12.47	ppb(v	98
100)	sec-Butylbenzene	20.349	134	126880	12.39	ppb(v	94
101)	p-Isopropyltoluene	20.588	134	151586	13.23	ppb(v	99
102)	1,2-Dichlorobenzene	20.735	146	290100	12.39	ppb(v	99
103)	n-Butylbenzene	21.163	134	116233	12.69	ppb(v	91
104)	Hexachloroethane	21.628	201	189469	16.37	ppb(v	90
105)	1,2,4-Trichlorobenzene	22.974	180	88249	10.86	ppb(v	99
106)	Naphthalene	23.102	128	175815	9.68	ppb(v	99
107)	Hexachlorobutadiene	23.555	225	123251	11.49	ppb(v	99
109)	TVHC as equiv Pentane	5.716	TIC	758416	10.79	ppb(v	100

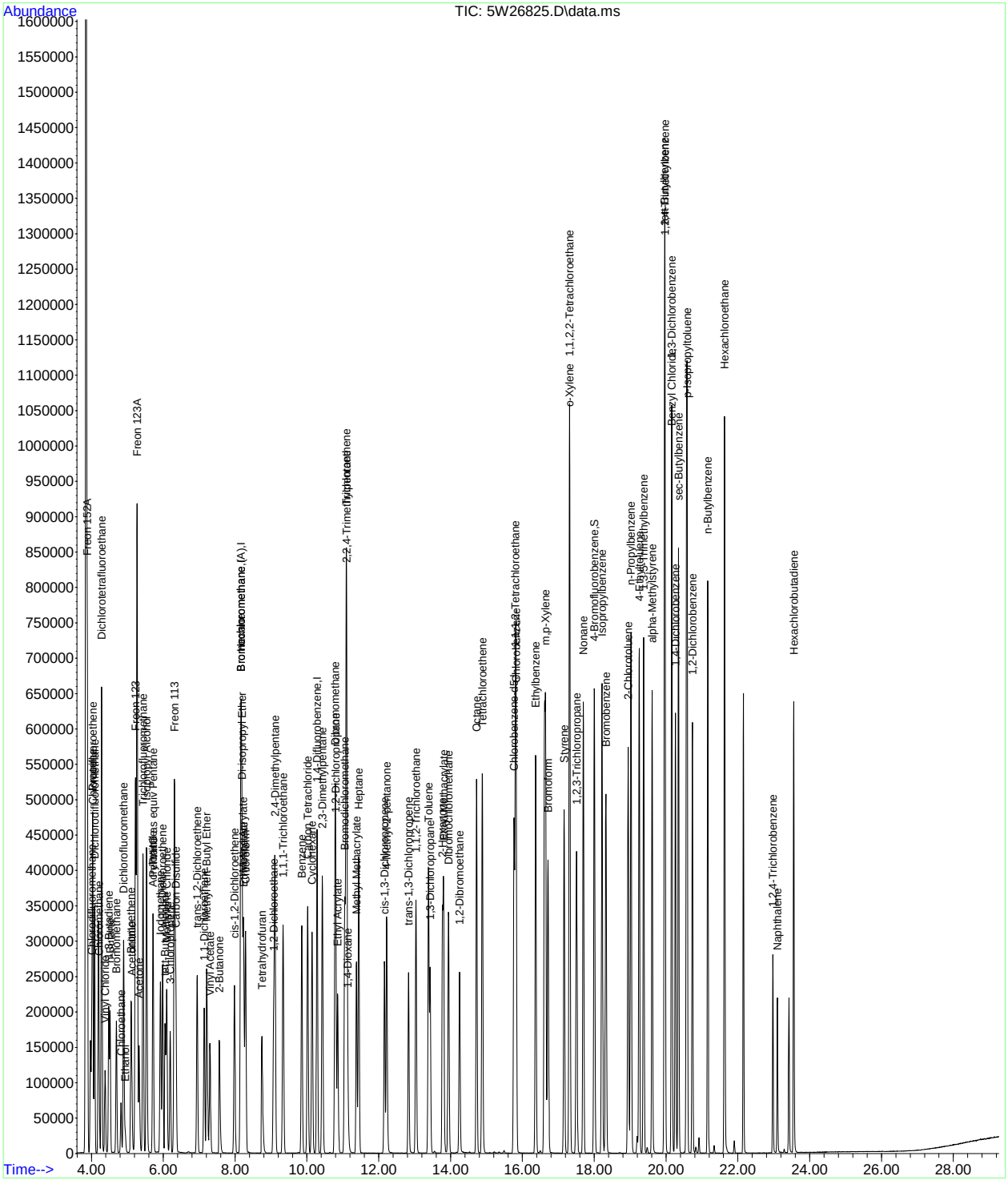
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W26825.D
Acq On : 22 Sep 2017 10:09 am
Operator : [redacted]
Sample : cc1007-10
Misc : MS19983,v5w1054,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 22 13:47:45 2017
Quant Method : [redacted]1\methods\m5w1007.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Jul 28 13:56:55 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27080.D
Acq On : 6 Oct 2017 12:49 pm
Operator : [redacted]
Sample : 1c1065-0.04
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 07 09:20:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:46:10 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	285389	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	995094	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	428758	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	285794	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	607099	9.92	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.20%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	2760	0.05	ppb(v#	86
4) Chlorodifluoromethane	4.046	67	192	0.04	ppb(v#	40
5) Propene	4.058	41	736	0.05	ppb(v#	38
6) Chlorotrifluoroethene	4.070	116	1587	0.04	ppb(v	95
7) Dichlorodifluoromethane	4.125	85	2621	0.04	ppb(v#	96
8) 1-Chloro-1,1-difluoroe...	4.229	65	1864	0.04	ppb(v#	73
9) Chloromethane	4.254	50	829	0.04	ppb(v	83
10) Dichlorotetrafluoroethane	4.321	85	2703	0.04	ppb(v	96
11) Vinyl Chloride	4.413	62	877	0.04	ppb(v#	87
12) 1,3-Butadiene	4.517	54	630	0.04	ppb(v#	66
14) Bromomethane	4.731	94	1655	0.06	ppb(v	96
15) Chloroethane	4.865	64	409	0.04	ppb(v#	38
16) Dichlorofluoromethane	4.933	67	2301	0.05	ppb(v#	95
18) Freon 123	5.257	83	2838	0.05	ppb(v#	95
19) Freon 123A	5.300	117	3269	0.09	ppb(v	97
20) Bromoethene	5.141	106	1091	0.04	ppb(v#	87
21) Trichlorofluoromethane	5.471	101	2577	0.04	ppb(v#	93
23) Pentane	5.752	57	272	0.05	ppb(v#	43
24) 1,1-Dichloro-1-fluoroe...	5.569	81	2747	0.05	ppb(v#	17
25) Iodomethane	5.948	142	3489	0.04	ppb(v	97
27) 1,1-Dichloroethene	6.009	61	1542	0.04	ppb(v	93
28) Freon 113	6.340	101	2314	0.04	ppb(v	93
29) Methylene Chloride	6.126	84	1608	0.06	ppb(v	85
30) Carbon Disulfide	6.389	76	3172	0.04	ppb(v	100
32) Acrylonitrile	5.765	53	680	0.04	ppb(v#	66
33) 3-Chloropropene	6.230	76	409	0.04	ppb(v#	89
34) trans-1,2-Dichloroethene	6.970	61	1408	0.04	ppb(v	89
35) tert-Butyl Alcohol	6.126	59	2453	0.05	ppb(v#	65
37) Vinyl Acetate	7.337	43	2583	0.05	ppb(v	95
38) 1,1-Dichloroethane	7.172	63	1962	0.04	ppb(v#	96
39) 2-Butanone	7.637	72	433	0.04	ppb(v#	85
40) Hexane	8.193	57	1529	0.05	ppb(v#	83
41) cis-1,2-Dichloroethene	8.004	61	1398	0.04	ppb(v	95
42) Di-isopropyl Ether	8.236	87	838	0.04	ppb(v	99
44) Methyl Acrylate	8.273	55	1737	0.04	ppb(v#	79
45) Chloroform	8.310	83	2453	0.04	ppb(v	91
46) 2,4-Dimethylpentane	9.123	57	1654	0.04	ppb(v	92
47) Tetrahydrofuran	8.842	72	332	0.03	ppb(v#	78
48) 1,1,1-Trichloroethane	9.362	97	2132	0.04	ppb(v	97
49) 1,2-Dichloroethane	9.087	62	1271	0.04	ppb(v#	90
50) Benzene	9.870	78	3561	0.04	ppb(v	97
51) Carbon Tetrachloride	10.035	117	2144	0.04	ppb(v	94
52) Cyclohexane	10.163	56	1465	0.04	ppb(v	97
53) 2,3-Dimethylpentane	10.432	71	644	0.04	ppb(v#	64
55) 2,2,4-Trimethylpentane	11.118	57	4709	0.04	ppb(v	97
56) Heptane	11.460	71	906	0.04	ppb(v	82
57) Trichloroethene	11.099	95	1760	0.05	ppb(v	83
58) 1,2-Dichloropropane	10.818	63	1185	0.04	ppb(v#	87
59) Dibromomethane	10.800	174	2082	0.05	ppb(v	97
60) Ethyl Acrylate	10.916	55	1840	0.04	ppb(v#	75
61) Methyl Methacrylate	11.424	69	1033	0.04	ppb(v	97
63) Bromodichloromethane	11.063	83	2493	0.04	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27080.D
Acq On : 6 Oct 2017 12:49 pm
Operator : [redacted]
Sample : ic1065-0.04
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 07 09:20:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:46:10 2017
Response via : Initial Calibration

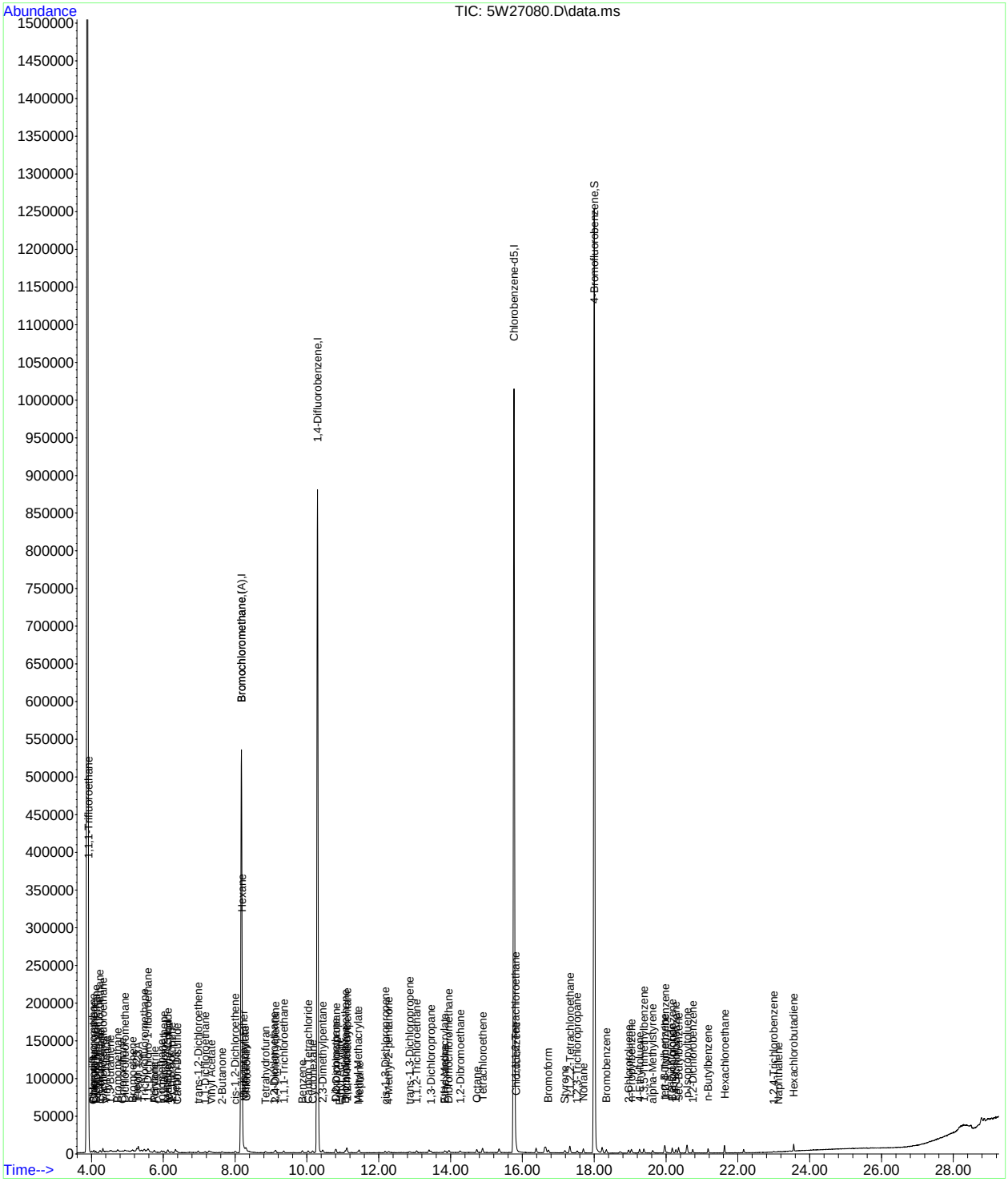
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
64)	cis-1,3-Dichloropropene	12.182	75	1724	0.04	ppb(v#	87
65)	4-Methyl-2-pentanone	12.274	58	652	0.03	ppb(v#	88
66)	trans-1,3-Dichloropropene	12.861	75	1502	0.04	ppb(v#	88
68)	1,1,2-Trichloroethane	13.051	97	1401	0.04	ppb(v	94
69)	1,3-Dichloropropane	13.455	76	1740	0.04	ppb(v#	88
70)	2-Hexanone	13.840	58	638	0.03	ppb(v#	82
71)	Ethyl Methacrylate	13.834	69	1637	0.04	ppb(v#	82
72)	Dibromochloromethane	13.950	129	2734	0.04	ppb(v#	93
73)	Tetrachloroethene	14.892	166	2735	0.05	ppb(v	90
74)	1,2-Dibromoethane	14.268	107	2575	0.05	ppb(v#	92
75)	Octane	14.727	43	2429	0.05	ppb(v	93
76)	1,1,1,2-Tetrachloroethane	15.810	131	1991	0.04	ppb(v#	1
78)	Chlorobenzene	15.828	112	3946	0.05	ppb(v	92
81)	Styrene	17.180	104	3071	0.05	ppb(v	92
82)	Nonane	17.694	43	2755	0.05	ppb(v#	89
84)	Bromoform	16.721	173	2733	0.05	ppb(v#	88
85)	1,1,2,2-Tetrachloroethane	17.327	83	3320	0.05	ppb(v#	95
86)	1,2,3-Trichloropropane	17.523	75	2241	0.04	ppb(v	92
88)	Bromobenzene	18.337	156	2288	0.05	ppb(v	90
89)	2-Chlorotoluene	18.961	126	1581	0.05	ppb(v	77
90)	n-Propylbenzene	19.034	120	1536	0.04	ppb(v	75
92)	4-Ethyltoluene	19.260	105	6331	0.05	ppb(v#	94
93)	1,3,5-Trimethylbenzene	19.383	105	5266	0.05	ppb(v	95
94)	alpha-Methylstyrene	19.627	118	2148	0.04	ppb(v	92
95)	tert-Butylbenzene	19.952	134	1185	0.05	ppb(v	95
96)	1,2,4-Trimethylbenzene	19.976	105	4804	0.05	ppb(v	93
97)	1,3-Dichlorobenzene	20.172	146	3333	0.05	ppb(v	94
98)	Benzyl Chloride	20.172	91	2619	0.05	ppb(v#	90
99)	1,4-Dichlorobenzene	20.270	146	3381	0.05	ppb(v	97
100)	sec-Butylbenzene	20.355	134	1352	0.05	ppb(v	92
101)	p-Isopropyltoluene	20.588	134	1645	0.05	ppb(v	98
102)	1,2-Dichlorobenzene	20.741	146	3130	0.05	ppb(v	94
103)	n-Butylbenzene	21.169	134	1152	0.04	ppb(v	97
104)	Hexachloroethane	21.634	201	1933	0.04	ppb(v	91
105)	1,2,4-Trichlorobenzene	22.998	180	628	0.04	ppb(v#	80
106)	Naphthalene	23.127	128	1426	0.05	ppb(v#	69
107)	Hexachlorobutadiene	23.549	225	2145	0.06	ppb(v	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27080.D
Acq On : 6 Oct 2017 12:49 pm
Operator : [redacted]
Sample : 1c1065-0.04
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 07 09:20:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:46:10 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27081.D
Acq On : 6 Oct 2017 1:35 pm
Operator : [redacted]
Sample : ic1065-0.1
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:46:47 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:43:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.138	130	256090	10.00	ppb(v	-0.04
54) 1,4-Difluorobenzene	10.267	114	886442	10.00	ppb(v	-0.02
77) Chlorobenzene-d5	15.761	82	385129	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.138	130	256090	10.00	ppb(v	-0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	545688	9.90	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.00%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.862	69	6391	0.13	ppb(v#	92
3) Freon 152A	3.954	65	1810	0.13	ppb(v	89
4) Chlorodifluoromethane	3.985	67	476	0.10	ppb(v#	81
5) Propene	4.009	41	1493	0.11	ppb(v#	72
6) Chlorotrifluoroethene	4.015	116	3566	0.11	ppb(v	98
7) Dichlorodifluoromethane	4.064	85	6068	0.11	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.174	65	4070	0.11	ppb(v#	67
9) Chloromethane	4.199	50	1939	0.11	ppb(v	87
10) Dichlorotetrafluoroethane	4.266	85	6056	0.11	ppb(v	95
11) Vinyl Chloride	4.364	62	2101	0.11	ppb(v#	96
12) 1,3-Butadiene	4.462	54	1473	0.11	ppb(v	93
13) n-Butane	4.492	58	297	0.11	ppb(v#	14
14) Bromomethane	4.670	94	3051	0.13	ppb(v	88
15) Chloroethane	4.810	64	1014	0.11	ppb(v#	95
16) Dichlorofluoromethane	4.878	67	4772	0.11	ppb(v	93
18) Freon 123	5.202	83	6113	0.11	ppb(v	100
19) Freon 123A	5.251	117	6992	0.22	ppb(v	96
20) Bromoethene	5.086	106	2435	0.11	ppb(v#	89
21) Trichlorofluoromethane	5.416	101	6002	0.11	ppb(v	97
22) Acetone	5.330	58	1097	0.13	ppb(v	88
23) Pentane	5.704	57	601	0.12	ppb(v	72
24) 1,1-Dichloro-1-fluoroe...	5.514	81	5560	0.12	ppb(v	98
25) Iodomethane	5.899	142	7759	0.11	ppb(v	98
27) 1,1-Dichloroethene	5.961	61	3445	0.11	ppb(v	95
28) Freon 113	6.291	101	5535	0.11	ppb(v	90
29) Methylene Chloride	6.077	84	2704	0.13	ppb(v	94
30) Carbon Disulfide	6.340	76	7153	0.11	ppb(v	97
32) Acrylonitrile	5.710	53	1448	0.10	ppb(v	90
33) 3-Chloropropene	6.175	76	952	0.11	ppb(v	90
34) trans-1,2-Dichloroethene	6.921	61	3158	0.11	ppb(v	97
35) tert-Butyl Alcohol	6.065	59	5734	0.13	ppb(v#	86
37) Vinyl Acetate	7.294	43	5335	0.12	ppb(v	98
38) 1,1-Dichloroethane	7.123	63	4187	0.11	ppb(v#	99
39) 2-Butanone	7.588	72	1000	0.10	ppb(v	99
40) Hexane	8.151	57	3152	0.11	ppb(v	88
41) cis-1,2-Dichloroethene	7.973	61	3068	0.11	ppb(v	98
42) Di-isopropyl Ether	8.200	87	1716	0.10	ppb(v	89
43) Ethyl Acetate	8.261	61	569	0.08	ppb(v#	73
44) Methyl Acrylate	8.236	55	3550	0.10	ppb(v	91
45) Chloroform	8.273	83	5425	0.11	ppb(v#	94
46) 2,4-Dimethylpentane	9.093	57	3675	0.11	ppb(v	99
47) Tetrahydrofuran	8.793	72	930	0.10	ppb(v	78
48) 1,1,1-Trichloroethane	9.331	97	4892	0.11	ppb(v	94
49) 1,2-Dichloroethane	9.062	62	2843	0.10	ppb(v#	90
50) Benzene	9.845	78	8004	0.12	ppb(v	98
51) Carbon Tetrachloride	10.010	117	4822	0.11	ppb(v	95
52) Cyclohexane	10.133	56	3228	0.11	ppb(v	93
53) 2,3-Dimethylpentane	10.414	71	1458	0.11	ppb(v#	91
55) 2,2,4-Trimethylpentane	11.093	57	10101	0.10	ppb(v	96
56) Heptane	11.442	71	2191	0.11	ppb(v	94
57) Trichloroethene	11.081	95	3554	0.11	ppb(v	95
58) 1,2-Dichloropropane	10.800	63	2756	0.11	ppb(v	93

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27081.D
Acq On : 6 Oct 2017 1:35 pm
Operator : [redacted]
Sample : ic1065-0.1
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:46:47 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:43:11 2017
Response via : Initial Calibration

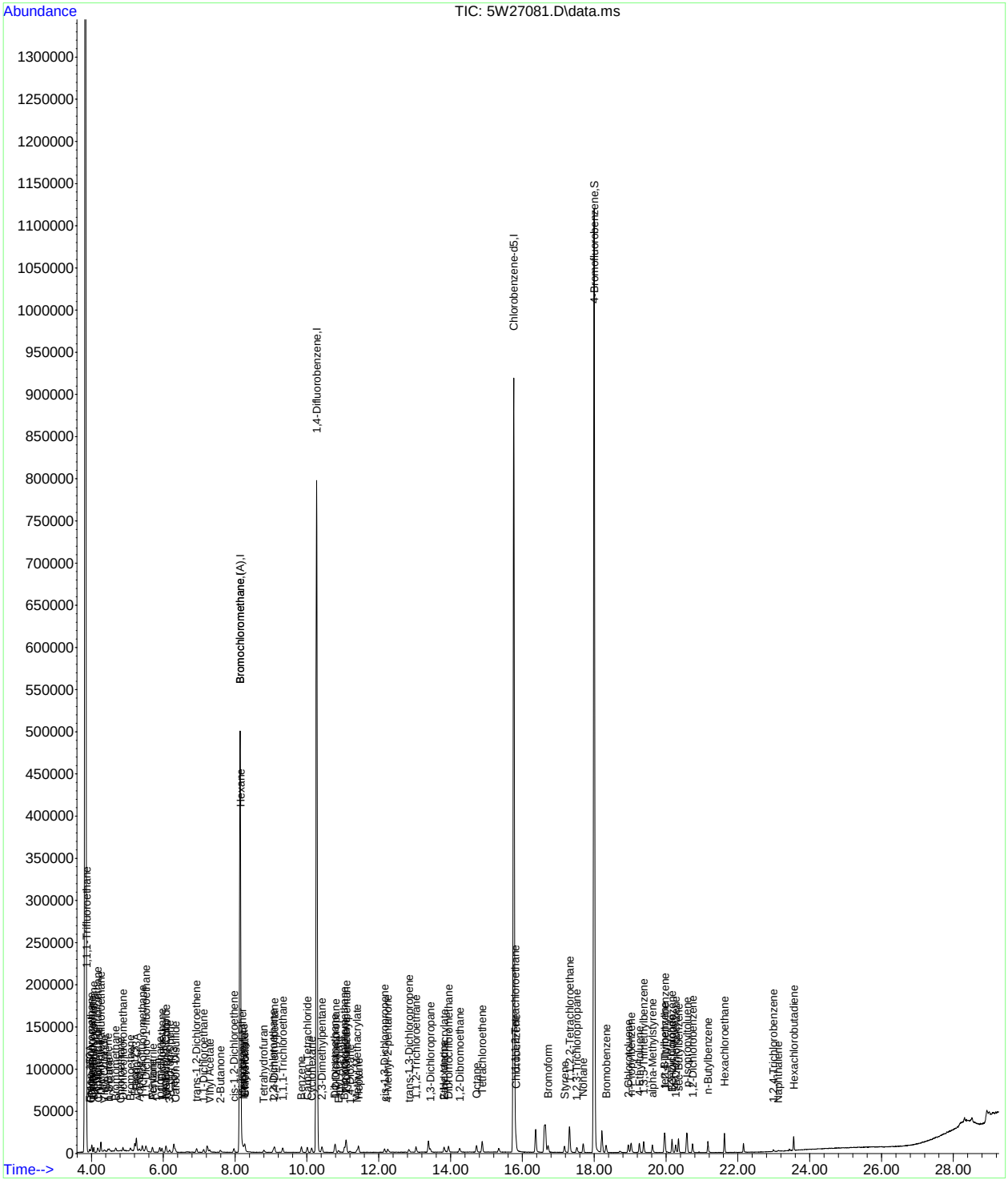
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
59) Dibromomethane	10.775	174	4012	0.12 ppb(v	87
60) Ethyl Acrylate	10.885	55	4424	0.10 ppb(v#	82
61) Methyl Methacrylate	11.393	69	2215	0.10 ppb(v	84
62) 1,4-Dioxane	11.197	88	1344	0.10 ppb(v#	83
63) Bromodichloromethane	11.038	83	5546	0.11 ppb(v	98
64) cis-1,3-Dichloropropene	12.164	75	3960	0.10 ppb(v	92
65) 4-Methyl-2-pentanone	12.250	58	1527	0.08 ppb(v	77
66) trans-1,3-Dichloropropene	12.843	75	3292	0.10 ppb(v	99
68) 1,1,2-Trichloroethane	13.039	97	3267	0.11 ppb(v	95
69) 1,3-Dichloropropane	13.436	76	4004	0.10 ppb(v	97
70) 2-Hexanone	13.816	58	1801	0.08 ppb(v	93
71) Ethyl Methacrylate	13.828	69	3359	0.09 ppb(v#	97
72) Dibromochloromethane	13.938	129	6033	0.11 ppb(v	96
73) Tetrachloroethene	14.880	166	5557	0.12 ppb(v	96
74) 1,2-Dibromoethane	14.256	107	5246	0.11 ppb(v#	97
75) Octane	14.721	43	4647	0.11 ppb(v	96
76) 1,1,1,2-Tetrachloroethane	15.804	131	4251	0.11 ppb(v#	1
78) Chlorobenzene	15.822	112	8260	0.12 ppb(v	98
81) Styrene	17.174	104	6474	0.11 ppb(v	97
82) Nonane	17.688	43	5248	0.12 ppb(v	97
84) Bromoform	16.722	173	5559	0.11 ppb(v	98
85) 1,1,2,2-Tetrachloroethane	17.321	83	6794	0.11 ppb(v#	93
86) 1,2,3-Trichloropropane	17.511	75	4980	0.12 ppb(v	87
88) Bromobenzene	18.337	156	4590	0.12 ppb(v	92
89) 2-Chlorotoluene	18.955	126	3371	0.12 ppb(v	93
90) n-Propylbenzene	19.028	120	3388	0.11 ppb(v	97
92) 4-Ethyltoluene	19.254	105	12223	0.12 ppb(v	97
93) 1,3,5-Trimethylbenzene	19.377	105	11033	0.12 ppb(v	96
94) alpha-Methylstyrene	19.621	118	4702	0.11 ppb(v	99
95) tert-Butylbenzene	19.952	134	2598	0.12 ppb(v	81
96) 1,2,4-Trimethylbenzene	19.970	105	10152	0.11 ppb(v	97
97) 1,3-Dichlorobenzene	20.166	146	6613	0.11 ppb(v	95
98) Benzyl Chloride	20.166	91	5374	0.11 ppb(v	98
99) 1,4-Dichlorobenzene	20.270	146	6773	0.12 ppb(v	98
100) sec-Butylbenzene	20.349	134	2766	0.11 ppb(v	91
101) p-Isopropyltoluene	20.588	134	3375	0.11 ppb(v	99
102) 1,2-Dichlorobenzene	20.741	146	6333	0.12 ppb(v	99
103) n-Butylbenzene	21.169	134	2460	0.11 ppb(v	98
104) Hexachloroethane	21.628	201	4264	0.11 ppb(v	95
105) 1,2,4-Trichlorobenzene	22.986	180	1341	0.09 ppb(v	94
106) Naphthalene	23.121	128	2050	0.08 ppb(v#	86
107) Hexachlorobutadiene	23.555	225	3982	0.13 ppb(v	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27081.D
Acq On : 6 Oct 2017 1:35 pm
Operator : [redacted]
Sample : 1c1065-0.1
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:46:47 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:43:11 2017
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/08/17 11:18

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27082.D
Acq On : 6 Oct 2017 2:28 pm
Operator : [redacted]
Sample : ic1065-0.2
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 06 17:43:03 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:41:19 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	269496	10.00	ppb(v	-0.02
54) 1,4-Difluorobenzene	10.279	114	937921	10.00	ppb(v	-0.01
77) Chlorobenzene-d5	15.761	82	416042	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	269496	10.00	ppb(v	-0.02
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	585106	9.75	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 97.50%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.880	69	9669	0.18	ppb(v#	95
3) Freon 152A	3.978	65	3202	0.24	ppb(v#	83
4) Chlorodifluoromethane	4.015	67	1059	0.21	ppb(v	90
5) Propene	4.033	41	2838	0.21	ppb(v#	86
6) Chlorotrifluoroethene	4.039	116	7049	0.20	ppb(v	98
7) Dichlorodifluoromethane	4.094	85	11811	0.20	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.198	65	7740	0.20	ppb(v#	81
9) Chloromethane	4.223	50	3646	0.20	ppb(v	98
10) Dichlorotetrafluoroethane	4.290	85	11394	0.20	ppb(v	95
11) Vinyl Chloride	4.388	62	3953	0.20	ppb(v#	98
12) 1,3-Butadiene	4.492	54	2778	0.21	ppb(v	98
13) n-Butane	4.523	58	504	0.18	ppb(v#	60
14) Bromomethane	4.706	94	5535	0.23	ppb(v	98
15) Chloroethane	4.835	64	1904	0.19	ppb(v	92
16) Dichlorofluoromethane	4.908	67	9204	0.21	ppb(v	94
17) Acetonitrile	5.141	41	2347	0.20	ppb(v#	55
18) Freon 123	5.232	83	11757	0.21	ppb(v	98
19) Freon 123A	5.275	117	13650	0.41	ppb(v	99
20) Bromoethene	5.110	106	4799	0.20	ppb(v#	94
21) Trichlorofluoromethane	5.440	101	11823	0.20	ppb(v	99
22) Acetone	5.355	58	2054	0.24	ppb(v	97
23) Pentane	5.728	57	1166	0.22	ppb(v	82
24) 1,1-Dichloro-1-fluoroe...	5.544	81	9765	0.20	ppb(v	99
25) Iodomethane	5.924	142	14571	0.20	ppb(v	98
26) Isopropyl Alcohol	5.557	43	1533	0.23	ppb(v#	21
27) 1,1-Dichloroethene	5.985	61	6844	0.20	ppb(v	95
28) Freon 113	6.321	101	10493	0.20	ppb(v	94
29) Methylene Chloride	6.107	84	4837	0.22	ppb(v	94
30) Carbon Disulfide	6.358	76	14018	0.20	ppb(v	99
31) Ethanol	4.957	45	1605	0.29	ppb(v#	89
32) Acrylonitrile	5.728	53	3047	0.20	ppb(v	96
33) 3-Chloropropene	6.199	76	1821	0.19	ppb(v	94
34) trans-1,2-Dichloroethene	6.945	61	6081	0.19	ppb(v	98
35) tert-Butyl Alcohol	6.083	59	9736	0.22	ppb(v	97
36) Methyl tert-Butyl Ether	7.245	73	12517	0.21	ppb(v	99
37) Vinyl Acetate	7.312	43	10036	0.22	ppb(v	99
38) 1,1-Dichloroethane	7.147	63	8253	0.20	ppb(v	99
39) 2-Butanone	7.600	72	2136	0.20	ppb(v	88
40) Hexane	8.169	57	6181	0.19	ppb(v	90
41) cis-1,2-Dichloroethene	7.991	61	5895	0.20	ppb(v	95
42) Di-isopropyl Ether	8.212	87	3755	0.20	ppb(v	94
43) Ethyl Acetate	8.261	61	1430	0.20	ppb(v	84
44) Methyl Acrylate	8.242	55	7377	0.20	ppb(v	94
45) Chloroform	8.291	83	10678	0.21	ppb(v	97
46) 2,4-Dimethylpentane	9.111	57	7372	0.20	ppb(v	95
47) Tetrahydrofuran	8.799	72	1952	0.19	ppb(v	94
48) 1,1,1-Trichloroethane	9.337	97	9456	0.21	ppb(v	96
49) 1,2-Dichloroethane	9.074	62	5811	0.20	ppb(v	97
50) Benzene	9.857	78	14958	0.21	ppb(v	99
51) Carbon Tetrachloride	10.023	117	8933	0.20	ppb(v	95
52) Cyclohexane	10.151	56	6167	0.20	ppb(v	99
53) 2,3-Dimethylpentane	10.432	71	2823	0.19	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27082.D
Acq On : 6 Oct 2017 2:28 pm
Operator : [redacted]
Sample : ic1065-0.2
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 06 17:43:03 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:41:19 2017
Response via : Initial Calibration

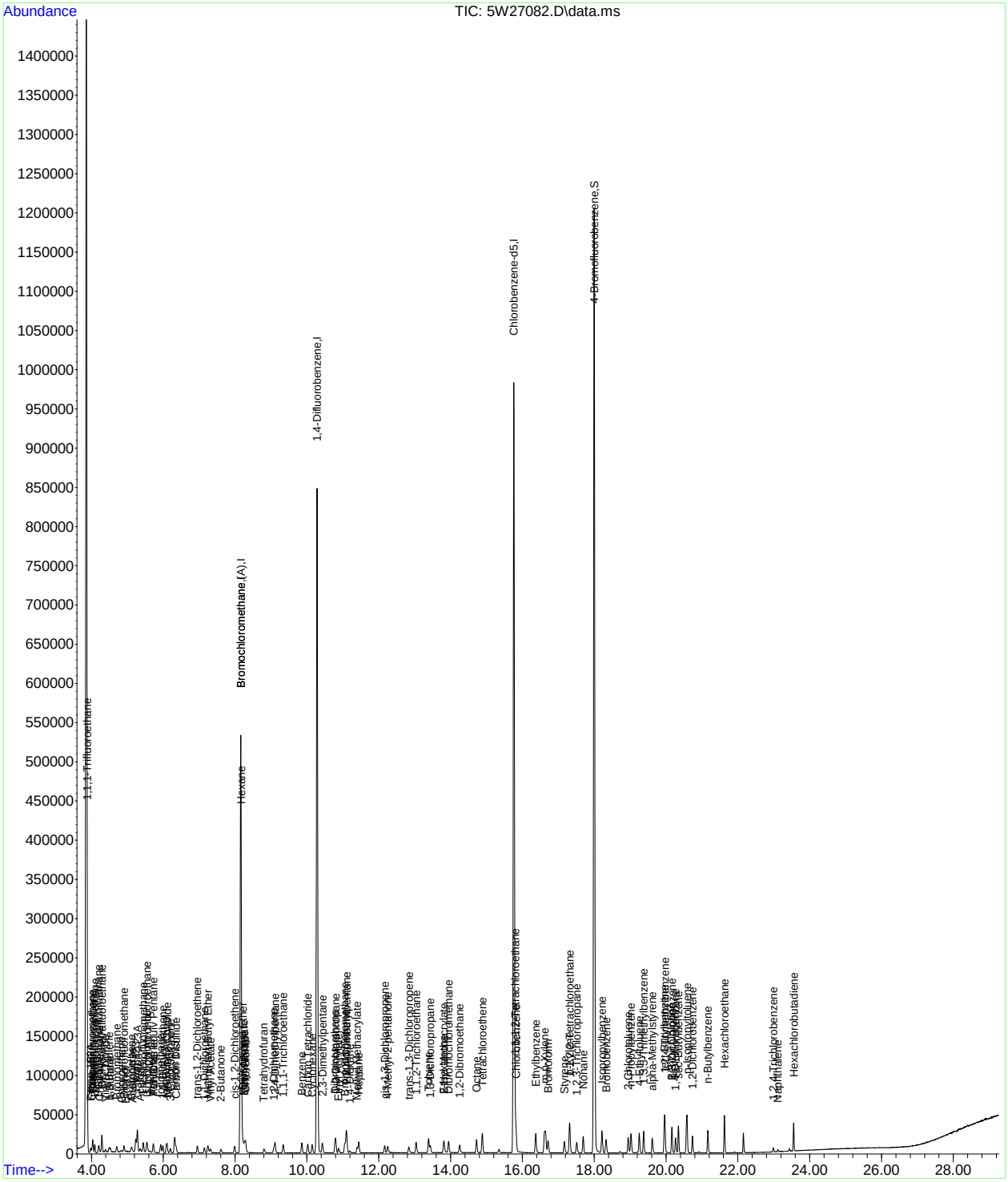
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.105	57	20186	0.20	ppb(v	99
56)	Heptane	11.442	71	4268	0.19	ppb(v	96
57)	Trichloroethene	11.087	95	6865	0.20	ppb(v	93
58)	1,2-Dichloropropane	10.806	63	5421	0.21	ppb(v	95
59)	Dibromomethane	10.781	174	7748	0.22	ppb(v	98
60)	Ethyl Acrylate	10.879	55	9281	0.19	ppb(v	99
61)	Methyl Methacrylate	11.393	69	4732	0.19	ppb(v	98
62)	1,4-Dioxane	11.191	88	2862	0.21	ppb(v#	91
63)	Bromodichloromethane	11.050	83	10863	0.21	ppb(v	98
64)	cis-1,3-Dichloropropene	12.170	75	8200	0.20	ppb(v	98
65)	4-Methyl-2-pentanone	12.249	58	3689	0.19	ppb(v	93
66)	trans-1,3-Dichloropropene	12.843	75	7186	0.20	ppb(v	97
67)	Toluene	13.387	91	18979	0.21	ppb(v	97
68)	1,1,2-Trichloroethane	13.045	97	6602	0.21	ppb(v	94
69)	1,3-Dichloropropane	13.430	76	8354	0.20	ppb(v	98
70)	2-Hexanone	13.809	58	4568	0.17	ppb(v	91
71)	Ethyl Methacrylate	13.816	69	7313	0.19	ppb(v	98
72)	Dibromochloromethane	13.944	129	11816	0.21	ppb(v	100
73)	Tetrachloroethene	14.886	166	10695	0.22	ppb(v	98
74)	1,2-Dibromoethane	14.250	107	10639	0.20	ppb(v	94
75)	Octane	14.721	43	9147	0.20	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.804	131	8562	0.20	ppb(v#	1
78)	Chlorobenzene	15.822	112	15890	0.21	ppb(v	96
79)	Ethylbenzene	16.373	91	26928	0.23	ppb(v	98
80)	m,p-Xylene	16.624	91	42004	0.47	ppb(v	97
81)	Styrene	17.168	104	12139	0.19	ppb(v	97
82)	Nonane	17.694	43	9915	0.22	ppb(v	100
83)	o-Xylene	17.315	91	20919	0.23	ppb(v	100
84)	Bromoform	16.715	173	11161	0.20	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.321	83	13725	0.21	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	9809	0.22	ppb(v	92
87)	Isopropylbenzene	18.220	105	29157	0.23	ppb(v	100
88)	Bromobenzene	18.330	156	8866	0.21	ppb(v	96
89)	2-Chlorotoluene	18.948	126	6444	0.21	ppb(v	97
90)	n-Propylbenzene	19.022	120	6863	0.21	ppb(v	89
92)	4-Ethyltoluene	19.254	105	23753	0.21	ppb(v	97
93)	1,3,5-Trimethylbenzene	19.377	105	22096	0.22	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	9187	0.20	ppb(v	99
95)	tert-Butylbenzene	19.952	134	4945	0.22	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	20288	0.22	ppb(v	99
97)	1,3-Dichlorobenzene	20.166	146	13087	0.21	ppb(v	99
98)	Benzyl Chloride	20.160	91	10707	0.19	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	12841	0.22	ppb(v	99
100)	sec-Butylbenzene	20.343	134	5888	0.22	ppb(v	89
101)	p-Isopropyltoluene	20.588	134	7282	0.23	ppb(v	96
102)	1,2-Dichlorobenzene	20.735	146	12433	0.22	ppb(v	97
103)	n-Butylbenzene	21.163	134	5103	0.21	ppb(v	85
104)	Hexachloroethane	21.628	201	9026	0.23	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.986	180	2680	0.16	ppb(v	96
106)	Naphthalene	23.108	128	4779	0.16	ppb(v	96
107)	Hexachlorobutadiene	23.555	225	7830	0.25	ppb(v	97
109)	TVHC as equiv Pentane	5.728	TIC	25471m	0.21	ppb(v	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27082.D
Acq On : 6 Oct 2017 2:28 pm
Operator : [redacted]
Sample : 1c1065-0.2
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 06 17:43:03 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:41:19 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	V5W1065-IC1065	**Method:**	TO-15
Lab FileID:	5W27082.D	**Analyst approved:**	10/07/17 09:23 [redacted]
Injection Time:	10/06/17 14:28	**Supervisor approved:**	10/08/17 11:18

Parameter	CAS	Sig#	R.T. (min.)	Reason
TVHC As Equiv Pentane			5.73	Missed peak

SGS ACCUTEST
JC52053

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/08/17 11:18

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27084.D
Acq On : 6 Oct 2017 4:10 pm
Operator : [redacted]
Sample : ic1065-0.5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:41:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:38:49 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	287053	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	994982	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	435260	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	287167	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	630672	10.09	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 100.90%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	21900	0.32	ppb(v	100
3) Freon 152A	4.009	65	7284	0.51	ppb(v	90
4) Chlorodifluoromethane	4.046	67	2623	0.46	ppb(v	95
5) Propene	4.064	41	7145	0.49	ppb(v#	93
6) Chlorotrifluoroethene	4.070	116	18064	0.47	ppb(v	99
7) Dichlorodifluoromethane	4.125	85	29963	0.48	ppb(v	97
8) 1-Chloro-1,1-difluoroe...	4.229	65	19865	0.48	ppb(v#	93
9) Chloromethane	4.248	50	9483	0.49	ppb(v	99
10) Dichlorotetrafluoroethane	4.321	85	29903	0.48	ppb(v	97
11) Vinyl Chloride	4.413	62	10395	0.49	ppb(v#	99
12) 1,3-Butadiene	4.517	54	7051	0.50	ppb(v	95
13) n-Butane	4.553	58	1498	0.48	ppb(v#	69
14) Bromomethane	4.731	94	13109	0.50	ppb(v	96
15) Chloroethane	4.859	64	5190	0.49	ppb(v#	96
16) Dichlorofluoromethane	4.933	67	23421	0.48	ppb(v	98
17) Acetonitrile	5.165	41	6259	0.48	ppb(v#	78
18) Freon 123	5.257	83	29877	0.49	ppb(v	99
19) Freon 123A	5.300	117	34665	0.97	ppb(v	94
20) Bromoethene	5.141	106	12335	0.48	ppb(v	98
21) Trichlorofluoromethane	5.471	101	30376	0.49	ppb(v	99
22) Acetone	5.379	58	4829	0.56	ppb(v	82
23) Pentane	5.753	57	2709	0.48	ppb(v	89
24) 1,1-Dichloro-1-fluoroe...	5.569	81	24859	0.46	ppb(v	99
25) Iodomethane	5.948	142	37137	0.47	ppb(v	95
26) Isopropyl Alcohol	5.575	43	3979	0.64	ppb(v#	56
27) 1,1-Dichloroethene	6.009	61	17801	0.47	ppb(v	97
28) Freon 113	6.340	101	27356	0.48	ppb(v	97
29) Methylene Chloride	6.126	84	11415	0.50	ppb(v	95
30) Carbon Disulfide	6.383	76	36224	0.47	ppb(v	98
31) Ethanol	4.982	45	3146	0.57	ppb(v#	96
32) Acrylonitrile	5.746	53	7413	0.43	ppb(v	99
33) 3-Chloropropene	6.224	76	4713	0.45	ppb(v	92
34) trans-1,2-Dichloroethene	6.970	61	16271	0.47	ppb(v	98
35) tert-Butyl Alcohol	6.095	59	24586	0.54	ppb(v	97
36) Methyl tert-Butyl Ether	7.257	73	31753	0.49	ppb(v	97
37) Vinyl Acetate	7.331	43	23324	0.47	ppb(v	97
38) 1,1-Dichloroethane	7.166	63	21486	0.49	ppb(v	97
39) 2-Butanone	7.612	72	5489	0.46	ppb(v	98
40) Hexane	8.187	57	16231	0.46	ppb(v	89
41) cis-1,2-Dichloroethene	8.004	61	15358	0.47	ppb(v	98
42) Di-isopropyl Ether	8.224	87	9580	0.46	ppb(v	93
43) Ethyl Acetate	8.279	61	3649	0.46	ppb(v	98
44) Methyl Acrylate	8.261	55	19122	0.49	ppb(v	98
45) Chloroform	8.310	83	27006	0.50	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	18725	0.46	ppb(v	97
47) Tetrahydrofuran	8.799	72	5214	0.47	ppb(v	90
48) 1,1,1-Trichloroethane	9.356	97	23519	0.47	ppb(v	96
49) 1,2-Dichloroethane	9.087	62	15193	0.50	ppb(v	99
50) Benzene	9.870	78	37610	0.49	ppb(v	99
51) Carbon Tetrachloride	10.035	117	22849	0.45	ppb(v	97
52) Cyclohexane	10.157	56	15780	0.46	ppb(v	96
53) 2,3-Dimethylpentane	10.439	71	7456	0.46	ppb(v	95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27084.D
Acq On : 6 Oct 2017 4:10 pm
Operator : [redacted]
Sample : ic1065-0.5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:41:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:38:49 2017
Response via : Initial Calibration

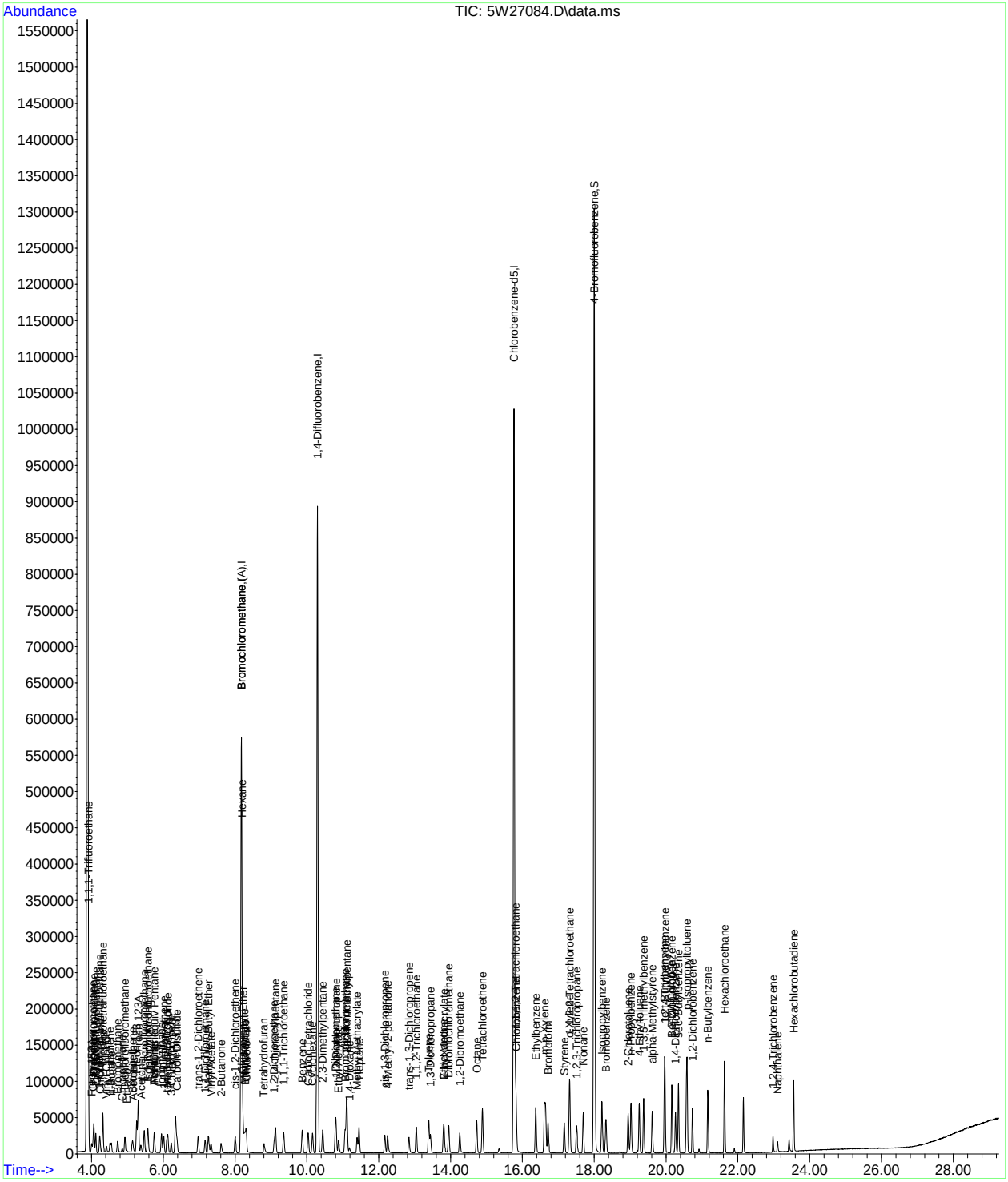
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.112	57	52696	0.47	ppb(v	98
56)	Heptane	11.454	71	11163	0.46	ppb(v	93
57)	Trichloroethene	11.099	95	17662	0.47	ppb(v	98
58)	1,2-Dichloropropane	10.818	63	13668	0.48	ppb(v	93
59)	Dibromomethane	10.800	174	18331	0.49	ppb(v	97
60)	Ethyl Acrylate	10.879	55	24080	0.45	ppb(v	97
61)	Methyl Methacrylate	11.399	69	12652	0.47	ppb(v	94
62)	1,4-Dioxane	11.185	88	7246	0.48	ppb(v#	84
63)	Bromodichloromethane	11.063	83	27449	0.48	ppb(v	97
64)	cis-1,3-Dichloropropene	12.170	75	21000	0.47	ppb(v	98
65)	4-Methyl-2-pentanone	12.249	58	9967	0.46	ppb(v	92
66)	trans-1,3-Dichloropropene	12.843	75	18732	0.47	ppb(v	97
67)	Toluene	13.394	91	46894	0.49	ppb(v	100
68)	1,1,2-Trichloroethane	13.045	97	16895	0.50	ppb(v	97
69)	1,3-Dichloropropane	13.436	76	21901	0.50	ppb(v	97
70)	2-Hexanone	13.803	58	13277	0.46	ppb(v	94
71)	Ethyl Methacrylate	13.822	69	20154	0.47	ppb(v	99
72)	Dibromochloromethane	13.944	129	29374	0.47	ppb(v	99
73)	Tetrachloroethene	14.886	166	25771	0.48	ppb(v	97
74)	1,2-Dibromoethane	14.256	107	27563	0.49	ppb(v	99
75)	Octane	14.727	43	24184	0.48	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	22145	0.50	ppb(v#	55
78)	Chlorobenzene	15.828	112	40078	0.53	ppb(v	97
79)	Ethylbenzene	16.373	91	67088	0.59	ppb(v	100
80)	m,p-Xylene	16.624	91	102864	1.21	ppb(v	98
81)	Styrene	17.168	104	33045	0.51	ppb(v	98
82)	Nonane	17.694	43	25560	0.57	ppb(v	100
83)	o-Xylene	17.309	91	52141	0.59	ppb(v	98
84)	Bromoform	16.715	173	29784	0.50	ppb(v	98
85)	1,1,2,2-Tetrachloroethane	17.321	83	36098	0.58	ppb(v	98
86)	1,2,3-Trichloropropane	17.511	75	25551	0.58	ppb(v	97
87)	Isopropylbenzene	18.220	105	72094	0.62	ppb(v	98
88)	Bromobenzene	18.324	156	22972	0.54	ppb(v	94
89)	2-Chlorotoluene	18.948	126	17003	0.55	ppb(v	96
90)	n-Propylbenzene	19.022	120	18183	0.56	ppb(v	96
92)	4-Ethyltoluene	19.254	105	62880	0.58	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	57391	0.62	ppb(v	100
94)	alpha-Methylstyrene	19.615	118	25018	0.54	ppb(v	98
95)	tert-Butylbenzene	19.952	134	13099	0.62	ppb(v	97
96)	1,2,4-Trimethylbenzene	19.970	105	53833	0.61	ppb(v	99
97)	1,3-Dichlorobenzene	20.160	146	34469	0.58	ppb(v	98
98)	Benzyl Chloride	20.160	91	29378	0.50	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	33339	0.59	ppb(v	99
100)	sec-Butylbenzene	20.343	134	15836	0.64	ppb(v	94
101)	p-Isopropyltoluene	20.582	134	19255	0.68	ppb(v	87
102)	1,2-Dichlorobenzene	20.735	146	33242	0.61	ppb(v	100
103)	n-Butylbenzene	21.163	134	14613	0.65	ppb(v	86
104)	Hexachloroethane	21.628	201	23875	0.68	ppb(v	97
105)	1,2,4-Trichlorobenzene	22.980	180	9405	0.57	ppb(v	96
106)	Naphthalene	23.108	128	16912	0.55	ppb(v	98
107)	Hexachlorobutadiene	23.555	225	20981	0.84	ppb(v	98
109)	TVHC as equiv Pentane	5.753	TIC	62937m	0.47	ppb(v	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27084.D
Acq On : 6 Oct 2017 4:10 pm
Operator : [redacted]
Sample : 1c1065-0.5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:41:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:38:49 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Manual Integration Approval Summary

Sample Number:	V5W1065-IC1065	**Method:**	TO-15
Lab FileID:	5W27084.D	**Analyst approved:**	10/07/17 09:23 [redacted]
Injection Time:	10/06/17 16:10	**Supervisor approved:**	10/08/17 11:18

Parameter	CAS	Sig#	R.T. (min.)	Reason
TVHC As Equiv Pentane			5.75	Missed peak

SGS ACCUTEST
JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27085.D
Acq On : 6 Oct 2017 5:00 pm
Operator : [redacted]
Sample : ic1065-5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 06 17:37:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Oct 05 09:07:36 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	293092	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	1004061	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	463849	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	293092	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	666382	9.86	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 98.60%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	347166	6.28	ppb(v#	92
3) Freon 152A	4.009	65	73340	6.55	ppb(v	87
4) Chlorodifluoromethane	4.046	67	29089	4.78	ppb(v	100
5) Propene	4.064	41	75066	5.32	ppb(v	99
6) Chlorotrifluoroethene	4.070	116	197688	5.31	ppb(v#	89
7) Dichlorodifluoromethane	4.125	85	321836	5.10	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	209295	4.67	ppb(v	99
9) Chloromethane	4.248	50	98366	4.86	ppb(v	98
10) Dichlorotetrafluoroethane	4.321	85	318624	4.67	ppb(v	97
11) Vinyl Chloride	4.413	62	108936	4.38	ppb(v	99
12) 1,3-Butadiene	4.517	54	72662	4.50	ppb(v	98
13) n-Butane	4.554	58	15884	4.49	ppb(v	98
14) Bromomethane	4.731	94	132833	4.82	ppb(v	100
15) Chloroethane	4.859	64	53542	4.78	ppb(v	99
16) Dichlorofluoromethane	4.933	67	247938	4.91	ppb(v	99
17) Acetonitrile	5.153	41	65981	5.15	ppb(v	99
18) Freon 123	5.257	83	314452	5.08	ppb(v	100
19) Freon 123A	5.300	117	364775	10.04	ppb(v	95
20) Bromoethene	5.141	106	132431	4.80	ppb(v	99
21) Trichlorofluoromethane	5.471	101	318278	5.06	ppb(v	100
22) Acetone	5.361	58	43980	4.80	ppb(v	93
23) Pentane	5.753	57	28942	5.33	ppb(v	94
24) 1,1-Dichloro-1-fluoroe...	5.569	81	276677	5.16	ppb(v	98
25) Iodomethane	5.948	142	402394	5.37	ppb(v	96
26) Isopropyl Alcohol	5.563	43	31905	5.90	ppb(v	90
27) 1,1-Dichloroethene	6.010	61	194005	5.34	ppb(v	98
28) Freon 113	6.340	101	292761	5.34	ppb(v	98
29) Methylene Chloride	6.126	84	117710	5.68	ppb(v	99
30) Carbon Disulfide	6.383	76	394792	5.92	ppb(v	99
31) Ethanol	4.976	45	28185	5.04	ppb(v	98
32) Acrylonitrile	5.740	53	87662	5.89	ppb(v	97
33) 3-Chloropropene	6.224	76	53470	5.81	ppb(v	89
34) trans-1,2-Dichloroethene	6.970	61	176322	5.46	ppb(v	98
35) tert-Butyl Alcohol	6.077	59	231378	4.28	ppb(v	99
36) Methyl tert-Butyl Ether	7.239	73	331748	4.88	ppb(v	99
37) Vinyl Acetate	7.325	43	251301	5.27	ppb(v	98
38) 1,1-Dichloroethane	7.166	63	225820	5.61	ppb(v	100
39) 2-Butanone	7.588	72	60579	5.56	ppb(v	97
40) Hexane	8.187	57	180320	5.12	ppb(v	100
41) cis-1,2-Dichloroethene	8.004	61	166638	5.42	ppb(v	97
42) Di-isopropyl Ether	8.212	87	106546	5.10	ppb(v	98
43) Ethyl Acetate	8.261	61	40725	5.43	ppb(v	96
44) Methyl Acrylate	8.242	55	200950	5.27	ppb(v	99
45) Chloroform	8.310	83	275358	5.24	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	206590	5.33	ppb(v	98
47) Tetrahydrofuran	8.769	72	56943	5.59	ppb(v	96
48) 1,1,1-Trichloroethane	9.356	97	254260	4.99	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	155790	4.84	ppb(v	98
50) Benzene	9.870	78	394755	5.51	ppb(v	98
51) Carbon Tetrachloride	10.035	117	257836	5.00	ppb(v	98
52) Cyclohexane	10.157	56	173753	5.64	ppb(v	99
53) 2,3-Dimethylpentane	10.439	71	82328	5.50	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27085.D
Acq On : 6 Oct 2017 5:00 pm
Operator : [redacted]
Sample : ic1065-5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 06 17:37:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Oct 05 09:07:36 2017
Response via : Initial Calibration

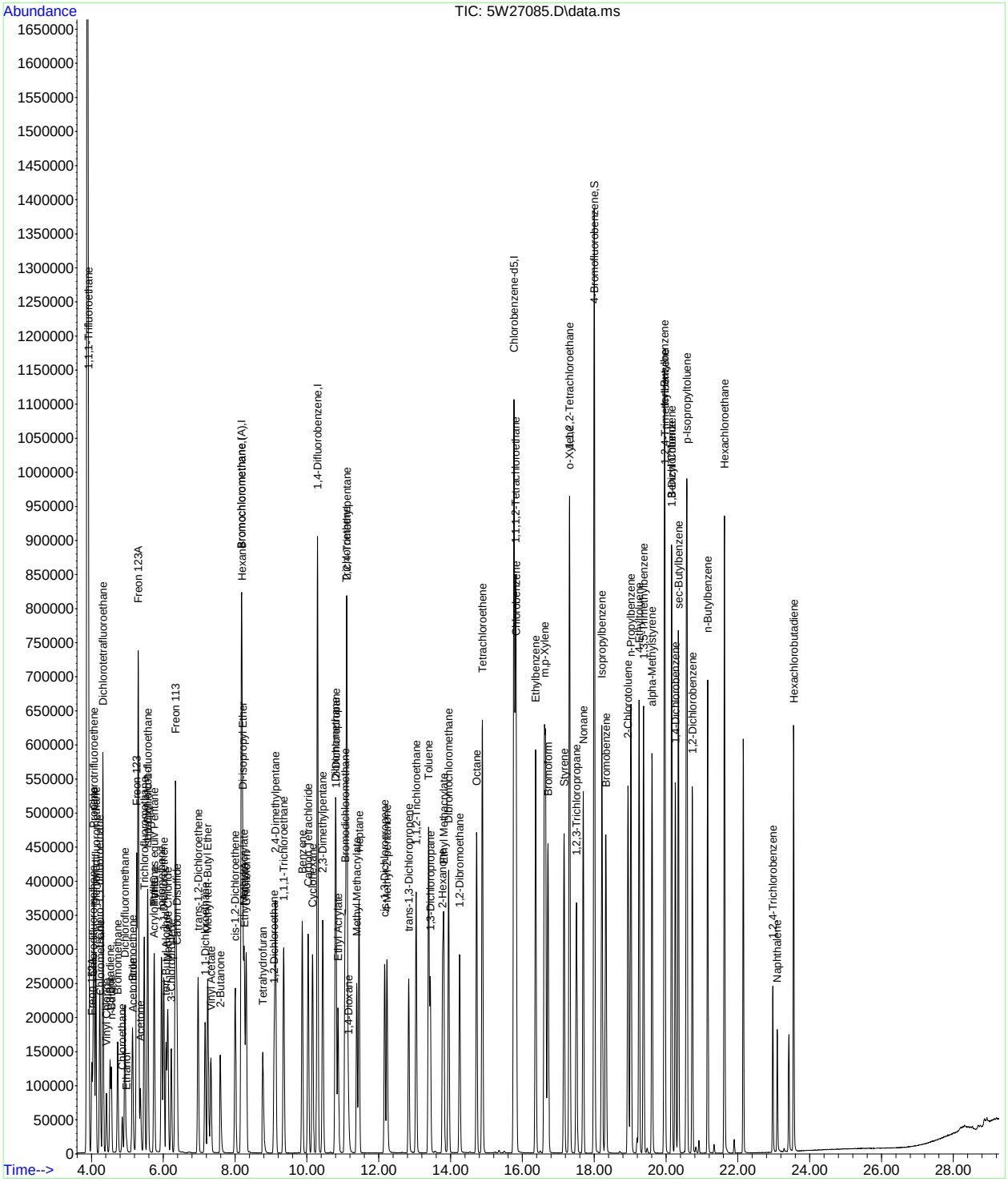
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.112	57	569089	4.88	ppb(v	97
56)	Heptane	11.454	71	122516	4.95	ppb(v	98
57)	Trichloroethene	11.099	95	187951	4.85	ppb(v	99
58)	1,2-Dichloropropane	10.812	63	143738	5.20	ppb(v	96
59)	Dibromomethane	10.794	174	187520	4.85	ppb(v	94
60)	Ethyl Acrylate	10.867	55	269100	4.90	ppb(v	100
61)	Methyl Methacrylate	11.387	69	136602	5.04	ppb(v	94
62)	1,4-Dioxane	11.155	88	75822	5.35	ppb(v	91
63)	Bromodichloromethane	11.063	83	288399	4.94	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	223868	5.26	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	108903	4.83	ppb(v	98
66)	trans-1,3-Dichloropropene	12.837	75	200313	5.29	ppb(v	99
67)	Toluene	13.387	91	478186	5.27	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	171930	5.58	ppb(v	97
69)	1,3-Dichloropropane	13.436	76	222380	5.60	ppb(v	95
70)	2-Hexanone	13.779	58	146737	4.60	ppb(v	93
71)	Ethyl Methacrylate	13.810	69	218450	4.71	ppb(v	99
72)	Dibromochloromethane	13.944	129	315957	5.68	ppb(v	100
73)	Tetrachloroethene	14.886	166	269340	5.23	ppb(v	100
74)	1,2-Dibromoethane	14.250	107	282588	5.76	ppb(v	99
75)	Octane	14.721	43	251719	4.96	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.810	131	224626	5.67	ppb(v	98
78)	Chlorobenzene	15.828	112	399536	5.60	ppb(v	100
79)	Ethylbenzene	16.367	91	601183	5.17	ppb(v	99
80)	m,p-Xylene	16.618	91	905185	9.75	ppb(v	99
81)	Styrene	17.162	104	346619	4.87	ppb(v	99
82)	Nonane	17.694	43	239476	4.47	ppb(v	100
83)	o-Xylene	17.309	91	468013	4.98	ppb(v	99
84)	Bromoform	16.716	173	316782	5.64	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.315	83	331162	4.75	ppb(v	99
86)	1,2,3-Trichloropropane	17.505	75	235967	4.86	ppb(v	98
87)	Isopropylbenzene	18.214	105	622865	4.85	ppb(v	100
88)	Bromobenzene	18.324	156	224838	5.13	ppb(v	99
89)	2-Chlorotoluene	18.942	126	164612	5.01	ppb(v	96
90)	n-Propylbenzene	19.022	120	174387	4.66	ppb(v	98
92)	4-Ethyltoluene	19.248	105	578337	4.48	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	496140	4.49	ppb(v	99
94)	alpha-Methylstyrene	19.609	118	245223	4.33	ppb(v	99
95)	tert-Butylbenzene	19.952	134	113473	4.26	ppb(v	97
96)	1,2,4-Trimethylbenzene	19.970	105	467249	4.23	ppb(v	97
97)	1,3-Dichlorobenzene	20.160	146	316181	4.31	ppb(v	98
98)	Benzyl Chloride	20.154	91	310668	3.91	ppb(v	100
99)	1,4-Dichlorobenzene	20.264	146	303155	4.31	ppb(v	99
100)	sec-Butylbenzene	20.349	134	131271	4.35	ppb(v	98
101)	p-Isopropyltoluene	20.582	134	151076	4.26	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	289672	4.35	ppb(v	97
103)	n-Butylbenzene	21.163	134	119719	4.13	ppb(v	99
104)	Hexachloroethane	21.628	201	187282	4.60	ppb(v	98
105)	1,2,4-Trichlorobenzene	22.974	180	88323	3.75	ppb(v	98
106)	Naphthalene	23.096	128	162503	3.68	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	132631	4.26	ppb(v	99
109)	TVHC as equiv Pentane	5.753	TIC	679790	5.31	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27085.D
Acq On : 6 Oct 2017 5:00 pm
Operator : [redacted]
Sample : 1c1065-5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 06 17:37:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Oct 05 09:07:36 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27086.D
Acq On : 6 Oct 2017 5:45 pm
Operator : [redacted]
Sample : icc1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:38:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	291386	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	996968	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	450995	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	291386	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	670043	10.43	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.30%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	676894	10.96	ppb(v#	91
3) Freon 152A	4.009	65	141677	8.42	ppb(v	86
4) Chlorodifluoromethane	4.046	67	56601	10.42	ppb(v	97
5) Propene	4.064	41	144922	9.00	ppb(v	98
6) Chlorotrifluoroethene	4.070	116	387076	9.92	ppb(v	100
7) Dichlorodifluoromethane	4.125	85	619731	9.55	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	404854	9.30	ppb(v	99
9) Chloromethane	4.247	50	189575	9.32	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	619718	9.58	ppb(v	98
11) Vinyl Chloride	4.413	62	217178	9.83	ppb(v	99
12) 1,3-Butadiene	4.517	54	140593	9.17	ppb(v	98
13) n-Butane	4.553	58	30225	9.83	ppb(v	98
14) Bromomethane	4.731	94	254861	7.97	ppb(v	100
15) Chloroethane	4.859	64	103484	9.68	ppb(v	99
16) Dichlorofluoromethane	4.933	67	471839	9.09	ppb(v	100
17) Acetonitrile	5.153	41	122415	9.54	ppb(v	99
18) Freon 123	5.257	83	597125	9.08	ppb(v	99
19) Freon 123A	5.300	117	692252	18.23	ppb(v	97
20) Bromoethene	5.141	106	255559	9.62	ppb(v	99
21) Trichlorofluoromethane	5.471	101	603032	9.34	ppb(v	99
22) Acetone	5.361	58	85461	8.11	ppb(v	100
23) Pentane	5.752	57	56093	8.95	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	509488	8.73	ppb(v	99
25) Iodomethane	5.948	142	780312	9.48	ppb(v	96
26) Isopropyl Alcohol	5.569	43	51529	6.81	ppb(v	96
27) 1,1-Dichloroethene	6.009	61	374337	9.84	ppb(v	98
28) Freon 113	6.340	101	565596	9.67	ppb(v	98
29) Methylene Chloride	6.126	84	226328	7.83	ppb(v	98
30) Carbon Disulfide	6.383	76	765134	9.80	ppb(v	99
31) Ethanol	4.975	45	53122	7.71	ppb(v	98
32) Acrylonitrile	5.746	53	168169	10.16	ppb(v	98
33) 3-Chloropropene	6.223	76	102747	10.01	ppb(v	90
34) trans-1,2-Dichloroethene	6.970	61	344667	9.97	ppb(v	98
35) tert-Butyl Alcohol	6.077	59	449678	8.13	ppb(v	98
36) Methyl tert-Butyl Ether	7.239	73	642715	9.73	ppb(v	99
37) Vinyl Acetate	7.325	43	493222	8.86	ppb(v	99
38) 1,1-Dichloroethane	7.166	63	437394	9.47	ppb(v	100
39) 2-Butanone	7.582	72	119375	10.44	ppb(v	95
40) Hexane	8.187	57	346482	9.78	ppb(v	98
41) cis-1,2-Dichloroethene	8.004	61	325785	9.77	ppb(v	97
42) Di-isopropyl Ether	8.212	87	204024	10.02	ppb(v	100
43) Ethyl Acetate	8.261	61	79046	10.64	ppb(v	93
44) Methyl Acrylate	8.242	55	393420	9.67	ppb(v	99
45) Chloroform	8.310	83	533535	9.15	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	403101	9.93	ppb(v	99
47) Tetrahydrofuran	8.762	72	111958	10.87	ppb(v	93
48) 1,1,1-Trichloroethane	9.356	97	490132	9.44	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	303406	9.60	ppb(v	98
50) Benzene	9.870	78	763016	9.13	ppb(v	98
51) Carbon Tetrachloride	10.035	117	508304	9.95	ppb(v	99
52) Cyclohexane	10.157	56	339814	9.76	ppb(v	100
53) 2,3-Dimethylpentane	10.439	71	158920	9.96	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27086.D
Acq On : 6 Oct 2017 5:45 pm
Operator : [redacted]
Sample : icc1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:38:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.111	57	1100294	9.87	ppb(v	97
56)	Heptane	11.454	71	237271	10.16	ppb(v	98
57)	Trichloroethene	11.099	95	361699	9.36	ppb(v	98
58)	1,2-Dichloropropane	10.812	63	279660	9.62	ppb(v	96
59)	Dibromomethane	10.799	174	366144	8.62	ppb(v	97
60)	Ethyl Acrylate	10.867	55	531135	10.76	ppb(v	100
61)	Methyl Methacrylate	11.387	69	269407	10.49	ppb(v	92
62)	1,4-Dioxane	11.148	88	149241	10.28	ppb(v	96
63)	Bromodichloromethane	11.063	83	551779	9.36	ppb(v	98
64)	cis-1,3-Dichloropropene	12.164	75	433325	9.95	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	217461	11.48	ppb(v	96
66)	trans-1,3-Dichloropropene	12.837	75	384010	10.10	ppb(v	99
67)	Toluene	13.387	91	905096	9.37	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	329318	9.41	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	422469	9.56	ppb(v	94
70)	2-Hexanone	13.779	58	291940	12.56	ppb(v	91
71)	Ethyl Methacrylate	13.809	69	433238	10.75	ppb(v	99
72)	Dibromochloromethane	13.944	129	587676	9.16	ppb(v	100
73)	Tetrachloroethene	14.886	166	511273	8.73	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	534359	9.17	ppb(v	99
75)	Octane	14.727	43	488576	9.39	ppb(v	96
76)	1,1,1,2-Tetrachloroethane	15.810	131	431367	9.29	ppb(v	99
78)	Chlorobenzene	15.828	112	762999	8.53	ppb(v	100
79)	Ethylbenzene	16.373	91	1159785	8.66	ppb(v	99
80)	m,p-Xylene	16.624	91	1795720	17.47	ppb(v	99
81)	Styrene	17.162	104	699322	9.76	ppb(v	99
82)	Nonane	17.694	43	476325	8.29	ppb(v	97
83)	o-Xylene	17.309	91	909888	8.74	ppb(v	99
84)	Bromoform	16.715	173	613032	9.56	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.321	83	648204	8.52	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	468406	8.70	ppb(v	99
87)	Isopropylbenzene	18.220	105	1233659	8.64	ppb(v	99
88)	Bromobenzene	18.324	156	447096	8.83	ppb(v	99
89)	2-Chlorotoluene	18.948	126	330500	9.02	ppb(v	95
90)	n-Propylbenzene	19.022	120	348438	9.22	ppb(v	98
92)	4-Ethyltoluene	19.254	105	1179946	8.66	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	990265	8.21	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	498039	9.55	ppb(v	99
95)	tert-Butylbenzene	19.952	134	224088	8.14	ppb(v	96
96)	1,2,4-Trimethylbenzene	19.970	105	928732	8.33	ppb(v	97
97)	1,3-Dichlorobenzene	20.160	146	639385	8.67	ppb(v	99
98)	Benzyl Chloride	20.153	91	657098	10.56	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	624620	8.54	ppb(v	99
100)	sec-Butylbenzene	20.349	134	261909	8.28	ppb(v	99
101)	p-Isopropyltoluene	20.582	134	301300	7.87	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	586794	8.41	ppb(v	98
103)	n-Butylbenzene	21.163	134	247141	8.81	ppb(v	99
104)	Hexachloroethane	21.628	201	385036	8.17	ppb(v	98
105)	1,2,4-Trichlorobenzene	22.974	180	215641	12.93	ppb(v	97
106)	Naphthalene	23.096	128	413129	13.41	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	283127	6.59	ppb(v	99
109)	TVHC as equiv Pentane	5.752	TIC	1302322	9.75	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.30

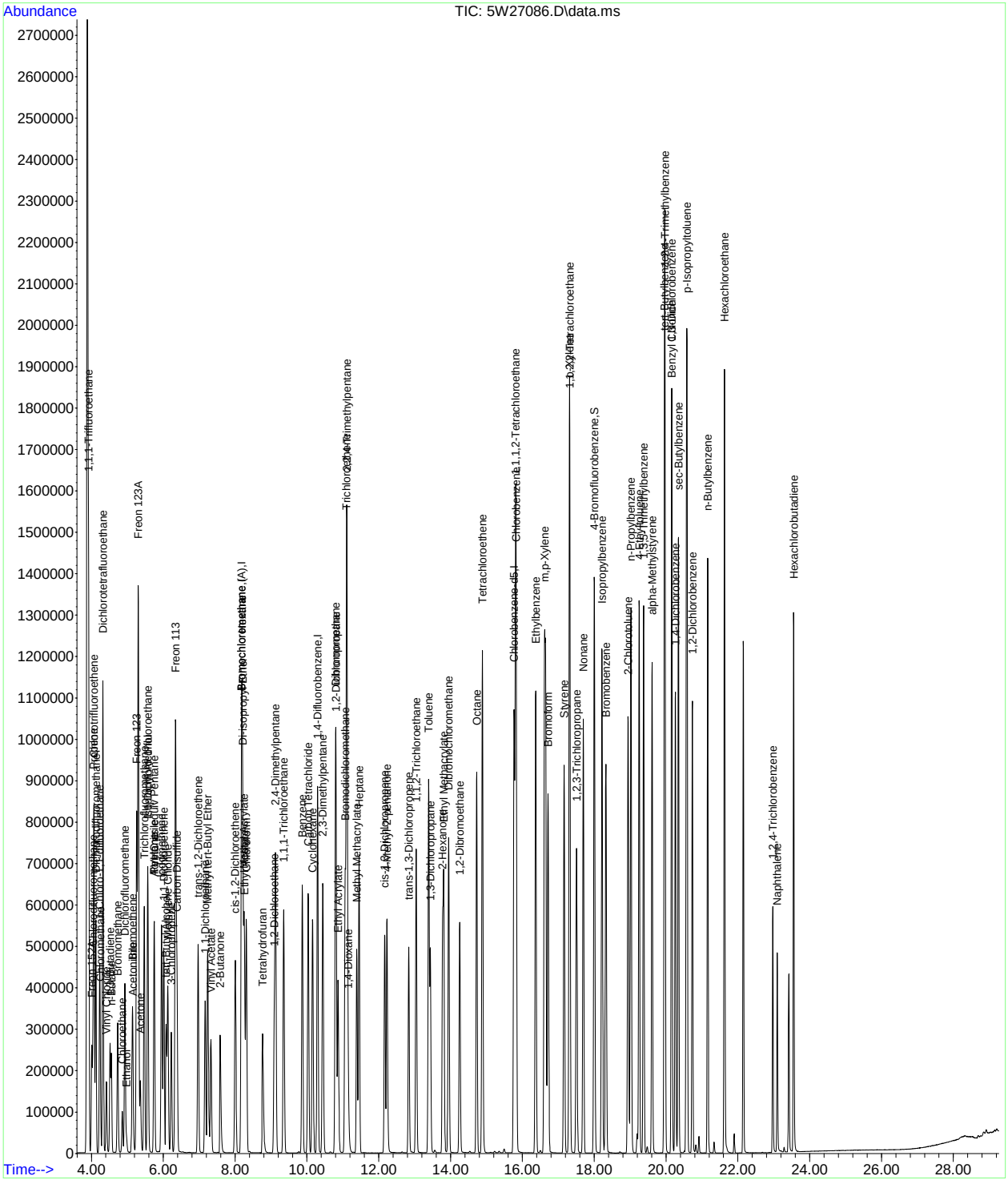
7

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27086.D
Acq On : 6 Oct 2017 5:45 pm
Operator : [redacted]
Sample : icc1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:38:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27087.D
Acq On : 6 Oct 2017 6:33 pm
Operator : [redacted]
Sample : ic1065-20
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:39:17 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	293152	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.298	114	994053	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	418627	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	293152	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	606995	10.18	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.80%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	1245966	20.04	ppb(v	93
3) Freon 152A	4.009	65	281627	16.64	ppb(v	86
4) Chlorodifluoromethane	4.046	67	110757	20.27	ppb(v	98
5) Propene	4.064	41	280977	17.34	ppb(v	98
6) Chlorotrifluoroethene	4.076	116	773439	19.69	ppb(v#	90
7) Dichlorodifluoromethane	4.125	85	1199901	18.37	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.235	65	788541	18.00	ppb(v	99
9) Chloromethane	4.254	50	368476	18.00	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	1199794	18.43	ppb(v	98
11) Vinyl Chloride	4.419	62	423109	19.04	ppb(v	100
12) 1,3-Butadiene	4.517	54	272447	17.67	ppb(v	98
13) n-Butane	4.554	58	57818	18.68	ppb(v	97
14) Bromomethane	4.731	94	495476	15.40	ppb(v	99
15) Chloroethane	4.859	64	198702	18.47	ppb(v	99
16) Dichlorofluoromethane	4.933	67	904782	17.32	ppb(v	99
17) Acetonitrile	5.153	41	230449	17.84	ppb(v	98
18) Freon 123	5.257	83	1115595	16.87	ppb(v	100
19) Freon 123A	5.306	117	1301674	34.08	ppb(v	97
20) Bromoethene	5.141	106	492028	18.40	ppb(v	99
21) Trichlorofluoromethane	5.471	101	1163451	17.90	ppb(v	100
22) Acetone	5.361	58	161866	15.27	ppb(v	96
23) Pentane	5.753	57	107705	17.08	ppb(v	91
24) 1,1-Dichloro-1-fluoroe...	5.569	81	1044359	17.80	ppb(v	99
25) Iodomethane	5.954	142	1554029	18.77	ppb(v	96
26) Isopropyl Alcohol	5.569	43	113367	14.89	ppb(v	96
27) 1,1-Dichloroethene	6.016	61	726794	18.98	ppb(v	95
28) Freon 113	6.340	101	1110122	18.86	ppb(v	99
29) Methylene Chloride	6.126	84	442757	15.22	ppb(v	97
30) Carbon Disulfide	6.383	76	1498884	19.09	ppb(v	100
31) Ethanol	4.982	45	103360	14.91	ppb(v	98
32) Acrylonitrile	5.746	53	324211	19.46	ppb(v	98
33) 3-Chloropropene	6.224	76	204864	19.84	ppb(v	86
34) trans-1,2-Dichloroethene	6.970	61	673944	19.38	ppb(v	98
35) tert-Butyl Alcohol	6.083	59	886728	15.94	ppb(v	97
36) Methyl tert-Butyl Ether	7.239	73	1269752	19.11	ppb(v	98
37) Vinyl Acetate	7.325	43	973490	17.39	ppb(v	98
38) 1,1-Dichloroethane	7.172	63	858626	18.48	ppb(v	99
39) 2-Butanone	7.582	72	234911	20.42	ppb(v	93
40) Hexane	8.187	57	676742	18.99	ppb(v	97
41) cis-1,2-Dichloroethene	8.010	61	637448	19.00	ppb(v	96
42) Di-isopropyl Ether	8.212	87	407183	19.87	ppb(v	96
43) Ethyl Acetate	8.261	61	154170	20.63	ppb(v	92
44) Methyl Acrylate	8.249	55	759945	18.57	ppb(v	99
45) Chloroform	8.316	83	1035272	17.64	ppb(v	98
46) 2,4-Dimethylpentane	9.130	57	789724	19.34	ppb(v	99
47) Tetrahydrofuran	8.762	72	222747	21.49	ppb(v	91
48) 1,1,1-Trichloroethane	9.356	97	972197	18.62	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	586123	18.43	ppb(v	97
50) Benzene	9.876	78	1494098	17.78	ppb(v	98
51) Carbon Tetrachloride	10.041	117	1024043	19.92	ppb(v	99
52) Cyclohexane	10.163	56	674082	19.25	ppb(v	99
53) 2,3-Dimethylpentane	10.445	71	316018	19.68	ppb(v	96

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27087.D
Acq On : 6 Oct 2017 6:33 pm
Operator : [redacted]
Sample : ic1065-20
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:39:17 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

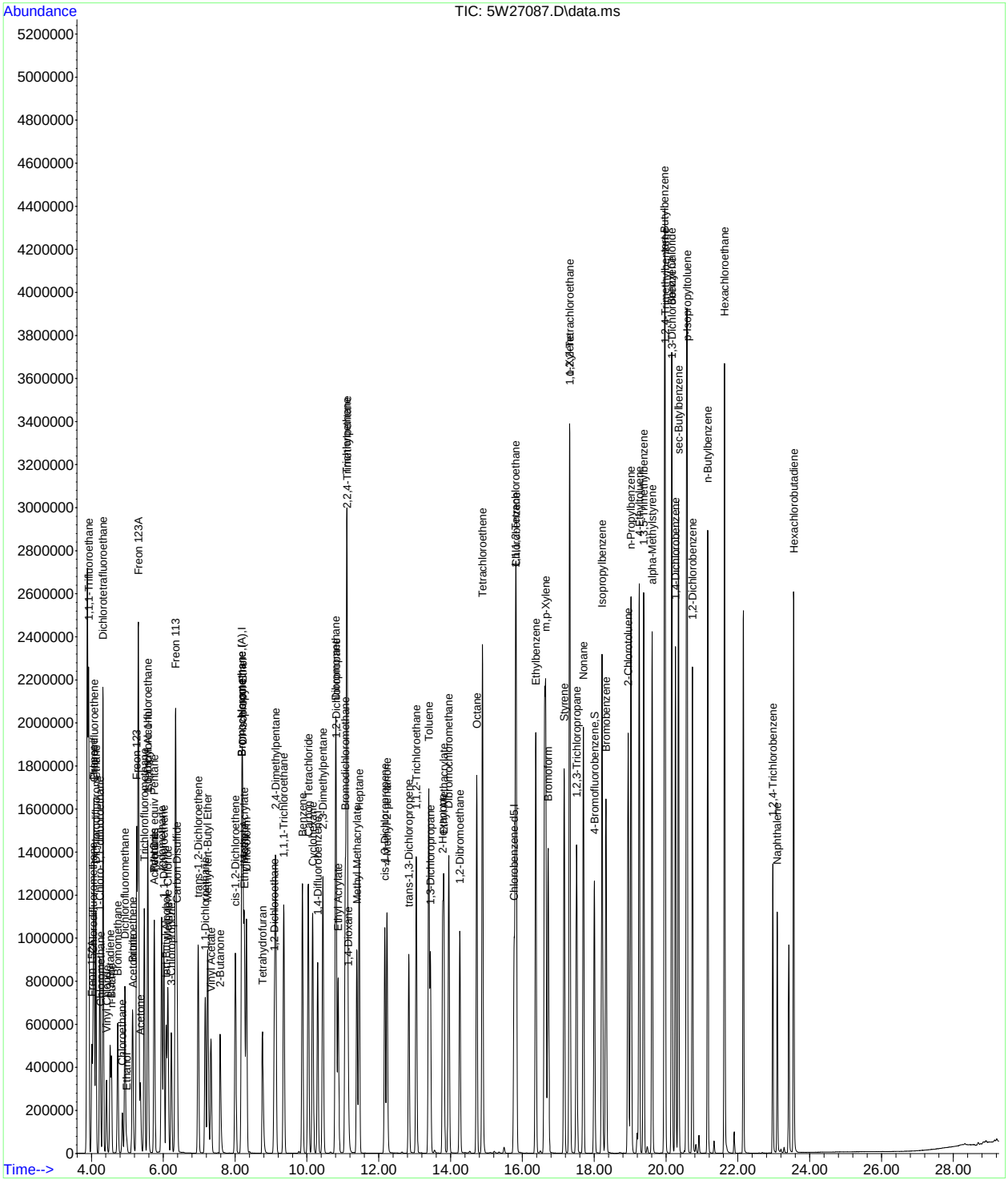
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.118	57	2108432	18.97	ppb(v	97
56)	Heptane	11.454	71	463801	19.93	ppb(v	98
57)	Trichloroethene	11.106	95	711179	18.45	ppb(v	99
58)	1,2-Dichloropropane	10.818	63	536786	18.51	ppb(v	97
59)	Dibromomethane	10.800	174	726503	17.15	ppb(v	96
60)	Ethyl Acrylate	10.873	55	1045718	21.24	ppb(v	99
61)	Methyl Methacrylate	11.393	69	528250	20.63	ppb(v	89
62)	1,4-Dioxane	11.148	88	289472	20.00	ppb(v	98
63)	Bromodichloromethane	11.069	83	1093724	18.60	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	848838	19.54	ppb(v	100
65)	4-Methyl-2-pentanone	12.231	58	433459	22.95	ppb(v	95
66)	trans-1,3-Dichloropropene	12.837	75	722566	19.06	ppb(v	99
67)	Toluene	13.394	91	1734252	18.01	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	629411	18.04	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	792839	17.98	ppb(v	94
70)	2-Hexanone	13.785	58	580718	25.05	ppb(v	90
71)	Ethyl Methacrylate	13.816	69	852320	21.22	ppb(v	99
72)	Dibromochloromethane	13.950	129	1095749	17.13	ppb(v	99
73)	Tetrachloroethene	14.886	166	1016020	17.39	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	979570	16.86	ppb(v	99
75)	Octane	14.727	43	922930	17.79	ppb(v	94
76)	1,1,1,2-Tetrachloroethane	15.810	131	756736	16.34	ppb(v	100
78)	Chlorobenzene	15.828	112	1336677	16.09	ppb(v	100
79)	Ethylbenzene	16.373	91	2031115	16.33	ppb(v	99
80)	m,p-Xylene	16.648	91	3124054	32.74	ppb(v	99
81)	Styrene	17.162	104	1347758	20.26	ppb(v	99
82)	Nonane	17.694	43	924922	17.35	ppb(v	97
83)	o-Xylene	17.315	91	1577767	16.32	ppb(v	98
84)	Bromoform	16.722	173	1020834	17.14	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.321	83	1262913	17.88	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	910734	18.22	ppb(v	99
87)	Isopropylbenzene	18.220	105	2307618	17.40	ppb(v	99
88)	Bromobenzene	18.324	156	808222	17.19	ppb(v	99
89)	2-Chlorotoluene	18.948	126	616865	18.14	ppb(v	94
90)	n-Propylbenzene	19.022	120	687263	19.60	ppb(v	99
92)	4-Ethyltoluene	19.254	105	2325499	18.39	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	1956211	17.48	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	1016151	20.98	ppb(v	100
95)	tert-Butylbenzene	19.958	134	452934	17.73	ppb(v	95
96)	1,2,4-Trimethylbenzene	19.976	105	1845433	17.83	ppb(v	94
97)	1,3-Dichlorobenzene	20.166	146	1294135	18.90	ppb(v	98
98)	Benzyl Chloride	20.160	91	1352373	23.41	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	1268464	18.68	ppb(v	99
100)	sec-Butylbenzene	20.349	134	527881	17.97	ppb(v	99
101)	p-Isopropyltoluene	20.588	134	601244	16.91	ppb(v	91
102)	1,2-Dichlorobenzene	20.735	146	1193264	18.41	ppb(v	98
103)	n-Butylbenzene	21.163	134	508315	19.51	ppb(v	97
104)	Hexachloroethane	21.628	201	769893	17.60	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.974	180	481502	31.10	ppb(v	98
106)	Naphthalene	23.096	128	956925	33.46	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	574185	14.40	ppb(v	97
109)	TVHC as equiv Pentane	5.753	TIC	2493615	18.56	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27087.D
Acq On : 6 Oct 2017 6:33 pm
Operator : [redacted]
Sample : ic1065-20
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:39:17 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27088.D
Acq On : 6 Oct 2017 7:23 pm
Operator : [redacted]
Sample : ic1065-40
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 09:20:08 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	298904	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.298	114	1009982	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	428032	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	298904	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	510141	8.36	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 83.60%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	1829170	28.86	ppb(v	97
3) Freon 152A	4.015	65	561477	32.54	ppb(v	85
4) Chlorodifluoromethane	4.046	67	216000	38.78	ppb(v	99
5) Propene	4.064	41	531504	32.16	ppb(v	98
6) Chlorotrifluoroethene	4.076	116	1529952	38.21	ppb(v	99
7) Dichlorodifluoromethane	4.125	85	2353196	35.33	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.235	65	1498936	33.56	ppb(v	98
9) Chloromethane	4.254	50	694879	33.29	ppb(v	98
10) Dichlorotetrafluoroethane	4.321	85	2219115	33.43	ppb(v	100
11) Vinyl Chloride	4.419	62	789031	34.83	ppb(v	99
12) 1,3-Butadiene	4.517	54	509087	32.39	ppb(v	98
13) n-Butane	4.553	58	108537	34.40	ppb(v	98
14) Bromomethane	4.731	94	938215	28.60	ppb(v	100
15) Chloroethane	4.865	64	377597	34.43	ppb(v	99
16) Dichlorofluoromethane	4.933	67	1711487	32.13	ppb(v	100
17) Acetonitrile	5.159	41	436273	33.13	ppb(v	100
18) Freon 123	5.263	83	2007616	29.77	ppb(v	99
19) Freon 123A	5.306	117	2345429	60.22	ppb(v	93
20) Bromoethene	5.141	106	945794	34.70	ppb(v	99
21) Trichlorofluoromethane	5.471	101	2173168	32.80	ppb(v	99
22) Acetone	5.361	58	309883	28.68	ppb(v	97
23) Pentane	5.752	57	210441	32.73	ppb(v	85
24) 1,1-Dichloro-1-fluoroe...	5.569	81	2014056	33.66	ppb(v	99
25) Iodomethane	5.954	142	3082889	36.52	ppb(v	97
26) Isopropyl Alcohol	5.569	43	208608	26.86	ppb(v	90
27) 1,1-Dichloroethene	6.016	61	1400235	35.87	ppb(v	93
28) Freon 113	6.340	101	2165140	36.08	ppb(v	100
29) Methylene Chloride	6.132	84	870128	29.34	ppb(v	94
30) Carbon Disulfide	6.383	76	2939221	36.72	ppb(v	100
31) Ethanol	4.982	45	198391	28.07	ppb(v	98
32) Acrylonitrile	5.746	53	633402	37.29	ppb(v	98
33) 3-Chloropropene	6.230	76	407182	38.68	ppb(v	82
34) trans-1,2-Dichloroethene	6.970	61	1337341	37.71	ppb(v	97
35) tert-Butyl Alcohol	6.083	59	1731561	30.53	ppb(v	96
36) Methyl tert-Butyl Ether	7.239	73	2518739	37.18	ppb(v	98
37) Vinyl Acetate	7.325	43	1919323	33.63	ppb(v	97
38) 1,1-Dichloroethane	7.172	63	1686213	35.60	ppb(v	99
39) 2-Butanone	7.582	72	464082	39.57	ppb(v	90
40) Hexane	8.187	57	1311019	36.08	ppb(v	95
41) cis-1,2-Dichloroethene	8.010	61	1262431	36.90	ppb(v	95
42) Di-isopropyl Ether	8.218	87	809079	38.72	ppb(v	87
43) Ethyl Acetate	8.267	61	301569	39.58	ppb(v	84
44) Methyl Acrylate	8.249	55	1467258	35.16	ppb(v	99
45) Chloroform	8.322	83	2014679	33.67	ppb(v	98
46) 2,4-Dimethylpentane	9.129	57	1536699	36.90	ppb(v	99
47) Tetrahydrofuran	8.756	72	440890	41.71	ppb(v	91
48) 1,1,1-Trichloroethane	9.356	97	1940408	36.45	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	1142243	35.23	ppb(v	97
50) Benzene	9.876	78	2958582	34.53	ppb(v	98
51) Carbon Tetrachloride	10.041	117	2102344	40.10	ppb(v	99
52) Cyclohexane	10.163	56	1323500	37.06	ppb(v	98
53) 2,3-Dimethylpentane	10.445	71	626113	38.25	ppb(v	93

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27088.D
Acq On : 6 Oct 2017 7:23 pm
Operator : [redacted]
Sample : ic1065-40
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 09:20:08 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

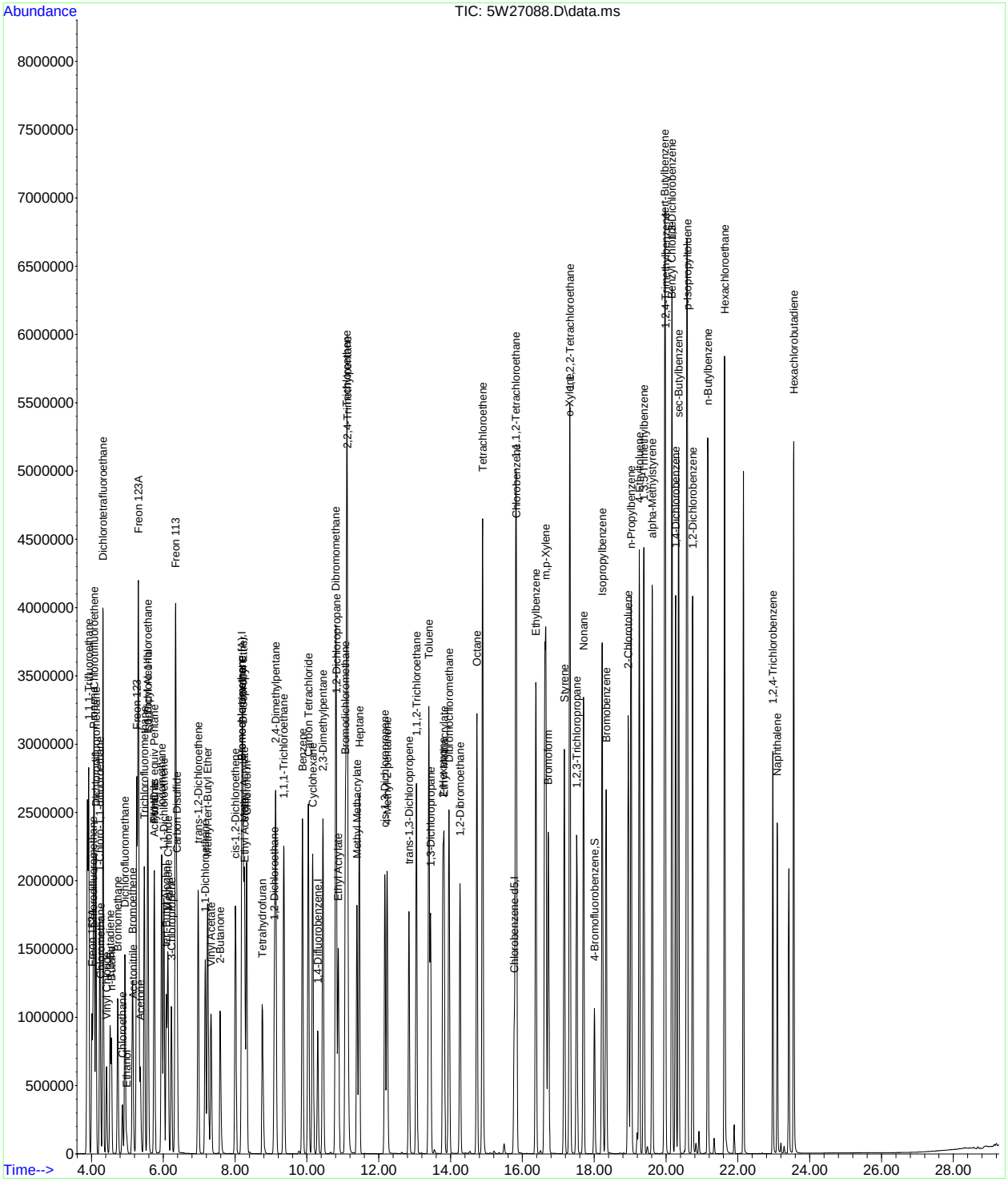
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.124	57	3833288	33.94	ppb(v	97
56)	Heptane	11.460	71	904805	38.26	ppb(v	98
57)	Trichloroethene	11.105	95	1352894	34.55	ppb(v	98
58)	1,2-Dichloropropane	10.824	63	1030654	34.98	ppb(v	97
59)	Dibromomethane	10.806	174	1469991	34.15	ppb(v	97
60)	Ethyl Acrylate	10.873	55	2002253	40.03	ppb(v	98
61)	Methyl Methacrylate	11.393	69	1021380	39.26	ppb(v	87
63)	Bromodichloromethane	11.069	83	2126815	35.60	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	1688448	38.25	ppb(v	99
65)	4-Methyl-2-pentanone	12.237	58	827835	43.14	ppb(v	92
66)	trans-1,3-Dichloropropene	12.843	75	1402041	36.39	ppb(v	98
67)	Toluene	13.394	91	3374206	34.48	ppb(v	100
68)	1,1,2-Trichloroethane	13.051	97	1238650	34.95	ppb(v	99
69)	1,3-Dichloropropane	13.442	76	1521785	33.98	ppb(v	93
70)	2-Hexanone	13.791	58	1100599	46.72	ppb(v	89
71)	Ethyl Methacrylate	13.822	69	1591637	39.00	ppb(v	98
72)	Dibromochloromethane	13.956	129	2116185	32.56	ppb(v	99
73)	Tetrachloroethene	14.892	166	2046003	34.47	ppb(v	99
74)	1,2-Dibromoethane	14.262	107	1874493	31.75	ppb(v	100
75)	Octane	14.733	43	1705143	32.35	ppb(v	90
76)	1,1,1,2-Tetrachloroethane	15.816	131	1417122	30.13	ppb(v	98
78)	Chlorobenzene	15.834	112	2453898	28.90	ppb(v	100
79)	Ethylbenzene	16.373	91	3665508	28.83	ppb(v	98
80)	m,p-Xylene	16.654	91	5457831	55.94	ppb(v	98
81)	Styrene	17.168	104	2279444	33.52	ppb(v	99
82)	Nonane	17.700	43	1562220	28.66	ppb(v	94
83)	o-Xylene	17.315	91	2603179	26.34	ppb(v	98
84)	Bromoform	16.722	173	1747523	28.70	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.327	83	2093223	28.99	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	1507916	29.50	ppb(v	99
87)	Isopropylbenzene	18.226	105	3813634	28.13	ppb(v	99
88)	Bromobenzene	18.330	156	1322883	27.51	ppb(v	97
89)	2-Chlorotoluene	18.948	126	1008325	28.99	ppb(v	94
90)	n-Propylbenzene	19.028	120	1144106	31.92	ppb(v	95
92)	4-Ethyltoluene	19.254	105	3899961	30.16	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.383	105	3379495	29.53	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	1810673	36.57	ppb(v	100
95)	tert-Butylbenzene	19.964	134	784861	30.05	ppb(v	94
96)	1,2,4-Trimethylbenzene	19.982	105	3110209	29.39	ppb(v	91
97)	1,3-Dichlorobenzene	20.166	146	2248649	32.11	ppb(v	99
98)	Benzyl Chloride	20.160	91	2435295	41.24	ppb(v	98
99)	1,4-Dichlorobenzene	20.270	146	2280025	32.83	ppb(v	99
100)	sec-Butylbenzene	20.355	134	953776	31.76	ppb(v	93
101)	p-Isopropyltoluene	20.594	134	1090091	29.98	ppb(v	89
102)	1,2-Dichlorobenzene	20.741	146	2213525	33.41	ppb(v	97
103)	n-Butylbenzene	21.169	134	987414	37.07	ppb(v	88
104)	Hexachloroethane	21.634	201	1334941	29.85	ppb(v	91
105)	1,2,4-Trichlorobenzene	22.974	180	1043557	65.91	ppb(v	98
106)	Naphthalene	23.096	128	2074286	70.94	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	1160534	28.47	ppb(v	98
109)	TVHC as equiv Pentane	5.752	TIC	4799365	35.04	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27088.D
Acq On : 6 Oct 2017 7:23 pm
Operator : [redacted]
Sample : 1c1065-40
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 09:20:08 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	289109	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	974395	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	407225	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	289109	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	692917	12.10	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 121.00%			
Target Compounds						Qvalue
3) Freon 152A	4.009	65	149384	9.66	ppb(v	87
4) Chlorodifluoromethane	4.046	67	58953	10.91	ppb(v	96
5) Propene	4.064	41	150532	9.95	ppb(v	99
6) Chlorotrifluoroethene	4.070	116	399350	10.40	ppb(v#	89
7) Dichlorodifluoromethane	4.125	85	647883	10.37	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	409323	9.88	ppb(v	99
9) Chloromethane	4.247	50	193959	10.03	ppb(v	99
10) Dichlorotetrafluoroethane	4.321	85	657864	10.62	ppb(v	95
11) Vinyl Chloride	4.413	62	218615	10.22	ppb(v	99
12) 1,3-Butadiene	4.517	54	140834	9.74	ppb(v	97
13) n-Butane	4.553	58	31767	10.75	ppb(v	99
14) Bromomethane	4.731	94	266061	9.21	ppb(v	100
15) Chloroethane	4.859	64	105174	10.23	ppb(v	98
16) Dichlorofluoromethane	4.933	67	506259	10.37	ppb(v	99
17) Acetonitrile	5.153	41	130290	10.82	ppb(v	100
18) Freon 123	5.257	83	623109	10.19	ppb(v	99
19) Freon 123A	5.300	117	695334	19.65	ppb(v	97
20) Bromoethene	5.135	106	257520	10.08	ppb(v	100
21) Trichlorofluoromethane	5.471	101	639247	10.43	ppb(v	100
22) Acetone	5.355	58	91798	9.77	ppb(v	98
23) Pentane	5.752	57	61854	10.52	ppb(v	93
25) Iodomethane	5.948	142	798726	10.03	ppb(v	97
26) Isopropyl Alcohol	5.569	43	69405	10.88	ppb(v	52
27) 1,1-Dichloroethene	6.009	61	374009	10.12	ppb(v	98
28) Freon 113	6.340	101	558621	9.86	ppb(v	99
29) Methylene Chloride	6.126	84	226563	8.68	ppb(v	99
30) Carbon Disulfide	6.383	76	752681	9.90	ppb(v	99
31) Ethanol	4.975	45	71812	12.08	ppb(v	97
32) Acrylonitrile	5.740	53	187511	11.53	ppb(v	97
33) 3-Chloropropene	6.223	76	115290	11.38	ppb(v	90
34) trans-1,2-Dichloroethene	6.970	61	361196	10.65	ppb(v	99
35) tert-Butyl Alcohol	6.077	59	449703	8.89	ppb(v	98
36) Methyl tert-Butyl Ether	7.233	73	688023	10.75	ppb(v	99
37) Vinyl Acetate	7.325	43	587781	11.21	ppb(v	98
38) 1,1-Dichloroethane	7.166	63	452286	10.18	ppb(v	100
39) 2-Butanone	7.582	72	122686	10.74	ppb(v	97
40) Hexane	8.187	57	364980	10.61	ppb(v	97
41) cis-1,2-Dichloroethene	8.004	61	334114	10.29	ppb(v	98
42) Di-isopropyl Ether	8.212	87	218064	10.84	ppb(v	98
43) Ethyl Acetate	8.261	61	83456	11.19	ppb(v	94
44) Methyl Acrylate	8.242	55	417752	10.65	ppb(v	99
45) Chloroform	8.310	83	541292	9.80	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	433157	10.91	ppb(v	99
47) Tetrahydrofuran	8.762	72	123367	11.77	ppb(v	95
48) 1,1,1-Trichloroethane	9.356	97	532664	10.63	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	311141	10.23	ppb(v	99
50) Benzene	9.870	78	758847	9.56	ppb(v	98
51) Carbon Tetrachloride	10.035	117	524261	10.35	ppb(v	98
52) Cyclohexane	10.157	56	357735	10.54	ppb(v	99
53) 2,3-Dimethylpentane	10.439	71	167019	10.63	ppb(v	95
55) 2,2,4-Trimethylpentane	11.112	57	1177648	11.11	ppb(v	97
56) Heptane	11.454	71	244598	10.76	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

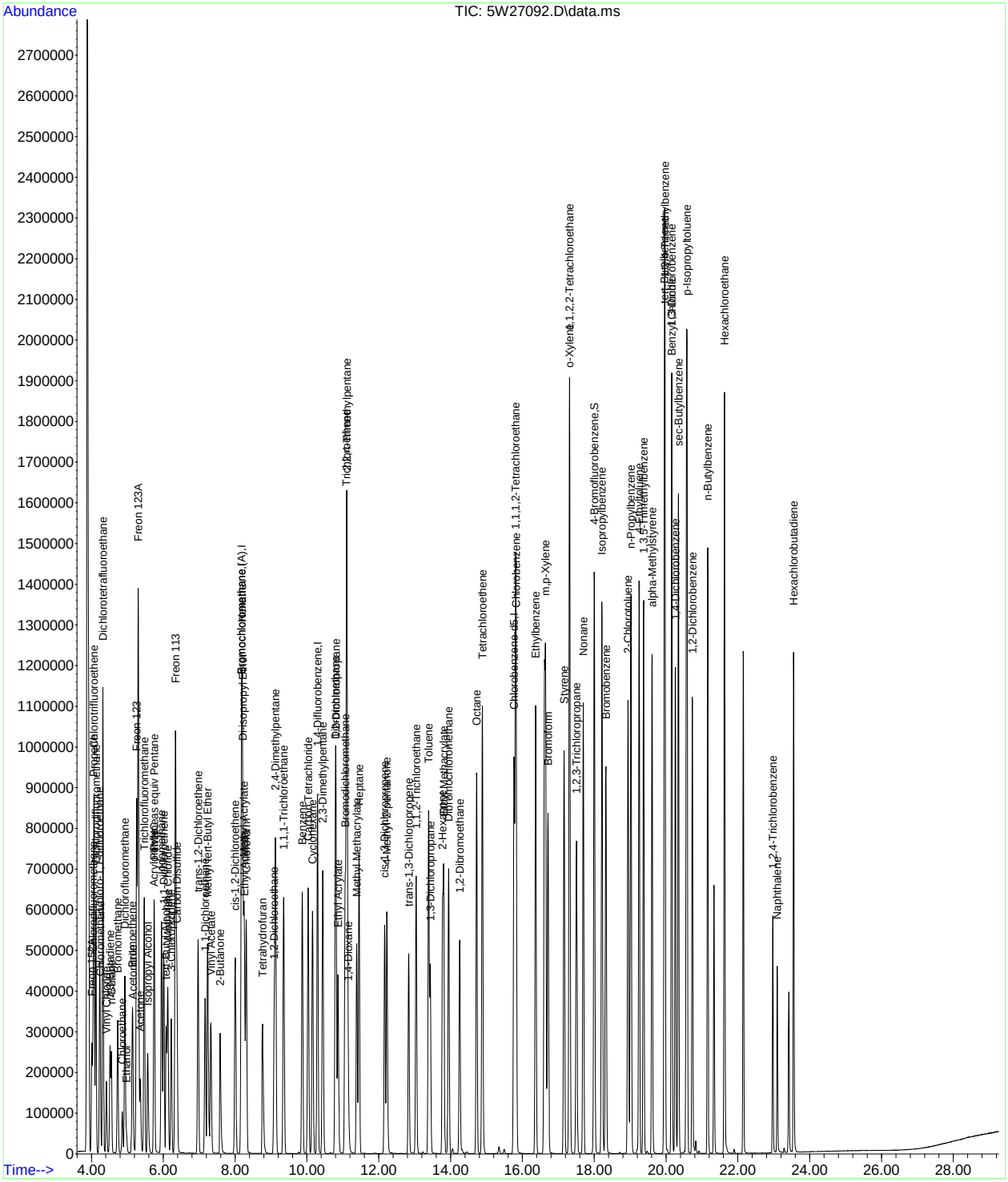
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57)	Trichloroethene	11.099	95	364857	10.01	ppb(v	99
58)	1,2-Dichloropropane	10.812	63	272087	9.87	ppb(v	96
59)	Dibromomethane	10.793	174	359823	9.15	ppb(v	93
60)	Ethyl Acrylate	10.867	55	561337	11.43	ppb(v	100
61)	Methyl Methacrylate	11.387	69	282807	11.18	ppb(v	92
62)	1,4-Dioxane	11.148	88	187712	12.90	ppb(v	95
63)	Bromodichloromethane	11.063	83	547199	9.79	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	453827	10.75	ppb(v	100
65)	4-Methyl-2-pentanone	12.225	58	228315	11.78	ppb(v	97
66)	trans-1,3-Dichloropropene	12.837	75	385409	10.54	ppb(v	99
67)	Toluene	13.387	91	841959	9.39	ppb(v	100
68)	1,1,2-Trichloroethane	13.045	97	309481	9.38	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	396747	9.53	ppb(v	94
70)	2-Hexanone	13.779	58	317013	12.86	ppb(v	92
71)	Ethyl Methacrylate	13.809	69	461951	11.57	ppb(v	99
72)	Dibromochloromethane	13.944	129	540248	9.09	ppb(v	100
73)	Tetrachloroethene	14.886	166	465021	8.54	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	507912	9.44	ppb(v	99
75)	Octane	14.721	43	503745	10.38	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	395174	9.29	ppb(v	99
78)	Chlorobenzene	15.828	112	703794	9.44	ppb(v	100
79)	Ethylbenzene	16.367	91	1138044	10.45	ppb(v	99
80)	m,p-Xylene	16.642	91	1768026	21.20	ppb(v	99
81)	Styrene	17.162	104	740350	11.70	ppb(v	99
82)	Nonane	17.694	43	499306	10.39	ppb(v	97
83)	o-Xylene	17.309	91	898573	10.72	ppb(v	99
84)	Bromoform	16.715	173	591449	10.85	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.315	83	665218	10.37	ppb(v	100
86)	1,2,3-Trichloropropane	17.505	75	493017	10.79	ppb(v	99
87)	Isopropylbenzene	18.214	105	1354025	11.58	ppb(v	99
88)	Bromobenzene	18.324	156	456671	10.75	ppb(v	99
89)	2-Chlorotoluene	18.942	126	342001	10.98	ppb(v	98
90)	n-Propylbenzene	19.022	120	355818	10.84	ppb(v	98
92)	4-Ethyltoluene	19.248	105	1236500	10.67	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	1012803	10.01	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	515366	11.05	ppb(v	99
95)	tert-Butylbenzene	19.958	134	232755	10.06	ppb(v	97
96)	1,2,4-Trimethylbenzene	19.970	105	959245	10.22	ppb(v	98
97)	1,3-Dichlorobenzene	20.160	146	678087	10.69	ppb(v	98
98)	Benzyl Chloride	20.154	91	688154	11.87	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	667182	10.62	ppb(v	99
100)	sec-Butylbenzene	20.349	134	281328	10.48	ppb(v	97
101)	p-Isopropyltoluene	20.582	134	303455	9.51	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	604540	10.10	ppb(v	97
103)	n-Butylbenzene	21.163	134	253817	10.30	ppb(v	98
104)	Hexachloroethane	21.628	201	383323	9.68	ppb(v	96
105)	1,2,4-Trichlorobenzene	22.974	180	207350	11.60	ppb(v	98
106)	Naphthalene	23.096	128	395466	11.62	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	262485	7.64	ppb(v	99
109)	TVHC as equiv Pentane	5.746	TIC	1449168	11.36	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS
578 of 609
ACCUTEST
JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27093.D
Acq On : 7 Oct 2017 9:34 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:00 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	290230	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	977566	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	399671	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	290230	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	670869	11.93	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 119.30%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	678563	11.28	ppb(v#	91
3) Freon 152A	4.009	65	145783	9.39	ppb(v	85
4) Chlorodifluoromethane	4.046	67	57319	10.56	ppb(v	99
5) Propene	4.064	41	147404	9.71	ppb(v	98
6) Chlorotrifluoroethene	4.070	116	400925	10.40	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	631329	10.07	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	403595	9.71	ppb(v	99
9) Chloromethane	4.248	50	187413	9.65	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	613386	9.87	ppb(v	100
11) Vinyl Chloride	4.413	62	209519	9.76	ppb(v	100
12) 1,3-Butadiene	4.517	54	139461	9.60	ppb(v	98
13) n-Butane	4.553	58	30349	10.23	ppb(v	95
14) Bromomethane	4.731	94	256351	8.84	ppb(v	99
15) Chloroethane	4.859	64	100592	9.75	ppb(v	99
16) Dichlorofluoromethane	4.933	67	470497	9.60	ppb(v	99
17) Acetonitrile	5.153	41	121246	10.03	ppb(v	98
18) Freon 123	5.257	83	593855	9.68	ppb(v	100
19) Freon 123A	5.300	117	688358	19.37	ppb(v	97
20) Bromoethene	5.135	106	256155	9.99	ppb(v	99
21) Trichlorofluoromethane	5.471	101	603293	9.81	ppb(v	100
22) Acetone	5.361	58	84829	9.00	ppb(v	97
23) Pentane	5.752	57	56550	9.58	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	501881	9.09	ppb(v	100
25) Iodomethane	5.948	142	790464	9.89	ppb(v	96
26) Isopropyl Alcohol	5.569	43	51360	8.02	ppb(v	98
27) 1,1-Dichloroethene	6.009	61	379021	10.22	ppb(v	96
28) Freon 113	6.340	101	574504	10.10	ppb(v	97
29) Methylene Chloride	6.126	84	230470	8.80	ppb(v	98
30) Carbon Disulfide	6.383	76	774157	10.15	ppb(v	99
31) Ethanol	4.976	45	53630	8.99	ppb(v	98
32) Acrylonitrile	5.740	53	170762	10.46	ppb(v	98
33) 3-Chloropropene	6.224	76	105970	10.42	ppb(v	87
34) trans-1,2-Dichloroethene	6.970	61	347598	10.21	ppb(v	98
35) tert-Butyl Alcohol	6.077	59	463488	9.13	ppb(v	98
36) Methyl tert-Butyl Ether	7.239	73	657512	10.24	ppb(v	99
37) Vinyl Acetate	7.325	43	503519	9.57	ppb(v	98
38) 1,1-Dichloroethane	7.166	63	441553	9.90	ppb(v	99
39) 2-Butanone	7.582	72	120920	10.55	ppb(v	95
40) Hexane	8.187	57	350438	10.15	ppb(v	99
41) cis-1,2-Dichloroethene	8.004	61	324164	9.95	ppb(v	98
42) Di-isopropyl Ether	8.212	87	208531	10.33	ppb(v	97
43) Ethyl Acetate	8.261	61	80568	10.76	ppb(v	93
44) Methyl Acrylate	8.242	55	398547	10.12	ppb(v	99
45) Chloroform	8.310	83	521438	9.40	ppb(v	99
46) 2,4-Dimethylpentane	9.123	57	408542	10.25	ppb(v	99
47) Tetrahydrofuran	8.762	72	113553	10.79	ppb(v	92
48) 1,1,1-Trichloroethane	9.356	97	484885	9.64	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	297030	9.72	ppb(v	98
50) Benzene	9.870	78	730350	9.16	ppb(v	99
51) Carbon Tetrachloride	10.035	117	508568	10.00	ppb(v	99
52) Cyclohexane	10.157	56	338197	9.92	ppb(v	100
53) 2,3-Dimethylpentane	10.439	71	159416	10.11	ppb(v	96

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27093.D
Acq On : 7 Oct 2017 9:34 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:00 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

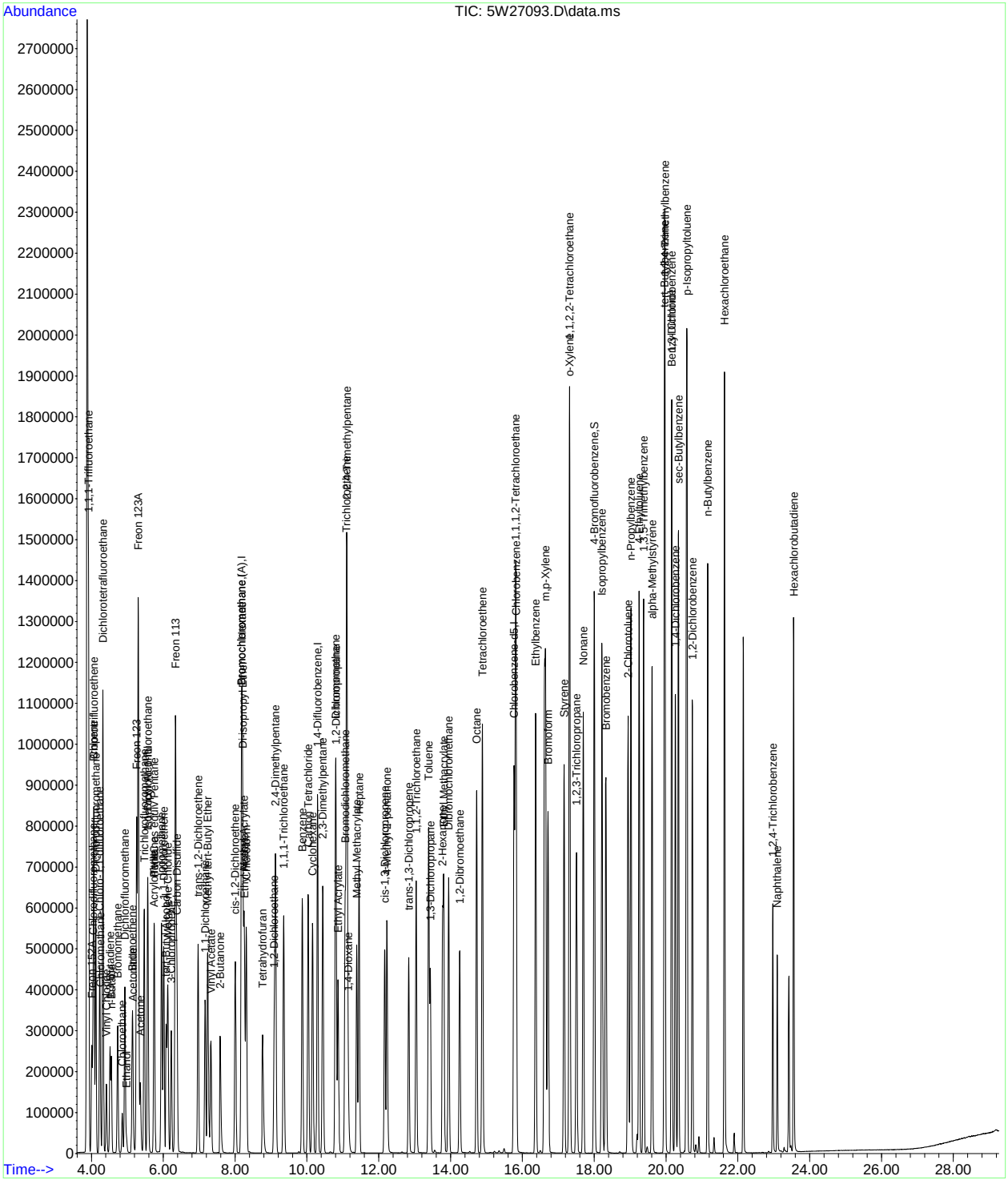
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) 2,2,4-Trimethylpentane	11.112	57	1096349	10.31	ppb(v	97
56) Heptane	11.454	71	236289	10.36	ppb(v	99
57) Trichloroethene	11.099	95	345768	9.45	ppb(v	99
58) 1,2-Dichloropropane	10.812	63	261133	9.44	ppb(v	96
59) Dibromomethane	10.800	174	343885	8.72	ppb(v	97
60) Ethyl Acrylate	10.867	55	538146	10.93	ppb(v	99
61) Methyl Methacrylate	11.387	69	274237	10.81	ppb(v	91
62) 1,4-Dioxane	11.148	88	153244	10.50	ppb(v	97
63) Bromodichloromethane	11.063	83	518774	9.25	ppb(v	99
64) cis-1,3-Dichloropropene	12.170	75	408776	9.66	ppb(v	99
65) 4-Methyl-2-pentanone	12.231	58	220602	11.35	ppb(v	95
66) trans-1,3-Dichloropropene	12.837	75	369656	10.07	ppb(v	99
67) Toluene	13.387	91	799589	8.89	ppb(v	99
68) 1,1,2-Trichloroethane	13.045	97	298327	9.02	ppb(v	97
69) 1,3-Dichloropropane	13.436	76	385248	9.23	ppb(v	94
70) 2-Hexanone	13.779	58	300058	12.14	ppb(v	93
71) Ethyl Methacrylate	13.809	69	439754	10.98	ppb(v	99
72) Dibromochloromethane	13.944	129	515082	8.63	ppb(v	100
73) Tetrachloroethene	14.886	166	447483	8.19	ppb(v	99
74) 1,2-Dibromoethane	14.256	107	481901	8.93	ppb(v	100
75) Octane	14.721	43	480906	9.87	ppb(v	98
76) 1,1,1,2-Tetrachloroethane	15.810	131	385642	9.04	ppb(v	99
78) Chlorobenzene	15.828	112	682303	9.33	ppb(v	99
79) Ethylbenzene	16.367	91	1117398	10.45	ppb(v	100
80) m,p-Xylene	16.642	91	1747699	21.35	ppb(v	99
81) Styrene	17.162	104	702355	11.31	ppb(v	99
82) Nonane	17.694	43	489613	10.38	ppb(v	97
83) o-Xylene	17.309	91	893110	10.86	ppb(v	99
84) Bromoform	16.715	173	586640	10.96	ppb(v	99
85) 1,1,2,2-Tetrachloroethane	17.315	83	655878	10.42	ppb(v	100
86) 1,2,3-Trichloropropane	17.505	75	477429	10.65	ppb(v	98
87) Isopropylbenzene	18.214	105	1239838	10.81	ppb(v	100
88) Bromobenzene	18.324	156	442551	10.61	ppb(v	99
89) 2-Chlorotoluene	18.948	126	330860	10.82	ppb(v	95
90) n-Propylbenzene	19.022	120	348534	10.82	ppb(v	98
92) 4-Ethyltoluene	19.248	105	1192683	10.48	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	995345	10.03	ppb(v	99
94) alpha-Methylstyrene	19.615	118	500481	10.94	ppb(v	99
95) tert-Butylbenzene	19.952	134	228795	10.07	ppb(v	97
96) 1,2,4-Trimethylbenzene	19.970	105	942865	10.23	ppb(v	98
97) 1,3-Dichlorobenzene	20.160	146	647570	10.41	ppb(v	98
98) Benzyl Chloride	20.154	91	663034	11.65	ppb(v	99
99) 1,4-Dichlorobenzene	20.264	146	626180	10.15	ppb(v	99
100) sec-Butylbenzene	20.349	134	265088	10.06	ppb(v	97
101) p-Isopropyltoluene	20.582	134	306655	9.79	ppb(v	97
102) 1,2-Dichlorobenzene	20.735	146	596176	10.15	ppb(v	98
103) n-Butylbenzene	21.163	134	249691	10.32	ppb(v	97
104) Hexachloroethane	21.628	201	386789	9.96	ppb(v	97
105) 1,2,4-Trichlorobenzene	22.974	180	213540	12.17	ppb(v	98
106) Naphthalene	23.096	128	415611	12.44	ppb(v	100
107) Hexachlorobutadiene	23.555	225	281450	8.34	ppb(v	98
109) TVHC as equiv Pentane	5.746	TIC	1315645	10.27	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27093.D
Acq On : 7 Oct 2017 9:34 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20430,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 10:55:00 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27111.D
Acq On : 8 Oct 2017 1:04 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20781,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 09:09:38 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	262149	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	894533	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	405198	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	262149	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	676282	11.87	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 118.70%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.911	69	634564	11.68	ppb(v#	92
3) Freon 152A	4.003	65	130822	9.33	ppb(v	89
4) Chlorodifluoromethane	4.039	67	53314	10.88	ppb(v	99
5) Propene	4.058	41	142318	10.38	ppb(v	99
6) Chlorotrifluoroethene	4.064	116	339327	9.75	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	569899	10.06	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.223	65	391758	10.43	ppb(v	99
9) Chloromethane	4.241	50	192921	11.00	ppb(v	99
10) Dichlorotetrafluoroethane	4.315	85	602736	10.74	ppb(v	95
11) Vinyl Chloride	4.413	62	224674	11.59	ppb(v	100
12) 1,3-Butadiene	4.511	54	148636	11.33	ppb(v	97
13) n-Butane	4.547	58	31998	11.94	ppb(v	95
14) Bromomethane	4.725	94	252029	9.62	ppb(v	99
15) Chloroethane	4.853	64	103739	11.13	ppb(v	99
16) Dichlorofluoromethane	4.927	67	472969	10.69	ppb(v	100
17) Acetonitrile	5.147	41	128587	11.77	ppb(v	99
18) Freon 123	5.251	83	593471	10.71	ppb(v	99
19) Freon 123A	5.300	117	667171	20.79	ppb(v	97
20) Bromoethene	5.135	106	245278	10.59	ppb(v	99
21) Trichlorofluoromethane	5.465	101	591841	10.65	ppb(v	100
22) Acetone	5.355	58	85968	10.09	ppb(v	98
23) Pentane	5.746	57	51321	9.62	ppb(v	92
24) 1,1-Dichloro-1-fluoroe...	5.563	81	483227	9.69	ppb(v	98
25) Iodomethane	5.948	142	659513	9.14	ppb(v	98
26) Isopropyl Alcohol	5.563	43	61284	10.59	ppb(v	86
27) 1,1-Dichloroethene	6.009	61	344259	10.27	ppb(v	98
28) Freon 113	6.340	101	511562	9.95	ppb(v	96
29) Methylene Chloride	6.119	84	204825	8.66	ppb(v	96
30) Carbon Disulfide	6.376	76	703677	10.21	ppb(v	100
31) Ethanol	4.969	45	55001	10.20	ppb(v	98
32) Acrylonitrile	5.740	53	157423	10.67	ppb(v	98
33) 3-Chloropropene	6.217	76	92171	10.03	ppb(v	92
34) trans-1,2-Dichloroethene	6.964	61	313658	10.20	ppb(v	99
35) tert-Butyl Alcohol	6.071	59	407957	8.90	ppb(v	98
36) Methyl tert-Butyl Ether	7.233	73	574719	9.91	ppb(v	98
37) Vinyl Acetate	7.319	43	458730	9.65	ppb(v	99
38) 1,1-Dichloroethane	7.166	63	406941	10.10	ppb(v	99
39) 2-Butanone	7.582	72	107517	10.38	ppb(v	95
40) Hexane	8.181	57	326868	10.48	ppb(v	96
41) cis-1,2-Dichloroethene	8.004	61	298360	10.13	ppb(v	99
42) Di-isopropyl Ether	8.206	87	185432	10.17	ppb(v	88
43) Ethyl Acetate	8.255	61	74199	10.97	ppb(v	97
44) Methyl Acrylate	8.242	55	373813	10.51	ppb(v	98
45) Chloroform	8.310	83	488251	9.74	ppb(v	99
46) 2,4-Dimethylpentane	9.123	57	378016	10.50	ppb(v	97
47) Tetrahydrofuran	8.762	72	101225	10.65	ppb(v	99
48) 1,1,1-Trichloroethane	9.350	97	439426	9.67	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	278343	10.09	ppb(v	98
50) Benzene	9.870	78	689148	9.57	ppb(v	99
51) Carbon Tetrachloride	10.035	117	462837	10.08	ppb(v	100
52) Cyclohexane	10.157	56	312329	10.14	ppb(v	98
53) 2,3-Dimethylpentane	10.439	71	146450	10.28	ppb(v	100

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27111.D
Acq On : 8 Oct 2017 1:04 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20781,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 09:09:38 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.112	57	1057315	10.86	ppb(v	98
56)	Heptane	11.454	71	220194	10.55	ppb(v	96
57)	Trichloroethene	11.099	95	327879	9.79	ppb(v	97
58)	1,2-Dichloropropane	10.812	63	258717	10.22	ppb(v	96
59)	Dibromomethane	10.793	174	311241	8.62	ppb(v	89
60)	Ethyl Acrylate	10.867	55	499025	11.07	ppb(v	99
61)	Methyl Methacrylate	11.387	69	247660	10.66	ppb(v	95
62)	1,4-Dioxane	11.148	88	136444	10.21	ppb(v	96
63)	Bromodichloromethane	11.063	83	501871	9.78	ppb(v	98
64)	cis-1,3-Dichloropropene	12.164	75	383603	9.90	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	203905	11.46	ppb(v	98
66)	trans-1,3-Dichloropropene	12.837	75	339452	10.11	ppb(v	99
67)	Toluene	13.387	91	776937	9.44	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	287200	9.48	ppb(v	96
69)	1,3-Dichloropropane	13.436	76	374550	9.80	ppb(v	96
70)	2-Hexanone	13.779	58	276102	12.20	ppb(v	95
71)	Ethyl Methacrylate	13.809	69	406096	11.08	ppb(v	97
72)	Dibromochloromethane	13.944	129	493795	9.05	ppb(v	99
73)	Tetrachloroethene	14.886	166	429036	8.59	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	456467	9.25	ppb(v	99
75)	Octane	14.727	43	470607	10.56	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.810	131	367978	9.42	ppb(v	98
78)	Chlorobenzene	15.828	112	650300	8.77	ppb(v	98
79)	Ethylbenzene	16.373	91	1043544	9.63	ppb(v	100
80)	m,p-Xylene	16.642	91	1630576	19.65	ppb(v	99
81)	Styrene	17.162	104	632848	10.05	ppb(v	99
82)	Nonane	17.694	43	474889	9.93	ppb(v	99
83)	o-Xylene	17.315	91	839841	10.07	ppb(v	99
84)	Bromoform	16.715	173	535435	9.87	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.321	83	631015	9.88	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	448653	9.87	ppb(v	98
87)	Isopropylbenzene	18.220	105	1152307	9.91	ppb(v	100
88)	Bromobenzene	18.324	156	404841	9.58	ppb(v	95
89)	2-Chlorotoluene	18.948	126	304166	9.81	ppb(v	98
90)	n-Propylbenzene	19.022	120	324847	9.94	ppb(v	93
92)	4-Ethyltoluene	19.248	105	1099188	9.53	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	937157	9.31	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	459296	9.90	ppb(v	98
95)	tert-Butylbenzene	19.958	134	214366	9.31	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	894965	9.58	ppb(v	96
97)	1,3-Dichlorobenzene	20.160	146	594618	9.42	ppb(v	99
98)	Benzyl Chloride	20.153	91	619784	10.74	ppb(v	100
99)	1,4-Dichlorobenzene	20.264	146	570789	9.13	ppb(v	99
100)	sec-Butylbenzene	20.349	134	246172	9.21	ppb(v	96
101)	p-Isopropyltoluene	20.582	134	283377	8.92	ppb(v	99
102)	1,2-Dichlorobenzene	20.735	146	551462	9.26	ppb(v	98
103)	n-Butylbenzene	21.163	134	230048	9.38	ppb(v	95
104)	Hexachloroethane	21.628	201	350432	8.90	ppb(v	93
105)	1,2,4-Trichlorobenzene	22.974	180	186893	10.51	ppb(v	99
106)	Naphthalene	23.096	128	353652	10.44	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	255939	7.48	ppb(v	99
109)	TVHC as equiv Pentane	5.746	TIC	1249305	10.80	ppb(v	100

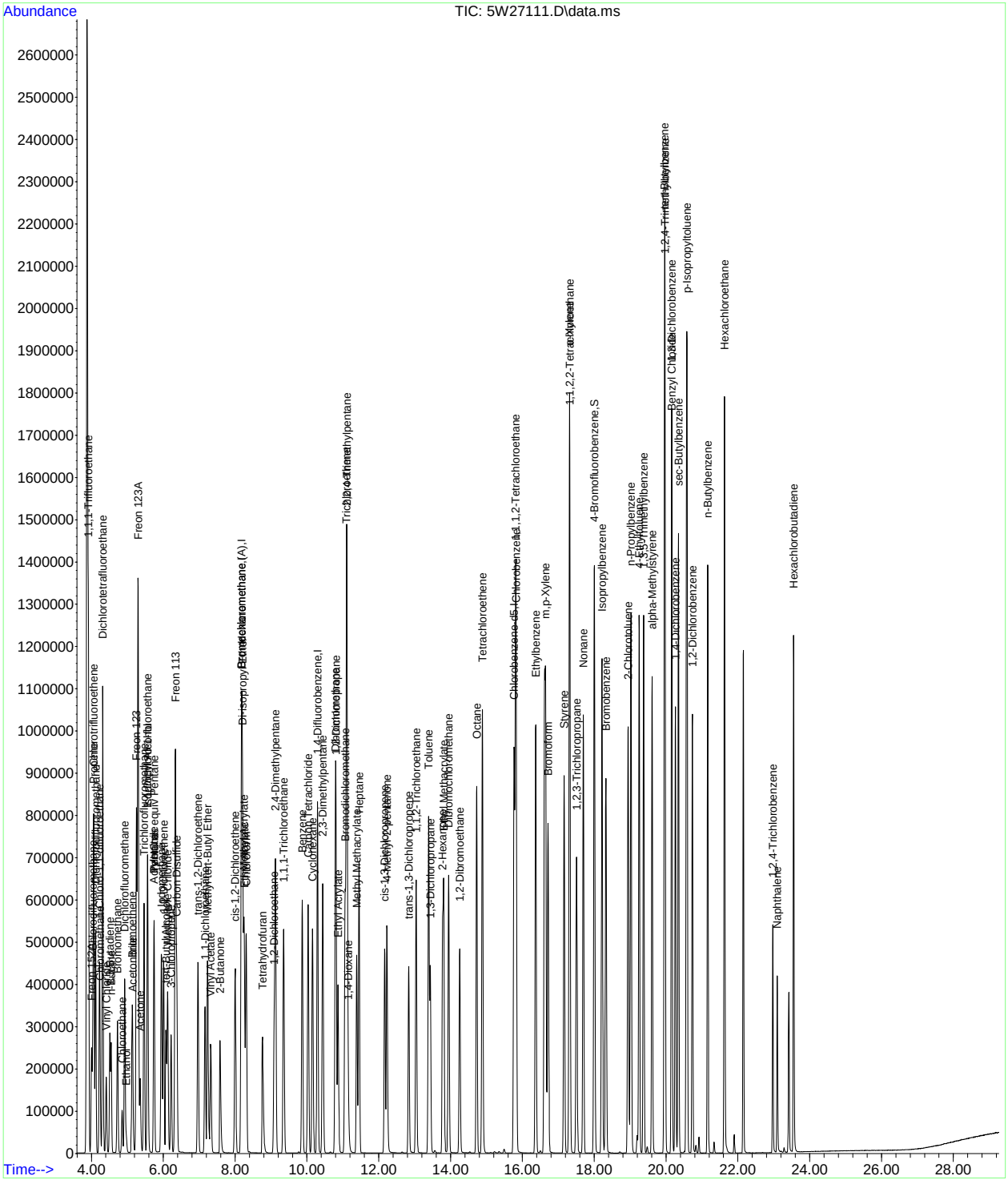
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27111.D
Acq On : 8 Oct 2017 1:04 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20781,v5w1066,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 09:09:38 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27112.D
Acq On : 8 Oct 2017 9:31 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:54:11 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.138	130	262891	10.00	ppb(v	-0.04
54) 1,4-Difluorobenzene	10.267	114	902474	10.00	ppb(v	-0.02
77) Chlorobenzene-d5	15.761	82	389207	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.138	130	262891	10.00	ppb(v	-0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	645170	11.79	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 117.90%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.862	69	607670	11.15	ppb(v#	92
3) Freon 152A	3.948	65	129029	9.17	ppb(v	87
4) Chlorodifluoromethane	3.984	67	51415	10.46	ppb(v	97
5) Propene	4.009	41	135088	9.82	ppb(v	99
6) Chlorotrifluoroethene	4.015	116	348923	9.99	ppb(v	99
7) Dichlorodifluoromethane	4.064	85	557820	9.82	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.174	65	361264	9.59	ppb(v	99
9) Chloromethane	4.192	50	163538	9.30	ppb(v	98
10) Dichlorotetrafluoroethane	4.260	85	534194	9.49	ppb(v	98
11) Vinyl Chloride	4.358	62	193019	9.93	ppb(v	99
12) 1,3-Butadiene	4.456	54	129876	9.87	ppb(v	98
13) n-Butane	4.492	58	27871	10.37	ppb(v	98
14) Bromomethane	4.670	94	235675	8.97	ppb(v	100
15) Chloroethane	4.798	64	94773	10.14	ppb(v	99
16) Dichlorofluoromethane	4.878	67	438169	9.87	ppb(v	100
17) Acetonitrile	5.098	41	117459	10.72	ppb(v	100
18) Freon 123	5.202	83	554283	9.97	ppb(v	99
19) Freon 123A	5.245	117	633076	19.67	ppb(v	97
20) Bromoethene	5.080	106	237051	10.21	ppb(v	99
21) Trichlorofluoromethane	5.416	101	557484	10.01	ppb(v	100
22) Acetone	5.306	58	80140	9.38	ppb(v	96
23) Pentane	5.697	57	50167	9.38	ppb(v	92
24) 1,1-Dichloro-1-fluoroe...	5.514	81	477928	9.55	ppb(v	98
25) Iodomethane	5.899	142	681564	9.41	ppb(v	96
26) Isopropyl Alcohol	5.514	43	55281	9.53	ppb(v	98
27) 1,1-Dichloroethene	5.960	61	337869	10.06	ppb(v	98
28) Freon 113	6.291	101	502976	9.76	ppb(v	97
29) Methylene Chloride	6.077	84	203387	8.57	ppb(v	99
30) Carbon Disulfide	6.334	76	691483	10.01	ppb(v	100
31) Ethanol	4.920	45	50897	9.41	ppb(v	96
32) Acrylonitrile	5.691	53	154483	10.44	ppb(v	97
33) 3-Chloropropene	6.175	76	93587	10.16	ppb(v	92
34) trans-1,2-Dichloroethene	6.927	61	311062	10.09	ppb(v	99
35) tert-Butyl Alcohol	6.028	59	407771	8.87	ppb(v	98
36) Methyl tert-Butyl Ether	7.196	73	571675	9.83	ppb(v	99
37) Vinyl Acetate	7.282	43	458358	9.62	ppb(v	99
38) 1,1-Dichloroethane	7.123	63	395036	9.77	ppb(v	99
39) 2-Butanone	7.545	72	106607	10.26	ppb(v	99
40) Hexane	8.151	57	311972	9.97	ppb(v	96
41) cis-1,2-Dichloroethene	7.967	61	292816	9.92	ppb(v	99
42) Di-isopropyl Ether	8.175	87	183008	10.00	ppb(v	89
43) Ethyl Acetate	8.224	61	71337	10.52	ppb(v	99
44) Methyl Acrylate	8.212	55	361039	10.12	ppb(v	99
45) Chloroform	8.273	83	476187	9.48	ppb(v	98
46) 2,4-Dimethylpentane	9.093	57	367824	10.19	ppb(v	98
47) Tetrahydrofuran	8.732	72	99838	10.47	ppb(v	98
48) 1,1,1-Trichloroethane	9.325	97	436614	9.58	ppb(v	100
49) 1,2-Dichloroethane	9.056	62	273418	9.88	ppb(v	99
50) Benzene	9.845	78	677119	9.38	ppb(v	99
51) Carbon Tetrachloride	10.010	117	459102	9.97	ppb(v	99
52) Cyclohexane	10.133	56	307436	9.96	ppb(v	98
53) 2,3-Dimethylpentane	10.420	71	143115	10.02	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27112.D
Acq On : 8 Oct 2017 9:31 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:54:11 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) 2,2,4-Trimethylpentane	11.093	57	1001333	10.20	ppb(v	98
56) Heptane	11.436	71	216040	10.26	ppb(v	98
57) Trichloroethene	11.081	95	320262	9.48	ppb(v	97
58) 1,2-Dichloropropane	10.793	63	252213	9.87	ppb(v	96
59) Dibromomethane	10.775	174	313640	8.61	ppb(v	92
60) Ethyl Acrylate	10.849	55	483190	10.63	ppb(v	100
61) Methyl Methacrylate	11.369	69	239448	10.22	ppb(v	94
62) 1,4-Dioxane	11.130	88	133369	9.89	ppb(v	95
63) Bromodichloromethane	11.038	83	497218	9.61	ppb(v	99
64) cis-1,3-Dichloropropene	12.152	75	383905	9.82	ppb(v	99
65) 4-Methyl-2-pentanone	12.213	58	198002	11.03	ppb(v	98
66) trans-1,3-Dichloropropene	12.825	75	333630	9.85	ppb(v	100
67) Toluene	13.375	91	788673	9.50	ppb(v	99
68) 1,1,2-Trichloroethane	13.033	97	287248	9.40	ppb(v	97
69) 1,3-Dichloropropane	13.424	76	371925	9.65	ppb(v	96
70) 2-Hexanone	13.767	58	268915	11.78	ppb(v	94
71) Ethyl Methacrylate	13.803	69	391557	10.59	ppb(v	98
72) Dibromochloromethane	13.932	129	497211	9.03	ppb(v	100
73) Tetrachloroethene	14.880	166	433887	8.61	ppb(v	99
74) 1,2-Dibromoethane	14.244	107	453627	9.11	ppb(v	100
75) Octane	14.715	43	454865	10.12	ppb(v	99
76) 1,1,1,2-Tetrachloroethane	15.804	131	356273	9.04	ppb(v	98
78) Chlorobenzene	15.822	112	629213	8.83	ppb(v	98
79) Ethylbenzene	16.367	91	998111	9.59	ppb(v	99
80) m,p-Xylene	16.636	91	1548788	19.43	ppb(v	99
81) Styrene	17.156	104	609866	10.08	ppb(v	99
82) Nonane	17.688	43	454169	9.89	ppb(v	99
83) o-Xylene	17.309	91	787718	9.83	ppb(v	99
84) Bromoform	16.709	173	502552	9.64	ppb(v	100
85) 1,1,2,2-Tetrachloroethane	17.315	83	598357	9.76	ppb(v	100
86) 1,2,3-Trichloropropane	17.505	75	431443	9.88	ppb(v	98
87) Isopropylbenzene	18.214	105	1094742	9.80	ppb(v	99
88) Bromobenzene	18.318	156	382389	9.42	ppb(v	96
89) 2-Chlorotoluene	18.942	126	288063	9.67	ppb(v	98
90) n-Propylbenzene	19.022	120	310300	9.89	ppb(v	98
92) 4-Ethyltoluene	19.248	105	1052665	9.50	ppb(v	100
93) 1,3,5-Trimethylbenzene	19.371	105	882462	9.13	ppb(v	100
94) alpha-Methylstyrene	19.609	118	443782	9.96	ppb(v	100
95) tert-Butylbenzene	19.952	134	205853	9.31	ppb(v	97
96) 1,2,4-Trimethylbenzene	19.970	105	854971	9.53	ppb(v	97
97) 1,3-Dichlorobenzene	20.160	146	573010	9.45	ppb(v	99
98) Benzyl Chloride	20.154	91	602501	10.87	ppb(v	99
99) 1,4-Dichlorobenzene	20.258	146	550017	9.16	ppb(v	98
100) sec-Butylbenzene	20.349	134	238817	9.30	ppb(v	95
101) p-Isopropyltoluene	20.582	134	273178	8.96	ppb(v	98
102) 1,2-Dichlorobenzene	20.729	146	527752	9.22	ppb(v	99
103) n-Butylbenzene	21.163	134	220543	9.36	ppb(v	95
104) Hexachloroethane	21.628	201	331675	8.77	ppb(v	94
105) 1,2,4-Trichlorobenzene	22.974	180	196999	11.53	ppb(v	98
106) Naphthalene	23.096	128	396321	12.18	ppb(v	100
107) Hexachlorobutadiene	23.549	225	248127	7.55	ppb(v	98
109) TVHC as equiv Pentane	5.697	TIC	1201356	10.35	ppb(v	100

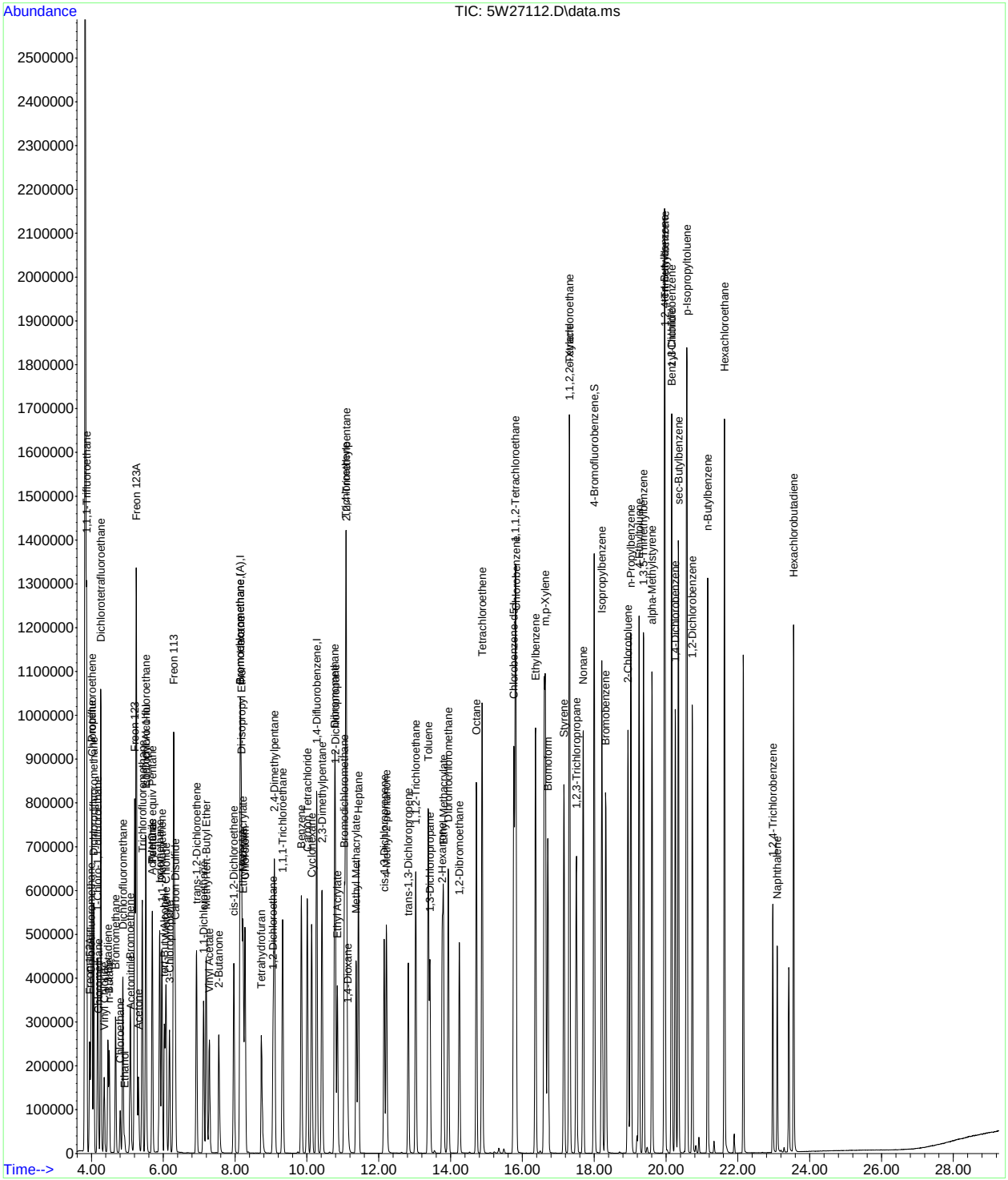
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52053

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27112.D
Acq On : 8 Oct 2017 9:31 am
Operator : [redacted]
Sample : cc1065-10
Misc : MS20781,v5w1067,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 13:54:11 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27133.D
Acq On : 9 Oct 2017 3:55 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1067,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 09 08:20:59 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	281718	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	957809	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	445500	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	281718	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	703499	11.23	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 112.30%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	732653	12.55	ppb(v#	91
3) Freon 152A	4.009	65	147946	9.82	ppb(v	89
4) Chlorodifluoromethane	4.046	67	60267	11.44	ppb(v	91
5) Propene	4.064	41	161086	10.93	ppb(v	99
6) Chlorotrifluoroethene	4.070	116	388569	10.38	ppb(v	99
7) Dichlorodifluoromethane	4.125	85	650387	10.69	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	440654	10.92	ppb(v	99
9) Chloromethane	4.248	50	215274	11.42	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	677568	11.23	ppb(v	94
11) Vinyl Chloride	4.413	62	253448	12.16	ppb(v	99
12) 1,3-Butadiene	4.517	54	167141	11.86	ppb(v	97
13) n-Butane	4.553	58	35643	12.38	ppb(v	95
14) Bromomethane	4.731	94	282450	10.04	ppb(v	99
15) Chloroethane	4.859	64	116633	11.64	ppb(v	99
16) Dichlorofluoromethane	4.933	67	523360	11.01	ppb(v	99
17) Acetonitrile	5.153	41	145711	12.41	ppb(v	99
18) Freon 123	5.257	83	667917	11.21	ppb(v	100
19) Freon 123A	5.300	117	739490	21.44	ppb(v	93
20) Bromoethene	5.141	106	278907	11.21	ppb(v	99
21) Trichlorofluoromethane	5.471	101	651194	10.91	ppb(v	100
22) Acetone	5.361	58	96873	10.58	ppb(v	99
23) Pentane	5.753	57	57117	9.96	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	547751	10.22	ppb(v	98
25) Iodomethane	5.948	142	739494	9.53	ppb(v	98
26) Isopropyl Alcohol	5.563	43	61957	9.97	ppb(v	99
27) 1,1-Dichloroethene	6.009	61	384997	10.69	ppb(v	100
28) Freon 113	6.340	101	561019	10.16	ppb(v	96
29) Methylene Chloride	6.126	84	224978	8.85	ppb(v	97
30) Carbon Disulfide	6.383	76	769303	10.39	ppb(v	99
31) Ethanol	4.976	45	63445	10.95	ppb(v	98
32) Acrylonitrile	5.740	53	173239	10.93	ppb(v	98
33) 3-Chloropropene	6.224	76	102712	10.40	ppb(v	93
34) trans-1,2-Dichloroethene	6.970	61	345335	10.45	ppb(v	99
35) tert-Butyl Alcohol	6.077	59	458146	9.30	ppb(v	98
36) Methyl tert-Butyl Ether	7.239	73	638141	10.24	ppb(v	98
37) Vinyl Acetate	7.325	43	520899	10.20	ppb(v	99
38) 1,1-Dichloroethane	7.166	63	447140	10.32	ppb(v	100
39) 2-Butanone	7.582	72	119517	10.74	ppb(v	94
40) Hexane	8.187	57	364789	10.88	ppb(v	96
41) cis-1,2-Dichloroethene	8.004	61	328832	10.39	ppb(v	100
42) Di-isopropyl Ether	8.212	87	205262	10.47	ppb(v	86
43) Ethyl Acetate	8.261	61	82906	11.41	ppb(v	99
44) Methyl Acrylate	8.242	55	417282	10.92	ppb(v	98
45) Chloroform	8.310	83	538286	10.00	ppb(v	99
46) 2,4-Dimethylpentane	9.123	57	421057	10.89	ppb(v	98
47) Tetrahydrofuran	8.762	72	112040	10.97	ppb(v	99
48) 1,1,1-Trichloroethane	9.356	97	485106	9.93	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	312908	10.55	ppb(v	99
50) Benzene	9.870	78	762596	9.85	ppb(v	99
51) Carbon Tetrachloride	10.035	117	493845	10.00	ppb(v	100
52) Cyclohexane	10.157	56	347382	10.50	ppb(v	96
53) 2,3-Dimethylpentane	10.439	71	163710	10.70	ppb(v	100

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27133.D
Acq On : 9 Oct 2017 3:55 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1067,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 09 08:20:59 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

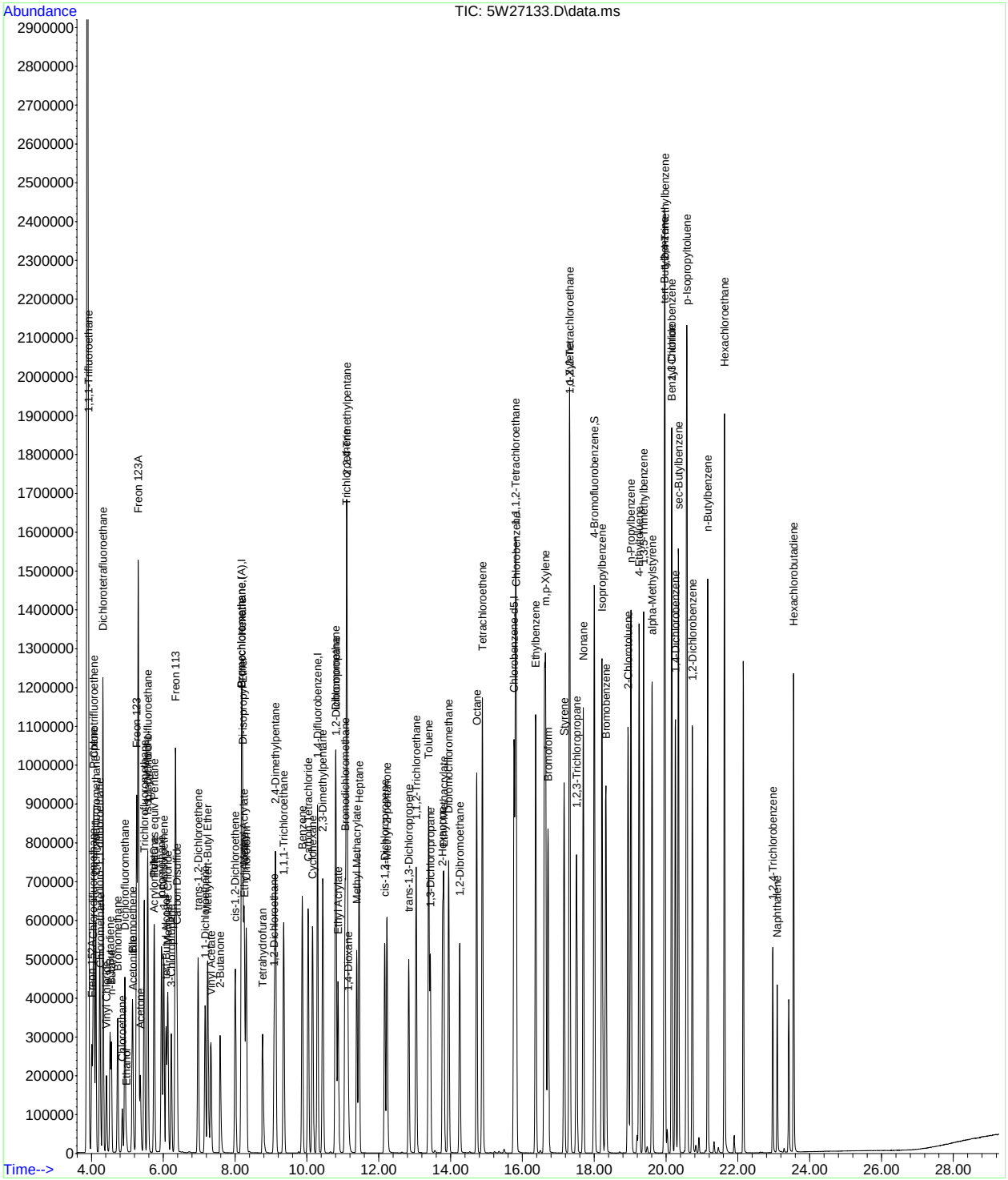
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.112	57	1166548	11.19	ppb(v	98
56)	Heptane	11.454	71	246400	11.03	ppb(v	96
57)	Trichloroethene	11.099	95	382472	10.67	ppb(v	94
58)	1,2-Dichloropropane	10.812	63	289772	10.69	ppb(v	95
59)	Dibromomethane	10.800	174	333805	8.64	ppb(v	88
60)	Ethyl Acrylate	10.867	55	555195	11.51	ppb(v	99
61)	Methyl Methacrylate	11.387	69	276444	11.12	ppb(v	96
62)	1,4-Dioxane	11.148	88	149556	10.45	ppb(v	97
63)	Bromodichloromethane	11.063	83	562691	10.25	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	431053	10.39	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	229861	12.07	ppb(v	96
66)	trans-1,3-Dichloropropene	12.837	75	380440	10.58	ppb(v	99
67)	Toluene	13.387	91	878801	9.97	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	320689	9.89	ppb(v	96
69)	1,3-Dichloropropane	13.436	76	425623	10.40	ppb(v	97
70)	2-Hexanone	13.779	58	309561	12.78	ppb(v	97
71)	Ethyl Methacrylate	13.816	69	453633	11.56	ppb(v	97
72)	Dibromochloromethane	13.944	129	558473	9.56	ppb(v	99
73)	Tetrachloroethene	14.886	166	468504	8.76	ppb(v	98
74)	1,2-Dibromoethane	14.256	107	512582	9.70	ppb(v	100
75)	Octane	14.727	43	533220	11.17	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	408626	9.77	ppb(v	98
78)	Chlorobenzene	15.828	112	723548	8.87	ppb(v	98
79)	Ethylbenzene	16.367	91	1149302	9.64	ppb(v	100
80)	m,p-Xylene	16.642	91	1786359	19.58	ppb(v	99
81)	Styrene	17.162	104	673730	9.73	ppb(v	99
82)	Nonane	17.694	43	537799	10.23	ppb(v	99
83)	o-Xylene	17.309	91	924634	10.08	ppb(v	99
84)	Bromoform	16.715	173	576891	9.67	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.321	83	692340	9.86	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	490865	9.82	ppb(v	98
87)	Isopropylbenzene	18.220	105	1238774	9.69	ppb(v	99
88)	Bromobenzene	18.324	156	422026	9.08	ppb(v	92
89)	2-Chlorotoluene	18.948	126	319513	9.37	ppb(v	99
90)	n-Propylbenzene	19.022	120	345487	9.62	ppb(v	94
92)	4-Ethyltoluene	19.248	105	1180784	9.31	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	999677	9.03	ppb(v	100
94)	alpha-Methylstyrene	19.615	118	488708	9.58	ppb(v	99
95)	tert-Butylbenzene	19.958	134	228318	9.02	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	967789	9.42	ppb(v	98
97)	1,3-Dichlorobenzene	20.160	146	620982	8.95	ppb(v	99
98)	Benzyl Chloride	20.154	91	670816	10.57	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	588804	8.57	ppb(v	99
100)	sec-Butylbenzene	20.349	134	256833	8.74	ppb(v	91
101)	p-Isopropyltoluene	20.582	134	302293	8.66	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	568945	8.69	ppb(v	99
103)	n-Butylbenzene	21.163	134	238186	8.83	ppb(v	92
104)	Hexachloroethane	21.628	201	359690	8.31	ppb(v	88
105)	1,2,4-Trichlorobenzene	22.974	180	182189	9.32	ppb(v	97
106)	Naphthalene	23.096	128	357860	9.61	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	245149	6.52	ppb(v	99
109)	TVHC as equiv Pentane	5.753	TIC	1369033	11.01	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27133.D
Acq On : 9 Oct 2017 3:55 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1067,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 09 08:20:59 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS

TO-14/TO-15

Batch ID: m V3W2293

Date: 6/21/17

Analyst Signature: [redacted]

Columns: RTX-1 - 60m x 0.32mm x 1.0µm

Method: TO15 3W.m

Seq. File: 3W20170621

Initial Cal. Method: M3W2293.m

AS Data

Method: TO15.MPT

Standard Data

Lot #	Description	Conc.
AS7636	Int Std/Surr	100 ppbv

Standard Data

Lot #	Description	Conc.
AS7688	TO15 Std (A967) exp 7/14/17	40 ppbv
AS7689	TO15 Std (A971) exp 5/14/17	2.0 ppbv
AS7690	TO15 Std (A970) exp 5/14/17	0.4 ppbv
AS7687	TO15 LCS (A978) exp 5/14/17	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 6/22/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	3W60361	BFB		A970	40					OK	time RTS
1	3W60362	IC2293-0.04		A970	40			✓	✓	OK	
2	3W60363	IC2293-0.1		A971	~~80~~ 40 6/21/17			✓	✓	OK	
2	3W60364	IC2293-0.2		A971	80			✓	✓	OK	
2	3W60365	IC2293-0.5		A971	200			✓	✓	OK	
3	3W60366	IC2293-5		A967	50			✓	✓	OK	
3	3W60367	IC2293-10		A967	100			✓	✓	OK	
3	3W60368	IC2293-20		A967	200			✓	✓	PR	MeCl2+
4	3W60369	IB		A963	100						
3	3W60370	IC2293-40		A967	400			✓	✓	OK	
4	3W60371	IB		A963	100						
3	3W60372	~~IB~~ IC2293-20 06/21/17		A967	200			✓	✓	OK	
4	3W60373	~~ICV2293-10~~ IB 06/21/17		A963	100						
5	3W60374	~~IB~~ ICV2293-40 06/21/17		A978	100			✓	✓	OK	

[redacted]

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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7.8.1

7

SGS

TO-14/TO-15

Batch ID: V3W2298

Date: 6/27/17

Analyst Signature: [redacted]

Columns: RTX-1 60m x .32mm x 1.0um

Method: TO15 3W. M

Seq. File: 3W20170627. S

Initial Cal. Method: M3W2293

AS Data

Method: TO15 MPT

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
AS7630	int/surr	100 ppbv
AS7688	TO15 STD. (A961)	40 ppbv
AS7689	TO15 LCS (A978)	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 6/27/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	3W60485	BFB		6PSIA.m	400					OK	
2	3W60486	CC2293-10		A967	100			✓	✓	RR	c/o IPA ↑
2	3W60487	CC2293-10		A967	100			✓	✓	OK	
3	3W60488	BS		A978	100			✓	✓	RR	c/o IPA↑
3	3W60489	BSD TH 6/27/17		A978	100			✓	✓	OK	vinyl acetate ↑
3	3W60490	BSD		A978	100			✓	✓	OK	vinyl acetate ↑
5	3W60491	IB		A963	400			✓	✓	—	
5	3W60492	MB		A963	400			✓	✓	RR	1,4-Dioxane l↑
4	3W60493	MB		A959	400			✓	✓	RR	1,4-Dioxane l↑
4	3W60494	MB		A962	400			✓	✓	OK	
5	3W60495	SCC CP9235		A533	400			✓	✓	OK	
6	3W60496	JC45555-1	STD MS17329	A876, M458	100	60		✓	✓	OK	
7	3W60497	JC45565-2	STD MS16797	A1030	10	1		✓	✓	RR	does not match
8	3W60498	JC44473-1	STD MS16797	A279	400	1		✓	✓	OK	
8	3W60499	JC44473-1DUP	✓	A279	400	1		✓	✓	OK	
9	3W60500	JC44824-1	STD MS16930	A762	100	1		✓	✓	OK/RL	over cal RR-2nd run
10	3W60501	SCC CP9233		M854	400			✓	✓	OK	
11	3W60502	JC45112-1	STD MS17008	M815	680	1.70		✓	✓	OK	
12	3W60503	JC45112-2	✓	A850	620	1.55		✓	✓	OK/DL	over cal RR-2nd run
13	3W60504	JC45112-3	✓	A1053	640	1.60		✓	✓	OK	
14	3W60505	JC45112-4	✓	A985	660	1.65		✓	✓	OK	
15	3W60506	JC44773-1	STD MS16930	A640	592	1.48		✓	✓	OK	
16	3W60507	JC44773-2	✓	A211	400	1		✓	✓	OK	
1	3W60508	SCC CP9220		A556	400			✓	✓	RR	carry over
2	3W60509	JC44920-1	STD MS17009	A841	400	1		✓	✓	OK	
3	3W60510	JC44920-2	✓	A630	400	1		✓	✓	OK	
4	3W60511	JC44920-3	✓	A024	400	1		✓	✓	OK	
5	3W60512	JC44920-4	✓	A071	400	1		✓	✓	RR	Trip blank possible carry over
6	3W60513	SCC CP9236		A236	400			✓	✓	OK	
										FH 6/28/17	

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

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Form: AT008-05
Rev. Date: 10/20/09

7.8.2

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SGS ACCUTEST JC52053

Canister Secondary Dilution Log

SGS

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						Final Canister Dilution
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Factor
6/27/17	TH	K45555-1	A876	3.0	1.2	1.20	M458	1000	40	14.7	2000	50	60

Definition: Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example: Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

Form: AT003-04

Rev. Date: 04/15/13

SGS

TO-14/TO-15

Batch ID: V3W2299

Date: 6/28/17

Analyst Signature: [redacted]

Columns: MX-1 60m x 0.32 mm x 1.0 mm
Method: TO15 3W. M
Seq. File: 3W20170628.S
Initial Cal. Method: M3W2293

AS Data

Method: TO15.MPT

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
AS7700	Int / surr.	100 ppbv
AS7688	TO15 STD. (A967)	40 ppbv
AS7687	TO15 LCS (A978)	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 6/29/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	3W60514	BFB		open Position	400					OK	
2	3W60515	CC2293-10		A967	100			✓	✓	RR	1-4 Dioxane ↓
2	3W60516	CC2293-10		A967	100			✓	✓	OK	
3	3W60517	BS		A972	100			✓	✓	OK	
3	3W60518	BSD		A978	100			✓	✓	OK	vinyl acetate ↑
4	3W60519	IB		A958	400			✓	✓	—	
4	3W60520	MB		A958	400			✓	✓	RR	1,4-Dioxane ↑
TH 6/28/17 ~~5~~ 4	3W60521	~~SCC CP9238~~ MB TH 6/28/17		~~A307~~ A958 TH 6/28/17	400			✓	✓	OK	
~~6~~ 5	3W60522	SCC CP~~9220~~ 9230		~~A556~~ A309	400			✓	✓	OK	
6	3W60523	SCC CP9220		A556	400			✓	✓	OK	
7	3W60524	JC44920-4	STD MS17009	A071	400	1		✓	✓		
8	3W60525	JC44585-2	STD MS16797	A1030, A603	400	60		✓	✓	OK/DL	
9	3W60526	JC45112-2	STD MS17008	A850	200	1.55		✓	✓	OK/DL	
10	3W60527	JC44824-1	STD MS16930	A262	20	1		✓	✓	OK/DL	
11	3W60528	JC45033-1	STD MS17009	A1046	400	1		✓	✓	OK/DL	overcal RR 20 mL
11	3W60529	JC45033-1DUP	✓	A1046	400	1		✓	✓	OK	
12	3W60530	JC45033-2	✓	A347	620	1.525	TH 6/28/17	✓	✓	OK/DL	overcal RR 40 mL
13	3W60531	JC45033-3	✓	A283	608	1.52		✓	✓	OK	
14	3W60532	JC45033-4	✓	A598, M039	50	650		✓	✓	RR	too dilute RR 200 mL
15	3W60533	JC44921-1	✓	A569	100	1		✓	✓	OK	
16	3W60534	JC44921-2	✓	A396	100	1		✓	✓	OK	
1	3W60535	JC45032-1	✓	M182	100	1		✓	✓	OK	
2	3W60536	JC45032-2	✓	A513	100	1		✓	✓	OK	
3	3W60537	~~FA45044-1~~ TH 6/28/17	STD MS17228	A1208	20	1		✓	✓	OK	FA44960-1
4	3W60538	~~FA45044-2~~ TH 6/28/17	✓	A718	100	1		✓	✓	OK/DL	FA44960-2 overcal RR 20 mL
5	3W60539	~~FA45044-3~~ TH 6/28/17	✓	A554, A1121	100	113		✓	✓	RR	FA44960-3 too dilute RR 200 mL
6	3W60540	FA45044-1	STD MS17329	A1067	20	1		✓	✓	OK	
7	3W60541	FA45044-2	✓	A219	100	1		✓	✓	RR	too dilute RR 400 mL
8	3W60542	SCC CP9239		A237	400			✓	✓	RR	possible carry over
9	3W60543	SCC CP9230		A1109	400			✓	✓	OK	

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Form: AT008-05
Rev. Date: 10/20/09

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7.8.3

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SGS

Canister Secondary Dilution Log

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						Final Canister Dilution
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Factor
6/28/17	TH	JC44585-2	A1030	3.0	1.2	1.20	A653	1000	40	14.7	2000	50	60
6/28/17	TH	JC44960-3	A554	1.5	1.0	1.13	A1121	1000	20	14.7	2000	100	113
6/28/17	TH	JC45033-4	A598	5.0	1.2	1.30	M039	6000	20	9.8	10000	500	650

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1007

Date: 7/26/17

Analyst Signature: [redacted]

Columns: RTX-1-60mx0.32mmx1.0µm

Method: 5W1015.m

Seq. File: 170726.S

Initial Cal. Method: M5W1007.M

AS Data

Method: TO15.CTQ

Standard Data

Lot #	Description	Conc.
AS7736	Int/Surr	100 ppbV
AS7738	TO15 LCS (A978)	40 ppbV

Standard Data

Lot #	Description	Conc.
AS7742	TO15 Std (A965)	40 ppbV
AS7743	TO15 Std (A971)	8 ppbV
AS7744	TO15 Std (A981)	0.4 ppbV
AS7740	TO15 Std (A974)	1.6 ppbV

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 7/28/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
4	5W25531	IB		A962	100						
4	5W25532	IB		A962	100						
4	5W25533	IB		A962	100						
1	5W25534	BFB		A981	40					ok	
1	5W25535	ICV1007-0.04		A981	40			✓	✓	ok	
2	5W25536	ICV1007-0.1		A971	40			✓	✓	ok	end compounds low in this standard
2	5W25537	ICV1007-0.2		A971	80			✓	✓	ok	
2	5W25538	ICV1007-0.5		A971	200			✓	✓	ok	
3	5W25539	ICV1007-5		A965	50			✓	✓	ok	
3	5W25540	ICV1007-10		A965	100			✓	✓	ok	
3	5W25541	ICV1007-20		A965	200			✓	✓	ok	
3	5W25542	ICV1007-40		A965	400			✓	✓	ok	
4	5W25543	IB		A962	100			✓	✓		
5	5W25544	ICV1007-10		A978	100					not used	
2	5W25545	ICV1007-0.5		A974	200			✓	✓	ok	
2	5W25546	ICV1007-0.2		A974	80			✓	✓	ok	
2	5W25547	ICV1007-0.1		A974	40			✓	✓	ok	
5	5W25548	ICV1007-10		A978	100			✓	✓	ok	

7/27/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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ACCUTEST

TO-14/TO-15

Batch ID: V5W1051

Date: 9/19/17

Analyst Signature: [redacted]

Columns: RTX-1 60mx0.32mmx1.2um
Method: 5WT015
Seq. File: 170919
Initial Cal. Method: M5W1007

AS Data

Method: T015 CTD

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
A57636	Int/Surr	100ppbv
A57811	T015 STD (A967)	40ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted]

Date: 9/20/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	5W26741	BFB		open position	400					OK	
2	5W26742	CC1007-10		A967	100			✓	✓	OK	
2	5W26743	BS		A967	100			✓	✓	OK	
2	5W26744	BSD		A967	100			✓	✓	OK	
3	5W26745	IB		A962	400						
3	5W26746	MB		A962	400			✓	✓	OK	
4	5W26747	JC51076-3	DCE, PCE, VC, TCE MS20246	A595, A852	200	1280		✓	✓	OK	
5	5W26748	JC50545-5	DCE, TCE, VC, TCE MS19982	A682	20	1		✓	✓	OK/DL	
6	5W26749	JC50545-6	✓	A406, A1243	400	230		✓	✓	OK	
7	5W26750	JC50874-1	SL MS2460	TBAG, A085	400	200		✓	✓	RR	
8	5W26751	JC50874-2	✓	TBAG, A1158	200	500		✓	✓	OK	
9	5W26752	JC50874-3	✓	TBAG, M039	20	500		✓	✓	OK/DL	
10	5W26753	JC49994-1	STD+, CUME Propbal MS19739	M202, A832	10	1350	+	✓	✓	OK	
11	5W26754	JC49994-2	✓	A1153, A1012	10	1450		✓	✓	RR	too dilute RR 50mL
12	5W26755	JC499994-3	✓	A402, A861	10	1450		✓	✓	RR	too dilute RR 200mL
13	5W26756	JC49994-4	✓	A531, A484	10	1480		✓	✓	RR	too dilute RR 200mL
14	5W26757	JC49994-5	✓	A1247, A819	10	1480		✓	✓	RR	too dilute RR 200mL
15	5W26758	IB		A864	100			✓	✓	—	
15	5W26759	SCC CP9367		A864	400			✓	✓	OK	
16	5W26760	JC50965-2	SL MS20264	A618	100	1		✓	✓	OK	
16	5W26761	JC50965-2DUP	✓	A618	100	1		✓	✓	OK	
TH 1	5W26762	JC50965-3	✓	A505	158	1.58		✓	✓	OK	
TH 2	5W26763	JC50965-4	✓	M181	100	1		✓	✓	OK	
TH 3	5W26764	JC50965-5	✓	A554	100	1		✓	✓	OK	
TH 4	5W26765	JC50965-6	✓	A723	152	1.52		✓	✓	OK	
TH 5	5W26766	JC50965-7	✓	A516	152	1.52		✓	✓	OK	
TH 6	5W26767	JC50965-8	✓	A718	152	1.52		✓	✓	OK	
7	5W26768	SCC CP9370		M258	400			✓	✓	OK	

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

TH 9/20/17

Form: AT008-05
Rev. Date: 10/20/09

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7.8.5

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Canister Secondary Dilution Log

V5W1051

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Final Canister Dilution Factor
9/19/17	TH	JC49994-1	M202	6.0	1.2	1.35	A832	6000	10	9.8	10000	1000	1350
9/19/17	TH	JC49994-2	A1153	7.5	1.3	1.45	A1012	6000	10	9.8	10000	1000	1450
9/19/17	TH	JC49994-3	A402	7.5	1.3	1.45	A861	6000	10	9.8	10000	1000	1450
9/19/17	TH	JC49994-4	A531	8.0	1.2	1.48	A484	6000	10	9.8	10000	1000	1480
9/19/17	TH	JC49994-10	A1247	8.0	1.2	1.48	A819	6000	10	9.8	10000	1000	1480

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

Form: AT003-04
Rev. Date: 04/15/13

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1360

V5W 1052

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						Final Canister Dilution
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Factor
9/8/17	TH	JC49993-1	A1243	9.0	1.2	1.55	M336	1000	20	14.7	2000	100	155
9/8/17	TH	JC49687-7	A1144	8.5	1.3	1.52	M272	6000	20	9.8	10000	500	~~740~~ 760 TH 9/8/17
9/8/17	TH	JC49687-8	A521	8.6	1.2	1.48	A752	6000	20	9.8	10000	500	740
9/8/17	TH	JC50261-1	Tedlar	—	—	1	A326	6000	50	9.8	10000	200	200
9/8/17	TH	JC50261-2	Tedlar	—	—	1	A340	6000	50	9.8	10000	200	200
9/8/17	TH	JC50261-3	Tedlar	—	—	1	A341	6000	50	9.8	10000	200	200

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

Form: AT003-04
Rev. Date: 04/15/13

Canister Secondary Dilution Log

V5W1052

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Final Canister Dilution Factor
9/19/17	TH	JC49994-1	M202	6.0	1.2	1.35	A832	6000	10	9.8	10000	1000	1350
9/19/17	TH	JC49994-2	A1153	7.5	1.3	1.45	A1012	6000	10	9.8	10000	1000	1450
9/19/17	TH	JC49994-3	A402	7.5	1.3	1.45	A861	6000	10	9.8	10000	1000	1450
9/19/17	TH	JC49994-4	A531	8.0	1.2	1.48	A484	6000	10	9.8	10000	1000	1480
9/19/17	TH	JC49994-10	A1247	8.0	1.2	1.48	A819	6000	10	9.8	10000	1000	1480

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

Form: AT003-04
Rev. Date: 04/15/13

Canister Secondary Dilution Log

V5W1052

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Final Canister Dilution Factor
9/20/17	TH	JC50261-1	Tedlar	–	–	1	A346	6000	50	9.8	10000	~~100~~ 200 TH 9/20/17	200
9/20/17	TH	JC50261-2	Tedlar	–	–	1	A340	6000	50	9.8	10000	~~100~~ 200 TH 9/20/17	200
9/20/17	TH	JC50261-3	Tedlar	–	–	1	A341	6000	50	9.8	10000	~~100~~ 200 TH 9/20/17	200

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes: JC 50261-1,2,3 dil Amts made on ~~9/10/17~~ TH 9/20/17 9/8/17.

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalculation, # 4 = Analyst's Correction Error

Form: AT003-04
Rev. Date: 04/15/13

118

SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1052

Date: 9/20/17

Analyst Signature: [redacted]

Columns: RTX-1 60mx.32mmx1.0um

Method: SW7015

Seq. File: 170920

Initial Cal. Method: MSW1007

AS Data

Method: 7015.CTD

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
AS7636	Int/Surr.	10ppbv
AS7811	7015 STD (A967)	40ppbv
AS7812	7015 STD (A964)	40ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 9/20/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	SW26769	BFB		open position	400					OK	
2	SW26770	CC1007-10		A964	100			✓	✓	OK	benzyl chloride ↑
2	SW26771	BS		A964	100			✓	✓	OK	benzyl chloride ↑
2	SW26772	BSD		A964	100			✓	✓	OK	
3	SW26773	MB		A962	400			✓	✓	—	
3	SW26774	MB		A962	400			✓	✓	OK	
4	SW26775	JC49994-2	STD+, CVME, Propane MS19739	A1153, A1012	50	1450	+	✓	✓	OK	
5	SW26776	JC49994-3	✓	A402, A961	200	1450	+	✓	✓	OK	
6	SW26777	JC49994-4	✓	A531, A484	200	1480	+	✓	✓	OK	
7	SW26778	JC49994-5	✓	A1247, A819	200	1480	+	✓	✓	OK	
8	SW26779	JC51173-1	DCL MS20322	A396	158	1.58		✓	✓	OK	
9	SW26780	JC50342-1	SL2 MS19865	A1006	800	2.93		✓	✓	OK/DL	acetone ↑ RR20 wk
TH 9 X10	SW26781	JC50342-2	✓	A230	400	1		✓	✓	OK/DL	acetone ↑ RR20 wk TH
10	SW26782	JC50342-2D9	✓	A230	400	1		✓	✓	OK	
11	SW26783	JC50342-3	✓	A302	400	1		✓	✓	OK/DL	acetone/TCE ↑ RR 10 wk
12	SW26784	JC50342-4	✓	A824	400	1		✓	✓	OK/DL	TCE ↑ RR 10 wk
13	SW26785	SCC CP9373		A806	400			✓	✓	RR	carry over
14	SW26786	JC50261-1	SL MS19830	TBAG, A326	100	200		✓	✓	RR	Too dil, Like RR 500 wk
15	SW26787	JC50261-2	✓	TBAG, A340	40	200		✓	✓	OK	
16	SW26788	JC50261-3	✓	TBAG, A341	20	200		✓	✓	RR	chloroform ↑ RR 10 wk
1	SW26789	SCC CP9378		A1157	400			✓	✓	NG	PCE hit reclean
2	SW26790	JC51027-3	SL MS20248	A729	152	1.52		✓	✓	OK	
3	SW26791	JC51027-4	✓	A424	100	1		✓	✓	OK	
4	SW26792	JC51027-5	✓	A796	100	1		✓	✓	OK	
5	SW26793	JC51027-6	✓	A603	100	1		✓	✓	OK	
6	SW26794	JC51027-7	✓	A1209	100	1		✓	✓	OK	
7	SW26795	JC51027-8	✓	A620	100	1		✓	✓	OK	
8	SW26796	SCC CP9371		A1060	400			✓	✓	RR	carry over
											TH 9/21/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

119

ACCUTEST

TO-14/TO-15

Batch ID: V5W1053

Date: 9/21/17

Analyst Signature: [redacted]

Columns: RTX-1 60m x 0.32mm x 1.0um

Method: SW TO15

Seq. File: 170921

Initial Cal. Method: A5W1057

AS Data

Method: TO15.CTD

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
A57636	Int Std mix	100ppbv
A57812	TO15 STD (A964)	40ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 9/22/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	SW26797	BFB		open position	400					OK	
2	SW26798	CC1007-10		A964	100			✓	✓	OK	
2	SW26799	BS		A964	100			✓	✓	OK	bromoform ↑
2	SW26800	BSD		A964	100			✓	✓	OK	benzyl chloride ↑
3	SW26801	IB		A962	400			✓	✓	—	
3	SW26802	MB		A962	400			✓	✓	OK	
4	SW26803	JC50261-1	SC MS19830	TBAG, A326	800	200		✓	✓	OK	
5	SW26804	JC50261-3	✓	TBAG, A341	10	200		✓	✓	OK	
6	SW26805	JC50891-1	STD+ MS20161	TBAG	10	1		↑	↑	RR	over cal
TBR 6	SW26806	~~JC50891-2~~ IB	✓	~~TBAG~~ A962	400	1		↑	↑	—	carryover
TBR 6	SW26807	~~JC50891-3~~ IB	✓	~~TBAG~~ A962	400	1		↑	↑	—	carryover
9	SW26808	SCC cf9371		A1060	400			✓	✓	RR	carry over
10	SW26809	JC50543-1	STD MS19983	A286	400	1		✓	✓	OK	
10	SW26810	JC50543-1 DUP	✓	A286	400	1		✓	✓	OK	
11	SW26811	JC50548-1	STD MS19983	A569, A1025	100	1350		✓	✓	RR	too dilute RR 10 run
12	SW26812	JC50548-2	✓	M448, A1056	200	650		✓	✓	RR	too dilute RR 20 run
13	SW26813	JC50548-3	✓	A541	10	1		✓	✓	RR	too dilute RR 4X
14	SW26814	JC50548-4	✓	M187	20	1		✓	✓	RR	too dilute RR 4X
15	SW26815	JC50548-5	✓	A805	40	1		✓	✓	RR	too dilute RR 4X
16	SW26816	SCC cf9378		A1157	400			✓	✓	OK	
1	SW26817	JC50885-3	STD MS20158	A527, A216	50	665		✓	✓	RR	too dilute RR 400 run
2	SW26818	JC50885-4	✓	A387, A1201	80	665		✓	✓	RR	too dilute RR 800 run
3	SW26819	JC50885-5	✓	A394, A864	50	675		✓	✓	RR	too dilute RR 400 run
4	SW26820	SCC cf9373		A806	400			✓	✓	OK	
5	SW26821	JC50549-1	BTEX+TBA MS19983	A870	50	1.23		✓	✓	OK	
7	SW26822	JC50261-1	SC MS19830	TBAG	10	1		✓	✓	OK/DL	
8	SW26823	SCC cf9376		A1036	400			✓	✓	RR	Possible carry over
										TBA	9/22/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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Canister Secondary Dilution Log

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Final Canister Dilution Factor
9/21/17	TH	JC50548-1	A569	6.0	1.2	1.35	A1025	6000	10	9.8	10000	1000	1350
9/21/17	TH	JC50548-2	M448	5.0	1.2	1.30	A1056	6000	20	9.8	10000	500	650
9/21/17	TH	JC50885-3	A527	5.5	1.2	1.33	A216	6000	20	9.8	10000	500	665
9/21/17	TH	JC50885-4	A387	5.5	1.2	1.33	A1201	6000	20	9.8	10000	500	665
9/21/17	TH	JC50885-5	A394	6.0	1.2	1.35	A864	6000	20	9.8	10000	500	675

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalculation, # 4 = Analyst's Correction Error

Form: AT003-04
Rev. Date: 04/15/13

120

Canister Secondary Dilution Log

V5W1054

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Final Canister Dilution Factor
9/22/17	TH	JC50885-3	A527	5.5	1.2	1.33	A216	6000	20	9.8	10000	500	665
9/22/17	TH	JC50885-4	A387	5.5	1.2	1.33	A1201	6000	20	9.8	10000	500	665
9/22/17	TH	JC50885-5	A394	Lab	1.2	1.35	A864	6000	20	9.8	10000	500	675
9/22/17	TH	JC50874-1	Tedlar	-	-	1	A562	1000	20	14.7	2000	100	100

Definition:	Final DF = (Original Canister DF) x (Secondary Canister DF)
	Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)
Example:	Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

Form: AT003-04
Rev. Date: 04/15/13

122

SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1054

Date: 9/22/17

Analyst Signature: [redacted]

Columns: RTX-1 60mx0.32mmx1.0um

Method: SW7015

Seq. File: 170922

Initial Cal. Method: M5W1007

AS Data

Method: 7015, CTD

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
A87636	Int. Std/Surr	100ppbv
A87812	7015 STD (A964)	40ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 9/22/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	SW26824	BFB		open position	400					OK	
2	SW26825	CC1007-10		A964	100			✓	✓	OK	Methyl Chloride S
2	SW26826	BS		A964	100			✓	✓	OK	
2	SW26827	BSD		A964	100			✓	✓	OK	
3	SW26828	LB		A962	400						
3	SW26829	MB		A962	400			✓	✓	OK	
4	SW26830	JC50885-3	STD MS20158	A527, A216	400	665		✓	✓	OK	
5	SW26831	JC50885-4	✓	A387, A1201	800	665		✓	✓	OK	
6	SW26832	JC50885-5	✓	A394, A864	400	675		✓	✓	OK	
7	SW26833	JC51083-4	SC MS20295	A1156	20	1				OK	
8	SW26834	SCC CP9576		A1036	400						
9	SW26835	JC51145-1	SC MS20296	A257	608	1.52					
9	SW26836	JC51145-1DUP	✓	A257	608	1.52					
10	SW26837	JC51145-2	✓	A088	700	1.75					
11	SW26838	JC50744-1	STD MS20134	A866	400	1					
12	SW26839	JC51249-1	STD MS20363	TBAG	100	1					
13	SW26840	JC51249-2	✓	TBAG	100	1					
14	SW26841	JC51249-3	✓	TBAG	100	1					
15	SW26842	JC50874-1	SC MS20160	TBAG, A562	200	100					
16	SW26843	SCC CP9571		A1060	400						
1	SW26844	JC50546-3	SCZ MS19999	A1034	20	1					
2	SW26845	JC50546-4	✓	A283	40	1					
3	SW26846	JC50546-5	✓	A290	155	1.55					
4	SW26847	JC50546-2	✓	A858	10	1					
5	SW26848	JC50546-1	✓	A1026	10	1					
6	SW26849	LB		A323	100						
6	SW26850	SCC		A323	400						

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

123

SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1065

Date: 10/6/17

Analyst Signature: [redacted]

Columns: 624X1-60m X0.32mmX1.0µm

Method: 5WTO15

Seq. File: 171006

Initial Cal. Method: MSW1065

AS Data

Method: TO15.GTO

Standard Data

Lot #	Description	Conc.
AS7821	TO15 LCS (A977)	40 ppbv
AS7849	TO15 LCS (A978)	40 ppbv

Standard Data

Lot #	Description	Conc.
AS7836	Int Std	100 ppbv
AS7846	TO15 Std (A965)	40 ppbv
AS7847	TO15 Std (A971)	1.6 ppbv
AS7848	TO15 Std (A981)	0.4 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 10/10/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	5W27079	BFB		A981	40					OK	time 1205
1	5W27080	IC1065-0.04		A971	40			✓	✓	OK	
2	5W27081	IC1065-0.1		A971	40			✓	✓	OK	
2	5W27082	IC1065-0.2		A981	70			✓	✓	OK	
2	5W27083	IC1065-0.5		A971	200			✓	✓	OK	
2	5W27084	IC1065-0.5		A981	500			✓	✓	OK	
3	5W27085	IC1065-5		A965	50			✓	✓	OK	
3	5W27086	IC1065-10		A965	100			✓	✓	OK	
3	5W27087	IC1065-20		A965	200			✓	✓	OK	
3	5W27088	IC1065-40		A965	400			✓	✓	OK	
4	5W27089	IB		A962	400						
5	5W27090	ICV1065-10		~~A965~~ A977	100			✓	✓	OK	Pgs from leaking standard diluted w/ room air
4	5W27091	IB		A962	400						
6	5W27092	ICV1065-10		A978	100			✓	✓	OK	
										[redacted]	10/7/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

147

SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1066

Date: 10/7/17

Analyst Signature: [redacted]

Columns: RTX-1 60m x 0.32mm

Method: SW TO15

Seq. File: 171007

Initial Cal. Method: M5W1065

AS Data TH 10/7/17

Method: ~~TO15.MPF~~ TO15.CTD

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
A57636	Int / Surr.	100 ppbv
A57846	TO15 STD (A965)	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 10/8/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
3	SW27093	CC1065-10		A965	100			✓	✓	dh	BFB time: 434
3	SW27094	BS		A965	100			✓	✓	dh	
3	SW27095	BSD		A965	100			✓	✓	dh	
4	SW27096	IB		A962	400						
4	SW27097	MB		A962	400			✓	✓	dh	
6	SW27098	JC52053-1	STD MS20561	A1054	400	1		✓	✓	dh	
TH 7	SW27099	JC52053-2	✓	A1151	200	1		✓	✓	dh	
TH 8	SW27100	JC52053-3	✓	M168	608	1.52		✓	✓	dh	1 liter Summa
TH 8	SW27101	JC52053-3DUP	✓	M168	608	1.52		✓	✓	dh	
TH 9	SW27102	~~JC~~ SCC CP9401	STD MS20561	A459	400	1		✓	✓	dh	
10	SW27103	JC52053-4		A751	640	1.60		✓	✓	dh	
11	SW27104	JC52053-5	✓	A906	608	1.52		✓	✓	dh	
12	SW27105	JC52053-6	✓	A906	200	1		✓	✓	dh	
13	SW27106	JC52053-7	✓	A636	400	1		✓	✓	dh	
14	SW27107	JC52053-8	✓	A300	640	1.60		✓	✓	dh	Trip Blank no peaks
15	SW27108	JC52053-9	✓	A321	640	1.60		✓	✓	dh	
16	SW27109	JC52458-2	STD MS20781	TBAG	10	1		✓	✓	dh	
1	SW27110	SCC CP9398		A728	400	1		✓	✓	dh/dh	
3	SW27111	ECC1065-10		A965	100			✓	✓	dh	

10/8/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

149

SGS ACCUTEST

TO-14/TO-15

Batch ID: M5W1067

Date: 10/8/17

Analyst Signature: [redacted]

Columns: RTX5-60mmX 0.32mmX1.0µm

Method: 5WT015

Seq. File: 171008

Initial Cal. Method: M5W1065

AS Data

Method: T015, CTO

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
AS7836	Int/Surr	100 ppbv
AS7846	T015 Std (A965)	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 10/10/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
3	5W27112	CC1065-10		A965	100			✓	✓	OM	[illegible] 931
2	5W27113	B3		A965	100			✓	✓	OM	
3	5W27114	B50		A965	100			✓	✓	OM	
4	5W27115	I3		A962	400			✓	✓	OM	
4	5W27116	M3		A962	400		+	✓	✓	OM	
5 6	5W27117	SCCCP9399		A992	400	1		✓	✓	OM	
10/8/17 7	5W27118	JC52053-7	VT015 STD MS20561	A636	400	1		✓	✓	OK	100 OSM
7 8	5W27119	JC51796-1	VT015 NYLL	M413	620	1.55		✓	✓	OK/DL	ethanol ↑ RR 40mL
7 8	5W27120	JC51796-1dup	CUME IPTOLU	M413	620	1.55		✓	✓	OK	
8 9	5W27121	JC51796-2	NAP	M129	580	1.45		✓	✓	OK/DL	ethanol ↑ RR 20mL
9 10	5W27122	JC51796-3	MS20561	A649	632	1.58		✓	✓	OK	
10 11	5W27123	JC51900-1	VT015 STD +	M220	400	1		✓	✓	OK	
11 12	5W27124	JC51900-2	MS20561	A744	400	1		✓	✓	OK	
12 13	5W27125	JC51900-3		A653	592	1.48		✓	✓	OK	
13 14	5W27126	JC51900-4		A658	620	1.55		✓	✓	OK	
14 15	5W27127	JC52052-1	VT015	A1065	20	1		✓	✓	OK/DL	PCE ↑ RR 10mL
15 16	5W27128	JC52052-2	NYSVLL	M134	20	1		✓	✓	OK/DL	PCE ↑ RR 10mL
16 1	5W27129	JC52052-3	MS20561	A071	20	1.48		✓	✓	OK	
1 2	5W27130	JC52048-8	VT015 STD	A546	100	1		✓	✓	OK/DL	TCE ↑ RR 2000X
2 3	5W27131	JC52048-9	MS20561	A713	100	1		✓	✓	OK/DL	TCE ↑ RR 200X
3 4	5W27132	JC52048-10		A436	165	1.65		✓	✓	OK/DL	TCE ↑ RR 400X
4 6	5W27133	ECC1065-10		A965	100			✓	✓	OK	~~hexachloro-butadiene~~ TH 10/9/17
~~7~~	~~5W27134~~										
										TH	10/9/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

151

7.8.11

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Automated Report

Technical Report for

USACE-Philadelphia District

Defense Supply Center, Philadelphia, PA

SGS Accutest Job Number: JC52679

Sampling Date: 10/05/17

Report to:

[redacted]

ATTN: [redacted]

Total number of pages in report: **292**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

[redacted]
Nancy Cole
Laboratory Director

Client Service contact: [redacted]

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

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Sample Summary

USACE-Philadelphia District

Job No: JC52679

Defense Supply Center, Philadelphia, PA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JC52679-1	10/05/17	14:45	[redacted]	10/06/17	AIR	Indoor Air Comp.	10/CT

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	USACE-Philadelphia District	**Job No**	JC52679
Site:	Defense Supply Center, Philadelphia, PA	**Report Date**	10/13/2017 5:54:10 P

On 10/06/2017, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest. A SGS Accutest Job Number of JC52679 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method TO-15

Matrix: AIR **Batch ID:** V5W1069

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC52203-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC52679-1 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC52679
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 10/05/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JC52679-1	**10/CT**					
Acetone		8.8	0.20	0.10	ppbv	TO-15
Benzene		1.3	0.20	0.10	ppbv	TO-15
Carbon disulfide		0.16 J	0.20	0.10	ppbv	TO-15
Chlorobenzene		0.30	0.20	0.040	ppbv	TO-15
Chloroform		0.52	0.20	0.10	ppbv	TO-15
Chloromethane		0.55	0.20	0.10	ppbv	TO-15
Cyclohexane		9.9	0.20	0.10	ppbv	TO-15
1,2-Dichloroethane		0.23	0.20	0.10	ppbv	TO-15
Dichlorodifluoromethane		0.47	0.20	0.10	ppbv	TO-15
Ethanol		108 E	0.50	0.20	ppbv	TO-15
Ethylbenzene		3.4	0.20	0.10	ppbv	TO-15
Ethyl Acetate		0.42	0.20	0.10	ppbv	TO-15
4-Ethyltoluene		1.2	0.20	0.10	ppbv	TO-15
Freon 113		0.48	0.20	0.040	ppbv	TO-15
Heptane		6.4	0.20	0.10	ppbv	TO-15
Hexane		11.2	0.20	0.10	ppbv	TO-15
Isopropyl Alcohol		3.8	0.20	0.10	ppbv	TO-15
Methylene chloride		0.50	0.20	0.10	ppbv	TO-15
Methyl ethyl ketone		0.98	0.20	0.10	ppbv	TO-15
Styrene		0.12 J	0.20	0.10	ppbv	TO-15
1,2,4-Trimethylbenzene		3.0	0.20	0.10	ppbv	TO-15
1,3,5-Trimethylbenzene		1.8	0.20	0.10	ppbv	TO-15
2,2,4-Trimethylpentane		3.1	0.20	0.040	ppbv	TO-15
Tertiary Butyl Alcohol		0.26	0.20	0.10	ppbv	TO-15
Tetrachloroethylene		0.13	0.040	0.020	ppbv	TO-15
Tetrahydrofuran		0.11 J	0.20	0.10	ppbv	TO-15
Toluene		14.8	0.20	0.10	ppbv	TO-15
Trichloroethylene		0.057	0.040	0.020	ppbv	TO-15
Trichlorofluoromethane		0.44	0.20	0.040	ppbv	TO-15
m,p-Xylene		18.8	0.20	0.10	ppbv	TO-15
o-Xylene		5.7	0.20	0.10	ppbv	TO-15
Xylenes (total)		24.5	0.20	0.10	ppbv	TO-15
Acetone		21	0.48	0.24	ug/m3	TO-15
Benzene		4.2	0.64	0.32	ug/m3	TO-15
Carbon disulfide		0.50 J	0.62	0.31	ug/m3	TO-15
Chlorobenzene		1.4	0.92	0.18	ug/m3	TO-15
Chloroform		2.5	0.98	0.49	ug/m3	TO-15
Chloromethane		1.1	0.41	0.21	ug/m3	TO-15
Cyclohexane		34	0.69	0.34	ug/m3	TO-15
1,2-Dichloroethane		0.93	0.81	0.40	ug/m3	TO-15
Dichlorodifluoromethane		2.3	0.99	0.49	ug/m3	TO-15
Ethanol		203 E	0.94	0.38	ug/m3	TO-15
Ethylbenzene		15	0.87	0.43	ug/m3	TO-15

Summary of Hits

Job Number: JC52679
Account: USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Collected: 10/05/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Ethyl Acetate		1.5	0.72	0.36	ug/m3	TO-15
4-Ethyltoluene		5.9	0.98	0.49	ug/m3	TO-15
Freon 113		3.7	1.5	0.31	ug/m3	TO-15
Heptane		26	0.82	0.41	ug/m3	TO-15
Hexane		39.5	0.70	0.35	ug/m3	TO-15
Isopropyl Alcohol		9.3	0.49	0.25	ug/m3	TO-15
Methylene chloride		1.7	0.69	0.35	ug/m3	TO-15
Methyl ethyl ketone		2.9	0.59	0.29	ug/m3	TO-15
Styrene		0.51 J	0.85	0.43	ug/m3	TO-15
1,2,4-Trimethylbenzene		15	0.98	0.49	ug/m3	TO-15
1,3,5-Trimethylbenzene		8.8	0.98	0.49	ug/m3	TO-15
2,2,4-Trimethylpentane		14	0.93	0.19	ug/m3	TO-15
Tertiary Butyl Alcohol		0.79	0.61	0.30	ug/m3	TO-15
Tetrachloroethylene		0.88	0.27	0.14	ug/m3	TO-15
Tetrahydrofuran		0.32 J	0.59	0.29	ug/m3	TO-15
Toluene		55.8	0.75	0.38	ug/m3	TO-15
Trichloroethylene		0.31	0.21	0.11	ug/m3	TO-15
Trichlorofluoromethane		2.5	1.1	0.22	ug/m3	TO-15
m,p-Xylene		81.7	0.87	0.43	ug/m3	TO-15
o-Xylene		25	0.87	0.43	ug/m3	TO-15
Xylenes (total)		106	0.87	0.43	ug/m3	TO-15

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: 10/CT
Lab Sample ID: JC52679-1
Matrix: AIR - Indoor Air Comp. Summa ID: A455
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 10/05/17
Date Received: 10/06/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W27180.D	1	10/11/17 00:13	[redacted]	n/a	n/a	V5W1069
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
67-64-1	58.08	Acetone	8.8	0.20	0.10	ppbv		21	0.48	0.24	ug/m3
106-99-0	54.09	1,3-Butadiene	0.10 U	0.20	0.10	ppbv		0.22 U	0.44	0.22	ug/m3
71-43-2	78.11	Benzene	1.3	0.20	0.10	ppbv		4.2	0.64	0.32	ug/m3
75-27-4	163.8	Bromodichloromethane	0.10 U	0.20	0.10	ppbv		0.67 U	1.3	0.67	ug/m3
75-25-2	252.8	Bromoform	0.040 U	0.20	0.040	ppbv		0.41 U	2.1	0.41	ug/m3
74-83-9	94.94	Bromomethane	0.10 U	0.20	0.10	ppbv		0.39 U	0.78	0.39	ug/m3
593-60-2	106.9	Bromoethene	0.040 U	0.20	0.040	ppbv		0.17 U	0.87	0.17	ug/m3
100-44-7	126	Benzyl Chloride	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
75-15-0	76.14	Carbon disulfide	0.16	0.20	0.10	ppbv	J	0.50	0.62	0.31	ug/m3
108-90-7	112.6	Chlorobenzene	0.30	0.20	0.040	ppbv		1.4	0.92	0.18	ug/m3
75-00-3	64.52	Chloroethane	0.10 U	0.20	0.10	ppbv		0.26 U	0.53	0.26	ug/m3
67-66-3	119.4	Chloroform	0.52	0.20	0.10	ppbv		2.5	0.98	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.55	0.20	0.10	ppbv		1.1	0.41	0.21	ug/m3
107-05-1	76.53	3-Chloropropene	0.10 U	0.20	0.10	ppbv		0.31 U	0.63	0.31	ug/m3
95-49-8	126.6	2-Chlorotoluene	0.10 U	0.20	0.10	ppbv		0.52 U	1.0	0.52	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.040 U	0.20	0.040	ppbv		0.25 U	1.3	0.25	ug/m3
110-82-7	84.16	Cyclohexane	9.9	0.20	0.10	ppbv		34	0.69	0.34	ug/m3
75-34-3	98.96	1,1-Dichloroethane	0.10 U	0.20	0.10	ppbv		0.40 U	0.81	0.40	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
106-93-4	187.9	1,2-Dibromoethane	0.040 U	0.20	0.040	ppbv		0.31 U	1.5	0.31	ug/m3
107-06-2	98.96	1,2-Dichloroethane	0.23	0.20	0.10	ppbv		0.93	0.81	0.40	ug/m3
78-87-5	113	1,2-Dichloropropane	0.10 U	0.20	0.10	ppbv		0.46 U	0.92	0.46	ug/m3
123-91-1	88.12	1,4-Dioxane	0.10 U	0.20	0.10	ppbv		0.36 U	0.72	0.36	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.47	0.20	0.10	ppbv		2.3	0.99	0.49	ug/m3
124-48-1	208.3	Dibromochloromethane	0.10 U	0.20	0.10	ppbv		0.85 U	1.7	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	0.10 U	0.20	0.10	ppbv		0.40 U	0.79	0.40	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3
541-73-1	147	m-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	0.040 U	0.20	0.040	ppbv		0.24 U	1.2	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	0.10 U	0.20	0.10	ppbv		0.60 U	1.2	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	0.10 U	0.20	0.10	ppbv		0.45 U	0.91	0.45	ug/m3

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 10/CT
Lab Sample ID: JC52679-1
Matrix: AIR - Indoor Air Comp. Summa ID: A455
Method: TO-15
Project: Defense Supply Center, Philadelphia, PA

Date Sampled: 10/05/17
Date Received: 10/06/17
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	LOQ	LOD	Units	Q	Result	LOQ	LOD	Units
64-17-5	46.07	Ethanol	108	0.50	0.20	ppbv	E	203	0.94	0.38	ug/m3
100-41-4	106.2	Ethylbenzene	3.4	0.20	0.10	ppbv		15	0.87	0.43	ug/m3
141-78-6	88	Ethyl Acetate	0.42	0.20	0.10	ppbv		1.5	0.72	0.36	ug/m3
622-96-8	120.2	4-Ethyltoluene	1.2	0.20	0.10	ppbv		5.9	0.98	0.49	ug/m3
76-13-1	187.4	Freon 113	0.48	0.20	0.040	ppbv		3.7	1.5	0.31	ug/m3
76-14-2	170.9	Freon 114	0.040 U	0.20	0.040	ppbv		0.28 U	1.4	0.28	ug/m3
142-82-5	100.2	Heptane	6.4	0.20	0.10	ppbv		26	0.82	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	0.040 U	0.20	0.040	ppbv		0.43 U	2.1	0.43	ug/m3
110-54-3	86.17	Hexane	11.2	0.20	0.10	ppbv		39.5	0.70	0.35	ug/m3
591-78-6	100	2-Hexanone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
67-63-0	60.1	Isopropyl Alcohol	3.8	0.20	0.10	ppbv		9.3	0.49	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.50	0.20	0.10	ppbv		1.7	0.69	0.35	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.98	0.20	0.10	ppbv		2.9	0.59	0.29	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	0.040 U	0.20	0.040	ppbv		0.14 U	0.72	0.14	ug/m3
80-62-6	100.12	Methylmethacrylate	0.10 U	0.20	0.10	ppbv		0.41 U	0.82	0.41	ug/m3
115-07-1	42	Propylene	0.10 U	0.50	0.10	ppbv		0.17 U	0.86	0.17	ug/m3
100-42-5	104.1	Styrene	0.12	0.20	0.10	ppbv	J	0.51	0.85	0.43	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	0.040 U	0.20	0.040	ppbv		0.27 U	1.4	0.27	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	0.040 U	0.20	0.040	ppbv		0.22 U	1.1	0.22	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	0.10 U	0.20	0.10	ppbv		0.74 U	1.5	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	3.0	0.20	0.10	ppbv		15	0.98	0.49	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	1.8	0.20	0.10	ppbv		8.8	0.98	0.49	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	3.1	0.20	0.040	ppbv		14	0.93	0.19	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.26	0.20	0.10	ppbv		0.79	0.61	0.30	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.13	0.040	0.020	ppbv		0.88	0.27	0.14	ug/m3
109-99-9	72.11	Tetrahydrofuran	0.11	0.20	0.10	ppbv	J	0.32	0.59	0.29	ug/m3
108-88-3	92.14	Toluene	14.8	0.20	0.10	ppbv		55.8	0.75	0.38	ug/m3
79-01-6	131.4	Trichloroethylene	0.057	0.040	0.020	ppbv		0.31	0.21	0.11	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.44	0.20	0.040	ppbv		2.5	1.1	0.22	ug/m3
75-01-4	62.5	Vinyl chloride	0.040 U	0.20	0.040	ppbv		0.10 U	0.51	0.10	ug/m3
108-05-4	86	Vinyl Acetate	0.10 U	0.20	0.10	ppbv		0.35 U	0.70	0.35	ug/m3
	106.2	m,p-Xylene	18.8	0.20	0.10	ppbv		81.7	0.87	0.43	ug/m3
95-47-6	106.2	o-Xylene	5.7	0.20	0.10	ppbv		25	0.87	0.43	ug/m3
1330-20-7	106.2	Xylenes (total)	24.5	0.20	0.10	ppbv		106	0.87	0.43	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	117%		65-128%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

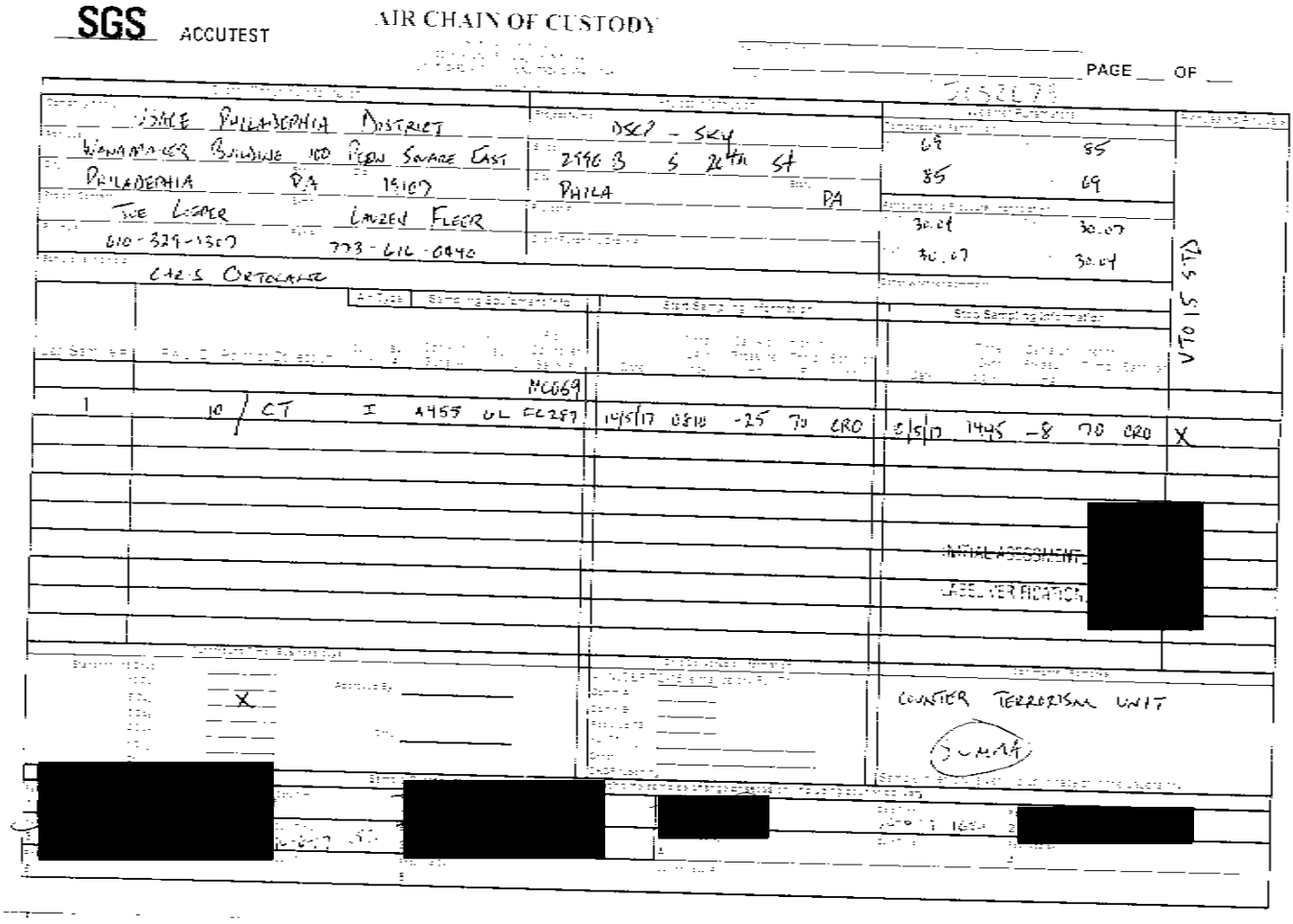
5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log
- Sample Tracking Chronicle
- Internal Chain of Custody
- 2017 MDL Study - Method: TO-15


SGS ACCUTEST

AIR CHAIN OF CUSTODY

PAGE ___ OF ___

JC52679

[redacted]

[redacted]

[redacted]

SGS Accutest Sample Receipt Summary

Job Number: JC52679 **Client:** _____ **Project:** _____

Date / Time Received: 10/6/2017 6:20:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C:

Cooler Temps (Corrected) °C:

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☐		☐
2. Cooler temp verification:	N/A		
3. Cooler media:	N/A		
4. No. Coolers:	N/A		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

JC52679: Chain of Custody
Page 2 of 2

Summa Canister and Flow Controller Log

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Received: 10/06/17

SUMMA CANISTERS

Shipping							Receiving					
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
A455	6	29.4	09/22/17	[redacted]	CP9233	3W60501.D	JC52679-1	10/09/17	[redacted]	2.5			1

FLOW CONTROLLERS / OTHER

Shipping					Receiving				
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min	Flow RPD	Equipment Type
FC287	09/22/17	[redacted]	9.4	8	10/11/17	[redacted]	8.9	5.5	Flow Controller

SGS Accutest Bottle Order(s):
SW-092017-196

Prep Date	Room Temp(F)	Bar Pres "Hg
09/22/17	70	29.92

Internal Sample Tracking Chronicle

USACE-Philadelphia District

Defense Supply Center, Philadelphia, PA

Job No: JC52679

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC52679-1	Collected: 05-OCT-17 14:45 By: [redacted]			Received: 06-OCT-17 By: AS		
10/CT						
JC52679-1	TO-15	11-OCT-17 00:13	[redacted]			VTO15STD

SGS Accutest Internal Chain of Custody

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA
Received: 10/06/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC52679-1.1	[redacted]	Air Storage	10/06/17 20:25	Return to Storage
JC52679-1.1	Air Storage	[redacted]	10/10/17 17:00	Retrieve from Storage
JC52679-1.1	[redacted]	GCMS5W	10/10/17 17:00	Load on Instrument

Accutest Laboratories Annual Method Detection Limit Determination
Dayton, NJ Facility

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
Acetone	22-Feb-17	0.2	0.24	0.24	0.23	0.23	0.22	0.28	0.25	0.24	120.58	0.02	0.06	3.21
Acrolein	10-Jan-17	0.1	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.13	129.20	0.01	0.02	5.59
Acrylonitrile	2-Feb-17	0.1	0.11	0.11	0.09	0.09	0.08	0.11	0.10	0.10	99.68	0.01	0.04	2.26
Acetonitrile	12-Jan-17	0.1	0.12	0.18	0.13	0.11	0.12	0.11	0.12	0.13	127.49	0.02	0.08	1.29
1,3-Butadiene	2-Feb-17	0.1	0.11	0.11	0.10	0.09	0.09	0.12	0.11	0.10	104.72	0.01	0.03	3.55
Benzene	2-Feb-17	0.1	0.10	0.10	0.10	0.10	0.10	0.12	0.12	0.11	104.98	0.01	0.03	3.90
Bromobenzene	2-Feb-17	0.1	0.10	0.10	0.08	0.07	0.07	0.09	0.09	0.09	86.75	0.01	0.03	2.95
Bromodichloromethane	22-Feb-17	0.2	0.19	0.22	0.21	0.20	0.20	0.20	0.19	0.20	99.79	0.01	0.03	6.90
Bromoform	10-Jan-17	0.1	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.09	93.45	0.01	0.02	5.65
Bromomethane	2-Feb-17	0.1	0.12	0.13	0.11	0.10	0.11	0.13	0.12	0.12	115.86	0.01	0.03	3.06
Bromoethene	25-Mar-17	0.04	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.03	85.36	0.01	0.02	2.57
n-Butane	12-Jan-17	0.1	0.05	0.08	0.08	0.12	0.08	0.09	0.10	0.09	85.51	0.02	0.06	1.59
Benzyl Chloride	22-Feb-17	0.2	0.13	0.13	0.12	0.11	0.12	0.13	0.12	0.12	61.87	0.01	0.02	9.43
n-Butylbenzene	13-Jan-17	0.2	0.19	0.17	0.18	0.16	0.16	0.17	0.17	0.17	86.76	0.01	0.04	5.35
sec-Butylbenzene	12-Jan-17	0.1	0.09	0.09	0.09	0.06	0.07	0.08	0.07	0.08	79.60	0.01	0.04	2.32
tert-Butylbenzene	13-Jan-17	0.2	0.22	0.20	0.21	0.18	0.18	0.20	0.18	0.20	97.73	0.02	0.05	3.85
Carbon disulfide	2-Feb-17	0.1	0.12	0.13	0.11	0.11	0.10	0.13	0.12	0.12	116.39	0.01	0.03	3.04
Chlorobenzene	2-Feb-17	0.1	0.10	0.10	0.10	0.09	0.09	0.11	0.11	0.10	100.11	0.01	0.02	5.80
Chlorodifluoromethane	2-Feb-17	0.1	0.10	0.10	0.08	0.07	0.08	0.11	0.10	0.09	91.63	0.01	0.05	2.14
Chloroethane	12-Jan-17	0.1	0.10	0.11	0.11	0.11	0.11	0.09	0.09	0.10	101.72	0.01	0.04	2.79
Chlorotrifluoroethene	12-Jan-17	0.1	0.09	0.12	0.10	0.10	0.06	0.10	0.09	0.09	93.25	0.02	0.05	1.86
Chloroform	22-Feb-17	0.2	0.19	0.21	0.21	0.20	0.20	0.21	0.19	0.20	100.76	0.01	0.03	6.42
Chloromethane	2-Feb-17	0.1	0.13	0.13	0.09	0.09	0.10	0.14	0.13	0.11	114.59	0.02	0.06	1.54
3-Chloropropene	2-Feb-17	0.1	0.10	0.10	0.08	0.08	0.09	0.11	0.11	0.10	96.67	0.01	0.04	2.71
2-Chlorotoluene	12-Jan-17	0.1	0.09	0.10	0.10	0.07	0.07	0.08	0.08	0.08	84.26	0.01	0.04	2.77
Carbon tetrachloride	12-Jan-17	0.1	0.10	0.11	0.10	0.10	0.10	0.10	0.09	0.10	100.95	0.01	0.02	5.00
Cyclohexane	2-Feb-17	0.1	0.08	0.09	0.10	0.10	0.09	0.11	0.11	0.10	96.71	0.01	0.04	2.83
1,1-Dichloroethane	12-Jan-17	0.1	0.10	0.12	0.11	0.09	0.09	0.09	0.09	0.10	97.36	0.01	0.03	3.06
1,1-Dichloroethylene	12-Jan-17	0.1	0.10	0.12	0.10	0.09	0.09	0.10	0.09	0.10	97.89	0.01	0.03	3.04
1,2-Dibromoethane	2-Feb-17	0.1	0.10	0.10	0.09	0.09	0.09	0.11	0.11	0.10	98.49	0.01	0.02	4.54
1,2-Dichloroethane	12-Jan-17	0.1	0.10	0.12	0.11	0.09	0.10	0.10	0.10	0.10	101.13	0.01	0.03	3.79

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

Method: TO-15 (VTO14/15) **Matrix:** AIR
Instrument(s): GCMSW, GCMS3W, GCMS5W **Quant Factor:** 1.00
Analyst: Pooled **Study Period:** April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
1,2-Dichloropropane	12-Jan-17	0.1	0.10	0.11	0.10	0.09	0.09	0.09	0.08	0.10	95.24	0.01	0.03	3.07
1,3-Dichloropropane	12-Jan-17	0.1	0.10	0.11	0.10	0.09	0.08	0.09	0.08	0.09	92.27	0.01	0.03	3.31
1,4-Dioxane	2-Feb-17	0.1	0.09	0.08	0.08	0.08	0.08	0.11	0.11	0.09	91.26	0.02	0.05	2.12
Dichlorodifluoromethane	10-Jan-17	0.1	0.11	0.12	0.12	0.12	0.13	0.13	0.13	0.12	122.78	0.01	0.03	3.93
Dichlorofluoromethane	12-Jan-17	0.1	0.10	0.12	0.10	0.11	0.11	0.09	0.10	0.10	102.56	0.01	0.03	3.49
Dibromochloromethane	12-Jan-17	0.1	0.10	0.11	0.10	0.09	0.09	0.10	0.09	0.10	96.01	0.01	0.03	4.01
Dibromomethane	24-Feb-17	0.04	0.05	0.04	0.04	0.06	0.04	0.06	0.04	0.05	122.92	0.01	0.03	1.29
trans-1,2-Dichloroethylene	2-Feb-17	0.1	0.10	0.10	0.11	0.10	0.10	0.12	0.11	0.11	107.38	0.01	0.03	3.91
cis-1,2-Dichloroethylene	24-Feb-17	0.04	0.07	0.07	0.09	0.06	0.08	0.06	0.06	0.07	175.56	0.01	0.03	1.19
cis-1,3-Dichloropropene	2-Feb-17	0.1	0.09	0.10	0.09	0.09	0.09	0.11	0.10	0.09	94.65	0.01	0.02	4.31
m-Dichlorobenzene	2-Feb-17	0.1	0.08	0.08	0.07	0.06	0.06	0.08	0.08	0.07	73.37	0.01	0.03	3.45
o-Dichlorobenzene	2-Feb-17	0.1	0.08	0.07	0.06	0.06	0.06	0.07	0.08	0.07	68.43	0.01	0.03	3.61
p-Dichlorobenzene	22-Feb-17	0.2	0.15	0.16	0.15	0.14	0.14	0.17	0.15	0.15	75.53	0.01	0.03	6.87
trans-1,3-Dichloropropene	12-Jan-17	0.1	0.09	0.10	0.09	0.07	0.07	0.08	0.08	0.08	82.63	0.01	0.03	3.42
Di-Isopropyl ether	24-Feb-17	0.04	0.05	0.05	0.05	0.07	0.04	0.06	0.04	0.05	126.34	0.01	0.04	1.06
2,3-Dimethylpentane	12-Jan-17	0.1	0.08	0.10	0.08	0.07	0.07	0.07	0.06	0.08	76.97	0.01	0.05	2.18
2,4-Dimethylpentane	2-Feb-17	0.1	0.08	0.09	0.10	0.09	0.09	0.11	0.11	0.10	96.32	0.01	0.04	2.76
Ethanol	2-Feb-17	0.1	0.21	0.21	0.18	0.18	0.17	0.25	0.23	0.20	204.64	0.03	0.10	1.05
Ethylbenzene	11-Jan-17	0.2	0.18	0.19	0.18	0.18	0.19	0.19	0.17	0.18	91.30	0.01	0.02	8.82
Ethyl Acetate	2-Feb-17	0.1	0.10	0.09	0.07	0.07	0.04	0.09	0.07	0.08	75.89	0.02	0.06	1.54
Ethyl Acrylate	12-Jan-17	0.1	0.08	0.09	0.08	0.05	0.06	0.06	0.06	0.07	68.56	0.01	0.05	2.19
4-Ethyltoluene	2-Feb-17	0.1	0.07	0.06	0.06	0.06	0.05	0.07	0.08	0.06	63.21	0.01	0.03	3.62
Freon 113	11-Jan-17	0.2	0.19	0.21	0.20	0.19	0.20	0.18	0.20	0.20	98.13	0.01	0.02	8.34
Freon 114	12-Jan-17	0.1	0.10	0.11	0.10	0.11	0.11	0.09	0.11	0.10	104.50	0.01	0.02	4.12
Freon 123	2-Feb-17	0.1	0.11	0.12	0.10	0.10	0.10	0.12	0.12	0.11	107.53	0.01	0.03	3.34
Freon 123A	12-Jan-17	0.1	0.20	0.22	0.20	0.20	0.19	0.20	0.19	0.20	200.27	0.01	0.03	2.98
Freon 141B	12-Jan-17	0.1	0.10	0.12	0.11	0.10	0.09	0.10	0.10	0.10	102.42	0.01	0.03	3.31
Freon 142B	12-Jan-17	0.1	0.10	0.12	0.11	0.12	0.12	0.10	0.11	0.11	111.00	0.01	0.02	5.40
Freon 143a	12-Jan-17	0.1	0.12	0.14	0.12	0.13	0.12	0.10	0.12	0.12	120.79	0.01	0.04	2.49
Freon 152A	12-Jan-17	0.1	0.10	0.12	0.11	0.11	0.10	0.11	0.09	0.11	105.44	0.01	0.03	3.98
Heptane	12-Jan-17	0.1	0.08	0.10	0.09	0.06	0.06	0.07	0.06	0.07	74.68	0.01	0.05	2.18
Hexachlorobutadiene	25-Mar-17	0.04	0.03	0.03	0.03	0.04	0.05	0.03	0.04	0.04	90.89	0.01	0.02	1.66
Hexachloroethane	2-Feb-17	0.1	0.10	0.10	0.09	0.09	0.09	0.10	0.11	0.09	94.91	0.01	0.03	3.90
Hexane	2-Feb-17	0.1	0.09	0.10	0.10	0.10	0.10	0.12	0.11	0.10	102.70	0.01	0.03	3.79

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
2-Hexanone	12-Jan-17	0.1	0.06	0.07	0.07	0.04	0.05	0.05	0.04	0.05	53.21	0.01	0.04	2.44
Iodomethane	2-Feb-17	0.1	0.10	0.10	0.10	0.10	0.11	0.12	0.11	0.11	105.14	0.01	0.02	4.38
Isopropylbenzene	12-Jan-17	0.1	0.10	0.10	0.10	0.08	0.08	0.09	0.08	0.09	89.58	0.01	0.04	2.82
Isopropyl Alcohol	12-Jan-17	0.1	0.20	0.21	0.21	0.15	0.15	0.16	0.14	0.18	175.77	0.03	0.09	1.11
p-Isopropyltoluene	12-Jan-17	0.1	0.09	0.10	0.09	0.07	0.06	0.08	0.06	0.08	78.32	0.02	0.05	1.93
Methylene chloride	22-Feb-17	0.2	0.22	0.23	0.23	0.21	0.21	0.24	0.22	0.22	111.82	0.01	0.03	6.11
Methyl ethyl ketone	22-Feb-17	0.2	0.18	0.19	0.18	0.17	0.17	0.21	0.20	0.19	92.99	0.01	0.04	4.64
Methyl Isobutyl Ketone	12-Jan-17	0.1	0.08	0.09	0.08	0.05	0.05	0.05	0.04	0.06	63.11	0.02	0.06	1.75
Methyl Tert Butyl Ether	10-Jan-17	0.1	0.10	0.11	0.10	0.10	0.11	0.11	0.11	0.11	106.21	0.01	0.02	5.33
Methylmethacrylate	12-Jan-17	0.1	0.08	0.09	0.08	0.05	0.05	0.06	0.06	0.07	67.70	0.01	0.04	2.26
Naphthalene	13-Jan-17	0.2	0.15	0.15	0.16	0.13	0.13	0.14	0.13	0.14	70.00	0.01	0.04	4.84
Nonane	12-Jan-17	0.1	0.09	0.10	0.09	0.06	0.06	0.07	0.07	0.08	78.16	0.02	0.06	1.69
Octane	12-Jan-17	0.1	0.09	0.10	0.09	0.05	0.05	0.07	0.06	0.07	73.61	0.02	0.06	1.64
Pentane	2-Feb-17	0.1	0.12	0.15	0.10	0.11	0.11	0.15	0.10	0.12	120.03	0.02	0.06	1.59
n-Propylbenzene	12-Jan-17	0.1	0.09	0.10	0.09	0.07	0.06	0.08	0.07	0.08	78.45	0.02	0.05	2.03
Propylene	2-Feb-17	0.1	0.12	0.13	0.12	0.12	0.12	0.16	0.15	0.13	130.63	0.02	0.06	1.71
Styrene	13-Jan-17	0.2	0.20	0.18	0.18	0.16	0.16	0.18	0.16	0.17	87.19	0.01	0.05	4.38
1,1,1-Trichloroethane	2-Feb-17	0.1	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.10	103.96	0.01	0.02	5.84
1,1,1,2-Tetrachloroethane	12-Jan-17	0.1	0.10	0.11	0.10	0.10	0.10	0.10	0.10	0.10	100.19	0.01	0.02	5.85
1,1,2,2-Tetrachloroethane	2-Feb-17	0.1	0.11	0.10	0.09	0.08	0.08	0.10	0.10	0.09	94.21	0.01	0.04	2.77
1,1,2-Trichloroethane	10-Jan-17	0.1	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.10	101.79	0.01	0.02	4.55
1,2,4-Trichlorobenzene	13-Jan-17	0.2	0.15	0.14	0.14	0.12	0.12	0.13	0.11	0.13	65.06	0.01	0.04	5.20
1,2,3-Trichloropropane	2-Feb-17	0.1	0.10	0.10	0.08	0.08	0.08	0.10	0.10	0.09	91.72	0.01	0.03	2.90
1,2,4-Trimethylbenzene	12-Jan-17	0.1	0.10	0.10	0.09	0.06	0.06	0.08	0.07	0.08	80.69	0.02	0.05	1.95
1,3,5-Trimethylbenzene	22-Feb-17	0.2	0.17	0.16	0.15	0.16	0.16	0.17	0.17	0.16	81.28	0.01	0.03	6.63
2,2,4-Trimethylpentane	22-Feb-17	0.2	0.19	0.19	0.18	0.18	0.18	0.20	0.19	0.19	93.70	0.01	0.03	7.58
Tertiary Butyl Alcohol	2-Feb-17	0.1	0.10	0.10	0.09	0.09	0.09	0.11	0.11	0.10	100.82	0.01	0.03	3.79
Tetrachloroethylene	22-Feb-17	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	110.27	0.01	0.02	2.45
Tetrahydrofuran	12-Jan-17	0.1	0.08	0.09	0.08	0.06	0.06	0.07	0.06	0.07	68.70	0.01	0.05	2.21
Toluene	2-Feb-17	0.1	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.09	89.77	0.01	0.03	3.48
Trichloroethylene	10-Jan-17	0.1	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.10	102.21	0.00	0.01	8.50
Trichlorofluoromethane	11-Jan-17	0.2	0.22	0.23	0.22	0.23	0.22	0.22	0.23	0.22	111.84	0.00	0.02	13.36
Vinyl chloride	24-Feb-17	0.04	0.06	0.06	0.06	0.08	0.06	0.08	0.05	0.06	155.76	0.01	0.04	1.05
Vinyl Acetate	2-Feb-17	0.1	0.09	0.08	0.07	0.08	0.07	0.09	0.08	0.08	80.90	0.01	0.03	3.66

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

Method: TO-15 (VTO14/15)
Instrument(s): GCMSW, GCMS3W, GCMS5W
Analyst: Pooled

Matrix: AIR
Quant Factor: 1.00
Study Period: April,2017

			Replicate Spikes											
	Analysis	Spike	R1	R2	R3	R4	R5	R6	R7	X-Bar	X-Bar	STD.Dev.	MDL	Spike/MDL
Cmpd./Element/Parm. Name	Date	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%Recov.	ppbv		Ratio
m,p-Xylene	24-Feb-17	0.08	0.11	0.07	0.08	0.10	0.06	0.11	0.07	0.08	105.33	0.02	0.07	1.19
o-Xylene	2-Feb-17	0.1	0.07	0.08	0.08	0.08	0.07	0.10	0.10	0.08	82.27	0.01	0.04	2.86
TVHC As Equiv Pentane	12-Jan-17	0.1	0.12	0.12	0.10	0.10	0.12	0.08	0.08	0.10	103.66	0.02	0.06	1.69
4-Bromofluorobenzene	12-Jan-17	0.1	9.92	9.98	9.97	10.15	10.13	10.33	10.11	10.08	10084.46	0.14	0.44	0.23

1390

Detection limits derived using the method described in 40 CFR Part 136, Appendix B

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Initial Calibration RT/ISTD Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1069-MB	5W27165.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1069-MB	5W27165.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1069-MB	5W27165.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	102%	65-128%

Method Blank Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-MB	3W60494.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Method Blank Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-MB	3W60494.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Method Blank Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-MB	3W60494.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	84%	65-128%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1069-BS	5W27162.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069
V5W1069-BSD	5W27163.D	1	10/10/17		n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	8.0	80	8.4	84	5	70-130/30
106-99-0	1,3-Butadiene	10	8.6	86	9.1	91	6	70-130/30
71-43-2	Benzene	10	9.1	91	9.2	92	1	70-130/30
75-27-4	Bromodichloromethane	10	9.6	96	9.7	97	1	70-130/30
75-25-2	Bromoform	10	9.9	99	10.2	102	3	70-130/30
74-83-9	Bromomethane	10	8.0	80	8.2	82	2	70-130/30
593-60-2	Bromoethene	10	9.0	90	9.2	92	2	70-130/30
100-44-7	Benzyl Chloride	10	10.2	102	10.4	104	2	70-130/30
75-15-0	Carbon disulfide	10	9.8	98	10	100	2	70-130/30
108-90-7	Chlorobenzene	10	8.7	87	8.9	89	2	70-130/30
75-00-3	Chloroethane	10	8.9	89	9.2	92	3	70-130/30
67-66-3	Chloroform	10	9.4	94	9.6	96	2	70-130/30
74-87-3	Chloromethane	10	9.0	90	9.6	96	6	70-130/30
107-05-1	3-Chloropropene	10	9.8	98	9.9	99	1	70-130/30
95-49-8	2-Chlorotoluene	10	9.6	96	9.8	98	2	70-130/30
56-23-5	Carbon tetrachloride	10	9.8	98	9.9	99	1	70-130/30
110-82-7	Cyclohexane	10	9.6	96	9.8	98	2	70-130/30
75-34-3	1,1-Dichloroethane	10	9.6	96	9.8	98	2	70-130/30
75-35-4	1,1-Dichloroethylene	10	10.0	100	10.2	102	2	70-130/30
106-93-4	1,2-Dibromoethane	10	9.0	90	9.1	91	1	70-130/30
107-06-2	1,2-Dichloroethane	10	9.7	97	9.9	99	2	70-130/30
78-87-5	1,2-Dichloropropane	10	9.6	96	9.9	99	3	70-130/30
123-91-1	1,4-Dioxane	10	9.8	98	9.9	99	1	70-130/30
75-71-8	Dichlorodifluoromethane	10	9.8	98	10.0	100	2	70-130/30
124-48-1	Dibromochloromethane	10	9.1	91	9.2	92	1	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	9.8	98	10.0	100	2	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	9.6	96	9.8	98	2	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	9.5	95	9.7	97	2	70-130/30
541-73-1	m-Dichlorobenzene	10	9.2	92	9.3	93	1	70-130/30
95-50-1	o-Dichlorobenzene	10	9.0	90	9.2	92	2	70-130/30
106-46-7	p-Dichlorobenzene	10	9.0	90	9.0	90	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	9.7	97	10	100	3	70-130/30
64-17-5	Ethanol	10	7.9	79	8.3	83	5	70-130/30
100-41-4	Ethylbenzene	10	9.5	95	9.7	97	2	70-130/30
141-78-6	Ethyl Acetate	10	10.2	102	10.4	104	2	70-130/30
622-96-8	4-Ethyltoluene	10	9.3	93	9.5	95	2	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1069-BS	5W27162.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069
V5W1069-BSD	5W27163.D	1	10/10/17		n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	9.6	96	9.8	98	2	70-130/30
76-14-2	Freon 114	10	9.1	91	9.7	97	6	70-130/30
142-82-5	Heptane	10	10.2	102	10.3	103	1	70-130/30
87-68-3	Hexachlorobutadiene	10	7.7	77	7.8	78	1	70-130/30
110-54-3	Hexane	10	9.9	99	10.1	101	2	70-130/30
591-78-6	2-Hexanone	10	11.3	113	11.5	115	2	70-130/30
67-63-0	Isopropyl Alcohol	10	9.1	91	9.7	97	6	70-130/30
75-09-2	Methylene chloride	10	8.5	85	8.6	86	1	70-130/30
78-93-3	Methyl ethyl ketone	10	10.0	100	10.2	102	2	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	10.8	108	11.0	110	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	9.6	96	9.9	99	3	70-130/30
80-62-6	Methylmethacrylate	10	10.2	102	10.4	104	2	70-130/30
115-07-1	Propylene	10	9.4	94	9.7	97	3	70-130/30
100-42-5	Styrene	10	9.9	99	10.0	100	1	70-130/30
71-55-6	1,1,1-Trichloroethane	10	9.5	95	9.7	97	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	9.4	94	9.5	95	1	70-130/30
79-00-5	1,1,2-Trichloroethane	10	9.3	93	9.4	94	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	10.5	105	10.3	103	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	9.2	92	9.3	93	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	9.1	91	9.3	93	2	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	10.2	102	10.3	103	1	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	8.6	86	8.8	88	2	70-130/30
127-18-4	Tetrachloroethylene	10	8.6	86	8.7	87	1	70-130/30
109-99-9	Tetrahydrofuran	10	10.2	102	10.3	103	1	70-130/30
108-88-3	Toluene	10	9.3	93	9.4	94	1	70-130/30
79-01-6	Trichloroethylene	10	9.6	96	9.7	97	1	70-130/30
75-69-4	Trichlorofluoromethane	10	9.2	92	9.5	95	3	70-130/30
75-01-4	Vinyl chloride	10	8.8	88	9.7	97	10	70-130/30
108-05-4	Vinyl Acetate	10	9.0	90	9.2	92	2	70-130/30
	m,p-Xylene	20	19.4	97	19.8	99	2	70-130/30
95-47-6	o-Xylene	10	9.8	98	9.9	99	1	70-130/30
1330-20-7	Xylenes (total)	30	29.2	97	29.7	99	2	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5W1069-BS	5W27162.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069
V5W1069-BSD	5W27163.D	1	10/10/17		n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	117%	117%	65-128%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-BS	3W60489.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298
V3W2298-BSD	3W60490.D	1	06/27/17		n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10	9.1	91	8.9	89	2	70-130/30
106-99-0	1,3-Butadiene	10	10.0	100	10.2	102	2	70-130/30
71-43-2	Benzene	10	10.4	104	10.5	105	1	70-130/30
75-27-4	Bromodichloromethane	10	10.6	106	10.4	104	2	70-130/30
75-25-2	Bromoform	10	12.0	120	11.8	118	2	70-130/30
74-83-9	Bromomethane	10	9.5	95	9.3	93	2	70-130/30
593-60-2	Bromoethene	10	9.8	98	9.7	97	1	70-130/30
100-44-7	Benzyl Chloride	10	12.2	122	12.0	120	2	70-130/30
75-15-0	Carbon disulfide	10	9.9	99	9.9	99	0	70-130/30
108-90-7	Chlorobenzene	10	10.7	107	10.5	105	2	70-130/30
75-00-3	Chloroethane	10	10.5	105	10.4	104	1	70-130/30
67-66-3	Chloroform	10	10.3	103	10.1	101	2	70-130/30
74-87-3	Chloromethane	10	10.5	105	10.6	106	1	70-130/30
107-05-1	3-Chloropropene	10	11.5	115	11.2	112	3	70-130/30
95-49-8	2-Chlorotoluene	10	11.5	115	11.3	113	2	70-130/30
56-23-5	Carbon tetrachloride	10	11.2	112	11.0	110	2	70-130/30
110-82-7	Cyclohexane	10	10.8	108	11.1	111	3	70-130/30
75-34-3	1,1-Dichloroethane	10	10.8	108	10.5	105	3	70-130/30
75-35-4	1,1-Dichloroethylene	10	9.2	92	9.1	91	1	70-130/30
106-93-4	1,2-Dibromoethane	10	10.8	108	10.0	100	8	70-130/30
107-06-2	1,2-Dichloroethane	10	10.4	104	10.0	100	4	70-130/30
78-87-5	1,2-Dichloropropane	10	10.5	105	10.4	104	1	70-130/30
123-91-1	1,4-Dioxane	10	12.9	129	12.8	128	1	70-130/30
75-71-8	Dichlorodifluoromethane	10	10.3	103	10.3	103	0	70-130/30
124-48-1	Dibromochloromethane	10	11.5	115	10.9	109	5	70-130/30
156-60-5	trans-1,2-Dichloroethylene	10	9.4	94	9.2	92	2	70-130/30
156-59-2	cis-1,2-Dichloroethylene	10	10.4	104	10.3	103	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	10	12.0	120	11.5	115	4	70-130/30
541-73-1	m-Dichlorobenzene	10	11.3	113	11.1	111	2	70-130/30
95-50-1	o-Dichlorobenzene	10	11.1	111	10.9	109	2	70-130/30
106-46-7	p-Dichlorobenzene	10	10.9	109	10.6	106	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	10	11.2	112	10.7	107	5	70-130/30
64-17-5	Ethanol	10	12.0	120	11.7	117	3	70-130/30
100-41-4	Ethylbenzene	10	10.8	108	10.7	107	1	70-130/30
141-78-6	Ethyl Acetate	10	10.8	108	11.2	112	4	70-130/30
622-96-8	4-Ethyltoluene	10	11.8	118	11.7	117	1	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-BS	3W60489.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298
V3W2298-BSD	3W60490.D	1	06/27/17		n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	BSD ppbv	BSD %	RPD	Limits Rec/RPD
76-13-1	Freon 113	10	10.1	101	10.1	101	0	70-130/30
76-14-2	Freon 114	10	11.2	112	11.1	111	1	70-130/30
142-82-5	Heptane	10	10.0	100	9.9	99	1	70-130/30
87-68-3	Hexachlorobutadiene	10	10.4	104	10.3	103	1	70-130/30
110-54-3	Hexane	10	10.2	102	10.6	106	4	70-130/30
591-78-6	2-Hexanone	10	10.8	108	10	100	8	70-130/30
67-63-0	Isopropyl Alcohol	10	8.8	88	8.1	81	8	70-130/30
75-09-2	Methylene chloride	10	9.7	97	9.5	95	2	70-130/30
78-93-3	Methyl ethyl ketone	10	10.4	104	10.4	104	0	70-130/30
108-10-1	Methyl Isobutyl Ketone	10	10.5	105	10.4	104	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	10	10.9	109	10.3	103	6	70-130/30
80-62-6	Methylmethacrylate	10	10.4	104	10.4	104	0	70-130/30
115-07-1	Propylene	10	10.7	107	10.9	109	2	70-130/30
100-42-5	Styrene	10	11.3	113	11.1	111	2	70-130/30
71-55-6	1,1,1-Trichloroethane	10	11.1	111	10.8	108	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	10	10.8	108	10.7	107	1	70-130/30
79-00-5	1,1,2-Trichloroethane	10	10.8	108	10.6	106	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	10	9.2	92	8.9	89	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	10	11.8	118	11.7	117	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	10	11.4	114	11.3	113	1	70-130/30
540-84-1	2,2,4-Trimethylpentane	10	10.3	103	10.2	102	1	70-130/30
75-65-0	Tertiary Butyl Alcohol	10	10.5	105	10.1	101	4	70-130/30
127-18-4	Tetrachloroethylene	10	10	100	9.7	97	3	70-130/30
109-99-9	Tetrahydrofuran	10	11.4	114	11.0	110	4	70-130/30
108-88-3	Toluene	10	11.4	114	10.7	107	6	70-130/30
79-01-6	Trichloroethylene	10	10.6	106	10.5	105	1	70-130/30
75-69-4	Trichlorofluoromethane	10	10.4	104	10.3	103	1	70-130/30
75-01-4	Vinyl chloride	10	10.9	109	10.7	107	2	70-130/30
108-05-4	Vinyl Acetate	10	13.2	132* [a]	13.0	130	2	70-130/30
	m,p-Xylene	20	21.9	110	21.6	108	1	70-130/30
95-47-6	o-Xylene	10	10.9	109	10.9	109	0	70-130/30
1330-20-7	Xylenes (total)	30	32.8	109	32.4	108	1	70-130/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-BS	3W60489.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298
V3W2298-BSD	3W60490.D	1	06/27/17		n/a	n/a	V3W2298

The QC reported here applies to the following samples: **Method:** TO-15

V3W2298-SCC

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	105%	105%	65-128%

(a) High percent recoveries and no associated positive reported in the QC batch.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC52203-1DUP	5W27168.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069
JC52203-1	5W27167.D	1	10/10/17		n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Compound	JC52203-1 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	53.9	E	55.5	E	3	25
106-99-0	1,3-Butadiene	ND		ND		nc	25
71-43-2	Benzene	8.5		9.0		6	25
75-27-4	Bromodichloromethane	ND		ND		nc	25
75-25-2	Bromoform	ND		ND		nc	25
74-83-9	Bromomethane	ND		ND		nc	25
593-60-2	Bromoethene	ND		ND		nc	25
100-44-7	Benzyl Chloride	ND		ND		nc	25
75-15-0	Carbon disulfide	ND		ND		nc	25
108-90-7	Chlorobenzene	ND		ND		nc	25
75-00-3	Chloroethane	11.4		11.7		3	25
67-66-3	Chloroform	0.14	J	0.15	J	7	25
74-87-3	Chloromethane	0.49		0.51		4	25
107-05-1	3-Chloropropene	ND		ND		nc	25
95-49-8	2-Chlorotoluene	ND		ND		nc	25
56-23-5	Carbon tetrachloride	ND		ND		nc	25
110-82-7	Cyclohexane	8.4		8.8		5	25
75-34-3	1,1-Dichloroethane	17.5		18.1		3	25
75-35-4	1,1-Dichloroethylene	6.2		6.4		3	25
106-93-4	1,2-Dibromoethane	ND		ND		nc	25
107-06-2	1,2-Dichloroethane	0.99		1.1		11	25
78-87-5	1,2-Dichloropropane	ND		ND		nc	25
123-91-1	1,4-Dioxane	0.23		0.24		4	25
75-71-8	Dichlorodifluoromethane	0.48		0.50		4	25
124-48-1	Dibromochloromethane	ND		ND		nc	25
156-60-5	trans-1,2-Dichloroethylene	2.2		2.2		0	25
156-59-2	cis-1,2-Dichloroethylene	337	E	347	E	3	25
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	25
541-73-1	m-Dichlorobenzene	ND		ND		nc	25
95-50-1	o-Dichlorobenzene	ND		ND		nc	25
106-46-7	p-Dichlorobenzene	ND		ND		nc	25
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	25
64-17-5	Ethanol	26.2		27.2		4	25
100-41-4	Ethylbenzene	29.2		29.4		1	25
141-78-6	Ethyl Acetate	11.8		12.6		7	25
622-96-8	4-Ethyltoluene	2.4		2.3		4	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC52203-1DUP	5W27168.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069
JC52203-1	5W27167.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Compound	JC52203-1 ppbv	Q	DUP ppbv	Q	RPD	Limits
76-13-1	Freon 113	0.12	J	0.12	J	0	25
76-14-2	Freon 114	ND		ND		nc	25
142-82-5	Heptane	1.8		1.9		5	25
87-68-3	Hexachlorobutadiene	ND		ND		nc	25
110-54-3	Hexane	12.2		12.7		4	25
591-78-6	2-Hexanone	ND		ND		nc	25
67-63-0	Isopropyl Alcohol	206	E	195	E	5	25
75-09-2	Methylene chloride	0.21		0.21		0	25
78-93-3	Methyl ethyl ketone	2.9		3.0		3	25
108-10-1	Methyl Isobutyl Ketone	5.6		5.8		4	25
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	25
80-62-6	Methylmethacrylate	ND		ND		nc	25
115-07-1	Propylene	ND		ND		nc	25
100-42-5	Styrene	ND		ND		nc	25
71-55-6	1,1,1-Trichloroethane	14.3		15.2		6	25
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	25
79-00-5	1,1,2-Trichloroethane	0.096	J	0.11	J	14	25
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	25
95-63-6	1,2,4-Trimethylbenzene	11.5		10.6		8	25
108-67-8	1,3,5-Trimethylbenzene	3.1		2.8		10	25
540-84-1	2,2,4-Trimethylpentane	ND		ND		nc	25
75-65-0	Tertiary Butyl Alcohol	ND		ND		nc	25
127-18-4	Tetrachloroethylene	60.9	E	68.1	E	11	25
109-99-9	Tetrahydrofuran	0.18	J	0.18	J	0	25
108-88-3	Toluene	165	E	176	E	6	25
79-01-6	Trichloroethylene	73.9	E	77.4	E	5	25
75-69-4	Trichlorofluoromethane	0.23		0.24		4	25
75-01-4	Vinyl chloride	104	E	105	E	1	25
108-05-4	Vinyl Acetate	ND		ND		nc	25
	m,p-Xylene	72.1		71.8		0	25
95-47-6	o-Xylene	21.9		21.8		0	25
1330-20-7	Xylenes (total)	94.0		93.6		0	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC52203-1DUP	5W27168.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069
JC52203-1	5W27167.D	1	10/10/17	[redacted]	n/a	n/a	V5W1069

The QC reported here applies to the following samples: **Method:** TO-15

JC52679-1

CAS No.	Surrogate Recoveries	DUP	JC52203-1	Limits
460-00-4	4-Bromofluorobenzene	119%	129%* [a]	65-128%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Summa Cleaning Certification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-SCC	3W60501.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here (Summa M254) applies to the following samples: **Method:** TO-15

Batch CP9233 cleaned 06/22/17: JC52679-1(A455)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.20	0.062	ppbv		ND	0.48	ug/m3
106-99-0	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	Benzene	ND	0.20	0.026	ppbv		ND	0.64	ug/m3
75-27-4	Bromodichloromethane	ND	0.20	0.029	ppbv		ND	1.3	ug/m3
75-25-2	Bromoform	ND	0.20	0.018	ppbv		ND	2.1	ug/m3
74-83-9	Bromomethane	ND	0.20	0.033	ppbv		ND	0.78	ug/m3
593-60-2	Bromoethene	ND	0.20	0.016	ppbv		ND	0.87	ug/m3
100-44-7	Benzyl Chloride	ND	0.20	0.021	ppbv		ND	1.0	ug/m3
75-15-0	Carbon disulfide	ND	0.20	0.033	ppbv		ND	0.62	ug/m3
108-90-7	Chlorobenzene	ND	0.20	0.017	ppbv		ND	0.92	ug/m3
75-00-3	Chloroethane	ND	0.20	0.036	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.20	0.031	ppbv		ND	0.98	ug/m3
74-87-3	Chloromethane	ND	0.20	0.065	ppbv		ND	0.41	ug/m3
107-05-1	3-Chloropropene	ND	0.20	0.037	ppbv		ND	0.63	ug/m3
95-49-8	2-Chlorotoluene	ND	0.20	0.036	ppbv		ND	1.0	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.020	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.20	0.035	ppbv		ND	0.69	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.033	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.033	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.20	0.022	ppbv		ND	1.5	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.026	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.20	0.033	ppbv		ND	0.92	ug/m3
123-91-1	1,4-Dioxane	ND	0.20	0.047	ppbv		ND	0.72	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.20	0.025	ppbv		ND	0.99	ug/m3
124-48-1	Dibromochloromethane	ND	0.20	0.025	ppbv		ND	1.7	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.026	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.034	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.20	0.023	ppbv		ND	0.91	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.20	0.028	ppbv		ND	1.2	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.20	0.029	ppbv		ND	1.2	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.20	0.029	ppbv		ND	0.91	ug/m3
64-17-5	Ethanol	ND	0.50	0.095	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.20	0.023	ppbv		ND	0.87	ug/m3
141-78-6	Ethyl Acetate	ND	0.20	0.065	ppbv		ND	0.72	ug/m3
622-96-8	4-Ethyltoluene	ND	0.20	0.028	ppbv		ND	0.98	ug/m3

Summa Cleaning Certification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-SCC	3W60501.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here (Summa M254) applies to the following samples: **Method:** TO-15

Batch CP9233 cleaned 06/22/17: JC52679-1(A455)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.20	0.024	ppbv		ND	1.5	ug/m3
76-14-2	Freon 114	ND	0.20	0.024	ppbv		ND	1.4	ug/m3
142-82-5	Heptane	ND	0.20	0.046	ppbv		ND	0.82	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.20	0.024	ppbv		ND	2.1	ug/m3
110-54-3	Hexane	ND	0.20	0.026	ppbv		ND	0.70	ug/m3
591-78-6	2-Hexanone	ND	0.20	0.041	ppbv		ND	0.82	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.20	0.090	ppbv		ND	0.49	ug/m3
75-09-2	Methylene chloride	ND	0.20	0.033	ppbv		ND	0.69	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.20	0.043	ppbv		ND	0.59	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.20	0.057	ppbv		ND	0.82	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.20	0.019	ppbv		ND	0.72	ug/m3
80-62-6	Methylmethacrylate	ND	0.20	0.044	ppbv		ND	0.82	ug/m3
115-07-1	Propylene	ND	0.50	0.059	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.20	0.046	ppbv		ND	0.85	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.017	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.036	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.022	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.20	0.038	ppbv		ND	1.5	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.051	ppbv		ND	0.98	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.030	ppbv		ND	0.98	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.20	0.026	ppbv		ND	0.93	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.20	0.026	ppbv		ND	0.61	ug/m3
127-18-4	Tetrachloroethylene	ND	0.040	0.016	ppbv		ND	0.27	ug/m3
109-99-9	Tetrahydrofuran	ND	0.20	0.045	ppbv		ND	0.59	ug/m3
108-88-3	Toluene	ND	0.20	0.029	ppbv		ND	0.75	ug/m3
79-01-6	Trichloroethylene	ND	0.040	0.012	ppbv		ND	0.21	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.20	0.015	ppbv		ND	1.1	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.038	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.20	0.027	ppbv		ND	0.70	ug/m3
	m,p-Xylene	ND	0.20	0.067	ppbv		ND	0.87	ug/m3
95-47-6	o-Xylene	ND	0.20	0.035	ppbv		ND	0.87	ug/m3
1330-20-7	Xylenes (total)	ND	0.20	0.035	ppbv		ND	0.87	ug/m3

Summa Cleaning Certification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3W2298-SCC	3W60501.D	1	06/27/17	[redacted]	n/a	n/a	V3W2298

The QC reported here (Summa M254) applies to the following samples: **Method:** TO-15

Batch CP9233 cleaned 06/22/17: JC52679-1(A455)

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	65-128%

Instrument Performance Check (BFB)

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-BFB
Lab File ID: 3W60361.D
Instrument ID: GCMS3W
Injection Date: 06/21/17
Injection Time: 12:13

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	21597	14.8		Pass
75	30.0 - 66.0% of mass 95	61213	41.8		Pass
95	Base peak, 100% relative abundance	146269	100.0		Pass
96	5.0 - 9.0% of mass 95	9651	6.60		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	154019	105.3		Pass
175	4.0 - 9.01% of mass 174	12052	8.24	(7.83) [a]	Pass
176	93.0 - 101.0% of mass 174	150840	103.1	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	10053	6.87	(6.66) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3W2293-IC2293	3W60362.D	06/21/17	12:54	00:41	Initial cal 0.04
V3W2293-IC2293	3W60363.D	06/21/17	13:35	01:22	Initial cal 0.1
V3W2293-IC2293	3W60364.D	06/21/17	14:15	02:02	Initial cal 0.2
V3W2293-IC2293	3W60365.D	06/21/17	14:55	02:42	Initial cal 0.5
V3W2293-IC2293	3W60366.D	06/21/17	15:35	03:22	Initial cal 5
V3W2293-ICC2293	3W60367.D	06/21/17	16:16	04:03	Initial cal 10
V3W2293-IC2293	3W60370.D	06/21/17	18:21	06:08	Initial cal 40
V3W2293-IC2293	3W60372.D	06/21/17	19:43	07:30	Initial cal 20
V3W2293-ICV2293	3W60374.D	06/21/17	21:03	08:50	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2298-BFB
Lab File ID: 3W60485.D
Instrument ID: GCMS3W
Injection Date: 06/27/17
Injection Time: 08:55

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	19228	14.8		Pass
75	30.0 - 66.0% of mass 95	54269	41.7		Pass
95	Base peak, 100% relative abundance	130085	100.0		Pass
96	5.0 - 9.0% of mass 95	8675	6.67		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	135259	104.0		Pass
175	4.0 - 9.01% of mass 174	10420	8.01	(7.70) [a]	Pass
176	93.0 - 101.0% of mass 174	133640	102.7	(98.8) [a]	Pass
177	5.0 - 9.0% of mass 176	8621	6.63	(6.45) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3W2298-CC2293	3W60487.D	06/27/17	10:37	01:42	Continuing cal 10
V3W2298-BS	3W60489.D	06/27/17	11:58	03:03	Blank Spike
V3W2298-BSD	3W60490.D	06/27/17	12:43	03:48	Blank Spike Duplicate
V3W2298-MB	3W60494.D	06/27/17	15:41	06:46	Method Blank
V3W2298-SCC	3W60495.D	06/27/17	16:27	07:32	Summa Cleaning Certification
ZZZZZZ	3W60496.D	06/27/17	17:08	08:13	(unrelated sample)
JC44473-1	3W60498.D	06/27/17	18:31	09:36	(used for QC only; not part of job JC52679)
JC44473-1DUP	3W60499.D	06/27/17	19:14	10:19	Duplicate
ZZZZZZ	3W60500.D	06/27/17	19:55	11:00	(unrelated sample)
V3W2298-SCC	3W60501.D	06/27/17	20:36	11:41	Summa Cleaning Certification
ZZZZZZ	3W60502.D	06/27/17	21:22	12:27	(unrelated sample)
ZZZZZZ	3W60503.D	06/27/17	22:06	13:11	(unrelated sample)
ZZZZZZ	3W60504.D	06/27/17	22:50	13:55	(unrelated sample)
ZZZZZZ	3W60505.D	06/27/17	23:37	14:42	(unrelated sample)
ZZZZZZ	3W60506.D	06/28/17	00:21	15:26	(unrelated sample)
ZZZZZZ	3W60507.D	06/28/17	01:02	16:07	(unrelated sample)
ZZZZZZ	3W60509.D	06/28/17	02:26	17:31	(unrelated sample)
ZZZZZZ	3W60510.D	06/28/17	03:07	18:12	(unrelated sample)
ZZZZZZ	3W60511.D	06/28/17	03:48	18:53	(unrelated sample)
V3W2298-SCC	3W60513.D	06/28/17	05:11	20:16	Summa Cleaning Certification

Instrument Performance Check (BFB)

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-BFB
Lab File ID: 5W27079.D
Instrument ID: GCMS5W
Injection Date: 10/06/17
Injection Time: 12:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	31941	13.0		Pass
75	30.0 - 66.0% of mass 95	98781	40.4		Pass
95	Base peak, 100% relative abundance	244800	100.0		Pass
96	5.0 - 9.0% of mass 95	16052	6.56		Pass
173	Less than 2.0% of mass 174	1412	0.58	(0.59) [a]	Pass
174	50.0 - 120.0% of mass 95	240832	98.4		Pass
175	4.0 - 9.0% of mass 174	17781	7.26	(7.38) [a]	Pass
176	93.0 - 101.0% of mass 174	233813	95.5	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	15298	6.25	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1065-IC1065	5W27080.D	10/06/17	12:49	00:44	Initial cal 0.04
V5W1065-IC1065	5W27081.D	10/06/17	13:35	01:30	Initial cal 0.1
V5W1065-IC1065	5W27082.D	10/06/17	14:28	02:23	Initial cal 0.2
V5W1065-IC1065	5W27084.D	10/06/17	16:10	04:05	Initial cal 0.5
V5W1065-IC1065	5W27085.D	10/06/17	17:00	04:55	Initial cal 5
V5W1065-ICC1065	5W27086.D	10/06/17	17:45	05:40	Initial cal 10
V5W1065-IC1065	5W27087.D	10/06/17	18:33	06:28	Initial cal 20
V5W1065-IC1065	5W27088.D	10/06/17	19:23	07:18	Initial cal 40
V5W1065-ICV1065	5W27092.D	10/07/17	08:32	20:27	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1069-BFB
Lab File ID: 5W27160.D
Instrument ID: GCMS5W
Injection Date: 10/10/17
Injection Time: 07:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	38707	14.1		Pass
75	30.0 - 66.0% of mass 95	115496	42.0		Pass
95	Base peak, 100% relative abundance	275179	100.0		Pass
96	5.0 - 9.0% of mass 95	18227	6.62		Pass
173	Less than 2.0% of mass 174	1663	0.60	(0.64) [a]	Pass
174	50.0 - 120.0% of mass 95	260480	94.7		Pass
175	4.0 - 9.0% of mass 174	19312	7.02	(7.41) [a]	Pass
176	93.0 - 101.0% of mass 174	252736	91.8	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	16349	5.94	(6.47) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V5W1069-CC1065	5W27161.D	10/10/17	08:02	00:45	Continuing cal 10
V5W1069-BS	5W27162.D	10/10/17	09:01	01:44	Blank Spike
V5W1069-BSD	5W27163.D	10/10/17	09:48	02:31	Blank Spike Duplicate
V5W1069-MB	5W27165.D	10/10/17	11:35	04:18	Method Blank
ZZZZZZ	5W27166.D	10/10/17	12:35	05:18	(unrelated sample)
JC52203-1	5W27167.D	10/10/17	13:34	06:17	(used for QC only; not part of job JC52679)
JC52203-1DUP	5W27168.D	10/10/17	14:25	07:08	Duplicate
ZZZZZZ	5W27169.D	10/10/17	15:34	08:17	(unrelated sample)
ZZZZZZ	5W27171.D	10/10/17	17:02	09:45	(unrelated sample)
ZZZZZZ	5W27173.D	10/10/17	18:48	11:31	(unrelated sample)
ZZZZZZ	5W27174.D	10/10/17	19:32	12:15	(unrelated sample)
ZZZZZZ	5W27175.D	10/10/17	20:18	13:01	(unrelated sample)
ZZZZZZ	5W27176.D	10/10/17	21:04	13:47	(unrelated sample)
ZZZZZZ	5W27177.D	10/10/17	21:50	14:33	(unrelated sample)
ZZZZZZ	5W27178.D	10/10/17	22:36	15:19	(unrelated sample)
ZZZZZZ	5W27179.D	10/10/17	23:22	16:05	(unrelated sample)
JC52679-1	5W27180.D	10/11/17	00:13	16:56	10/CT
V5W1069-SCC	5W27182.D	10/11/17	01:49	18:32	Summa Cleaning Certification
V5W1069-ECC1065	5W27183.D	10/11/17	02:34	19:17	Ending cal 10

Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V3W2298-CC2293	**Injection Date:**	06/27/17
Lab File ID:	3W60487.D	**Injection Time:**	10:37
Instrument ID:	GCMS3W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	154664	7.71	688631	9.75	315502	14.37
Upper Limit [a]	216530	8.04	964083	10.08	441703	14.70
Lower Limit [b]	92798	7.38	413179	9.42	189301	14.04

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V3W2298-BS	165282	7.71	716083	9.75	328912	14.38
V3W2298-BSD	167874	7.71	713945	9.75	325663	14.37
V3W2298-MB	152968	7.71	618668	9.75	242348	14.37
V3W2298-SCC	157980	7.70	638862	9.74	245504	14.37
ZZZZZZ	162980	7.70	695667	9.74	295458	14.37
JC44473-1	163415	7.70	692224	9.74	292700	14.37
JC44473-1DUP	165601	7.70	701026	9.74	294083	14.37
ZZZZZZ	158797	7.71	736454	9.75	353954	14.38
V3W2298-SCC	175184	7.71	755067	9.75	298845	14.37
ZZZZZZ	172096	7.70	725666	9.74	315434	14.37
ZZZZZZ	170313	7.70	735221	9.74	291067	14.37
ZZZZZZ	176851	7.70	748075	9.74	305283	14.37
ZZZZZZ	169561	7.71	742689	9.75	300401	14.37
ZZZZZZ	166621	7.70	744418	9.75	301746	14.37
ZZZZZZ	167059	7.70	769672	9.75	307386	14.37
ZZZZZZ	166237	7.71	728685	9.75	300074	14.37
ZZZZZZ	167796	7.70	742141	9.75	299691	14.37
ZZZZZZ	169047	7.70	748912	9.75	303702	14.37
V3W2298-SCC	167507	7.70	741485	9.74	287768	14.37

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Check Std:	V5W1069-CC1065	**Injection Date:**	10/10/17
Lab File ID:	5W27161.D	**Injection Time:**	08:02
Instrument ID:	GCMS5W	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	283553	8.18	934223	10.29	412225	15.77
Upper Limit [a]	396974	8.51	1307912	10.62	577115	16.10
Lower Limit [b]	170132	7.85	560534	9.96	247335	15.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
V5W1069-BS	301752	8.18	1009715	10.29	445552	15.77
V5W1069-BSD	298317	8.17	1004948	10.29	443777	15.77
V5W1069-MB	289293	8.18	1000526	10.29	465014	15.77
ZZZZZZ	298534	8.19	1013848	10.30	463734	15.77
JC52203-1	288622	8.19	976367	10.30	334776	15.77
JC52203-1DUP	282712	8.19	968346	10.30	369520	15.77
ZZZZZZ	309786	8.18	1075062	10.29	497362	15.77
ZZZZZZ	295977	8.18	1028512	10.29	470719	15.76
ZZZZZZ	282151	8.18	961525	10.29	392732	15.77
ZZZZZZ	287293	8.18	1007341	10.29	462541	15.77
ZZZZZZ	269025	8.15	933217	10.28	432804	15.76
ZZZZZZ	278238	8.18	956618	10.29	451617	15.76
ZZZZZZ	303623	8.18	1032775	10.29	472909	15.76
ZZZZZZ	283774	8.18	984278	10.30	455393	15.76
ZZZZZZ	278443	8.17	963819	10.30	453460	15.77
JC52679-1	280554	8.18	959211	10.29	421755	15.77
V5W1069-SCC	265341	8.16	911774	10.29	430601	15.76
V5W1069-ECC1065	277071	8.17	915344	10.29	403687	15.77

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

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Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,3-Butadiene	4.07	7.70	0.529	ok	0.529	0.469-0.589
Benzene	9.36	9.74	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.44	9.74	1.072	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromoethene	4.64	7.70	0.603	ok	0.604	0.544-0.664
Benzyl Chloride	17.80	14.37	1.239	ok	1.238	1.178-1.298
tert-Butylbenzene	17.64	14.37	1.228	ok	1.227	1.167-1.287
Carbon disulfide	5.88	7.70	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.42	14.37	1.003	ok	1.004	0.944-1.064
Chlorotrifluoroethene	3.64	7.70	0.473	ok	0.473	0.413-0.533
Chloroform	7.83	7.70	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.70	0.496	ok	0.495	0.435-0.555
2-Chlorotoluene	16.80	14.37	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.52	7.70	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.67	9.74	0.993	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.67	7.70	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.47	7.70	0.710	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloropropane	10.23	9.74	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.74	1.282	ok	1.281	1.221-1.341
Dichlorodifluoromethane	3.69	7.70	0.479	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.44	7.70	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.20	9.74	1.047	ok	1.048	0.988-1.108
cis-1,2-Dichloroethylene	7.52	7.70	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.74	1.172	ok	1.171	1.111-1.231
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.37	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.99	9.74	1.231	ok	1.229	1.169-1.289
2,3-Dimethylpentane	9.91	9.74	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.70	1.127	ok	1.126	1.066-1.186
Ethylbenzene	14.83	14.37	1.032	ok	1.032	0.972-1.092
Ethyl Acrylate	10.28	9.74	1.055	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.81	7.70	0.755	ok	0.754	0.694-0.814
Freon 114	3.87	7.70	0.503	ok	0.504	0.444-0.564
Freon 115	3.87	7.70	0.503	ok	0.504	0.444-0.564
Freon 123	4.73	7.70	0.614	ok	0.615	0.555-0.675

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 123A	4.77	7.70	0.619	ok	0.620	0.560-0.680
Freon 141B	5.03	7.70	0.653	ok	0.655	0.595-0.715
Freon 142B	3.79	7.70	0.492	ok	0.492	0.432-0.552
Freon 143a	3.49	7.70	0.453	ok	0.455	0.395-0.515
Freon 152A	3.79	7.70	0.492	ok	0.492	0.432-0.552
Heptane	10.81	9.74	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Iodomethane	5.42	7.70	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
Methyl Tert Butyl Ether	6.79	7.70	0.882	ok	0.877	0.817-0.937
Methylmethacrylate	10.74	9.74	1.103	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Styrene	15.45	14.37	1.075	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.88	7.70	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.40	14.37	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.55	14.37	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.74	1.248	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.14	14.37	1.193	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.74	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.58	7.70	0.725	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Toluene	12.46	9.74	1.279	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.74	1.078	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.95	7.70	0.643	ok	0.644	0.584-0.704
Vinyl chloride	3.97	7.70	0.516	ok	0.516	0.456-0.576
m,p-Xylene	15.04	14.37	1.047	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.70	ok	7.71	7.38-8.04	162331	ok	160518	96311-224725
1,4-Difluorobenzene	9.74	ok	9.75	9.42-10.08	661874	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	261098	ok	291063	174638-407488

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acrylonitrile	5.24	7.71	0.680	ok	0.675	0.615-0.735
Acetonitrile	4.69	7.71	0.608	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.38	9.75	0.962	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.37	1.239	ok	1.238	1.178-1.298
n-Butylbenzene	18.67	14.37	1.299	ok	1.298	1.238-1.358
sec-Butylbenzene	17.97	14.37	1.251	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.71	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.37	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.71	0.470	ok	0.470	0.410-0.530
Chloroethane	4.39	7.71	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.84	7.71	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.37	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.53	7.71	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.48	7.71	0.711	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.75	1.048	ok	1.048	0.988-1.108
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.75	1.171	ok	1.171	1.111-1.231
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.90	14.37	1.246	ok	1.245	1.185-1.305

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
trans-1,3-Dichloropropene	11.98	9.75	1.229	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.78	7.71	1.009	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethylbenzene	14.84	14.37	1.033	ok	1.032	0.972-1.092
Ethyl Acrylate	10.28	9.75	1.054	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.81	7.71	0.754	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
p-Isopropyltoluene	18.16	14.37	1.264	ok	1.263	1.203-1.323
Methyl Tert Butyl Ether	6.79	7.71	0.881	ok	0.877	0.817-0.937
Methylmethacrylate	10.73	9.75	1.101	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.71	0.681	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.37	1.173	ok	1.173	1.113-1.233
Styrene	15.44	14.37	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.89	7.71	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.37	1.003	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.37	1.083	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.37	1.192	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.75	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.61	7.71	0.728	ok	0.720	0.660-0.780

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.34	7.71	1.082	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.71	0.516	ok	0.516	0.456-0.576
m,p-Xylene	15.05	14.37	1.047	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	160222	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	673835	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	266874	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.88	7.71	0.633	ok	0.628	0.568-0.688
Acrylonitrile	5.23	7.71	0.678	ok	0.675	0.615-0.735
Acetonitrile	4.68	7.71	0.607	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.37	9.75	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.44	9.75	1.071	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.37	1.239	ok	1.238	1.178-1.298
n-Butylbenzene	18.67	14.37	1.299	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.37	1.250	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.90	7.71	0.765	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.37	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.63	7.71	0.471	ok	0.470	0.410-0.530
Chloroethane	4.40	7.71	0.571	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.84	7.71	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.37	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.53	7.71	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.71	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.58	9.75	1.085	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.21	9.75	1.047	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.71	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.75	1.171	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.37	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.98	9.75	1.229	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.77	7.71	1.008	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethylbenzene	14.84	14.37	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.79	7.71	1.010	ok	1.007	0.947-1.067
Ethyl Acrylate	10.27	9.75	1.053	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.82	7.71	0.755	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Hexane	7.75	7.71	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.80	14.37	0.891	ok	0.888	0.828-0.948
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.06	7.71	0.656	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.37	1.264	ok	1.263	1.203-1.323
Methylene chloride	5.58	7.71	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.13	7.71	0.925	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.51	9.75	1.181	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.78	7.71	0.879	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.75	1.099	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.71	0.681	ok	0.680	0.620-0.740
n-Propylbenzene	16.85	14.37	1.173	ok	1.173	1.113-1.233
Propylene	3.65	7.71	0.473	ok	0.473	0.413-0.533

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	15.44	14.37	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.89	7.71	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.40	14.37	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.37	1.083	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.70	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.14	14.37	1.193	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.75	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.59	7.71	0.725	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.32	7.71	1.079	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.99	7.71	0.518	ok	0.516	0.456-0.576
Vinyl Acetate	6.85	7.71	0.888	ok	0.885	0.825-0.945
m,p-Xylene	15.03	14.37	1.046	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.71	0.680	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	162274	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	677314	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	272804	ok	291063	174638-407488

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.86	7.71	0.630	ok	0.628	0.568-0.688
Acrylonitrile	5.22	7.71	0.677	ok	0.675	0.615-0.735
Acetonitrile	4.67	7.71	0.606	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.37	9.75	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.37	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.11	14.37	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.79	14.37	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.37	1.299	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.37	1.250	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.71	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.42	14.37	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.63	7.71	0.471	ok	0.470	0.410-0.530
Chloroethane	4.40	7.71	0.571	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.83	7.71	1.016	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.37	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.53	7.71	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.71	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.37	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.55	9.75	1.082	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.91	14.37	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.21	9.75	1.047	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.71	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.41	9.75	1.170	ok	1.171	1.111-1.231

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Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.37	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.37	1.274	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.37	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.97	9.75	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.75	7.71	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethanol	4.50	7.71	0.584	ok	0.580	0.520-0.640
Ethylbenzene	14.84	14.37	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.78	7.71	1.009	ok	1.007	0.947-1.067
Ethyl Acrylate	10.26	9.75	1.052	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.37	1.186	ok	1.185	1.125-1.245
Freon 113	5.82	7.71	0.755	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.37	1.452	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.37	1.329	ok	1.329	1.269-1.389
Hexane	7.75	7.71	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.78	14.37	0.889	ok	0.888	0.828-0.948
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.37	1.131	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.05	7.71	0.655	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.37	1.264	ok	1.263	1.203-1.323
Methylene chloride	5.58	7.71	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.11	7.71	0.922	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.49	9.75	1.178	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.77	7.71	0.878	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.75	1.099	ok	1.099	1.039-1.159
Naphthalene	20.46	14.37	1.424	ok	1.423	1.363-1.483
Nonane	15.83	14.37	1.102	ok	1.101	1.041-1.161
Octane	13.54	14.37	0.942	ok	0.942	0.882-1.002
Pentane	5.24	7.71	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.37	1.173	ok	1.173	1.113-1.233

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Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Styrene	15.44	14.37	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.88	7.71	1.152	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.37	1.003	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.55	14.37	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.37	1.415	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.70	14.37	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.37	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.37	1.192	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.53	9.75	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.57	7.71	0.722	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.37	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.31	7.71	1.078	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.49	9.75	1.076	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.71	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	6.84	7.71	0.887	ok	0.885	0.825-0.945
m,p-Xylene	15.03	14.37	1.046	ok	1.046	0.986-1.106
o-Xylene	15.56	14.37	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.71	0.680	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	165414	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	680663	ok	689352	413611-965093
Chlorobenzene-D5	14.37	ok	14.38	14.05-14.71	279703	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	Reporting this level
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.71	0.626	ok	0.628	0.568-0.688
Acrylonitrile	5.19	7.71	0.673	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.71	0.602	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.71	0.529	ok	0.529	0.469-0.589
Benzene	9.37	9.75	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.38	1.136	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.12	14.38	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.71	0.555	ok	0.555	0.495-0.615
Bromoethene	4.66	7.71	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.71	0.533	ok	0.533	0.473-0.593
Benzyl Chloride	17.79	14.38	1.237	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.38	1.249	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.71	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.71	0.470	ok	0.470	0.410-0.530
Chloroethane	4.39	7.71	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Chloroform	7.84	7.71	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.71	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.71	0.739	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.38	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.71	1.237	ok	1.236	1.176-1.296
Cyclohexane	9.66	9.75	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.71	0.866	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.71	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.71	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.24	9.75	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.51	9.75	1.078	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.71	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.71	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.92	14.38	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.75	1.048	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.71	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.53	7.71	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.41	9.75	1.170	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	Reporting this level
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.38	1.244	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.97	9.75	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.74	7.71	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.68	7.71	1.126	ok	1.126	1.066-1.186
Ethanol	4.47	7.71	0.580	ok	0.580	0.520-0.640
Ethylbenzene	14.84	14.38	1.032	ok	1.032	0.972-1.092
Ethyl Acetate	7.76	7.71	1.006	ok	1.007	0.947-1.067
Ethyl Acrylate	10.24	9.75	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.38	1.185	ok	1.185	1.125-1.245
Freon 113	5.82	7.71	0.755	ok	0.754	0.694-0.814
Freon 114	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 115	3.89	7.71	0.505	ok	0.504	0.444-0.564
Freon 123	4.74	7.71	0.615	ok	0.615	0.555-0.675
Freon 123A	4.78	7.71	0.620	ok	0.620	0.560-0.680
Freon 141B	5.05	7.71	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.71	0.493	ok	0.492	0.432-0.552
Freon 143a	3.51	7.71	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.71	0.493	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.38	1.328	ok	1.329	1.269-1.389
Hexane	7.75	7.71	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.76	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.43	7.71	0.704	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.01	7.71	0.650	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.58	7.71	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.71	0.918	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.75	1.175	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.71	0.874	ok	0.877	0.817-0.937
Methylmethacrylate	10.71	9.75	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.83	14.38	1.101	ok	1.101	1.041-1.161
Octane	13.54	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.24	7.71	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.38	1.172	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	Reporting this level
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.71	0.473	ok	0.473	0.413-0.533
Styrene	15.44	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.88	7.71	1.152	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.38	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.70	14.38	1.092	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.38	1.191	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.54	9.75	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.52	7.71	0.716	ok	0.720	0.660-0.780
Tetrachloroethylene	13.68	14.38	0.951	ok	0.952	0.892-1.012
Tetrahydrofuran	8.27	7.71	1.073	ok	1.074	1.014-1.134
Toluene	12.46	9.75	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.71	0.645	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.71	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	6.82	7.71	0.885	ok	0.885	0.825-0.945
m,p-Xylene	15.05	14.38	1.047	ok	1.046	0.986-1.106
o-Xylene	15.56	14.38	1.082	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.63	7.71	0.730	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.71	ok	7.71	7.38-8.04	160276	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	694445	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	285192	ok	291063	174638-407488

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.72	0.626	ok	0.628	0.568-0.688
Acrylonitrile	5.19	7.72	0.672	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.72	0.601	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.72	0.528	ok	0.529	0.469-0.589
Benzene	9.38	9.75	0.962	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.38	1.136	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.75	1.072	ok	1.072	1.012-1.132
Bromoform	15.12	14.38	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.72	0.554	ok	0.555	0.495-0.615
Bromoethene	4.66	7.72	0.604	ok	0.604	0.544-0.664
n-Butane	4.11	7.72	0.532	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.38	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.38	1.249	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
Carbon disulfide	5.89	7.72	0.763	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.72	0.469	ok	0.470	0.410-0.530
Chloroethane	4.39	7.72	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.72	0.473	ok	0.473	0.413-0.533
Chloroform	7.85	7.72	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.72	0.495	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.72	0.738	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.38	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.72	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.67	9.75	0.992	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.68	7.72	0.865	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.49	7.72	0.711	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.18	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.62	7.72	1.117	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.25	9.75	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.49	9.75	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.50	9.75	1.077	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.70	7.72	0.479	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.45	7.72	0.576	ok	0.577	0.517-0.637
Dibromochloromethane	12.92	14.38	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.75	1.048	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.48	7.72	0.839	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.54	7.72	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.75	1.171	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.89	14.38	1.244	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.98	9.75	1.229	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.74	7.72	1.003	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.92	9.75	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.69	7.72	1.126	ok	1.126	1.066-1.186
Ethanol	4.47	7.72	0.579	ok	0.580	0.520-0.640
Ethylbenzene	14.84	14.38	1.032	ok	1.032	0.972-1.092
Ethyl Acetate	7.76	7.72	1.005	ok	1.007	0.947-1.067
Ethyl Acrylate	10.24	9.75	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.38	1.185	ok	1.185	1.125-1.245
Freon 113	5.82	7.72	0.754	ok	0.754	0.694-0.814
Freon 114	3.89	7.72	0.504	ok	0.504	0.444-0.564
Freon 115	3.89	7.72	0.504	ok	0.504	0.444-0.564
Freon 123	4.74	7.72	0.614	ok	0.615	0.555-0.675
Freon 123A	4.78	7.72	0.619	ok	0.620	0.560-0.680
Freon 141B	5.05	7.72	0.654	ok	0.655	0.595-0.715
Freon 142B	3.80	7.72	0.492	ok	0.492	0.432-0.552
Freon 143a	3.51	7.72	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.72	0.492	ok	0.492	0.432-0.552
Heptane	10.82	9.75	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.38	1.328	ok	1.329	1.269-1.389
Hexane	7.75	7.72	1.004	ok	1.005	0.945-1.065
2-Hexanone	12.75	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.43	7.72	0.703	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.01	7.72	0.649	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.59	7.72	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.72	0.917	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.75	1.175	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.72	0.873	ok	0.877	0.817-0.937
Methylmethacrylate	10.71	9.75	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.83	14.38	1.101	ok	1.101	1.041-1.161
Octane	13.54	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.72	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.38	1.172	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.72	0.473	ok	0.473	0.413-0.533
Styrene	15.45	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.89	7.72	1.152	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.38	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.16	9.75	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.38	1.092	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.13	14.38	1.191	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.54	9.75	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.51	7.72	0.714	ok	0.720	0.660-0.780
Tetrachloroethylene	13.69	14.38	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.26	7.72	1.070	ok	1.074	1.014-1.134
Toluene	12.47	9.75	1.279	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.75	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.72	0.644	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.72	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	6.82	7.72	0.883	ok	0.885	0.825-0.945
m,p-Xylene	15.03	14.38	1.045	ok	1.046	0.986-1.106
o-Xylene	15.57	14.38	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.72	0.679	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.72	ok	7.71	7.38-8.04	155655	ok	160518	96311-224725
1,4-Difluorobenzene	9.75	ok	9.75	9.42-10.08	690506	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	294329	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.73	0.625	ok	0.628	0.568-0.688
Acrylonitrile	5.20	7.73	0.673	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.73	0.600	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.73	0.528	ok	0.529	0.469-0.589
Benzene	9.39	9.76	0.962	ok	0.961	0.901-1.021
Bromobenzene	16.35	14.38	1.137	ok	1.137	1.077-1.197
Bromodichloromethane	10.46	9.76	1.072	ok	1.072	1.012-1.132
Bromoform	15.13	14.38	1.052	ok	1.052	0.992-1.112
Bromomethane	4.28	7.73	0.554	ok	0.555	0.495-0.615
Bromoethene	4.66	7.73	0.603	ok	0.604	0.544-0.664
n-Butane	4.11	7.73	0.532	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.38	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.67	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.97	14.38	1.250	ok	1.250	1.190-1.310
tert-Butylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
Carbon disulfide	5.90	7.73	0.763	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.62	7.73	0.468	ok	0.470	0.410-0.530
Chloroethane	4.40	7.73	0.569	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.65	7.73	0.472	ok	0.473	0.413-0.533
Chloroform	7.86	7.73	1.017	ok	1.017	0.957-1.077
Chloromethane	3.82	7.73	0.494	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.73	0.737	ok	0.739	0.679-0.799
2-Chlorotoluene	16.82	14.38	1.170	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.73	1.234	ok	1.236	1.176-1.296
Cyclohexane	9.67	9.76	0.991	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.70	7.73	0.867	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.50	7.73	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.19	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.63	7.73	1.116	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.26	9.76	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.50	9.76	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.50	9.76	1.076	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.71	7.73	0.480	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.46	7.73	0.577	ok	0.577	0.517-0.637
Dibromochloromethane	12.93	14.38	0.899	ok	0.899	0.839-0.959
Dibromomethane	10.23	9.76	1.048	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.49	7.73	0.840	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.55	7.73	0.977	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.43	9.76	1.171	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.82	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.91	14.38	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.99	9.76	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.75	7.73	1.003	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.94	9.76	1.018	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.70	7.73	1.125	ok	1.126	1.066-1.186
Ethanol	4.47	7.73	0.578	ok	0.580	0.520-0.640
Ethylbenzene	14.85	14.38	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.77	7.73	1.005	ok	1.007	0.947-1.067
Ethyl Acrylate	10.25	9.76	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.05	14.38	1.186	ok	1.185	1.125-1.245
Freon 113	5.83	7.73	0.754	ok	0.754	0.694-0.814
Freon 114	3.89	7.73	0.503	ok	0.504	0.444-0.564
Freon 115	3.89	7.73	0.503	ok	0.504	0.444-0.564
Freon 123	4.75	7.73	0.614	ok	0.615	0.555-0.675
Freon 123A	4.79	7.73	0.620	ok	0.620	0.560-0.680
Freon 141B	5.06	7.73	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.73	0.492	ok	0.492	0.432-0.552
Freon 143a	3.51	7.73	0.454	ok	0.455	0.395-0.515
Freon 152A	3.80	7.73	0.492	ok	0.492	0.432-0.552
Heptane	10.83	9.76	1.110	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.11	14.38	1.329	ok	1.329	1.269-1.389
Hexane	7.76	7.73	1.004	ok	1.005	0.945-1.065
2-Hexanone	12.76	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.45	7.73	0.705	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.01	7.73	0.648	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.59	7.73	0.723	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.73	0.916	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.76	1.174	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.73	0.872	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.76	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.84	14.38	1.102	ok	1.101	1.041-1.161
Octane	13.55	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.73	0.679	ok	0.680	0.620-0.740
n-Propylbenzene	16.87	14.38	1.173	ok	1.173	1.113-1.233

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	Reporting this level
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.73	0.472	ok	0.473	0.413-0.533
Styrene	15.45	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.90	7.73	1.151	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.57	14.38	1.083	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.18	9.76	1.248	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.72	14.38	1.093	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.15	14.38	1.193	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.55	9.76	1.081	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.52	7.73	0.714	ok	0.720	0.660-0.780
Tetrachloroethylene	13.70	14.38	0.953	ok	0.952	0.892-1.012
Tetrahydrofuran	8.26	7.73	1.069	ok	1.074	1.014-1.134
Toluene	12.47	9.76	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.51	9.76	1.077	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.73	0.643	ok	0.644	0.584-0.704
Vinyl chloride	3.98	7.73	0.515	ok	0.516	0.456-0.576
Vinyl Acetate	6.83	7.73	0.884	ok	0.885	0.825-0.945
m,p-Xylene	15.06	14.38	1.047	ok	1.046	0.986-1.106
o-Xylene	15.58	14.38	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.73	0.678	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.73	ok	7.71	7.38-8.04	158824	ok	160518	96311-224725
1,4-Difluorobenzene	9.76	ok	9.75	9.42-10.08	726608	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	350562	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	4.83	7.72	0.626	ok	0.628	0.568-0.688
Acrylonitrile	5.20	7.72	0.674	ok	0.675	0.615-0.735
Acetonitrile	4.64	7.72	0.601	ok	0.604	0.544-0.664
1,3-Butadiene	4.08	7.72	0.528	ok	0.529	0.469-0.589
Benzene	9.38	9.76	0.961	ok	0.961	0.901-1.021
Bromobenzene	16.34	14.38	1.136	ok	1.137	1.077-1.197
Bromodichloromethane	10.45	9.76	1.071	ok	1.072	1.012-1.132
Bromoform	15.12	14.38	1.051	ok	1.052	0.992-1.112
Bromomethane	4.28	7.72	0.554	ok	0.555	0.495-0.615
Bromoethene	4.66	7.72	0.604	ok	0.604	0.544-0.664
n-Butane	4.12	7.72	0.534	ok	0.533	0.473-0.593
Benzyl Chloride	17.80	14.38	1.238	ok	1.238	1.178-1.298
n-Butylbenzene	18.66	14.38	1.298	ok	1.298	1.238-1.358
sec-Butylbenzene	17.96	14.38	1.249	ok	1.250	1.190-1.310
tert-Butylbenzene	17.63	14.38	1.226	ok	1.227	1.167-1.287
Carbon disulfide	5.90	7.72	0.764	ok	0.764	0.704-0.824
Chlorobenzene	14.43	14.38	1.003	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.63	7.72	0.470	ok	0.470	0.410-0.530
Chloroethane	4.40	7.72	0.570	ok	0.570	0.510-0.630
Chlorotrifluoroethene	3.66	7.72	0.474	ok	0.473	0.413-0.533
Chloroform	7.86	7.72	1.018	ok	1.017	0.957-1.077
Chloromethane	3.83	7.72	0.496	ok	0.495	0.435-0.555
3-Chloropropene	5.70	7.72	0.738	ok	0.739	0.679-0.799
2-Chlorotoluene	16.81	14.38	1.169	ok	1.169	1.109-1.229
Carbon tetrachloride	9.54	7.72	1.236	ok	1.236	1.176-1.296
Cyclohexane	9.68	9.76	0.992	ok	0.991	0.931-1.051
1,1-Dichloroethane	6.69	7.72	0.867	ok	0.866	0.806-0.926
1,1-Dichloroethylene	5.50	7.72	0.712	ok	0.712	0.652-0.772
1,2-Dibromoethane	13.19	14.38	0.917	ok	0.917	0.857-0.977
1,2-Dichloroethane	8.63	7.72	1.118	ok	1.118	1.058-1.178
1,2-Dichloropropane	10.25	9.76	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	12.50	9.76	1.281	ok	1.281	1.221-1.341
1,4-Dioxane	10.50	9.76	1.076	ok	1.079	1.019-1.139
Dichlorodifluoromethane	3.71	7.72	0.481	ok	0.480	0.420-0.540
Dichlorofluoromethane	4.46	7.72	0.578	ok	0.577	0.517-0.637
Dibromochloromethane	12.92	14.38	0.898	ok	0.899	0.839-0.959
Dibromomethane	10.22	9.76	1.047	ok	1.048	0.988-1.108
trans-1,2-Dichloroethylene	6.49	7.72	0.841	ok	0.840	0.780-0.900
cis-1,2-Dichloroethylene	7.55	7.72	0.978	ok	0.977	0.917-1.037
cis-1,3-Dichloropropene	11.42	9.76	1.170	ok	1.171	1.111-1.231

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	17.81	14.38	1.239	ok	1.239	1.179-1.299
o-Dichlorobenzene	18.31	14.38	1.273	ok	1.274	1.214-1.334
p-Dichlorobenzene	17.90	14.38	1.245	ok	1.245	1.185-1.305
trans-1,3-Dichloropropene	11.99	9.76	1.228	ok	1.229	1.169-1.289
Di-Isopropyl ether	7.75	7.72	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	9.93	9.76	1.017	ok	1.018	0.958-1.078
2,4-Dimethylpentane	8.70	7.72	1.127	ok	1.126	1.066-1.186
Ethanol	4.47	7.72	0.579	ok	0.580	0.520-0.640
Ethylbenzene	14.85	14.38	1.033	ok	1.032	0.972-1.092
Ethyl Acetate	7.76	7.72	1.005	ok	1.007	0.947-1.067
Ethyl Acrylate	10.25	9.76	1.050	ok	1.052	0.992-1.112
4-Ethyltoluene	17.04	14.38	1.185	ok	1.185	1.125-1.245
Freon 113	5.83	7.72	0.755	ok	0.754	0.694-0.814
Freon 114	3.90	7.72	0.505	ok	0.504	0.444-0.564
Freon 115	3.90	7.72	0.505	ok	0.504	0.444-0.564
Freon 123	4.75	7.72	0.615	ok	0.615	0.555-0.675
Freon 123A	4.79	7.72	0.620	ok	0.620	0.560-0.680
Freon 141B	5.06	7.72	0.655	ok	0.655	0.595-0.715
Freon 142B	3.80	7.72	0.492	ok	0.492	0.432-0.552
Freon 143a	3.51	7.72	0.455	ok	0.455	0.395-0.515
Freon 152A	3.80	7.72	0.492	ok	0.492	0.432-0.552
Heptane	10.82	9.76	1.109	ok	1.110	1.050-1.170
Hexachlorobutadiene	20.86	14.38	1.451	ok	1.451	1.391-1.511
Hexachloroethane	19.10	14.38	1.328	ok	1.329	1.269-1.389
Hexane	7.76	7.72	1.005	ok	1.005	0.945-1.065
2-Hexanone	12.75	14.38	0.887	ok	0.888	0.828-0.948
Iodomethane	5.44	7.72	0.705	ok	0.704	0.644-0.764
Isopropylbenzene	16.25	14.38	1.130	ok	1.130	1.070-1.190
Isopropyl Alcohol	5.02	7.72	0.650	ok	0.651	0.591-0.711
p-Isopropyltoluene	18.16	14.38	1.263	ok	1.263	1.203-1.323
Methylene chloride	5.59	7.72	0.724	ok	0.724	0.664-0.784
Methyl ethyl ketone	7.08	7.72	0.917	ok	0.919	0.859-0.979
Methyl Isobutyl Ketone	11.46	9.76	1.174	ok	1.176	1.116-1.236
Methyl Tert Butyl Ether	6.74	7.72	0.873	ok	0.877	0.817-0.937
Methylmethacrylate	10.72	9.76	1.098	ok	1.099	1.039-1.159
Naphthalene	20.46	14.38	1.423	ok	1.423	1.363-1.483
Nonane	15.83	14.38	1.101	ok	1.101	1.041-1.161
Octane	13.54	14.38	0.942	ok	0.942	0.882-1.002
Pentane	5.25	7.72	0.680	ok	0.680	0.620-0.740
n-Propylbenzene	16.86	14.38	1.172	ok	1.173	1.113-1.233

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V3W2293-IC2293	3W60362.D	06/21/17 12:54	[redacted]	0.04	GCMS3W	TO-15	
V3W2293-IC2293	3W60363.D	06/21/17 13:35		0.1	GCMS3W	TO-15	
V3W2293-IC2293	3W60364.D	06/21/17 14:15		0.2	GCMS3W	TO-15	
V3W2293-IC2293	3W60365.D	06/21/17 14:55		0.5	GCMS3W	TO-15	
V3W2293-IC2293	3W60366.D	06/21/17 15:35		5	GCMS3W	TO-15	
V3W2293-ICC2293	3W60367.D	06/21/17 16:16		10	GCMS3W	TO-15	
V3W2293-IC2293	3W60370.D	06/21/17 18:21		40	GCMS3W	TO-15	
V3W2293-IC2293	3W60372.D	06/21/17 19:43		20	GCMS3W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Propylene	3.65	7.72	0.473	ok	0.473	0.413-0.533
Styrene	15.45	14.38	1.074	ok	1.074	1.014-1.134
1,1,1-Trichloroethane	8.90	7.72	1.153	ok	1.152	1.092-1.212
1,1,1,2-Tetrachloroethane	14.41	14.38	1.002	ok	1.002	0.942-1.062
1,1,2,2-Tetrachloroethane	15.56	14.38	1.082	ok	1.082	1.022-1.142
1,1,2-Trichloroethane	12.17	9.76	1.247	ok	1.247	1.187-1.307
1,2,4-Trichlorobenzene	20.33	14.38	1.414	ok	1.414	1.354-1.474
1,2,3-Trichloropropane	15.71	14.38	1.092	ok	1.093	1.033-1.153
1,2,4-Trimethylbenzene	17.64	14.38	1.227	ok	1.227	1.167-1.287
1,3,5-Trimethylbenzene	17.14	14.38	1.192	ok	1.192	1.132-1.252
2,2,4-Trimethylpentane	10.54	9.76	1.080	ok	1.081	1.021-1.141
Tertiary Butyl Alcohol	5.52	7.72	0.715	ok	0.720	0.660-0.780
Tetrachloroethylene	13.69	14.38	0.952	ok	0.952	0.892-1.012
Tetrahydrofuran	8.26	7.72	1.070	ok	1.074	1.014-1.134
Toluene	12.47	9.76	1.278	ok	1.278	1.218-1.338
Trichloroethylene	10.50	9.76	1.076	ok	1.077	1.017-1.137
Trichlorofluoromethane	4.97	7.72	0.644	ok	0.644	0.584-0.704
Vinyl chloride	3.99	7.72	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	6.83	7.72	0.885	ok	0.885	0.825-0.945
m,p-Xylene	15.05	14.38	1.047	ok	1.046	0.986-1.106
o-Xylene	15.57	14.38	1.083	ok	1.083	1.023-1.143
TVHC As Equiv Pentane	5.24	7.72	0.679	ok	0.687	0.627-0.747

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	7.72	ok	7.71	7.38-8.04	159146	ok	160518	96311-224725
1,4-Difluorobenzene	9.76	ok	9.75	9.42-10.08	709572	ok	689352	413611-965093
Chlorobenzene-D5	14.38	ok	14.38	14.05-14.71	317938	ok	291063	174638-407488

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acrylonitrile	5.76	8.18	0.704	ok	0.703	0.643-0.763
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.18	1.207	ok	1.208	1.148-1.268
Bromobenzene	18.34	15.77	1.163	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
Benzyl Chloride	20.17	15.77	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.17	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.39	8.18	0.781	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.87	8.18	0.595	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.18	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.18	1.016	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.23	8.18	0.762	ok	0.760	0.700-0.820
2-Chlorotoluene	18.96	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.18	1.226	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.18	0.735	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.27	10.29	1.387	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.29	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.45	10.29	1.307	ok	1.306	1.246-1.366
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.95	10.29	1.356	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.29	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.18	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.18	10.29	1.184	ok	1.183	1.123-1.243
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.74	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.27	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.86	10.29	1.250	ok	1.248	1.188-1.308

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Di-Isopropyl ether	8.24	8.18	1.007	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.43	8.18	1.275	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.18	1.115	ok	1.116	1.056-1.176
Ethyl Acrylate	10.92	10.29	1.061	ok	1.058	0.998-1.118
4-Ethyltoluene	19.26	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.30	8.18	0.648	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.23	8.18	0.517	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Heptane	11.46	10.29	1.114	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.55	15.77	1.493	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.84	10.29	1.345	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.64	8.18	0.934	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.27	10.29	1.192	ok	1.190	1.130-1.250
Methylmethacrylate	11.42	10.29	1.110	ok	1.108	1.048-1.168
Naphthalene	23.13	15.77	1.467	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556
Styrene	17.18	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.29	1.268	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	23.00	15.77	1.458	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.52	15.77	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.12	10.29	1.081	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.13	8.18	0.749	ok	0.745	0.685-0.805

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.84	8.18	1.081	ok	1.075	1.015-1.135
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.18	0.539	ok	0.539	0.479-0.599
Vinyl Acetate	7.34	8.18	0.897	ok	0.896	0.836-0.956

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	285389	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	995094	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	428758	ok	428337	257002-599672

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.33	8.14	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.71	8.14	0.701	ok	0.703	0.643-0.763
1,3-Butadiene	4.46	8.14	0.548	ok	0.552	0.492-0.612
Benzene	9.85	8.14	1.210	ok	1.208	1.148-1.268
Bromobenzene	18.34	15.76	1.164	ok	1.162	1.102-1.222
Bromodichloromethane	11.04	10.27	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.76	1.061	ok	1.060	1.000-1.120
Bromomethane	4.67	8.14	0.574	ok	0.578	0.518-0.638
Bromoethene	5.09	8.14	0.625	ok	0.628	0.568-0.688
n-Butane	4.49	8.14	0.552	ok	0.555	0.495-0.615
Benzyl Chloride	20.17	15.76	1.280	ok	1.279	1.219-1.339
n-Butylbenzene	21.17	15.76	1.343	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.76	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.76	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.34	8.14	0.779	ok	0.780	0.720-0.840
Chlorobenzene	15.82	15.76	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	3.98	8.14	0.489	ok	0.494	0.434-0.554
Chloroethane	4.81	8.14	0.591	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.02	8.14	0.494	ok	0.497	0.437-0.557
Chloroform	8.27	8.14	1.016	ok	1.016	0.956-1.076
Chloromethane	4.20	8.14	0.516	ok	0.519	0.459-0.579
3-Chloropropene	6.17	8.14	0.758	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.76	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.01	8.14	1.230	ok	1.227	1.167-1.287
Cyclohexane	10.13	8.14	1.244	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.12	8.14	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	5.96	8.14	0.732	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.27	1.389	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.06	8.14	1.113	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.80	10.27	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.27	1.309	ok	1.306	1.246-1.366
1,4-Dioxane	11.20	10.27	1.091	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.06	8.14	0.499	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.88	8.14	0.600	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.27	1.357	ok	1.355	1.295-1.415
Dibromomethane	10.78	10.27	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.92	8.14	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	7.97	8.14	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.27	1.184	ok	1.183	1.123-1.243
m-Dichlorobenzene	20.17	15.76	1.280	ok	1.279	1.219-1.339

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
o-Dichlorobenzene	20.74	15.76	1.316	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.27	15.76	1.286	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.27	1.250	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.20	8.14	1.007	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.41	8.14	1.279	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.09	8.14	1.117	ok	1.116	1.056-1.176
Ethyl Acetate	8.26	8.14	1.015	ok	1.012	0.952-1.072
Ethyl Acrylate	10.89	10.27	1.060	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.76	1.221	ok	1.221	1.161-1.281
Freon 113	6.29	8.14	0.773	ok	0.775	0.715-0.835
Freon 114	4.27	8.14	0.525	ok	0.527	0.467-0.587
Freon 123	5.20	8.14	0.639	ok	0.642	0.582-0.702
Freon 123A	5.25	8.14	0.645	ok	0.648	0.588-0.708
Freon 141B	5.51	8.14	0.677	ok	0.680	0.620-0.740
Freon 142B	4.17	8.14	0.512	ok	0.517	0.457-0.577
Freon 143a	3.86	8.14	0.474	ok	0.478	0.418-0.538
Freon 152A	3.95	8.14	0.485	ok	0.489	0.429-0.549
Heptane	11.44	10.27	1.114	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.76	1.495	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.76	1.372	ok	1.372	1.312-1.432
Hexane	8.15	8.14	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.82	10.27	1.346	ok	1.341	1.281-1.401
Iodomethane	5.90	8.14	0.725	ok	0.727	0.667-0.787
p-Isopropyltoluene	20.59	15.76	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.08	8.14	0.747	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.59	8.14	0.932	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.25	10.27	1.193	ok	1.190	1.130-1.250
Methylmethacrylate	11.39	10.27	1.109	ok	1.108	1.048-1.168
Naphthalene	23.12	15.76	1.467	ok	1.466	1.406-1.526
Nonane	17.69	15.76	1.122	ok	1.122	1.062-1.182
Octane	14.72	10.27	1.433	ok	1.431	1.371-1.491
Pentane	5.70	8.14	0.700	ok	0.703	0.643-0.763
n-Propylbenzene	19.03	15.76	1.207	ok	1.207	1.147-1.267
Propylene	4.01	8.14	0.493	ok	0.496	0.436-0.556
Styrene	17.17	15.76	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.33	8.14	1.146	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.80	10.27	1.538	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.76	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.27	1.270	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.99	15.76	1.459	ok	1.457	1.397-1.517

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,2,3-Trichloropropane	17.51	15.76	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.76	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.76	1.230	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.09	10.27	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.06	8.14	0.744	ok	0.745	0.685-0.805
Tetrachloroethylene	14.88	10.27	1.449	ok	1.447	1.387-1.507
Tetrahydrofuran	8.79	8.14	1.080	ok	1.075	1.015-1.135
Trichloroethylene	11.08	10.27	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.42	8.14	0.666	ok	0.668	0.608-0.728
Vinyl chloride	4.36	8.14	0.536	ok	0.539	0.479-0.599
Vinyl Acetate	7.29	8.14	0.896	ok	0.896	0.836-0.956

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.14	ok	8.17	7.84-8.50	256090	ok	284320	170592-398048
1,4-Difluorobenzene	10.27	ok	10.29	9.96-10.62	886442	ok	977438	586463-1368413
Chlorobenzene-D5	15.76	ok	15.77	15.44-16.10	385129	ok	428337	257002-599672

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.35	8.16	0.656	ok	0.656	0.596-0.716
Acrylonitrile	5.73	8.16	0.702	ok	0.703	0.643-0.763
Acetonitrile	5.14	8.16	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.49	8.16	0.550	ok	0.552	0.492-0.612
Benzene	9.86	8.16	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.33	15.76	1.163	ok	1.162	1.102-1.222
Bromodichloromethane	11.05	10.28	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.76	1.061	ok	1.060	1.000-1.120
Bromomethane	4.71	8.16	0.577	ok	0.578	0.518-0.638
Bromoethene	5.11	8.16	0.626	ok	0.628	0.568-0.688
n-Butane	4.52	8.16	0.554	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.76	1.279	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.76	1.343	ok	1.342	1.282-1.402
sec-Butylbenzene	20.34	15.76	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.76	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.36	8.16	0.779	ok	0.780	0.720-0.840
Chlorobenzene	15.82	15.76	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.01	8.16	0.491	ok	0.494	0.434-0.554
Chloroethane	4.83	8.16	0.592	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.04	8.16	0.495	ok	0.497	0.437-0.557
Chloroform	8.29	8.16	1.016	ok	1.016	0.956-1.076
Chloromethane	4.22	8.16	0.517	ok	0.519	0.459-0.579
3-Chloropropene	6.20	8.16	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.76	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.02	8.16	1.228	ok	1.227	1.167-1.287
Cyclohexane	10.15	8.16	1.244	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.15	8.16	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	5.98	8.16	0.733	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.25	10.28	1.386	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.07	8.16	1.112	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.81	10.28	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.43	10.28	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.19	10.28	1.089	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.09	8.16	0.501	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.91	8.16	0.602	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.28	1.356	ok	1.355	1.295-1.415
Dibromomethane	10.78	10.28	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.95	8.16	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	7.99	8.16	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.28	1.184	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.76	1.280	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.76	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.76	1.286	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.28	1.249	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.16	1.006	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.43	8.16	1.278	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.11	8.16	1.116	ok	1.116	1.056-1.176
Ethanol	4.96	8.16	0.608	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.76	1.039	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.16	1.012	ok	1.012	0.952-1.072
Ethyl Acrylate	10.88	10.28	1.058	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.76	1.221	ok	1.221	1.161-1.281
Freon 113	6.32	8.16	0.775	ok	0.775	0.715-0.835
Freon 114	4.29	8.16	0.526	ok	0.527	0.467-0.587
Freon 123	5.23	8.16	0.641	ok	0.642	0.582-0.702
Freon 123A	5.28	8.16	0.647	ok	0.648	0.588-0.708
Freon 141B	5.54	8.16	0.679	ok	0.680	0.620-0.740
Freon 142B	4.20	8.16	0.515	ok	0.517	0.457-0.577
Freon 143a	3.88	8.16	0.475	ok	0.478	0.418-0.538
Freon 152A	3.98	8.16	0.488	ok	0.489	0.429-0.549
Heptane	11.44	10.28	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.55	15.76	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.76	1.372	ok	1.372	1.312-1.432
Hexane	8.17	8.16	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.81	10.28	1.343	ok	1.341	1.281-1.401
Iodomethane	5.92	8.16	0.725	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.76	1.156	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.56	8.16	0.681	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.59	15.76	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.11	8.16	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.60	8.16	0.931	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.25	10.28	1.192	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.25	8.16	0.888	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.28	1.108	ok	1.108	1.048-1.168
Naphthalene	23.11	15.76	1.466	ok	1.466	1.406-1.526
Nonane	17.69	15.76	1.122	ok	1.122	1.062-1.182
Octane	14.72	10.28	1.432	ok	1.431	1.371-1.491
Pentane	5.73	8.16	0.702	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.76	1.207	ok	1.207	1.147-1.267
Propylene	4.03	8.16	0.494	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.17	15.76	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.34	8.16	1.145	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.80	10.28	1.537	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.76	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.28	1.268	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.99	15.76	1.459	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.76	1.111	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.76	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.76	1.230	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.28	1.081	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.16	0.745	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.28	1.448	ok	1.447	1.387-1.507
Tetrahydrofuran	8.80	8.16	1.078	ok	1.075	1.015-1.135
Toluene	13.39	10.28	1.303	ok	1.301	1.241-1.361
Trichloroethylene	11.09	10.28	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.44	8.16	0.667	ok	0.668	0.608-0.728
Vinyl chloride	4.39	8.16	0.538	ok	0.539	0.479-0.599
Vinyl Acetate	7.31	8.16	0.896	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.76	1.055	ok	1.055	0.995-1.115
o-Xylene	17.31	15.76	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.73	15.76	0.364	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.16	ok	8.17	7.84-8.50	269496	ok	284320	170592-398048
1,4-Difluorobenzene	10.28	ok	10.29	9.96-10.62	937921	ok	977438	586463-1368413
Chlorobenzene-D5	15.76	ok	15.77	15.44-16.10	416042	ok	428337	257002-599672

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.38	8.18	0.658	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.18	0.703	ok	0.703	0.643-0.763
Acetonitrile	5.17	8.18	0.632	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.18	1.207	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.34	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.86	8.18	0.594	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.18	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.18	1.016	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.18	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.18	1.226	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.18	0.735	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.29	1.386	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.29	1.052	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.19	10.29	1.087	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.29	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.29	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.18	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.29	1.183	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.16	15.77	1.278	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.22	8.18	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.18	1.115	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.28	8.18	1.012	ok	1.012	0.952-1.072
Ethyl Acrylate	10.88	10.29	1.057	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.30	8.18	0.648	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.23	8.18	0.517	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.01	8.18	0.490	ok	0.489	0.429-0.549
Heptane	11.45	10.29	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.80	10.29	1.341	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.58	8.18	0.682	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.58	15.77	1.305	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.61	8.18	0.930	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.25	10.29	1.190	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.26	8.18	0.888	ok	0.886	0.826-0.946
Methylmethacrylate	11.40	10.29	1.108	ok	1.108	1.048-1.168
Naphthalene	23.11	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.29	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.98	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.77	1.266	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.10	8.18	0.746	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.80	8.18	1.076	ok	1.075	1.015-1.135
Toluene	13.39	10.29	1.301	ok	1.301	1.241-1.361
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.18	0.539	ok	0.539	0.479-0.599
Vinyl Acetate	7.33	8.18	0.896	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	287053	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	994982	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	435260	ok	428337	257002-599672

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	Reporting this level
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.18	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.74	8.18	0.702	ok	0.703	0.643-0.763
Acetonitrile	5.15	8.18	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.18	1.207	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.15	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.86	8.18	0.594	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.18	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.18	1.016	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.18	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.94	15.77	1.201	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.18	1.226	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.18	0.735	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.25	10.29	1.385	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.81	10.29	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.15	10.29	1.084	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.29	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.79	10.29	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.18	0.978	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.29	1.182	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	Reporting this level
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.16	15.77	1.278	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.18	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.18	1.115	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.18	1.010	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.29	1.056	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.30	8.18	0.648	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.23	8.18	0.517	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.01	8.18	0.490	ok	0.489	0.429-0.549
Heptane	11.45	10.29	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.78	10.29	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.21	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.56	8.18	0.680	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.58	15.77	1.305	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.59	8.18	0.928	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.23	10.29	1.189	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.18	0.885	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.29	1.107	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.72	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	Reporting this level
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.16	15.77	1.088	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.29	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.50	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.77	1.266	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.18	0.743	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.77	8.18	1.072	ok	1.075	1.015-1.135
Toluene	13.39	10.29	1.301	ok	1.301	1.241-1.361
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.18	0.539	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.18	0.895	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	293092	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	1004061	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	463849	ok	428337	257002-599672

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.17	0.656	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.17	0.704	ok	0.703	0.643-0.763
Acetonitrile	5.15	8.17	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.17	0.553	ok	0.552	0.492-0.612
Benzene	9.87	8.17	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.06	10.29	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.17	0.579	ok	0.578	0.518-0.638
Bromoethene	5.14	8.17	0.629	ok	0.628	0.568-0.688
n-Butane	4.55	8.17	0.557	ok	0.555	0.495-0.615
Benzyl Chloride	20.15	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.95	15.77	1.265	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.17	0.781	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.17	0.496	ok	0.494	0.434-0.554
Chloroethane	4.86	8.17	0.595	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.07	8.17	0.498	ok	0.497	0.437-0.557
Chloroform	8.31	8.17	1.017	ok	1.016	0.956-1.076
Chloromethane	4.25	8.17	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.17	0.761	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.03	8.17	1.228	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.17	1.244	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.17	0.878	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.01	8.17	0.736	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.29	1.386	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.17	1.113	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.81	10.29	1.051	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.29	1.306	ok	1.306	1.246-1.366
1,4-Dioxane	11.15	10.29	1.084	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.17	0.506	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.17	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.94	10.29	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.29	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.17	0.853	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.00	8.17	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.16	10.29	1.182	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.16	15.77	1.278	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.29	1.248	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.17	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.17	1.278	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.12	8.17	1.116	ok	1.116	1.056-1.176
Ethanol	4.98	8.17	0.610	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.17	1.011	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.29	1.056	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.17	0.776	ok	0.775	0.715-0.835
Freon 114	4.32	8.17	0.529	ok	0.527	0.467-0.587
Freon 123	5.26	8.17	0.644	ok	0.642	0.582-0.702
Freon 123A	5.30	8.17	0.649	ok	0.648	0.588-0.708
Freon 141B	5.57	8.17	0.682	ok	0.680	0.620-0.740
Freon 142B	4.23	8.17	0.518	ok	0.517	0.457-0.577
Freon 143a	3.92	8.17	0.480	ok	0.478	0.418-0.538
Freon 152A	4.01	8.17	0.491	ok	0.489	0.429-0.549
Heptane	11.45	10.29	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.55	15.77	1.493	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.17	1.002	ok	1.001	0.941-1.061
2-Hexanone	13.78	10.29	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.17	0.728	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.57	8.17	0.682	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.58	15.77	1.305	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.17	0.750	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.58	8.17	0.928	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.23	10.29	1.189	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.17	0.886	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.29	1.107	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.29	1.431	ok	1.431	1.371-1.491
Pentane	5.75	8.17	0.704	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.17	0.497	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.16	15.77	1.088	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.17	1.146	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.29	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.29	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.97	15.77	1.266	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.11	10.29	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.17	0.744	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.29	1.447	ok	1.447	1.387-1.507
Tetrahydrofuran	8.76	8.17	1.072	ok	1.075	1.015-1.135
Toluene	13.39	10.29	1.301	ok	1.301	1.241-1.361
Trichloroethylene	11.10	10.29	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.17	0.670	ok	0.668	0.608-0.728
Vinyl chloride	4.41	8.17	0.540	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.17	0.896	ok	0.896	0.836-0.956
m,p-Xylene	16.62	15.77	1.054	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.17	ok	8.17	7.84-8.50	291386	ok	284320	170592-398048
1,4-Difluorobenzene	10.29	ok	10.29	9.96-10.62	996968	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	450995	ok	428337	257002-599672

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.18	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.18	0.703	ok	0.703	0.643-0.763
Acetonitrile	5.15	8.18	0.630	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.88	8.18	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.32	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.07	10.30	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.16	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.35	15.77	1.290	ok	1.291	1.231-1.351
tert-Butylbenzene	19.96	15.77	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.86	8.18	0.594	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.08	8.18	0.499	ok	0.497	0.437-0.557
Chloroform	8.32	8.18	1.017	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.22	8.18	0.760	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.04	8.18	1.227	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.02	8.18	0.736	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.30	1.384	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.30	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.30	1.305	ok	1.306	1.246-1.366
1,4-Dioxane	11.15	10.30	1.083	ok	1.086	1.026-1.146
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.95	10.30	1.354	ok	1.355	1.295-1.415
Dibromomethane	10.80	10.30	1.049	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.01	8.18	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.30	1.182	ok	1.183	1.123-1.243

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339
o-Dichlorobenzene	20.73	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.26	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.30	1.247	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.21	8.18	1.004	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.13	8.18	1.116	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.26	8.18	1.010	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.30	1.055	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.31	8.18	0.649	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.24	8.18	0.518	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.01	8.18	0.490	ok	0.489	0.429-0.549
Heptane	11.45	10.30	1.112	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.79	10.30	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.22	15.77	1.155	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.57	8.18	0.681	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.58	8.18	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.23	10.30	1.187	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.18	0.885	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.30	1.106	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.69	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.30	1.430	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.02	15.77	1.206	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	Reporting this level
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Styrene	17.16	15.77	1.088	ok	1.089	1.029-1.149
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.81	10.30	1.535	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.32	15.77	1.098	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.04	10.30	1.266	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.12	10.30	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.18	0.743	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.30	1.446	ok	1.447	1.387-1.507
Tetrahydrofuran	8.76	8.18	1.071	ok	1.075	1.015-1.135
Toluene	13.39	10.30	1.300	ok	1.301	1.241-1.361
Trichloroethylene	11.11	10.30	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.42	8.18	0.540	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.18	0.895	ok	0.896	0.836-0.956
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.32	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	293152	ok	284320	170592-398048
1,4-Difluorobenzene	10.30	ok	10.29	9.96-10.62	994053	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	418627	ok	428337	257002-599672

SGS ACCUTEST JC52679

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.36	8.18	0.655	ok	0.656	0.596-0.716
Acrylonitrile	5.75	8.18	0.703	ok	0.703	0.643-0.763
Acetonitrile	5.16	8.18	0.631	ok	0.630	0.570-0.690
1,3-Butadiene	4.52	8.18	0.553	ok	0.552	0.492-0.612
Benzene	9.88	8.18	1.208	ok	1.208	1.148-1.268
Bromobenzene	18.33	15.77	1.162	ok	1.162	1.102-1.222
Bromodichloromethane	11.07	10.30	1.075	ok	1.075	1.015-1.135
Bromoform	16.72	15.77	1.060	ok	1.060	1.000-1.120
Bromomethane	4.73	8.18	0.578	ok	0.578	0.518-0.638
Bromoethene	5.14	8.18	0.628	ok	0.628	0.568-0.688
n-Butane	4.55	8.18	0.556	ok	0.555	0.495-0.615
Benzyl Chloride	20.16	15.77	1.278	ok	1.279	1.219-1.339
n-Butylbenzene	21.17	15.77	1.342	ok	1.342	1.282-1.402
sec-Butylbenzene	20.36	15.77	1.291	ok	1.291	1.231-1.351
tert-Butylbenzene	19.96	15.77	1.266	ok	1.265	1.205-1.325
Carbon disulfide	6.38	8.18	0.780	ok	0.780	0.720-0.840
Chlorobenzene	15.83	15.77	1.004	ok	1.004	0.944-1.064
Chlorodifluoromethane	4.05	8.18	0.495	ok	0.494	0.434-0.554
Chloroethane	4.87	8.18	0.595	ok	0.594	0.534-0.654
Chlorotrifluoroethene	4.08	8.18	0.499	ok	0.497	0.437-0.557
Chloroform	8.32	8.18	1.017	ok	1.016	0.956-1.076
Chloromethane	4.25	8.18	0.520	ok	0.519	0.459-0.579
3-Chloropropene	6.23	8.18	0.762	ok	0.760	0.700-0.820
2-Chlorotoluene	18.95	15.77	1.202	ok	1.202	1.142-1.262
Carbon tetrachloride	10.04	8.18	1.227	ok	1.227	1.167-1.287
Cyclohexane	10.16	8.18	1.242	ok	1.243	1.183-1.303
1,1-Dichloroethane	7.17	8.18	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.02	8.18	0.736	ok	0.735	0.675-0.795
1,2-Dibromoethane	14.26	10.30	1.384	ok	1.386	1.326-1.446
1,2-Dichloroethane	9.09	8.18	1.111	ok	1.112	1.052-1.172
1,2-Dichloropropane	10.82	10.30	1.050	ok	1.051	0.991-1.111
1,3-Dichloropropane	13.44	10.30	1.305	ok	1.306	1.246-1.366
Dichlorodifluoromethane	4.13	8.18	0.505	ok	0.504	0.444-0.564
Dichlorofluoromethane	4.93	8.18	0.603	ok	0.602	0.542-0.662
Dibromochloromethane	13.96	10.30	1.355	ok	1.355	1.295-1.415
Dibromomethane	10.81	10.30	1.050	ok	1.049	0.989-1.109
trans-1,2-Dichloroethylene	6.97	8.18	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.01	8.18	0.979	ok	0.979	0.919-1.039
cis-1,3-Dichloropropene	12.17	10.30	1.182	ok	1.183	1.123-1.243
m-Dichlorobenzene	20.17	15.77	1.279	ok	1.279	1.219-1.339

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
o-Dichlorobenzene	20.74	15.77	1.315	ok	1.315	1.255-1.375
p-Dichlorobenzene	20.27	15.77	1.285	ok	1.285	1.225-1.345
trans-1,3-Dichloropropene	12.84	10.30	1.247	ok	1.248	1.188-1.308
Di-Isopropyl ether	8.22	8.18	1.005	ok	1.005	0.945-1.065
2,3-Dimethylpentane	10.44	8.18	1.276	ok	1.277	1.217-1.337
2,4-Dimethylpentane	9.13	8.18	1.116	ok	1.116	1.056-1.176
Ethanol	4.98	8.18	0.609	ok	0.609	0.549-0.669
Ethylbenzene	16.37	15.77	1.038	ok	1.038	0.978-1.098
Ethyl Acetate	8.27	8.18	1.011	ok	1.012	0.952-1.072
Ethyl Acrylate	10.87	10.30	1.055	ok	1.058	0.998-1.118
4-Ethyltoluene	19.25	15.77	1.221	ok	1.221	1.161-1.281
Freon 113	6.34	8.18	0.775	ok	0.775	0.715-0.835
Freon 114	4.32	8.18	0.528	ok	0.527	0.467-0.587
Freon 123	5.26	8.18	0.643	ok	0.642	0.582-0.702
Freon 123A	5.31	8.18	0.649	ok	0.648	0.588-0.708
Freon 141B	5.57	8.18	0.681	ok	0.680	0.620-0.740
Freon 142B	4.24	8.18	0.518	ok	0.517	0.457-0.577
Freon 143a	3.92	8.18	0.479	ok	0.478	0.418-0.538
Freon 152A	4.02	8.18	0.491	ok	0.489	0.429-0.549
Heptane	11.46	10.30	1.113	ok	1.113	1.053-1.173
Hexachlorobutadiene	23.56	15.77	1.494	ok	1.494	1.434-1.554
Hexachloroethane	21.63	15.77	1.372	ok	1.372	1.312-1.432
Hexane	8.19	8.18	1.001	ok	1.001	0.941-1.061
2-Hexanone	13.79	10.30	1.339	ok	1.341	1.281-1.401
Iodomethane	5.95	8.18	0.727	ok	0.727	0.667-0.787
Isopropylbenzene	18.23	15.77	1.156	ok	1.155	1.095-1.215
Isopropyl Alcohol	5.57	8.18	0.681	ok	0.681	0.621-0.741
p-Isopropyltoluene	20.59	15.77	1.306	ok	1.306	1.246-1.366
Methylene chloride	6.13	8.18	0.749	ok	0.749	0.689-0.809
Methyl ethyl ketone	7.58	8.18	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	12.24	10.30	1.188	ok	1.190	1.130-1.250
Methyl Tert Butyl Ether	7.24	8.18	0.885	ok	0.886	0.826-0.946
Methylmethacrylate	11.39	10.30	1.106	ok	1.108	1.048-1.168
Naphthalene	23.10	15.77	1.465	ok	1.466	1.406-1.526
Nonane	17.70	15.77	1.122	ok	1.122	1.062-1.182
Octane	14.73	10.30	1.430	ok	1.431	1.371-1.491
Pentane	5.75	8.18	0.703	ok	0.703	0.643-0.763
n-Propylbenzene	19.03	15.77	1.207	ok	1.207	1.147-1.267
Propylene	4.06	8.18	0.496	ok	0.496	0.436-0.556
Styrene	17.17	15.77	1.089	ok	1.089	1.029-1.149

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
V5W1065-IC1065	5W27080.D	10/06/17 12:49	[redacted]	0.04	GCMS5W	TO-15	
V5W1065-IC1065	5W27081.D	10/06/17 13:35		0.1	GCMS5W	TO-15	
V5W1065-IC1065	5W27082.D	10/06/17 14:28		0.2	GCMS5W	TO-15	
V5W1065-IC1065	5W27084.D	10/06/17 16:10		0.5	GCMS5W	TO-15	
V5W1065-IC1065	5W27085.D	10/06/17 17:00		5	GCMS5W	TO-15	
V5W1065-ICC1065	5W27086.D	10/06/17 17:45		10	GCMS5W	TO-15	
V5W1065-IC1065	5W27087.D	10/06/17 18:33		20	GCMS5W	TO-15	
V5W1065-IC1065	5W27088.D	10/06/17 19:23		40	GCMS5W	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,1,1-Trichloroethane	9.36	8.18	1.144	ok	1.145	1.085-1.205
1,1,1,2-Tetrachloroethane	15.82	10.30	1.536	ok	1.537	1.477-1.597
1,1,2,2-Tetrachloroethane	17.33	15.77	1.099	ok	1.099	1.039-1.159
1,1,2-Trichloroethane	13.05	10.30	1.267	ok	1.268	1.208-1.328
1,2,4-Trichlorobenzene	22.97	15.77	1.457	ok	1.457	1.397-1.517
1,2,3-Trichloropropane	17.51	15.77	1.110	ok	1.111	1.051-1.171
1,2,4-Trimethylbenzene	19.98	15.77	1.267	ok	1.267	1.207-1.327
1,3,5-Trimethylbenzene	19.38	15.77	1.229	ok	1.229	1.169-1.289
2,2,4-Trimethylpentane	11.12	10.30	1.080	ok	1.080	1.020-1.140
Tertiary Butyl Alcohol	6.08	8.18	0.743	ok	0.745	0.685-0.805
Tetrachloroethylene	14.89	10.30	1.446	ok	1.447	1.387-1.507
Tetrahydrofuran	8.76	8.18	1.071	ok	1.075	1.015-1.135
Toluene	13.39	10.30	1.300	ok	1.301	1.241-1.361
Trichloroethylene	11.11	10.30	1.079	ok	1.079	1.019-1.139
Trichlorofluoromethane	5.47	8.18	0.669	ok	0.668	0.608-0.728
Vinyl chloride	4.42	8.18	0.540	ok	0.539	0.479-0.599
Vinyl Acetate	7.32	8.18	0.895	ok	0.896	0.836-0.956
m,p-Xylene	16.65	15.77	1.056	ok	1.055	0.995-1.115
o-Xylene	17.31	15.77	1.098	ok	1.098	1.038-1.158
TVHC As Equiv Pentane	5.75	15.77	0.365	ok	0.364	0.304-0.424

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.18	ok	8.17	7.84-8.50	298904	ok	284320	170592-398048
1,4-Difluorobenzene	10.30	ok	10.29	9.96-10.62	1009982	ok	977438	586463-1368413
Chlorobenzene-D5	15.77	ok	15.77	15.44-16.10	428032	ok	428337	257002-599672

Surrogate Recovery Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Method: TO-15 **Matrix:** AIR

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
JC52679-1	5W27180.D	117
JC52203-1DUP	5W27168.D	119
V3W2298-SCC	3W60501.D	93
V5W1069-BS	5W27162.D	117
V5W1069-BSD	5W27163.D	117
V5W1069-MB	5W27165.D	102
V3W2298-BS	3W60489.D	105
V3W2298-BSD	3W60490.D	105
V3W2298-MB	3W60494.D	84

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	65-128%

Initial Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICC2293
Lab FileID: 3W60367.D

Response Factor Report GCMS3W

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Calibration Files
0.04=3W60362.D 0.1 =3W60363.D 0.2 =3W60364.D 0.5 =3W60365.D
5 =3W60366.D 10 =3W60367.D 20 =3W60372.D 40 =3W60370.D

Compound	0.04	0.1	0.2	0.5	5	10	20	40	Avg	%RSD
1) I BROMOCHLOROMETHANE	ISTD									
2) 1,1,1-TRIFLU	1.722	1.536	1.445	1.456	1.354	1.451	1.404	1.402	1.471	7.77
3) FREON 115	2.230	2.198	2.162	2.144	2.114	2.218	2.159	2.115	2.167	2.04
4) FREON 152A	1.443	1.334	1.353	1.355	1.307	1.391	1.351	1.373	1.363	2.98
5) CHLORODIFLUO		0.220	0.183	0.192	0.178	0.189	0.185	0.188	0.191	7.22
6) CHLOROTRIFLU	1.161	1.128	1.211	1.163	1.156	1.226	1.196	1.206	1.181	2.85
7) DICHLORODIFL	2.430	2.000	2.001	2.003	1.902	2.005	1.923	1.913	2.022	8.45
8) PROPYLENE			0.659	0.610	0.518	0.546	0.525	0.522	0.563	10.32
9) 1-CHLORO-1,1	1.443	1.334	1.353	1.355	1.307	1.391	1.351	1.373	1.363	2.98
10) FREON 114	2.230	2.198	2.162	2.144	2.114	2.218	2.159	2.115	2.167	2.04
11) CHLOROMETHAN	0.259	0.250	0.262	0.255	0.229	0.240	0.236	0.237	0.246	4.94
12) VINYL CHLORI	0.795	0.841	0.873	0.857	0.842	0.887	0.876	0.887	0.857	3.65
13) 1,3-BUTADIEN	0.611	0.649	0.634	0.616	0.592	0.624	0.617	0.630	0.622	2.75
14) n-BUTANE		1.116	1.100	1.045	1.041	1.103	1.077	1.090	1.082	2.67
15) BROMOMETHANE		1.346	1.162	1.036	0.917	0.961	0.932	0.940	1.042	15.24
16) CHLOROETHANE		0.347	0.433	0.421	0.408	0.423	0.414	0.424	0.410	7.05
17) DICHLOROFLUO	2.128	1.994	1.945	1.863	1.738	1.804	1.757	1.777	1.876	7.28
18) ACETONITRILE		0.685	0.569	0.656	0.523	0.554	0.547	0.564	0.585	10.34
19) FREON 123	2.342	2.590	2.435	2.341	2.195	2.282	2.217	2.207	2.326	5.80
20) FREON 123A	1.080	1.143	1.206	1.223	1.177	1.228	1.189	1.178	1.178	4.10
21) TRICHLOROFLU	2.145	1.891	1.945	1.930	1.959	2.079	2.027	2.040	2.002	4.27
22) 1,1-DICHLORO	2.313	1.946	1.798	1.751	1.656	1.743	1.707	1.734	1.831	11.60
23) ISOPROPYL AL			2.387	1.762	1.466	1.539	1.396	1.303	1.642	24.16
24) ACETONE			0.466	0.442	0.330	0.354	0.351	0.363	0.384	14.47
25) PENTANE		0.702	0.716	0.730	0.688	0.724	0.720	0.736	0.717	2.34
26) TVHC as EQUI			4.836	4.388	3.371	3.512	3.436	3.507	3.842	16.02
27) IODOMETHANE	2.523	2.654	2.789	2.800	2.708	2.828	2.719	2.681	2.713	3.62
28) 1,1-DICHLORO	1.123	1.027	0.943	0.856	0.844	0.887	0.850	0.861	0.924	11.00
29) CARBON DISUL	3.052	2.845	2.846	2.757	2.683	2.775	2.682	2.689	2.791	4.49
30) ETHANOL				0.395	0.220	0.229	0.206	0.193	0.249	33.43
31) BROMOETHENE	0.966	0.964	0.963	0.956	0.917	0.959	0.938	0.948	0.951	1.77
32) ACRYLONITRIL		0.421	0.495	0.520	0.428	0.455	0.460	0.480	0.465	7.66
33) METHYLENE CH			1.250	1.021	0.780	0.806	0.479	0.486	0.804	37.49
34) 3-CHLOROPROP		0.347	0.350	0.396	0.378	0.395	0.378	0.394	0.377	5.56
35) FREON 113	1.324	1.391	1.509	1.503	1.525	1.611	1.565	1.588	1.502	6.54
36) TRANS-1,2-DI			1.318	1.116	0.887	0.906	0.882	0.906	1.003	17.79
37) TERTIARY BUT	1.415	1.396	1.573	1.395	1.611	1.633	1.259	1.089	1.421	13.09
38) METHYL TERTI	1.970	1.983	2.234	2.266	2.132	2.205	2.127	2.206	2.140	5.21
39) TETRAHYDROFU		0.240	0.349	0.369	0.363	0.383	0.373	0.391	0.353	14.63
40) HEXANE			1.342	1.126	1.159	1.136	1.125	1.125	1.169	7.34
41) VINYL ACETAT			0.061	0.122	0.134	0.148	0.152	0.163	0.130	28.30
42) 1,1-DICHLORO	1.200	1.322	1.422	1.449	1.391	1.438	1.419	1.449	1.386	6.21
43) METHYL ETHYL			0.291	0.377	0.366	0.383	0.384	0.405	0.368	10.86
44) cis-1,2-DICH	0.762	0.903	0.925	0.942	0.890	0.923	0.909	0.942	0.900	6.49
45) DIISOPROPYL		0.247	0.317	0.344	0.329	0.348	0.336	0.341	0.323	10.92
46) ETHYL ACETAT			0.182	0.218	0.226	0.249	0.246	0.247	0.228	11.32

Initial Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICC2293
Lab FileID: 3W60367.D

47)	METHYL ACRYL	0.956	1.373	1.394	1.300	1.249	1.296	1.287	1.308	1.270	10.65
48)	CHLOROFORM	1.551	1.600	1.765	1.771	1.639	1.711	1.698	1.747	1.685	4.79
49)	2,4-DIMETHYL	1.870	1.620	1.460	1.267	1.320	1.340	1.353	1.391	1.453	13.77
50)	1,1,1-TRICHL	1.386	1.537	1.595	1.620	1.556	1.636	1.607	1.658	1.574	5.45
51)	CARBON TETRA	1.328	1.515	1.584	1.678	1.682	1.779	1.785	1.842	1.649	10.26
52)	1,2-DICHLORO		0.750	0.888	0.941	0.889	0.921	0.919	0.971	0.897	7.93
53)	I 1,4-DIFLUOROBENZENE	----------ISTD----------									
54)	BENZENE	0.586	0.583	0.618	0.646	0.576	0.584	0.581	0.579	0.594	4.13
55)	CYCLOHEXANE	0.222	0.242	0.254	0.248	0.247	0.251	0.246	0.246	0.245	4.06
56)	2,3-DIMETHYL	0.151	0.135	0.133	0.122	0.117	0.120	0.120	0.121	0.128	9.09
57)	TRICHLOROETH	0.227	0.261	0.265	0.283	0.250	0.252	0.253	0.258	0.256	6.11
58)	1,2-DICHLORO	0.210	0.207	0.224	0.230	0.201	0.206	0.202	0.199	0.210	5.38
59)	DIBROMOMETHA	0.343	0.307	0.310	0.323	0.271	0.276	0.274	0.276	0.298	9.13
60)	ETHYL ACRYLA	0.309	0.310	0.324	0.392	0.338	0.362	0.357	0.369	0.345	8.58
61)	BROMODICHLOR	0.386	0.382	0.411	0.444	0.390	0.399	0.404	0.410	0.403	4.84
62)	2,2,4-TRIMET	1.041	0.929	0.934	0.847	0.820	0.817	0.821	0.812	0.878	9.41
63)	1,4-DIOXANE			0.103	0.103	0.105	0.110	0.098	0.093	0.102	5.78
64)	HEPTANE	0.380	0.322	0.290	0.262	0.264	0.258	0.261	0.265	0.288	14.95
65)	METHYL METHA	0.170	0.160	0.189	0.204	0.178	0.188	0.186	0.194	0.184	7.65
66)	METHYL ISOBU			0.130	0.161	0.145	0.158	0.152	0.160	0.151	7.92
67)	cis-1,3-DICH	0.215	0.259	0.292	0.336	0.302	0.311	0.316	0.330	0.295	13.68
68)	TOLUENE	0.381	0.379	0.401	0.434	0.396	0.411	0.410	0.415	0.403	4.51
69)	1,3-DICHLORO	0.228	0.251	0.289	0.324	0.288	0.296	0.302	0.309	0.286	11.02
70)	trans-1,3-DI	0.194	0.209	0.247	0.289	0.261	0.271	0.275	0.292	0.255	14.13
71)	1,1,2-TRICHL	0.185	0.192	0.207	0.230	0.201	0.205	0.205	0.210	0.204	6.55
72)	I CHLOROBENZENE-D5	----------ISTD----------									
73)	2-HEXANONE			0.382	0.510	0.440	0.469	0.443	0.439	0.447	9.42
74)	ETHYL METHAC	0.595	0.566	0.604	0.740	0.679	0.707	0.663	0.646	0.650	9.13
75)	TETRACHLOROE	0.754	0.861	0.870	0.852	0.768	0.750	0.718	0.677	0.781	9.20
76)	DIBROMOCHLOR	0.760	0.930	0.999	1.116	1.042	1.044	1.016	0.964	0.984	10.80
77)	1,2-DIBROMOE	0.693	0.781	0.885	1.013	0.865	0.859	0.828	0.805	0.841	10.94
78)	OCTANE	1.065	0.969	0.883	0.861	0.857	0.821	0.779	0.736	0.871	12.01
79)	1,1,1,2-TETR	0.613	0.701	0.795	0.841	0.793	0.799	0.749	0.688	0.748	10.09
80)	CHLOROBENZEN	1.302	1.262	1.366	1.481	1.329	1.319	1.267	1.187	1.314	6.54
81)	ETHYLBENZENE	1.875	1.878	2.045	2.208	2.031	2.037	1.928	1.816	1.977	6.42
82)	m,p-XYLENE	0.734	0.749	0.832	0.895	0.817	0.824	0.778	0.728	0.795	7.23
83)	o-XYLENE	0.768	0.730	0.802	0.880	0.808	0.813	0.761	0.705	0.783	6.97
84)	STYRENE	0.919	0.978	1.084	1.273	1.153	1.202	1.159	1.124	1.111	10.43
85)	NONANE	0.913	0.848	0.830	0.863	0.832	0.828	0.788	0.753	0.832	5.76
86)	BROMOFORM	0.677	0.822	0.897	1.041	1.025	1.081	1.060	1.026	0.954	14.97
87)	4-BROMOFLUOR	1.165	1.158	1.194	1.227	1.249	1.256	1.262	1.227	1.217	3.33
88)	1,1,2,2-TETR	1.130	1.113	1.275	1.391	1.199	1.223	1.137	1.046	1.189	9.09
89)	1,2,3-TRICHL	0.643	0.709	0.820	0.935	0.818	0.833	0.791	0.767	0.790	11.03
90)	ISOPROPYLBEN	1.944	1.992	2.174	2.398	2.196	2.198	2.051	1.916	2.108	7.71
91)	BROMOBENZENE	0.921	0.866	0.953	1.059	0.919	0.953	0.918	0.902	0.936	6.05
92)	2-CHLOROTOLU	0.462	0.486	0.576	0.630	0.586	0.599	0.566	0.546	0.556	10.24
93)	n-PROPYLBENZ		0.411	0.523	0.627	0.613	0.631	0.600	0.577	0.569	13.82
94)	4-ETHYLTOLUE	1.363	1.465	1.749	2.139	2.084	2.176	2.053	1.947	1.872	16.74
95)	1,3,5-TRIMET	1.385	1.426	1.701	1.948	1.786	1.826	1.711	1.625	1.676	11.52
96)	ALPHA-METHYL		0.528	0.671	0.875	0.883	0.946	0.903	0.883	0.813	18.88
97)	tert-BUTYLBE	0.270	0.354	0.439	0.475	0.429	0.440	0.401	0.370	0.397	16.29
98)	1,2,4-TRIMET	1.170	1.175	1.502	1.801	1.685	1.771	1.655	1.544	1.538	16.07
99)	m-DICHLOROBE	0.861	0.895	1.009	1.244	1.098	1.198	1.163	1.148	1.077	13.12
100)	BENZYL CHLOR	0.716	0.700	0.826	1.069	1.074	1.248	1.287	1.324	1.031	24.68
101)	p-DICHLOROBE	0.974	0.908	1.022	1.228	1.067	1.162	1.153	1.156	1.084	10.11
102)	sec-BUTYLBEN		0.351	0.440	0.529	0.494	0.513	0.480	0.462	0.467	12.67
103)	p-ISOPROPYLT		0.332	0.448	0.570	0.554	0.589	0.547	0.508	0.507	17.78
104)	o-DICHLOROBE	0.892	0.831	1.002	1.225	1.097	1.186	1.137	1.125	1.062	13.24

Initial Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICC2293
Lab FileID: 3W60367.D

105) n-BUTYLBENZE		0.218	0.268	0.381	0.400	0.468	0.456	0.468	0.380	26.43
106) HEXACHLOROET	0.552	0.632	0.709	0.798	0.756	0.798	0.770	0.721	0.717	12.01
107) HEXACHLOROBU	0.567	0.627	0.755	0.934	0.655	0.751	0.716	0.698	0.713	15.42
108) 1,2,4-TRICHL	0.567	0.441	0.413	0.529	0.429	0.470	0.521	0.591	0.495	13.39
109) NAPHTHALENE	0.904	0.547	0.711	0.974	0.878	0.989	1.071	1.221	0.912	22.90

(#) = Out of Range ### Number of calibration levels exceeded format ###

M3W2293.M Fri Jun 23 09:34:59 2017 GCMS6W

6.9.1

6

Initial Calibration Verification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICV2293
Lab FileID: 3W60374.D

Evaluate Continuing Calibration Report

Data File : [redacted]1\DATA\3W60374.D Vial: 1
Acq On : 21 Jun 2017 9:03 pm Operator: [redacted]
Sample : icv2293-10 Inst : GCMS3W
Misc : MS16663,V3W2293,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	103	0.00	7.71
2		1,1,1-TRIFLUOROETHANE		----------NA----------				
3		FREON 115	2.167	2.313	-6.7	107	0.00	3.88
4		FREON 152A	1.363	1.361	0.1	100	0.00	3.80
5		CHLORODIFLUOROMETHANE	0.191	0.182	4.7	99	0.00	3.62
6		CHLOROTRIFLUOROETHENE		----------NA----------				
7		DICHLORODIFLUOROMETHANE	2.022	1.960	3.1	100	0.00	3.70
8		PROPYLENE	0.563	0.524	6.9	99	0.00	3.65
9		1-CHLORO-1,1-DIFLUOROETHA		----------NA----------				
10		FREON 114	2.167	2.313	-6.7	107	0.00	3.88
11		CHLOROMETHANE	0.246	0.239	2.8	102	0.00	3.82
12		VINYL CHLORIDE	0.857	0.868	-1.3	101	0.00	3.97
13		1,3-BUTADIENE	0.622	0.587	5.6	97	0.00	4.07
14		n-BUTANE	1.082	1.080	0.2	101	0.00	4.11
15		BROMOMETHANE	1.042	0.936	10.2	100	0.00	4.27
16		CHLOROETHANE	0.410	0.416	-1.5	101	0.00	4.39
17		DICHLOROFLUOROMETHANE	1.876	1.852	1.3	105	0.00	4.45
18		ACETONITRILE	0.585	0.527	9.9	98	0.00	4.63
19		FREON 123	2.326	2.102	9.6	95	0.00	4.74
20		FREON 123A	1.178	1.222	-3.7	102	0.00	4.78
21		TRICHLOROFLUOROMETHANE	2.002	2.046	-2.2	101	0.00	4.97
22		1,1-DICHLORO-1-FLUOROETHA		----------NA----------				
23		ISOPROPYL ALCOHOL	1.642	1.280	22.0	85	0.00	5.01
24		ACETONE	0.384	0.330	14.1	96	0.00	4.83
25		PENTANE	0.717	0.744	-3.8	106	0.00	5.24
26	H	TVHC as EQUIV PENTANE	3.842	3.577	6.9	105	0.00	5.24
27		IODOMETHANE	2.713	2.748	-1.3	100	0.00	5.43
28		1,1-DICHLOROETHYLENE	0.924	0.824	10.8	95	0.00	5.48
29		CARBON DISULFIDE	2.791	2.545	8.8	94	0.00	5.89
30		ETHANOL	0.249	0.288	-15.7	129	0.00	4.47
31		BROMOETHENE	0.951	0.903	5.0	97	0.00	4.65
32		ACRYLONITRILE	0.465	0.453	2.6	102	0.00	5.19
33		METHYLENE CHLORIDE	0.804	0.759	5.6	97	0.00	5.58
34		3-CHLOROPROPENE	0.377	0.419	-11.1	109	0.00	5.69
35		FREON 113	1.502	1.502	0.0	96	0.00	5.82
36		TRANS-1,2-DICHLOROETHYLEN	1.003	0.905	9.8	103	0.00	6.48
37		TERTIARY BUTYL ALCOHOL	1.421	1.475	-3.8	93	0.00	5.51
38		METHYL TERTIARY BUTYL ETH	2.140	2.101	1.8	98	0.00	6.74
39		TETRAHYDROFURAN	0.353	0.370	-4.8	99	0.00	8.26
40		HEXANE	1.169	1.112	4.9	101	0.00	7.75
41		VINYL ACETATE	0.130	0.159	-22.3	110	0.00	6.82
42		1,1-DICHLOROETHANE	1.386	1.397	-0.8	100	0.00	6.68

Initial Calibration Verification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICV2293
Lab FileID: 3W60374.D

43		METHYL ETHYL KETONE	0.368	0.358	2.7	96	0.00	7.08
44		cis-1,2-DICHLOROETHYLENE	0.900	0.893	0.8	99	0.00	7.53
45		DIISOPROPYL ETHER	0.323	0.330	-2.2	98	0.00	7.74
46		ETHYL ACETATE	0.228	0.231	-1.3	95	0.00	7.76
47		METHYL ACRYLATE	1.270	1.230	3.1	98	0.00	7.75
48		CHLOROFORM	1.685	1.660	1.5	100	0.00	7.84
49		2,4-DIMETHYLPENTANE	1.453	1.340	7.8	103	0.00	8.69
50		1,1,1-TRICHLOROETHANE	1.574	1.705	-8.3	107	0.00	8.89
51		CARBON TETRACHLORIDE	1.649	1.783	-8.1	103	0.00	9.54
52		1,2-DICHLOROETHANE	0.897	0.904	-0.8	101	0.00	8.62
53	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.00	9.75
54		BENZENE	0.594	0.594	0.0	101	0.00	9.38
55		CYCLOHEXANE	0.245	0.261	-6.5	103	0.00	9.67
56		2,3-DIMETHYLPENTANE	0.128	0.124	3.1	102	0.00	9.92
57		TRICHLOROETHYLENE	0.256	0.257	-0.4	101	0.00	10.50
58		1,2-DICHLOROPROPANE	0.210	0.204	2.9	98	0.00	10.25
59		DIBROMOMETHANE	0.298	0.278	6.7	100	0.00	10.22
60		ETHYL ACRYLATE	0.345	0.348	-0.9	95	0.00	10.24
61		BROMODICHLOROMETHANE	0.403	0.407	-1.0	101	0.00	10.45
62		2,2,4-TRIMETHYLPENTANE	0.878	0.860	2.1	104	0.00	10.54
63		1,4-DIOXANE	0.102	0.131	-28.4	118	0.00	10.50
64		HEPTANE	0.288	0.267	7.3	103	0.00	10.82
65		METHYL METHACRYLATE	0.184	0.184	0.0	97	0.00	10.71
66		METHYL ISOBUTYL KETONE	0.151	0.151	0.0	95	0.00	11.46
67		cis-1,3-DICHLOROPROPENE	0.295	0.328	-11.2	104	0.00	11.41
68		TOLUENE	0.403	0.409	-1.5	99	0.00	12.47
69		1,3-DICHLOROPROPANE	0.286	0.290	-1.4	97	0.00	12.49
70		trans-1,3-DICHLOROPROPENE	0.255	0.267	-4.7	98	0.00	11.98
71		1,1,2-TRICHLOROETHANE	0.204	0.206	-1.0	99	0.00	12.16
72	I	CHLOROBENZENE-D5	1.000	1.000	0.0	101	0.00	14.38
73		2-HEXANONE	0.447	0.447	0.0	96	0.00	12.75
74		ETHYL METHACRYLATE	0.650	0.681	-4.8	97	0.00	12.77
75		TETRACHLOROETHYLENE	0.781	0.744	4.7	100	0.00	13.69
76		DIBROMOCHLOROMETHANE	0.984	1.059	-7.6	102	0.00	12.92
77		1,2-DIBROMOETHANE	0.841	0.847	-0.7	100	0.00	13.18
78		OCTANE	0.871	0.833	4.4	102	0.00	13.54
79		1,1,1,2-TETRACHLOROETHANE	0.748	0.785	-4.9	99	0.00	14.41
80		CHLOROBENZENE	1.314	1.288	2.0	99	0.00	14.43
81		ETHYLBENZENE	1.977	1.988	-0.6	99	0.00	14.84
82		m,p-XYLENE	0.795	0.799	-0.5	98	0.01	15.05
83		o-XYLENE	0.783	0.787	-0.5	98	0.00	15.56
84		STYRENE	1.111	1.169	-5.2	98	0.00	15.45
85		NONANE	0.832	0.809	2.8	99	0.00	15.83
86		BROMOFORM	0.954	1.058	-10.9	99	0.00	15.12
87	S	4-BROMOFLUOROBENZENE	1.217	1.291	-6.1	104	0.00	16.09
88		1,1,2,2-TETRACHLOROETHANE	1.189	1.183	0.5	98	0.00	15.56
89		1,2,3-TRICHLOROPROPANE	0.790	0.816	-3.3	99	0.00	15.71
90		ISOPROPYLBENZENE	2.108	2.288	-8.5	105	0.00	16.25
91		BROMOBENZENE	0.936	0.908	3.0	96	0.00	16.34
92		2-CHLOROTOLUENE	0.556	0.589	-5.9	99	0.00	16.81
93		n-PROPYLBENZENE	0.569	0.601	-5.6	96	0.00	16.86
94		4-ETHYLTOLUENE	1.872	2.063	-10.2	96	0.00	17.04
95		1,3,5-TRIMETHYLBENZENE	1.676	1.765	-5.3	98	0.00	17.13
96		ALPHA-METHYLSTYRENE	0.813	0.892	-9.7	95	0.00	17.33
97		tert-BUTYLBENZENE	0.397	0.418	-5.3	96	0.00	17.63
98		1,2,4-TRIMETHYLBENZENE	1.538	1.685	-9.6	96	0.00	17.63
99		m-DICHLOROBENZENE	1.077	1.144	-6.2	96	0.00	17.81
100		BENZYL CHLORIDE	1.031	1.178	-14.3	95	0.00	17.80

Initial Calibration Verification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2293-ICV2293
Lab FileID: 3W60374.D

101	p-DICHLOROBENZENE	1.084	1.115	-2.9	97	0.00	17.89
102	sec-BUTYLBENZENE	0.467	0.515	-10.3	101	0.00	17.96
103	p-ISOPROPYLTOLUENE	0.507	0.566	-11.6	97	0.00	18.16
104	o-DICHLOROBENZENE	1.062	1.117	-5.2	95	0.00	18.31
105	n-BUTYLBENZENE	0.380	0.444	-16.8	96	0.00	18.66
106	HEXACHLOROETHANE	0.717	0.810	-13.0	103	0.00	19.10
107	HEXACHLOROBUTADIENE	0.713	0.694	2.7	93	0.00	20.86
108	1,2,4-TRICHLOROBENZENE	0.495	0.420	15.2	90	0.00	20.33
109	NAPHTHALENE	0.912	0.817	10.4	83	0.00	20.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3W60367.D M3W2293.M Fri Jun 23 09:35:12 2017 GCMS6W

Continuing Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2298-CC2293
Lab FileID: 3W60487.D

Evaluate Continuing Calibration Report

Data File : [redacted]1\DATA\3W60487.D Vial: 1
Acq On : 27 Jun 2017 10:37 am Operator: [redacted]
Sample : cc2293-10 Inst : GCMS3W
Misc : MS16797,V3W2298,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	99	0.00	7.71
2		1,1,1-TRIFLUOROETHANE	1.471	1.458	0.9	100	0.00	3.50
3		FREON 115	2.167	2.167	0.0	97	0.00	3.88
4		FREON 152A	1.363	1.322	3.0	94	0.00	3.80
5		CHLORODIFLUOROMETHANE	0.191	0.182	4.7	96	0.00	3.62
6		CHLOROTRIFLUOROETHENE	1.181	1.212	-2.6	98	0.00	3.65
7		DICHLORODIFLUOROMETHANE	2.022	1.946	3.8	96	0.00	3.70
8		PROPYLENE	0.563	0.568	-0.9	103	0.00	3.65
9		1-CHLORO-1,1-DIFLUOROETHA	1.363	1.322	3.0	94	0.00	3.80
10		FREON 114	2.167	2.167	0.0	97	0.00	3.88
11		CHLOROMETHANE	0.246	0.244	0.8	101	0.00	3.82
12		VINYL CHLORIDE	0.857	0.881	-2.8	99	0.00	3.97
13		1,3-BUTADIENE	0.622	0.615	1.1	98	0.00	4.07
14		n-BUTANE	1.082	1.082	0.0	97	0.00	4.11
15		BROMOMETHANE	1.042	0.925	11.2	96	0.00	4.27
16		CHLOROETHANE	0.410	0.416	-1.5	98	0.00	4.39
17		DICHLOROFLUOROMETHANE	1.876	1.704	9.2	94	0.00	4.45
18		ACETONITRILE	0.585	0.522	10.8	94	0.00	4.64
19		FREON 123	2.326	2.142	7.9	93	0.00	4.74
20		FREON 123A	1.178	1.143	3.0	93	0.00	4.78
21		TRICHLOROFLUOROMETHANE	2.002	1.988	0.7	95	0.00	4.97
22		1,1-DICHLORO-1-FLUOROETHA	1.831	1.629	11.0	93	0.00	5.05
23		ISOPROPYL ALCOHOL	1.642	1.452	11.6	94	0.00	5.01
24		ACETONE	0.384	0.327	14.8	92	0.00	4.83
25		PENTANE	0.717	0.691	3.6	95	0.00	5.24
26	H	TVHC as EQUIV PENTANE	3.842	3.263	15.1	92	0.00	5.24
27		IODOMETHANE	2.713	2.600	4.2	91	0.00	5.43
28		1,1-DICHLOROETHYLENE	0.924	0.830	10.2	93	0.00	5.48
29		CARBON DISULFIDE	2.791	2.666	4.5	95	0.00	5.89
30		ETHANOL	0.249	0.224	10.0	98	0.00	4.47
31		BROMOETHENE	0.951	0.910	4.3	94	0.00	4.65
32		ACRYLONITRILE	0.465	0.416	10.5	91	0.00	5.19
33		METHYLENE CHLORIDE	0.804	0.751	6.6	93	0.00	5.58
34		3-CHLOROPROPENE	0.377	0.366	2.9	92	0.00	5.69
35		FREON 113	1.502	1.485	1.1	92	0.00	5.82
36		TRANS-1,2-DICHLOROETHYLEN	1.003	0.842	16.1	92	0.00	6.48
37		TERTIARY BUTYL ALCOHOL	1.421	1.465	-3.1	89	0.00	5.51
38		METHYL TERTIARY BUTYL ETH	2.140	2.007	6.2	90	0.00	6.74
39		TETRAHYDROFURAN	0.353	0.362	-2.5	94	0.00	8.27
40		HEXANE	1.169	1.128	3.5	99	0.00	7.75
41		VINYL ACETATE	0.130	0.133	-2.3	89	0.00	6.82
42		1,1-DICHLOROETHANE	1.386	1.392	-0.4	96	0.00	6.68

Continuing Calibration Summary

Job Number: JC52679 **Sample:** V3W2298-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60487.D
Project: Defense Supply Center, Philadelphia, PA

43		METHYL ETHYL KETONE	0.368	0.366	0.5	95	0.00	7.08
44		cis-1,2-DICHLOROETHYLENE	0.900	0.892	0.9	96	0.00	7.53
45		DIISOPROPYL ETHER	0.323	0.326	-0.9	93	0.00	7.75
46		ETHYL ACETATE	0.228	0.239	-4.8	95	0.00	7.76
47		METHYL ACRYLATE	1.270	1.244	2.0	95	0.00	7.75
48		CHLOROFORM	1.685	1.653	1.9	96	0.00	7.84
49		2,4-DIMETHYLPENTANE	1.453	1.378	5.2	102	0.00	8.68
50		1,1,1-TRICHLOROETHANE	1.574	1.559	1.0	95	0.00	8.89
51		CARBON TETRACHLORIDE	1.649	1.765	-7.0	99	0.00	9.53
52		1,2-DICHLOROETHANE	0.897	0.901	-0.4	97	0.00	8.62
53	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	100	0.00	9.75
54		BENZENE	0.594	0.577	2.9	99	0.00	9.37
55		CYCLOHEXANE	0.245	0.243	0.8	97	0.00	9.66
56		2,3-DIMETHYLPENTANE	0.128	0.117	8.6	97	0.00	9.92
57		TRICHLOROETHYLENE	0.256	0.243	5.1	96	0.00	10.50
58		1,2-DICHLOROPROPANE	0.210	0.204	2.9	99	0.00	10.24
59		DIBROMOMETHANE	0.298	0.256	14.1	93	0.00	10.22
60		ETHYL ACRYLATE	0.345	0.338	2.0	93	0.00	10.25
61		BROMODICHLOROMETHANE	0.403	0.391	3.0	98	0.00	10.45
62		2,2,4-TRIMETHYLPENTANE	0.878	0.823	6.3	100	0.00	10.53
63		1,4-DIOXANE	0.102	0.101	1.0	92	0.00	10.50
64		HEPTANE	0.288	0.272	5.6	105	0.00	10.82
65		METHYL METHACRYLATE	0.184	0.176	4.3	94	0.00	10.71
66		METHYL ISOBUTYL KETONE	0.151	0.155	-2.6	98	0.00	11.46
67		cis-1,3-DICHLOROPROPENE	0.295	0.313	-6.1	100	0.00	11.41
68		TOLUENE	0.403	0.411	-2.0	100	0.00	12.46
69		1,3-DICHLOROPROPANE	0.286	0.300	-4.9	101	0.00	12.49
70		trans-1,3-DICHLOROPROPENE	0.255	0.271	-6.3	100	0.00	11.98
71		1,1,2-TRICHLOROETHANE	0.204	0.207	-1.5	100	0.00	12.16
72	I	CHLOROBENZENE-D5	1.000	1.000	0.0	107	0.00	14.37
73		2-HEXANONE	0.447	0.443	0.9	101	0.00	12.75
74		ETHYL METHACRYLATE	0.650	0.647	0.5	98	0.00	12.77
75		TETRACHLOROETHYLENE	0.781	0.695	11.0	99	0.00	13.68
76		DIBROMOCHLOROMETHANE	0.984	0.995	-1.1	102	0.00	12.91
77		1,2-DIBROMOETHANE	0.841	0.804	4.4	100	0.00	13.18
78		OCTANE	0.871	0.854	2.0	111	0.00	13.54
79		1,1,1,2-TETRACHLOROETHANE	0.748	0.751	-0.4	101	0.00	14.41
80		CHLOROBENZENE	1.314	1.259	4.2	102	0.00	14.43
81		ETHYLBENZENE	1.977	1.932	2.3	102	0.00	14.84
82		m,p-XYLENE	0.795	0.791	0.5	103	0.01	15.05
83		o-XYLENE	0.783	0.783	0.0	103	0.00	15.56
84		STYRENE	1.111	1.144	-3.0	102	0.00	15.44
85		NONANE	0.832	0.901	-8.3	117	0.00	15.83
86		BROMOFORM	0.954	1.041	-9.1	103	0.00	15.11
87	S	4-BROMOFLUOROBENZENE	1.217	1.272	-4.5	109	0.00	16.08
88		1,1,2,2-TETRACHLOROETHANE	1.189	1.200	-0.9	105	0.00	15.56
89		1,2,3-TRICHLOROPROPANE	0.790	0.835	-5.7	107	0.00	15.70
90		ISOPROPYLBENZENE	2.108	2.107	0.0	103	0.00	16.25
91		BROMOBENZENE	0.936	0.961	-2.7	108	0.00	16.34
92		2-CHLOROTOLUENE	0.556	0.573	-3.1	102	0.00	16.80
93		n-PROPYLBENZENE	0.569	0.606	-6.5	103	0.00	16.85
94		4-ETHYLTOLUENE	1.872	2.072	-10.7	102	0.00	17.04
95		1,3,5-TRIMETHYLBENZENE	1.676	1.749	-4.4	103	0.00	17.13
96		ALPHA-METHYLSTYRENE	0.813	0.889	-9.3	101	0.00	17.33
97		tert-BUTYLBENZENE	0.397	0.410	-3.3	100	0.00	17.63
98		1,2,4-TRIMETHYLBENZENE	1.538	1.690	-9.9	102	0.00	17.63
99		m-DICHLOROBENZENE	1.077	1.130	-4.9	101	0.00	17.81
100		BENZYL CHLORIDE	1.031	1.232	-19.5	106	0.00	17.79

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JC52679

Continuing Calibration Summary

Job Number: JC52679 **Sample:** V3W2298-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60487.D
Project: Defense Supply Center, Philadelphia, PA

101	p-DICHLOROBENZENE	1.084	1.098	-1.3	101	0.00	17.89
102	sec-BUTYLBENZENE	0.467	0.484	-3.6	101	0.00	17.95
103	p-ISOPROPYLTOLUENE	0.507	0.555	-9.5	101	0.00	18.15
104	o-DICHLOROBENZENE	1.062	1.104	-4.0	100	0.00	18.30
105	n-BUTYLBENZENE	0.380	0.434	-14.2	99	0.00	18.65
106	HEXACHLOROETHANE	0.717	0.782	-9.1	105	0.00	19.10
107	HEXACHLOROBUTADIENE	0.713	0.690	3.2	98	0.00	20.86
108	1,2,4-TRICHLOROBENZENE	0.495	0.497	-0.4	113	0.00	20.33
109	NAPHTHALENE	0.912	1.055	-15.7	114	0.00	20.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3W60367.D M3W2293.M Tue Jun 27 17:06:00 2017 GCMS6W

6.9.3

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Continuing Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V3W2299-CC2293
Lab FileID: 3W60516.D

Evaluate Continuing Calibration Report

Data File : [redacted]1\DATA\3W60516.D Vial: 1
Acq On : 28 Jun 2017 10:07 am Operator: [redacted]
Sample : cc2293-10 Inst : GCMS3W
Misc : MS17009,V3W2299,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
Last Update : Fri Jun 23 09:30:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	112	0.00	7.71
2		1,1,1-TRIFLUOROETHANE	1.471	1.442	2.0	111	0.00	3.51
3		FREON 115	2.167	2.112	2.5	106	0.00	3.89
4		FREON 152A	1.363	1.293	5.1	104	0.00	3.80
5		CHLORODIFLUOROMETHANE	0.191	0.179	6.3	106	0.00	3.62
6		CHLOROTRIFLUOROETHENE	1.181	1.175	0.5	107	0.00	3.65
7		DICHLORODIFLUOROMETHANE	2.022	1.912	5.4	106	0.00	3.70
8		PROPYLENE	0.563	0.596	-5.9	122	0.00	3.65
9		1-CHLORO-1,1-DIFLUOROETHA	1.363	1.293	5.1	104	0.00	3.80
10		FREON 114	2.167	2.112	2.5	106	0.00	3.89
11		CHLOROMETHANE	0.246	0.246	0.0	114	0.00	3.82
12		VINYL CHLORIDE	0.857	0.877	-2.3	110	0.00	3.98
13		1,3-BUTADIENE	0.622	0.609	2.1	109	0.00	4.08
14		n-BUTANE	1.082	1.124	-3.9	114	0.00	4.11
15		BROMOMETHANE	1.042	0.897	13.9	104	0.00	4.28
16		CHLOROETHANE	0.410	0.426	-3.9	112	0.00	4.39
17		DICHLOROFLUOROMETHANE	1.876	1.750	6.7	108	0.00	4.45
18		ACETONITRILE	0.585	0.546	6.7	110	0.00	4.64
19		FREON 123	2.326	2.149	7.6	105	0.00	4.74
20		FREON 123A	1.178	1.128	4.2	102	0.00	4.78
21		TRICHLOROFLUOROMETHANE	2.002	1.903	4.9	102	0.00	4.97
22		1,1-DICHLORO-1-FLUOROETHA	1.831	1.641	10.4	105	0.00	5.05
23		ISOPROPYL ALCOHOL	1.642	1.496	8.9	108	0.00	5.01
24		ACETONE	0.384	0.337	12.2	106	0.00	4.83
25		PENTANE	0.717	0.699	2.5	108	0.00	5.24
26	H	TVHC as EQUIV PENTANE	3.842	3.339	13.1	106	0.00	5.24
27		IODOMETHANE	2.713	2.493	8.1	98	0.00	5.43
28		1,1-DICHLOROETHYLENE	0.924	0.794	14.1	100	0.00	5.49
29		CARBON DISULFIDE	2.791	2.641	5.4	106	0.00	5.89
30		ETHANOL	0.249	0.241	3.2	117	0.00	4.47
31		BROMOETHENE	0.951	0.878	7.7	102	0.00	4.66
32		ACRYLONITRILE	0.465	0.435	6.5	107	0.00	5.19
33		METHYLENE CHLORIDE	0.804	0.741	7.8	103	0.00	5.59
34		3-CHLOROPROPENE	0.377	0.369	2.1	104	0.00	5.69
35		FREON 113	1.502	1.474	1.9	102	0.00	5.82
36		TRANS-1,2-DICHLOROETHYLEN	1.003	0.857	14.6	106	0.00	6.48
37		TERTIARY BUTYL ALCOHOL	1.421	1.504	-5.8	103	0.00	5.52
38		METHYL TERTIARY BUTYL ETH	2.140	2.011	6.0	102	0.00	6.74
39		TETRAHYDROFURAN	0.353	0.364	-3.1	106	0.01	8.28
40		HEXANE	1.169	1.160	0.8	114	0.00	7.75
41		VINYL ACETATE	0.130	0.133	-2.3	100	0.00	6.82
42		1,1-DICHLOROETHANE	1.386	1.410	-1.7	109	0.00	6.68

Continuing Calibration Summary

Job Number: JC52679 **Sample:** V3W2299-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60516.D
Project: Defense Supply Center, Philadelphia, PA

43		METHYL ETHYL KETONE	0.368	0.362	1.6	105	0.00	7.08
44		cis-1,2-DICHLOROETHYLENE	0.900	0.864	4.0	104	0.00	7.53
45		DIISOPROPYL ETHER	0.323	0.335	-3.7	108	0.00	7.75
46		ETHYL ACETATE	0.228	0.248	-8.8	111	0.00	7.76
47		METHYL ACRYLATE	1.270	1.273	-0.2	110	0.00	7.75
48		CHLOROFORM	1.685	1.622	3.7	106	0.00	7.84
49		2,4-DIMETHYLPENTANE	1.453	1.361	6.3	113	0.00	8.68
50		1,1,1-TRICHLOROETHANE	1.574	1.523	3.2	104	0.00	8.89
51		CARBON TETRACHLORIDE	1.649	1.709	-3.6	107	0.00	9.53
52		1,2-DICHLOROETHANE	0.897	0.870	3.0	105	0.00	8.62
53	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	113	0.00	9.75
54		BENZENE	0.594	0.558	6.1	108	0.00	9.38
55		CYCLOHEXANE	0.245	0.238	2.9	107	0.00	9.66
56		2,3-DIMETHYLPENTANE	0.128	0.115	10.2	108	0.00	9.92
57		TRICHLOROETHYLENE	0.256	0.235	8.2	105	0.00	10.50
58		1,2-DICHLOROPROPANE	0.210	0.200	4.8	110	0.00	10.24
59		DIBROMOMETHANE	0.298	0.243	18.5	99	0.00	10.22
60		ETHYL ACRYLATE	0.345	0.340	1.4	106	0.00	10.25
61		BROMODICHLOROMETHANE	0.403	0.376	6.7	106	0.00	10.45
62		2,2,4-TRIMETHYLPENTANE	0.878	0.813	7.4	112	0.00	10.53
63		1,4-DIOXANE	0.102	0.101	1.0	103	0.01	10.51
64		HEPTANE	0.288	0.268	6.9	117	0.00	10.82
65		METHYL METHACRYLATE	0.184	0.174	5.4	104	0.00	10.72
66		METHYL ISOBUTYL KETONE	0.151	0.150	0.7	107	0.00	11.46
67		cis-1,3-DICHLOROPROPENE	0.295	0.296	-0.3	107	0.00	11.41
68		TOLUENE	0.403	0.379	6.0	104	0.00	12.46
69		1,3-DICHLOROPROPANE	0.286	0.282	1.4	107	0.00	12.49
70		trans-1,3-DICHLOROPROPENE	0.255	0.256	-0.4	107	0.00	11.97
71		1,1,2-TRICHLOROETHANE	0.204	0.191	6.4	105	0.00	12.16
72	I	CHLOROBENZENE-D5	1.000	1.000	0.0	114	0.00	14.37
73		2-HEXANONE	0.447	0.445	0.4	108	0.00	12.75
74		ETHYL METHACRYLATE	0.650	0.653	-0.5	106	0.00	12.77
75		TETRACHLOROETHYLENE	0.781	0.659	15.6	100	0.00	13.68
76		DIBROMOCHLOROMETHANE	0.984	0.965	1.9	106	0.00	12.91
77		1,2-DIBROMOETHANE	0.841	0.787	6.4	105	0.00	13.18
78		OCTANE	0.871	0.819	6.0	114	0.00	13.54
79		1,1,1,2-TETRACHLOROETHANE	0.748	0.713	4.7	102	0.00	14.40
80		CHLOROBENZENE	1.314	1.200	8.7	104	0.00	14.42
81		ETHYLBENZENE	1.977	1.825	7.7	102	0.00	14.84
82		m,p-XYLENE	0.795	0.746	6.2	103	0.01	15.05
83		o-XYLENE	0.783	0.738	5.7	104	0.00	15.56
84		STYRENE	1.111	1.071	3.6	102	0.00	15.44
85		NONANE	0.832	0.815	2.0	112	0.00	15.83
86		BROMOFORM	0.954	0.988	-3.6	105	0.00	15.11
87	S	4-BROMOFLUOROBENZENE	1.217	1.253	-3.0	114	0.00	16.08
88		1,1,2,2-TETRACHLOROETHANE	1.189	1.126	5.3	105	0.00	15.55
89		1,2,3-TRICHLOROPROPANE	0.790	0.778	1.5	107	0.00	15.70
90		ISOPROPYLBENZENE	2.108	1.972	6.5	103	0.00	16.24
91		BROMOBENZENE	0.936	0.895	4.4	107	0.00	16.34
92		2-CHLOROTOLUENE	0.556	0.534	4.0	102	0.00	16.80
93		n-PROPYLBENZENE	0.569	0.565	0.7	102	0.00	16.85
94		4-ETHYLTOLUENE	1.872	1.942	-3.7	102	0.00	17.04
95		1,3,5-TRIMETHYLBENZENE	1.676	1.640	2.1	103	0.00	17.13
96		ALPHA-METHYLSTYRENE	0.813	0.831	-2.2	100	0.00	17.33
97		tert-BUTYLBENZENE	0.397	0.387	2.5	100	0.00	17.63
98		1,2,4-TRIMETHYLBENZENE	1.538	1.592	-3.5	103	0.00	17.63
99		m-DICHLOROBENZENE	1.077	1.060	1.6	101	0.00	17.81
100		BENZYL CHLORIDE	1.031	1.144	-11.0	105	0.00	17.79

Continuing Calibration Summary

Job Number: JC52679 **Sample:** V3W2299-CC2293
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 3W60516.D
Project: Defense Supply Center, Philadelphia, PA

101	p-DICHLOROBENZENE	1.084	1.042	3.9	102	0.00	17.89
102	sec-BUTYLBENZENE	0.467	0.454	2.8	101	0.00	17.95
103	p-ISOPROPYLTOLUENE	0.507	0.523	-3.2	101	0.00	18.15
104	o-DICHLOROBENZENE	1.062	1.042	1.9	100	0.00	18.30
105	n-BUTYLBENZENE	0.380	0.419	-10.3	102	0.00	18.65
106	HEXACHLOROETHANE	0.717	0.738	-2.9	106	0.00	19.10
107	HEXACHLOROBUTADIENE	0.713	0.659	7.6	100	0.00	20.86
108	1,2,4-TRICHLOROBENZENE	0.495	0.448	9.5	109	0.00	20.33
109	NAPHTHALENE	0.912	0.940	-3.1	109	0.00	20.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3W60367.D M3W2293.M Wed Jun 28 14:48:46 2017 GCMS6W

Initial Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICC1065
Lab FileID: 5W27086.D

Response Factor Report Air5w

Method Path : [redacted]1\methods\
Method File : m5w1065.M
Title : TO-15 Full Scan Mode
Last Update : Sat Oct 07 09:10:30 2017
Response Via : Initial Calibration

Calibration Files
20 =5W27087.D 0.5 =5W27084.D 0.2 =5W27082.D 0.1 =5W27081.D 0.04=5W27080.D 10 =5W27086.D 5 =5W27085.D 40 =5W27

	Compound	20	0.5	0.2	0.1	0.04	10	5	40	Avg	%RSD
1) I	Bromochloromethane	----------ISTD----------									
2)	1,1,1-Trifluor...	2.125	1.526	1.794	2.496	2.418	2.323	2.369	1.530	2.073	19.32
3)	Freon 152A		0.480	0.508	0.594	0.707		0.486	0.500	0.470	0.535	16.11
4)	Chlorodifluoro...	0.189	0.183	0.196	0.186	0.168	0.194	0.198	0.181	0.187	5.32
5)	Propene	0.479	0.498	0.527	0.583	0.645	0.497	0.512	0.445	0.523	12.07
6)	Chlorotrifluor...	1.319	1.259	1.308	1.392	1.390	1.328	1.349	1.280	1.328	3.61
7)	Dichlorodifluo...	2.047	2.088	2.191	2.369	2.296	2.127	2.196	1.968	2.160	6.08
8)	1-Chloro-1,1-d...	1.345	1.384	1.436	1.589	1.633	1.389	1.428	1.254	1.432	8.70
9)	Chloromethane	0.628	0.661	0.676	0.757	0.726	0.651	0.671	0.581	0.669	8.16
10)	Dichlorotetraf...	2.046	2.083	2.114	2.365	2.368	2.127	2.174	1.856	2.142	7.83
11)	Vinyl Chloride	0.722	0.724	0.733	0.820	0.768	0.745	0.743	0.660	0.740	6.12
12)	1,3-Butadiene	0.465	0.491	0.515	0.575	0.552	0.482	0.496	0.426	0.500	9.48
13)	n-Butane	0.099	0.104	0.094	0.116		0.104	0.108	0.091	0.102	8.51
14)	Bromomethane	0.845	0.913	1.027	1.191	1.450	0.875	0.906	0.785	0.999	22.12
15)	Chloroethane	0.339	0.362	0.353	0.396	0.358	0.355	0.365	0.316	0.356	6.41
16)	Dichlorofluoro...	1.543	1.632	1.708	1.863	2.016	1.619	1.692	1.431	1.688	10.81
17)	Acetonitrile	0.393	0.436	0.435			0.420	0.450	0.365	0.417	7.67
18)	Freon 123	1.903	2.082	2.181	2.387	2.486	2.049	2.146	1.679	2.114	12.09
19)	Freon 123A	1.110	1.208	1.266	1.365	1.432	1.188	1.245	0.981	1.224	11.51
20)	Bromoethene	0.839	0.859	0.890	0.951	0.956	0.877	0.904	0.791	0.883	6.25
21)	Trichlorofluor...	1.984	2.116	2.194	2.344	2.257	2.070	2.172	1.818	2.119	7.76
22)	Acetone	0.276	0.336	0.381	0.428		0.293	0.300	0.259	0.325	18.77
23)	Pentane	0.184	0.189	0.216	0.235	0.238	0.193	0.197	0.176	0.203	11.55
24)	1,1-Dichloro-1...	1.781	1.732	1.812	2.171	2.406	1.748	1.888	1.685	1.903	13.32
25)	Iodomethane	2.651	2.587	2.703	3.030	3.056	2.678	2.746	2.578	2.754	6.80
26)	Isopropyl Alcohol	0.193	0.277	0.284			0.177	0.218	0.174	0.221	22.27
27)	1,1-Dichloroet...	1.240	1.240	1.270	1.345	1.351	1.285	1.324	1.171	1.278	4.80
28)	Freon 113	1.893	1.906	1.947	2.161	2.027	1.941	1.998	1.811	1.961	5.33
29)	Methylene Chlo...	0.755	0.795	0.897	1.056	1.409	0.777	0.803	0.728	0.903	25.44
30)	Carbon Disulfide	2.556	2.524	2.601	2.793	2.779	2.626	2.694	2.458	2.629	4.54
31)	Ethanol	0.176	0.219	0.298			0.182	0.192	0.166	0.206	23.66
32)	Acrylonitrile	0.553	0.516	0.565	0.565	0.596	0.577	0.598	0.530	0.563	5.15
33)	3-Chloropropene	0.349	0.328	0.338	0.372	0.358	0.353	0.365	0.341	0.350	4.14
34)	trans-1,2-Dich...	1.149	1.134	1.128	1.233	1.233	1.183	1.203	1.119	1.173	3.99
35)	tert-Butyl Alc...	1.512	1.713	1.806	2.239	2.149	1.543	1.579	1.448	1.749	17.05
36)	Methyl tert-Bu...	2.166	2.212	2.322			2.206	2.264	2.107	2.213	3.39
37)	Vinyl Acetate	1.660	1.625	1.862	2.083	2.263	1.693	1.715	1.605	1.813	13.24
38)	1,1-Dichloroet...	1.464	1.497	1.531	1.635	1.719	1.501	1.541	1.410	1.537	6.36
39)	2-Butanone	0.401	0.382	0.396	0.390	0.379	0.410	0.413	0.388	0.395	3.11
40)	Hexane	1.154	1.131	1.147	1.231	1.339	1.189	1.230	1.097	1.190	6.43
41)	cis-1,2-Dichlo...	1.087	1.070	1.094	1.198	1.225	1.118	1.137	1.056	1.123	5.39
42)	Di-isopropyl E...	0.694	0.667	0.697	0.670	0.734	0.700	0.727	0.677	0.696	3.56
43)	Ethyl Acetate	0.263	0.254	0.265	0.222		0.271	0.278	0.252	0.258	7.04
44)	Methyl Acrylate	1.296	1.332	1.369	1.386	1.522	1.350	1.371	1.227	1.357	6.20
45)	Chloroform	1.766	1.882	1.981	2.118	2.149	1.831	1.879	1.685	1.911	8.50
46)	2,4-Dimethylpe...	1.347	1.305	1.368	1.435	1.449	1.383	1.410	1.285	1.373	4.28

Initial Calibration Summary

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Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICC1065
Lab FileID: 5W27086.D

47)		Tetrahydrofuran	0.380	0.363	0.362	0.363	0.291	0.384	0.389	0.369	0.363	8.49
48)		1,1,1-Trichlor...	1.658	1.639	1.754	1.910	1.868	1.682	1.735	1.623	1.734	6.14
49)		1,2-Dichloroet...	1.000	1.059	1.078	1.110	1.113	1.041	1.063	0.955	1.052	5.10
50)		Benzene	2.548	2.620	2.775	3.125	3.119	2.619	2.694	2.475	2.747	9.04
51)		Carbon Tetrach...	1.747	1.592	1.657	1.883	1.878	1.744	1.759	1.758	1.752	5.62
52)		Cyclohexane	1.150	1.099	1.144	1.260	1.283	1.166	1.186	1.107	1.174	5.68
53)		2,3-Dimethylpe...	0.539	0.519	0.524	0.569	0.564	0.545	0.562	0.524	0.543	3.69
54)	I	1,4-Difluorobenzene	----------ISTD----------									
55)		2,2,4-Trimethy...	1.061	1.059	1.076	1.139	1.183	1.104	1.134	0.949	1.088	6.51
56)		Heptane	0.233	0.224	0.228	0.247	0.228	0.238	0.244	0.224	0.233	3.84
57)		Trichloroethene	0.358	0.355	0.366	0.401	0.442	0.363	0.374	0.335	0.374	8.87
58)		1,2-Dichloropr...	0.270	0.275	0.289	0.311	0.298	0.281	0.286	0.255	0.283	6.07
59)		Dibromomethane	0.365	0.368	0.413	0.453	0.523	0.367	0.374	0.364	0.403	14.29
60)		Ethyl Acrylate	0.526	0.484	0.495	0.499	0.462	0.533	0.536	0.496	0.504	5.12
61)		Methyl Methacr...	0.266	0.254	0.252	0.250	0.260	0.270	0.272	0.253	0.260	3.35
62)		1,4-Dioxane	0.146	0.146	0.153	0.152		0.150	0.151		0.149	2.04
63)		Bromodichlorom...	0.550	0.552	0.579	0.626	0.626	0.553	0.574	0.526	0.573	6.31
64)		cis-1,3-Dichlo...	0.427	0.422	0.437	0.447	0.433	0.435	0.446	0.418	0.433	2.40
65)		4-Methyl-2-pen...	0.218	0.200	0.197	0.172	0.164	0.218	0.217	0.205	0.199	10.49
66)		trans-1,3-Dich...	0.363	0.377	0.383	0.371	0.377	0.385	0.399	0.347	0.375	4.13
67)		Toluene	0.872	0.943	1.012			0.908	0.953	0.835	0.920	6.80
68)		1,1,2-Trichlor...	0.317	0.340	0.352	0.369	0.352	0.330	0.342	0.307	0.339	5.96
69)		1,3-Dichloropr...	0.399	0.440	0.445	0.452	0.437	0.424	0.443	0.377	0.427	6.14
70)		2-Hexanone	0.292	0.267	0.244	0.203	0.160	0.293	0.292	0.272	0.253	19.13
71)		Ethyl Methacry...	0.429	0.405	0.390	0.379	0.411	0.435	0.435	0.394	0.410	5.25
72)		Dibromochlorom...	0.551	0.590	0.630	0.681	0.687	0.589	0.629	0.524	0.610	9.47
73)		Tetrachloroethene	0.511	0.518	0.570	0.627	0.687	0.513	0.537	0.506	0.559	11.82
74)		1,2-Dibromoethane	0.493	0.554	0.567	0.592	0.647	0.536	0.563	0.464	0.552	10.26
75)		Octane	0.464	0.486	0.488	0.524	0.610	0.490	0.501	0.422	0.498	10.87
76)		1,1,1,2-Tetrac...	0.381	0.445	0.456	0.480	0.500	0.433	0.447	0.351	0.437	11.28
77)	I	Chlorobenzene-d5	----------ISTD----------									
78)		Chlorobenzene	1.597	1.842	1.910	2.145	2.301	1.692	1.723	1.433	1.830	15.59
79)		Ethylbenzene	2.426	3.083	3.236			2.572	2.592	2.141	2.675	15.38
80)		m,p-Xylene	1.866	2.363	2.524			1.991	1.951	1.594	2.048	16.60
81)		Styrene	1.610	1.518	1.459	1.681	1.791	1.551	1.495	1.331	1.554	9.05
82)		Nonane	1.105	1.174	1.192	1.363	1.606	1.056	1.033	0.912	1.180	18.39
83)		o-Xylene	1.884	2.396	2.514			2.018	2.018	1.520	2.058	17.44
84)		Bromoform	1.219	1.369	1.341	1.443	1.594	1.359	1.366	1.021	1.339	12.41
85)		1,1,2,2-Tetrac...	1.508	1.659	1.649	1.764	1.936	1.437	1.428	1.223	1.576	14.15
86)		1,2,3-Trichlor...	1.088	1.174	1.179	1.293	1.307	1.039	1.017	0.881	1.122	12.90
87)		Isopropylbenzene	2.756	3.313	3.504			2.735	2.686	2.227	2.870	16.16
88)		Bromobenzene	0.965	1.056	1.066	1.192	1.334	0.991	0.969	0.773	1.043	15.99
89)		2-Chlorotoluene	0.737	0.781	0.774	0.875	0.922	0.733	0.710	0.589	0.765	13.35
90)		n-Propylbenzene	0.821	0.836	0.825	0.880	0.896	0.773	0.752	0.668	0.806	9.13
91)	S	4-Bromofluorob...	1.450	1.449	1.406	1.417	1.416	1.486	1.437	1.192	1.407	6.42
92)		4-Ethyltoluene	2.778	2.889	2.855	3.174	3.691	2.616	2.494	2.278	2.847	15.30
93)		1,3,5-Trimethy...	2.336	2.637	2.656	2.865	3.070	2.196	2.139	1.974	2.484	15.41
94)		alpha-Methylst...	1.214	1.150	1.104	1.221	1.252	1.104	1.057	1.058	1.145	6.66
95)		tert-Butylbenzene	0.541	0.602	0.594	0.675	0.691	0.497	0.489	0.458	0.568	15.21
96)		1,2,4-Trimethy...	2.204	2.474	2.438	2.636	2.801	2.059	2.015	1.817	2.305	14.62
97)		1,3-Dichlorobe...	1.546	1.584	1.573	1.717	1.943	1.418	1.363	1.313	1.557	13.12
98)		Benzyl Chloride	1.615	1.350	1.287	1.395	1.527	1.457	1.340	1.422	1.424	7.53
99)		1,4-Dichlorobe...	1.515	1.532	1.543	1.759	1.971	1.385	1.307	1.332	1.543	14.62
100)		sec-Butylbenzene	0.630	0.728	0.708	0.718	0.788	0.581	0.566	0.557	0.660	13.23
101)		p-Isopropyltol...	0.718	0.885	0.875	0.876	0.959	0.668	0.651	0.637	0.784	16.34
102)		1,2-Dichlorobe...	1.425	1.527	1.494	1.644	1.825	1.301	1.249	1.293	1.470	13.39
103)		n-Butylbenzene	0.607	0.671	0.613	0.639	0.672	0.548	0.516	0.577	0.605	9.26
104)		Hexachloroethane	0.920	1.097	1.085	1.107	1.127	0.854	0.808	0.780	0.972	15.13

Initial Calibration Summary

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Sample: V5W1065-ICC1065
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105)	1,2,4-Trichlor...	0.575	0.432	0.322	0.348	0.366	0.478	0.381	0.610	0.439	24.32
106)	Naphthalene	1.143	0.777	0.574	0.532	0.831	0.916	0.701	1.212	0.836	29.45
107)	Hexachlorobuta...	0.686	0.964	0.941	1.034	1.251	0.628	0.572	0.678	0.844	28.27
108) I	Bromochloromethane...	----------ISTD----------									
109)	TVHC as equiv ...	4.253	4.383	4.726			4.469	4.639	4.014	4.414	5.89

(#) = Out of Range

m5w1065.M Sat Oct 07 09:16:55 2017

Initial Calibration Verification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICV1065
Lab FileID: 5W27092.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	99	0.00
2	1,1,1-Trifluoroethane	2.073	0.000	100.0#	0#	-3.92#
3	Freon 152A	0.535	0.517	3.4	105	0.00
4	Chlorodifluoromethane	0.187	0.204	-9.1	104	0.00
5	Propene	0.523	0.521	0.4	104	0.00
6	Chlorotrifluoroethene	1.328	1.381	-4.0	103	0.00
7	Dichlorodifluoromethane	2.160	2.241	-3.7	105	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.416	1.1	101	0.00
9	Chloromethane	0.669	0.671	-0.3	102	0.00
10	Dichlorotetrafluoroethane	2.142	2.275	-6.2	106	0.00
11	Vinyl Chloride	0.740	0.756	-2.2	101	0.00
12	1,3-Butadiene	0.500	0.487	2.6	100	0.00
13	n-Butane	0.102	0.110	-7.8	105	0.00
14	Bromomethane	0.999	0.920	7.9	104	0.00
15	Chloroethane	0.356	0.364	-2.2	102	0.00
16	Dichlorofluoromethane	1.688	1.751	-3.7	107	0.00
17	Acetonitrile	0.417	0.451	-8.2	106	0.00
18	Freon 123	2.114	2.155	-1.9	104	0.00
19	Freon 123A	1.224	1.203	1.7	100	0.00
20	Bromoethene	0.883	0.891	-0.9	101	0.00
21	Trichlorofluoromethane	2.119	2.211	-4.3	106	0.00
22	Acetone	0.325	0.318	2.2	107	0.00
23	Pentane	0.203	0.214	-5.4	110	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	0.000	100.0#	0#	-5.57#
25	Iodomethane	2.754	2.763	-0.3	102	0.00
26	Isopropyl Alcohol	0.221	0.240	-8.6	135	0.00
27	1,1-Dichloroethene	1.278	1.294	-1.3	100	0.00
28	Freon 113	1.961	1.932	1.5	99	0.00
29	Methylene Chloride	0.903	0.784	13.2	100	0.00
30	Carbon Disulfide	2.629	2.603	1.0	98	0.00
31	Ethanol	0.206	0.248	-20.4	135	0.00
32	Acrylonitrile	0.563	0.649	-15.3	112	0.00
33	3-Chloropropene	0.350	0.399	-14.0	112	0.00
34	trans-1,2-Dichloroethene	1.173	1.249	-6.5	105	0.00
35	tert-Butyl Alcohol	1.749	1.555	11.1	100	0.00
36	Methyl tert-Butyl Ether	2.213	2.380	-7.5	107	0.00
37	Vinyl Acetate	1.813	2.033	-12.1	119	0.00
38	1,1-Dichloroethane	1.537	1.564	-1.8	103	0.00

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Lab FileID: 5W27092.D

39		2-Butanone	0.395	0.424	-7.3	103	0.00
40		Hexane	1.190	1.262	-6.1	105	0.00
41		cis-1,2-Dichloroethene	1.123	1.156	-2.9	103	0.00
42		Di-isopropyl Ether	0.696	0.754	-8.3	107	0.00
43		Ethyl Acetate	0.258	0.289	-12.0	106	0.00
44		Methyl Acrylate	1.357	1.445	-6.5	106	0.00
45		Chloroform	1.911	1.872	2.0	101	0.00
46		2,4-Dimethylpentane	1.373	1.498	-9.1	107	0.00
47		Tetrahydrofuran	0.363	0.427	-17.6	110	0.00
48		1,1,1-Trichloroethane	1.734	1.842	-6.2	109	0.00
49		1,2-Dichloroethane	1.052	1.076	-2.3	103	0.00
50		Benzene	2.747	2.625	4.4	99	0.00
51		Carbon Tetrachloride	1.752	1.813	-3.5	103	0.00
52		Cyclohexane	1.174	1.237	-5.4	105	0.00
53		2,3-Dimethylpentane	0.543	0.578	-6.4	105	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	98	0.00
55		2,2,4-Trimethylpentane	1.088	1.209	-11.1	107	0.00
56		Heptane	0.233	0.251	-7.7	103	0.00
57		Trichloroethene	0.374	0.374	0.0	101	0.00
58		1,2-Dichloropropane	0.283	0.279	1.4	97	0.00
59		Dibromomethane	0.403	0.369	8.4	98	0.00
60		Ethyl Acrylate	0.504	0.576	-14.3	106	0.00
61		Methyl Methacrylate	0.260	0.290	-11.5	105	0.00
62		1,4-Dioxane	0.149	0.193	-29.5	126	0.00
63		Bromodichloromethane	0.573	0.562	1.9	99	0.00
64		cis-1,3-Dichloropropene	0.433	0.466	-7.6	105	0.00
65		4-Methyl-2-pentanone	0.199	0.234	-17.6	105	0.00
66		trans-1,3-Dichloropropene	0.375	0.396	-5.6	100	0.00
67		Toluene	0.920	0.864	6.1	93	0.00
68		1,1,2-Trichloroethane	0.339	0.318	6.2	94	0.00
69		1,3-Dichloropropane	0.427	0.407	4.7	94	0.00
70		2-Hexanone	0.253	0.325	-28.5	109	0.00
71		Ethyl Methacrylate	0.410	0.474	-15.6	107	0.00
72		Dibromochloromethane	0.610	0.554	9.2	92	0.00
73		Tetrachloroethene	0.559	0.477	14.7	91	0.00
74		1,2-Dibromoethane	0.552	0.521	5.6	95	0.00
75		Octane	0.498	0.517	-3.8	103	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.406	7.1	92	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
78		Chlorobenzene	1.830	1.728	5.6	92	0.00
79		Ethylbenzene	2.675	2.795	-4.5	98	0.00
80		m,p-Xylene	2.048	2.171	-6.0	98	0.02
81		Styrene	1.554	1.818	-17.0	106	0.00
82		Nonane	1.180	1.226	-3.9	105	0.00
83		o-Xylene	2.058	2.207	-7.2	99	0.00
84		Bromoform	1.339	1.452	-8.4	96	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.634	-3.7	103	0.00
86		1,2,3-Trichloropropane	1.122	1.211	-7.9	105	0.00
87		Isopropylbenzene	2.870	3.325	-15.9	110	0.00
88		Bromobenzene	1.043	1.121	-7.5	102	0.00
89		2-Chlorotoluene	0.765	0.840	-9.8	103	0.00
90		n-Propylbenzene	0.806	0.874	-8.4	102	0.00
91	S	4-Bromofluorobenzene	1.407	1.702	-21.0	103	0.00
92		4-Ethyltoluene	2.847	3.036	-6.6	105	0.00
93		1,3,5-Trimethylbenzene	2.484	2.487	-0.1	102	0.00
94		alpha-Methylstyrene	1.145	1.266	-10.6	103	0.00
95		tert-Butylbenzene	0.568	0.572	-0.7	104	0.00
96		1,2,4-Trimethylbenzene	2.305	2.356	-2.2	103	0.00

Initial Calibration Verification

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1065-ICV1065
Lab FileID: 5W27092.D

97		1,3-Dichlorobenzene	1.557	1.665	-6.9	106	0.00
98		Benzyl Chloride	1.424	1.690	-18.7	105	0.00
99		1,4-Dichlorobenzene	1.543	1.638	-6.2	107	0.00
100		sec-Butylbenzene	0.660	0.691	-4.7	107	0.00
101		p-Isopropyltoluene	0.784	0.745	5.0	101	0.00
102		1,2-Dichlorobenzene	1.470	1.485	-1.0	103	0.00
103		n-Butylbenzene	0.605	0.623	-3.0	103	0.00
104		Hexachloroethane	0.972	0.941	3.2	100	0.00
105		1,2,4-Trichlorobenzene	0.439	0.509	-15.9	96	0.00
106		Naphthalene	0.836	0.971	-16.1	96	0.00
107		Hexachlorobutadiene	0.844	0.645	23.6	93	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	99	0.00
109		TVHC as equiv Pentane	4.414	5.013	-13.6	111	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Sat Oct 07 09:19:37 2017

Continuing Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1069-CC1065
Lab FileID: 5W27161.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27161.D
Acq On : 10 Oct 2017 8:02 am
Operator : [redacted]
Sample : CC1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:33 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	97	0.00
2	1,1,1-Trifluoroethane	2.073	2.349	-13.3	98	0.00
3	Freon 152A	0.535	0.483	9.7	97	0.00
4	Chlorodifluoromethane	0.187	0.201	-7.5	101	0.00
5	Propene	0.523	0.518	1.0	101	0.00
6	Chlorotrifluoroethene	1.328	1.298	2.3	95	0.00
7	Dichlorodifluoromethane	2.160	2.146	0.6	98	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.431	0.1	100	0.00
9	Chloromethane	0.669	0.655	2.1	98	0.00
10	Dichlorotetrafluoroethane	2.142	2.119	1.1	97	0.00
11	Vinyl Chloride	0.740	0.731	1.2	95	0.00
12	1,3-Butadiene	0.500	0.453	9.4	91	0.00
13	n-Butane	0.102	0.101	1.0	94	0.00
14	Bromomethane	0.999	0.856	14.3	95	0.00
15	Chloroethane	0.356	0.341	4.2	93	0.00
16	Dichlorofluoromethane	1.688	1.611	4.6	97	0.00
17	Acetonitrile	0.417	0.404	3.1	94	0.00
18	Freon 123	2.114	1.973	6.7	94	0.00
19	Freon 123A	1.224	1.138	7.0	93	0.00
20	Bromoethene	0.883	0.826	6.5	92	0.00
21	Trichlorofluoromethane	2.119	2.093	1.2	98	0.00
22	Acetone	0.325	0.278	14.5	92	0.00
23	Pentane	0.203	0.193	4.9	98	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	1.776	6.7	99	0.00
25	Iodomethane	2.754	2.490	9.6	90	0.00
26	Isopropyl Alcohol	0.221	0.188	14.9	103	0.00
27	1,1-Dichloroethene	1.278	1.292	-1.1	98	0.00
28	Freon 113	1.961	1.936	1.3	97	0.00
29	Methylene Chloride	0.903	0.779	13.7	98	0.00
30	Carbon Disulfide	2.629	2.620	0.3	97	0.00
31	Ethanol	0.206	0.174	15.5	93	0.00
32	Acrylonitrile	0.563	0.581	-3.2	98	0.00
33	3-Chloropropene	0.350	0.342	2.3	94	0.00
34	trans-1,2-Dichloroethene	1.173	1.147	2.2	94	0.00
35	tert-Butyl Alcohol	1.749	1.503	14.1	95	0.00
36	Methyl tert-Butyl Ether	2.213	2.118	4.3	93	0.00
37	Vinyl Acetate	1.813	1.634	9.9	94	0.00
38	1,1-Dichloroethane	1.537	1.502	2.3	97	0.00

Continuing Calibration Summary

Job Number: JC52679 **Sample:** V5W1069-CC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27161.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.395	0.393	0.5	93	0.00
40		Hexane	1.190	1.198	-0.7	98	0.00
41		cis-1,2-Dichloroethene	1.123	1.093	2.7	95	0.00
42		Di-isopropyl Ether	0.696	0.705	-1.3	98	0.00
43		Ethyl Acetate	0.258	0.273	-5.8	98	0.00
44		Methyl Acrylate	1.357	1.349	0.6	97	0.00
45		Chloroform	1.911	1.848	3.3	98	0.00
46		2,4-Dimethylpentane	1.373	1.389	-1.2	98	0.00
47		Tetrahydrofuran	0.363	0.370	-1.9	94	0.00
48		1,1,1-Trichloroethane	1.734	1.682	3.0	97	0.00
49		1,2-Dichloroethane	1.052	1.050	0.2	98	0.00
50		Benzene	2.747	2.506	8.8	93	0.00
51		Carbon Tetrachloride	1.752	1.760	-0.5	98	0.00
52		Cyclohexane	1.174	1.137	3.2	95	0.00
53		2,3-Dimethylpentane	0.543	0.544	-0.2	97	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
55		2,2,4-Trimethylpentane	1.088	1.156	-6.2	98	0.00
56		Heptane	0.233	0.248	-6.4	98	0.00
57		Trichloroethene	0.374	0.372	0.5	96	0.00
58		1,2-Dichloropropane	0.283	0.284	-0.4	95	0.00
59		Dibromomethane	0.403	0.358	11.2	91	0.00
60		Ethyl Acrylate	0.504	0.538	-6.7	95	0.00
61		Methyl Methacrylate	0.260	0.274	-5.4	95	0.00
62		1,4-Dioxane	0.149	0.152	-2.0	95	0.00
63		Bromodichloromethane	0.573	0.569	0.7	96	0.00
64		cis-1,3-Dichloropropene	0.433	0.421	2.8	91	0.00
65		4-Methyl-2-pentanone	0.199	0.222	-11.6	96	0.00
66		trans-1,3-Dichloropropene	0.375	0.374	0.3	91	0.00
67		Toluene	0.920	0.875	4.9	90	0.00
68		1,1,2-Trichloroethane	0.339	0.328	3.2	93	0.00
69		1,3-Dichloropropane	0.427	0.424	0.7	94	0.00
70		2-Hexanone	0.253	0.298	-17.8	95	0.00
71		Ethyl Methacrylate	0.410	0.446	-8.8	96	0.00
72		Dibromochloromethane	0.610	0.577	5.4	92	0.00
73		Tetrachloroethene	0.559	0.494	11.6	90	0.00
74		1,2-Dibromoethane	0.552	0.512	7.2	89	0.00
75		Octane	0.498	0.510	-2.4	98	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.423	3.2	92	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	91	0.00
78		Chlorobenzene	1.830	1.662	9.2	90	0.00
79		Ethylbenzene	2.675	2.653	0.8	94	0.00
80		m,p-Xylene	2.048	2.062	-0.7	95	0.00
81		Styrene	1.554	1.605	-3.3	95	0.00
82		Nonane	1.180	1.159	1.8	100	0.00
83		o-Xylene	2.058	2.144	-4.2	97	0.00
84		Bromoform	1.339	1.407	-5.1	95	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.578	-0.1	100	0.00
86		1,2,3-Trichloropropane	1.122	1.145	-2.0	101	0.00
87		Isopropylbenzene	2.870	2.962	-3.2	99	0.00
88		Bromobenzene	1.043	1.052	-0.9	97	0.00
89		2-Chlorotoluene	0.765	0.775	-1.3	97	0.00
90		n-Propylbenzene	0.806	0.824	-2.2	97	0.00
91	S	4-Bromofluorobenzene	1.407	1.694	-20.4	104	0.00
92		4-Ethyltoluene	2.847	2.821	0.9	99	0.00
93		1,3,5-Trimethylbenzene	2.484	2.397	3.5	100	0.00
94		alpha-Methylstyrene	1.145	1.175	-2.6	97	0.00
95		tert-Butylbenzene	0.568	0.547	3.7	101	0.00
96		1,2,4-Trimethylbenzene	2.305	2.275	1.3	101	0.00

Continuing Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1069-CC1065
Lab FileID: 5W27161.D

97		1,3-Dichlorobenzene	1.557	1.530	1.7	99	0.00
98		Benzyl Chloride	1.424	1.528	-7.3	96	0.00
99		1,4-Dichlorobenzene	1.543	1.471	4.7	97	0.00
100		sec-Butylbenzene	0.660	0.637	3.5	100	0.00
101		p-Isopropyltoluene	0.784	0.735	6.3	101	0.00
102		1,2-Dichlorobenzene	1.470	1.410	4.1	99	0.00
103		n-Butylbenzene	0.605	0.579	4.3	97	0.00
104		Hexachloroethane	0.972	0.941	3.2	101	0.00
105		1,2,4-Trichlorobenzene	0.439	0.451	-2.7	86	0.00
106		Naphthalene	0.836	0.854	-2.2	85	0.00
107		Hexachlorobutadiene	0.844	0.664	21.3	97	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	97	0.00
109		TVHC as equiv Pentane	4.414	4.633	-5.0	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Tue Oct 10 11:48:19 2017

Continuing Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1069-ECC1065
Lab FileID: 5W27183.D

Evaluate Continuing Calibration Report

Data Path : [redacted]1\data\
Data File : 5W27183.D
Acq On : 11 Oct 2017 2:34 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 08:24:58 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	95	0.00
2	1,1,1-Trifluoroethane	2.073	2.430	-17.2	99	0.00
3	Freon 152A	0.535	0.495	7.5	97	0.00
4	Chlorodifluoromethane	0.187	0.208	-11.2	102	0.00
5	Propene	0.523	0.537	-2.7	103	0.00
6	Chlorotrifluoroethene	1.328	1.292	2.7	92	0.00
7	Dichlorodifluoromethane	2.160	2.205	-2.1	99	0.00
8	1-Chloro-1,1-difluoroethane	1.432	1.516	-5.9	104	0.00
9	Chloromethane	0.669	0.715	-6.9	104	0.00
10	Dichlorotetrafluoroethane	2.142	2.247	-4.9	100	0.00
11	Vinyl Chloride	0.740	0.765	-3.4	98	0.00
12	1,3-Butadiene	0.500	0.499	0.2	98	0.00
13	n-Butane	0.102	0.110	-7.8	100	0.00
14	Bromomethane	0.999	0.916	8.3	100	0.00
15	Chloroethane	0.356	0.370	-3.9	99	0.00
16	Dichlorofluoromethane	1.688	1.733	-2.7	102	0.00
17	Acetonitrile	0.417	0.442	-6.0	100	0.00
18	Freon 123	2.114	2.142	-1.3	99	0.00
19	Freon 123A	1.224	1.227	-0.2	98	0.00
20	Bromoethene	0.883	0.884	-0.1	96	0.00
21	Trichlorofluoromethane	2.119	2.219	-4.7	102	0.00
22	Acetone	0.325	0.304	6.5	99	0.00
23	Pentane	0.203	0.198	2.5	98	0.00
24	1,1-Dichloro-1-fluoroethane	1.903	1.864	2.0	101	0.00
25	Iodomethane	2.754	2.506	9.0	89	0.00
26	Isopropyl Alcohol	0.221	0.201	9.0	108	0.00
27	1,1-Dichloroethene	1.278	1.337	-4.6	99	0.00
28	Freon 113	1.961	1.969	-0.4	96	0.00
29	Methylene Chloride	0.903	0.790	12.5	97	0.00
30	Carbon Disulfide	2.629	2.667	-1.4	97	0.00
31	Ethanol	0.206	0.193	6.3	100	0.00
32	Acrylonitrile	0.563	0.592	-5.2	98	0.00
33	3-Chloropropene	0.350	0.347	0.9	94	0.00
34	trans-1,2-Dichloroethene	1.173	1.187	-1.2	95	0.00
35	tert-Butyl Alcohol	1.749	1.558	10.9	96	0.00
36	Methyl tert-Butyl Ether	2.213	2.182	1.4	94	0.00
37	Vinyl Acetate	1.813	1.712	5.6	96	0.00
38	1,1-Dichloroethane	1.537	1.549	-0.8	98	0.00

Continuing Calibration Summary

Job Number: JC52679 **Sample:** V5W1069-ECC1065
Account: USACEPAP USACE-Philadelphia District **Lab FileID:** 5W27183.D
Project: Defense Supply Center, Philadelphia, PA

39		2-Butanone	0.395	0.409	-3.5	95	0.00
40		Hexane	1.190	1.252	-5.2	100	0.00
41		cis-1,2-Dichloroethene	1.123	1.126	-0.3	96	0.00
42		Di-isopropyl Ether	0.696	0.712	-2.3	97	0.00
43		Ethyl Acetate	0.258	0.285	-10.5	100	0.00
44		Methyl Acrylate	1.357	1.424	-4.9	100	0.00
45		Chloroform	1.911	1.887	1.3	98	0.00
46		2,4-Dimethylpentane	1.373	1.441	-5.0	99	0.00
47		Tetrahydrofuran	0.363	0.381	-5.0	94	0.00
48		1,1,1-Trichloroethane	1.734	1.708	1.5	97	0.00
49		1,2-Dichloroethane	1.052	1.082	-2.9	99	0.00
50		Benzene	2.747	2.518	8.3	91	0.00
51		Carbon Tetrachloride	1.752	1.731	1.2	94	0.00
52		Cyclohexane	1.174	1.176	-0.2	96	0.00
53		2,3-Dimethylpentane	0.543	0.560	-3.1	98	0.00
54	I	1,4-Difluorobenzene	1.000	1.000	0.0	92	0.00
55		2,2,4-Trimethylpentane	1.088	1.222	-12.3	102	0.00
56		Heptane	0.233	0.257	-10.3	99	0.00
57		Trichloroethene	0.374	0.376	-0.5	95	0.00
58		1,2-Dichloropropane	0.283	0.288	-1.8	94	0.00
59		Dibromomethane	0.403	0.345	14.4	86	0.00
60		Ethyl Acrylate	0.504	0.571	-13.3	98	0.00
61		Methyl Methacrylate	0.260	0.288	-10.8	98	0.00
62		1,4-Dioxane	0.149	0.156	-4.7	96	0.00
63		Bromodichloromethane	0.573	0.571	0.3	95	0.00
64		cis-1,3-Dichloropropene	0.433	0.418	3.5	88	0.00
65		4-Methyl-2-pentanone	0.199	0.238	-19.6	100	0.00
66		trans-1,3-Dichloropropene	0.375	0.378	-0.8	90	0.00
67		Toluene	0.920	0.852	7.4	86	0.00
68		1,1,2-Trichloroethane	0.339	0.317	6.5	88	0.00
69		1,3-Dichloropropane	0.427	0.417	2.3	90	0.00
70		2-Hexanone	0.253	0.321	-26.9	101	0.00
71		Ethyl Methacrylate	0.410	0.480	-17.1	101	0.00
72		Dibromochloromethane	0.610	0.541	11.3	84	0.00
73		Tetrachloroethene	0.559	0.464	17.0	83	0.00
74		1,2-Dibromoethane	0.552	0.494	10.5	85	0.00
75		Octane	0.498	0.545	-9.4	102	0.00
76		1,1,1,2-Tetrachloroethane	0.437	0.403	7.8	86	0.00
77	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
78		Chlorobenzene	1.830	1.593	13.0	84	0.00
79		Ethylbenzene	2.675	2.638	1.4	92	0.00
80		m,p-Xylene	2.048	2.139	-4.4	96	0.02
81		Styrene	1.554	1.662	-6.9	96	0.00
82		Nonane	1.180	1.275	-8.1	108	0.00
83		o-Xylene	2.058	2.245	-9.1	100	0.00
84		Bromoform	1.339	1.360	-1.6	90	0.00
85		1,1,2,2-Tetrachloroethane	1.576	1.694	-7.5	106	0.00
86		1,2,3-Trichloropropane	1.122	1.217	-8.5	105	0.00
87		Isopropylbenzene	2.870	3.076	-7.2	101	0.00
88		Bromobenzene	1.043	1.051	-0.8	95	0.00
89		2-Chlorotoluene	0.765	0.787	-2.9	96	0.00
90		n-Propylbenzene	0.806	0.868	-7.7	101	0.00
91	S	4-Bromofluorobenzene	1.407	1.736	-23.4	105	0.00
92		4-Ethyltoluene	2.847	2.964	-4.1	101	0.00
93		1,3,5-Trimethylbenzene	2.484	2.518	-1.4	103	0.00
94		alpha-Methylstyrene	1.145	1.227	-7.2	99	0.00
95		tert-Butylbenzene	0.568	0.567	0.2	102	0.00
96		1,2,4-Trimethylbenzene	2.305	2.404	-4.3	104	0.00

Continuing Calibration Summary

Job Number: JC52679
Account: USACEPAP USACE-Philadelphia District
Project: Defense Supply Center, Philadelphia, PA

Sample: V5W1069-ECC1065
Lab FileID: 5W27183.D

97		1,3-Dichlorobenzene	1.557	1.577	-1.3	100	0.00
98		Benzyl Chloride	1.424	1.635	-14.8	100	0.00
99		1,4-Dichlorobenzene	1.543	1.500	2.8	97	0.00
100		sec-Butylbenzene	0.660	0.659	0.2	102	0.00
101		p-Isopropyltoluene	0.784	0.768	2.0	103	0.00
102		1,2-Dichlorobenzene	1.470	1.468	0.1	101	0.00
103		n-Butylbenzene	0.605	0.606	-0.2	99	0.00
104		Hexachloroethane	0.972	0.938	3.5	98	0.00
105		1,2,4-Trichlorobenzene	0.439	0.456	-3.9	85	0.00
106		Naphthalene	0.836	0.886	-6.0	87	0.00
107		Hexachlorobutadiene	0.844	0.673	20.3	96	0.00
108	I	Bromochloromethane (A)	1.000	1.000	0.0	95	0.00
109		TVHC as equiv Pentane	4.414	4.778	-8.2	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

m5w1065.M Wed Oct 11 08:50:13 2017

MS Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/11/17 16:09

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27180.D
Acq On : 11 Oct 2017 12:13 am
Operator : [redacted]
Sample : jc52679-1
Misc : MS20561,v5w1069,400,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 11 15:01:00 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

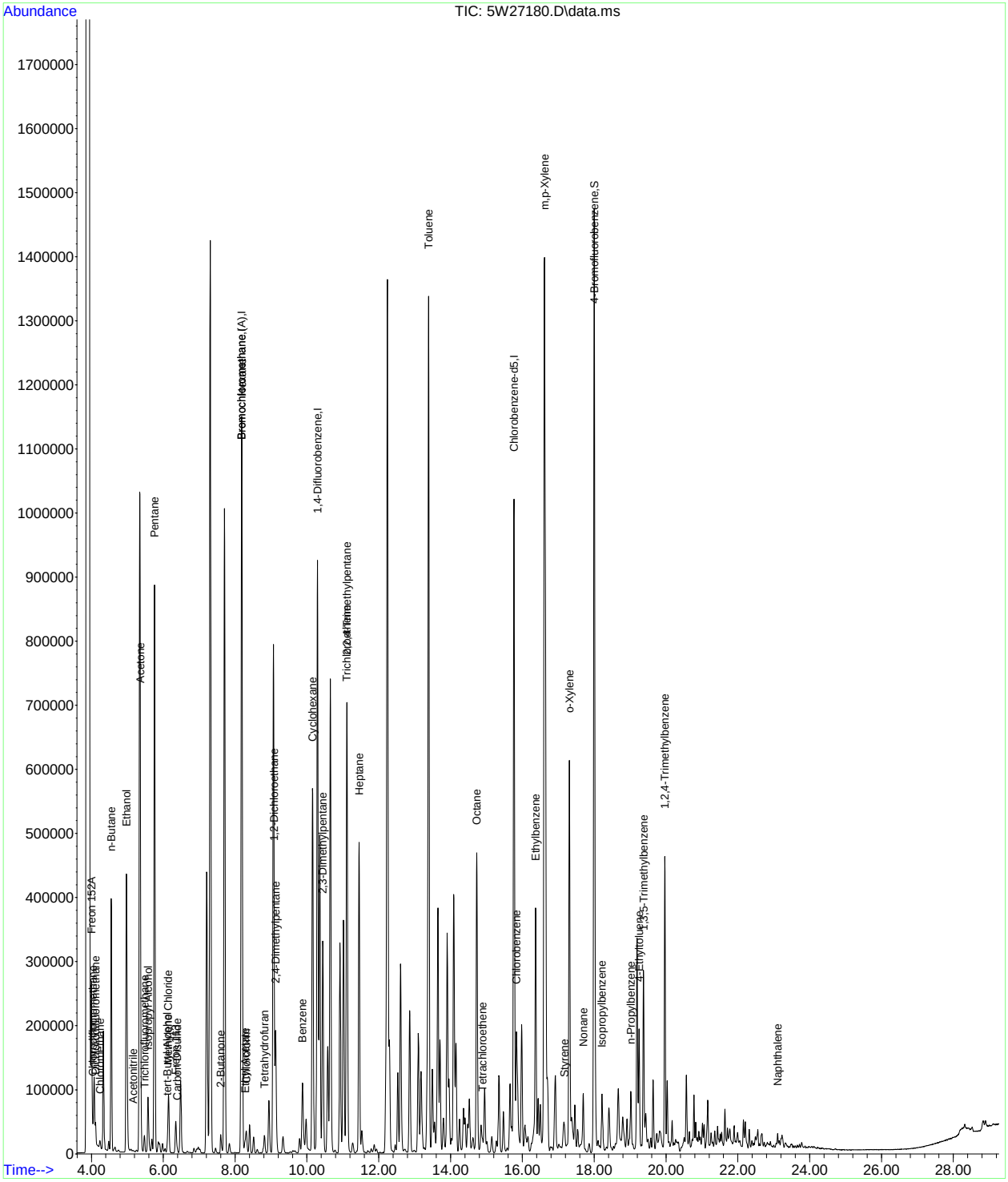
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	280554	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	959211	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	421755	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	280554	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	693597	11.69	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 116.90%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	105324	7.02	ppb(v	90
4) Chlorodifluoromethane	4.040	67	1476	0.28	ppb(v	91
7) Dichlorodifluoromethane	4.113	85	28463	0.47	ppb(v	97
9) Chloromethane	4.241	50	10399	0.55	ppb(v	98
13) n-Butane	4.547	58	47740	16.65	ppb(v	95
17) Acetonitrile	5.159	41	2288m	0.20	ppb(v	
21) Trichlorofluoromethane	5.477	101	26008	0.44	ppb(v	98
22) Acetone	5.361	58	80078	8.78	ppb(v#	1
23) Pentane	5.759	57	106336	18.63	ppb(v	93
26) Isopropyl Alcohol	5.575	43	23778	3.84	ppb(v#	28
28) Freon 113	6.346	101	26366	0.48	ppb(v	93
29) Methylene Chloride	6.132	84	12689	0.50	ppb(v#	96
30) Carbon Disulfide	6.389	76	12166	0.16	ppb(v	99
31) Ethanol	4.976	45	624497	108.25	ppb(v	98
35) tert-Butyl Alcohol	6.107	59	12730	0.26	ppb(v#	69
39) 2-Butanone	7.600	72	10859	0.98	ppb(v	98
40) Hexane	8.187	57	375167	11.24	ppb(v	89
43) Ethyl Acetate	8.279	61	3015	0.42	ppb(v	97
45) Chloroform	8.310	83	27866	0.52	ppb(v	96
46) 2,4-Dimethylpentane	9.130	57	103954	2.70	ppb(v	93
47) Tetrahydrofuran	8.811	72	1156	0.11	ppb(v#	1
49) 1,2-Dichloroethane	9.087	62	6733	0.23	ppb(v	97
50) Benzene	9.870	78	99352	1.29	ppb(v	99
52) Cyclohexane	10.157	56	327311	9.93	ppb(v	97
53) 2,3-Dimethylpentane	10.439	71	72912	4.78	ppb(v	98
55) 2,2,4-Trimethylpentane	11.112	57	320716	3.07	ppb(v#	12
56) Heptane	11.454	71	142470	6.37	ppb(v	96
57) Trichloroethene	11.106	95	2038	0.06	ppb(v#	33
67) Toluene	13.387	91	1309677	14.83	ppb(v	99
73) Tetrachloroethene	14.886	166	6957	0.13	ppb(v	99
75) Octane	14.721	43	169917	3.56	ppb(v	95
78) Chlorobenzene	15.835	112	23197	0.30	ppb(v#	43
79) Ethylbenzene	16.367	91	380900	3.38	ppb(v	100
80) m,p-Xylene	16.618	91	1624804	18.81	ppb(v	99
81) Styrene	17.168	104	7998	0.12	ppb(v#	94
82) Nonane	17.694	43	41172	0.83	ppb(v	98
83) o-Xylene	17.309	91	497280	5.73	ppb(v	99
87) Isopropylbenzene	18.214	105	72198	0.60	ppb(v	98
90) n-Propylbenzene	19.022	120	19593	0.58	ppb(v	98
92) 4-Ethyltoluene	19.248	105	147240	1.23	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	189757	1.81	ppb(v	100
96) 1,2,4-Trimethylbenzene	19.964	105	292556	3.01	ppb(v#	69
106) Naphthalene	23.108	128	9712	0.28	ppb(v#	91

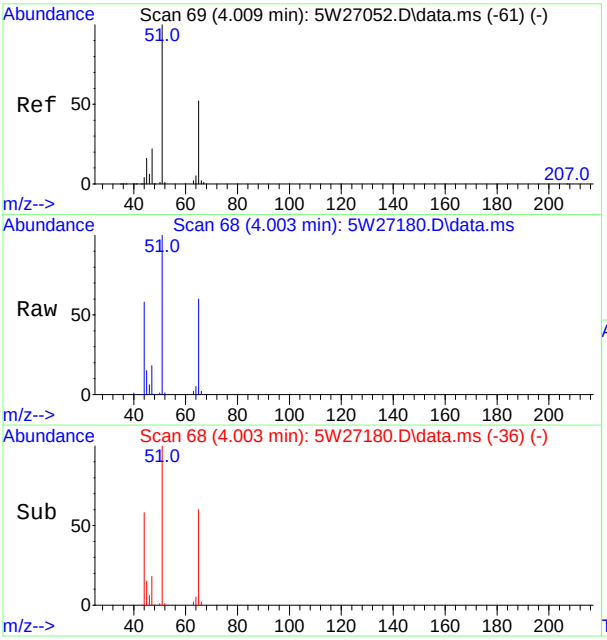
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27180.D
Acq On : 11 Oct 2017 12:13 am
Operator : [redacted]
Sample : jc52679-1
Misc : MS20561,v5w1069,400,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 11 15:01:00 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

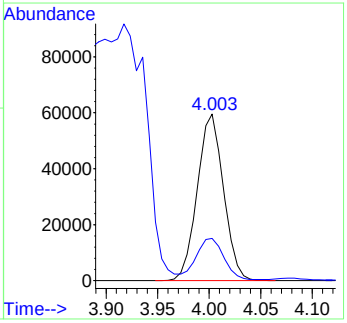


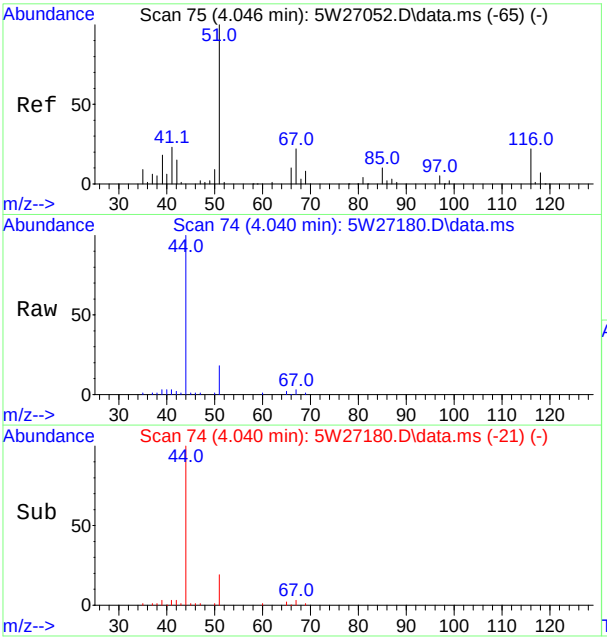


#3
Freon 152A
Concen: 7.02 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 65 Resp: 105324

Ion	Ratio	Lower	Upper
65	100		
45	25.3	21.4	39.8

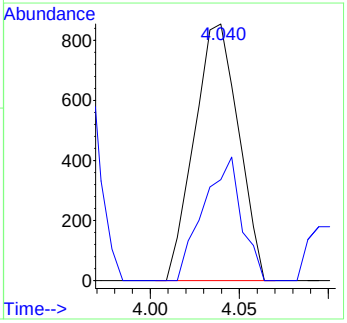


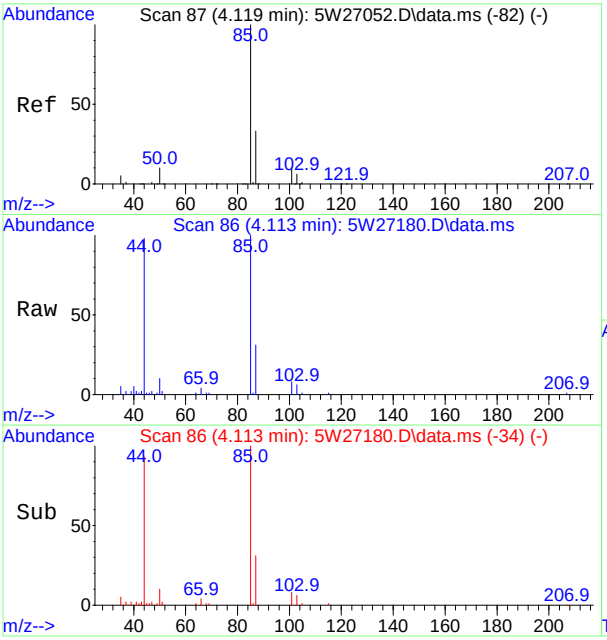


#4
Chlorodifluoromethane
Concen: 0.28 ppb(v)
RT: 4.040 min Scan# 74
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 67 Resp: 1476

Ion	Ratio	Lower	Upper
67	100		
69	39.3	24.1	44.7

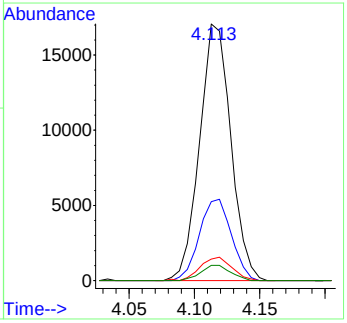


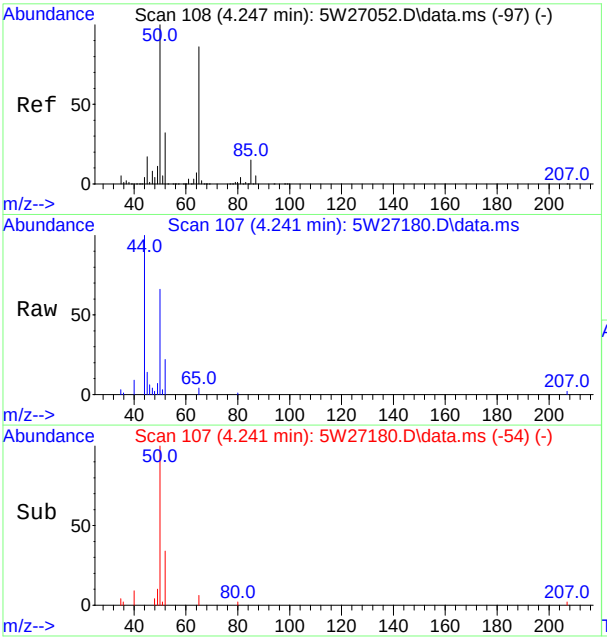


#7
Dichlorodifluoromethane
Concen: 0.47 ppb(v)
RT: 4.113 min Scan# 86
Delta R.T. -0.012 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 85 Resp: 28463

Ion	Ratio	Lower	Upper
85	100		
87	30.8	23.0	42.6
101	8.4	6.6	12.2
103	6.0	4.2	7.8

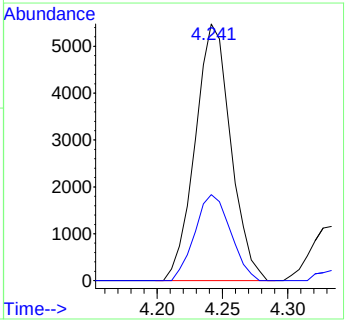


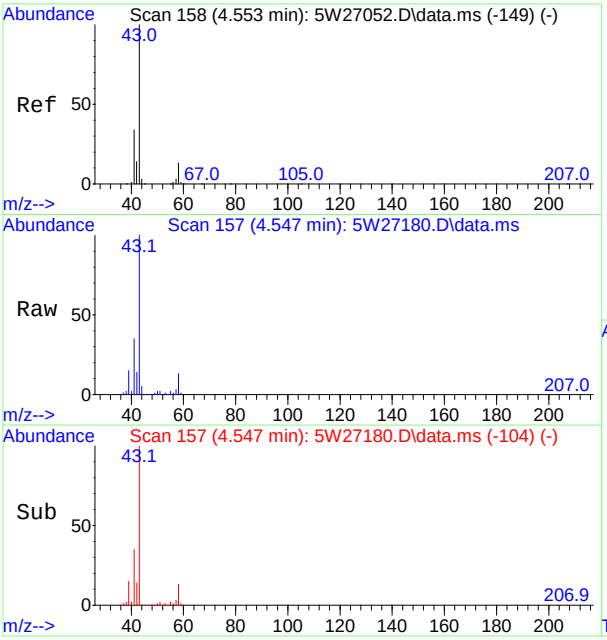


#9
Chloromethane
Concen: 0.55 ppb(v)
RT: 4.241 min Scan# 107
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 50 Resp: 10399

Ion	Ratio	Lower	Upper
50	100		
52	33.6	22.7	42.1

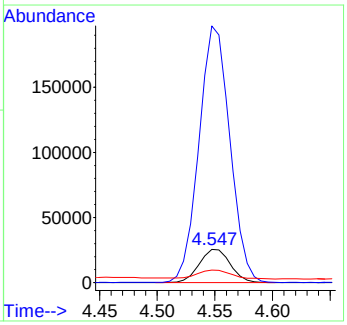


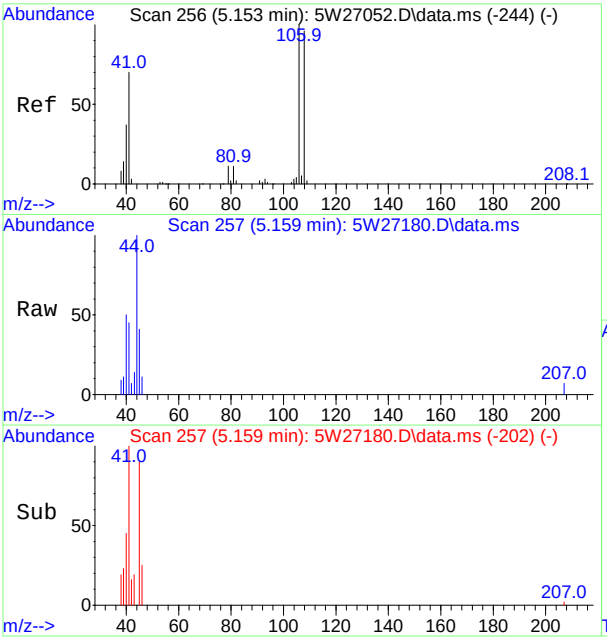


#13
n-Butane
Concen: 16.65 ppb(v)
RT: 4.547 min Scan# 157
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 58 Resp: 47740

Ion	Ratio	Lower	Upper
58	100		
43	772.2	527.9	980.5
44	38.1	25.1	46.7

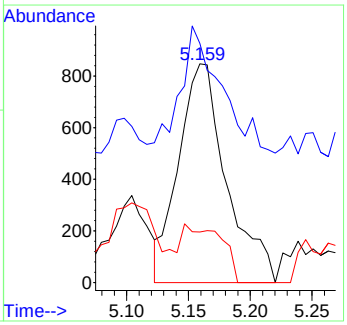


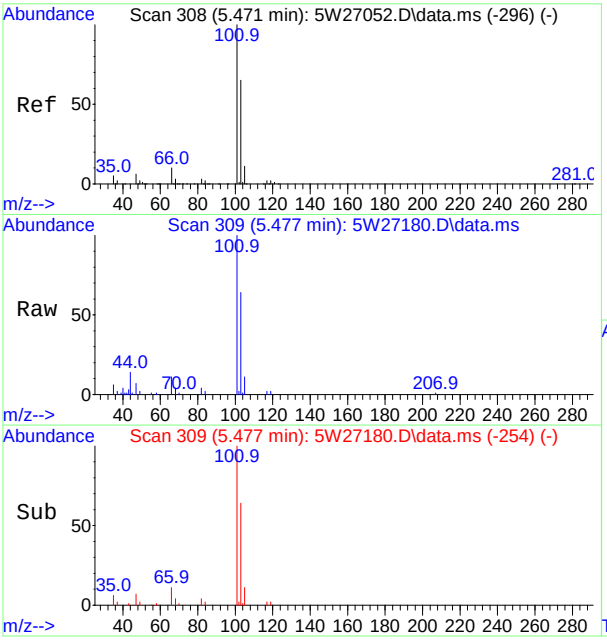


#17
Acetonitrile
Concen: 0.20 ppb(v) m
RT: 5.159 min Scan# 257
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 41 Resp: 2288

Ion	Ratio	Lower	Upper
41	100		
40	109.3	37.9	70.3#
39	23.1	13.6	25.4

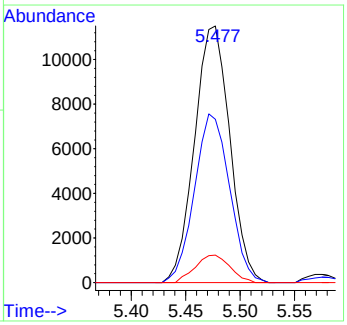


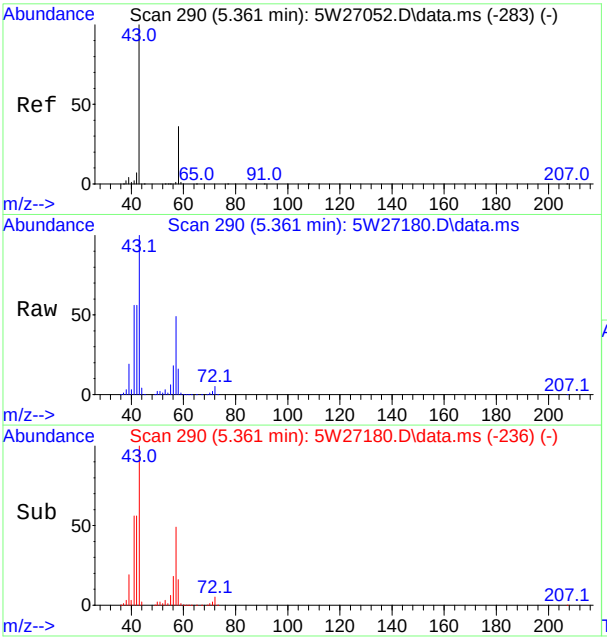


#21
Trichlorofluoromethane
Concen: 0.44 ppb(v)
RT: 5.477 min Scan# 309
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:101 Resp: 26008

Ion	Ratio	Lower	Upper
101	100		
103	63.6	45.6	84.6
105	10.7	7.5	13.9

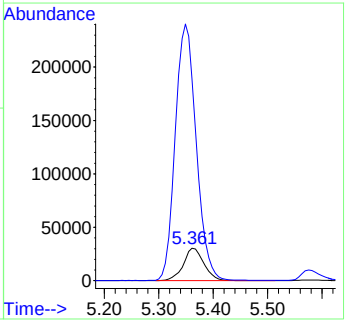


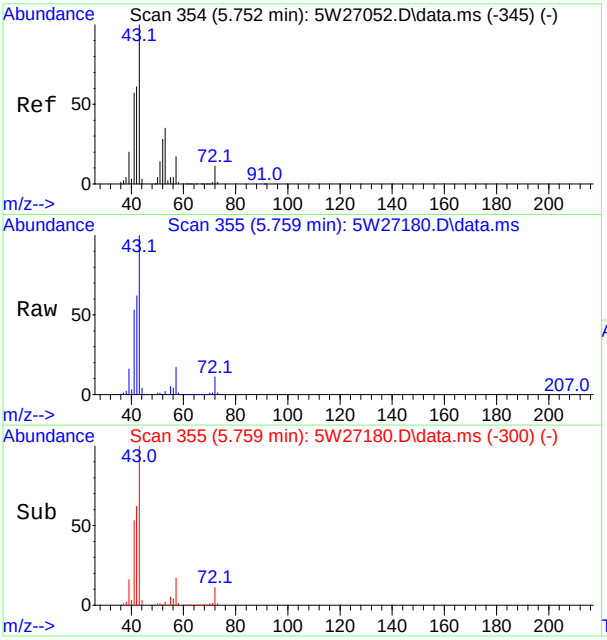


#22
Acetone
Concen: 8.78 ppb(v)
RT: 5.361 min Scan# 290
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 58 Resp: 80078

Ion	Ratio	Lower	Upper
58	100		
43	623.9	194.7	361.5#

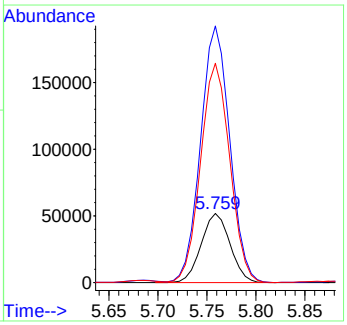


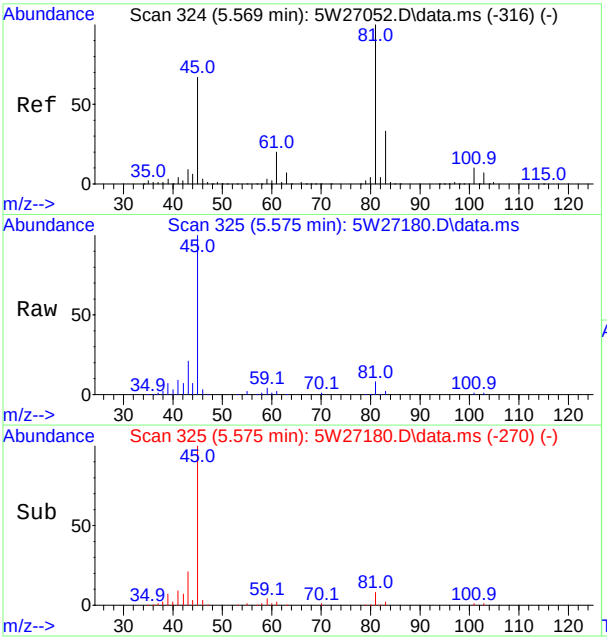


#23
Pentane
Concen: 18.63 ppb(v)
RT: 5.759 min Scan# 355
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 57 Resp: 106336

Ion	Ratio	Lower	Upper
57	100		
42	371.3	249.9	464.1
41	317.4	233.0	432.6

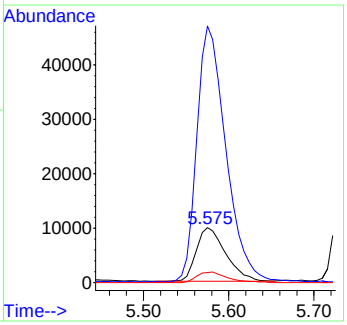


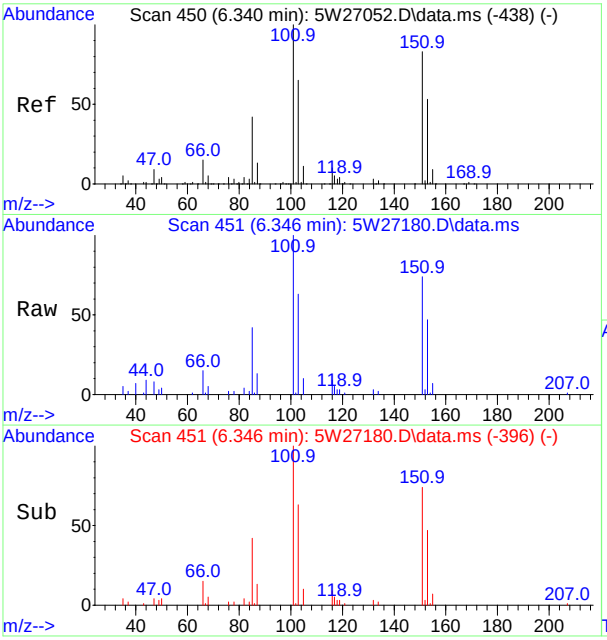


#26
Isopropyl Alcohol
Concen: 3.84 ppb(v)
RT: 5.575 min Scan# 325
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 43 Resp: 23778

Ion	Ratio	Lower	Upper
43	100		
45	466.3	512.5	951.7#
59	18.3	20.9	38.7#

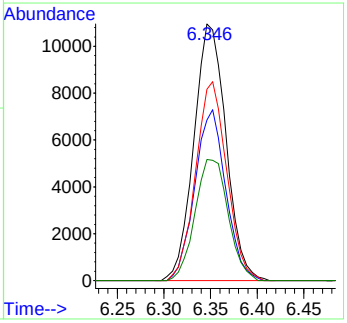


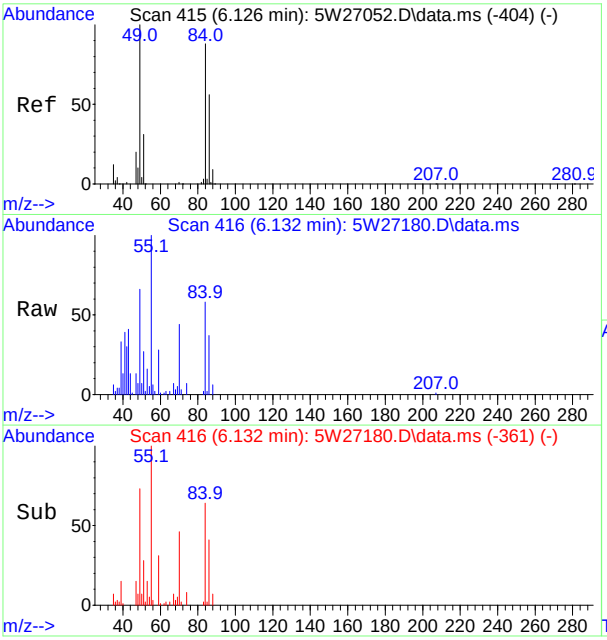


#28
Freon 113
Concen: 0.48 ppb(v)
RT: 6.346 min Scan# 451
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:101 Resp: 26366

Ion	Ratio	Lower	Upper
101	100		
103	62.6	45.3	84.1
151	74.5	58.1	107.9
153	47.1	37.1	68.9

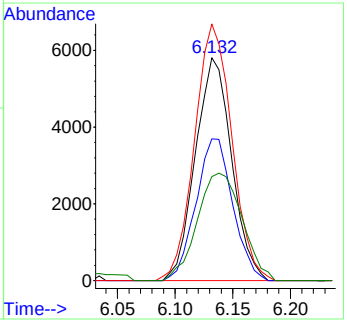


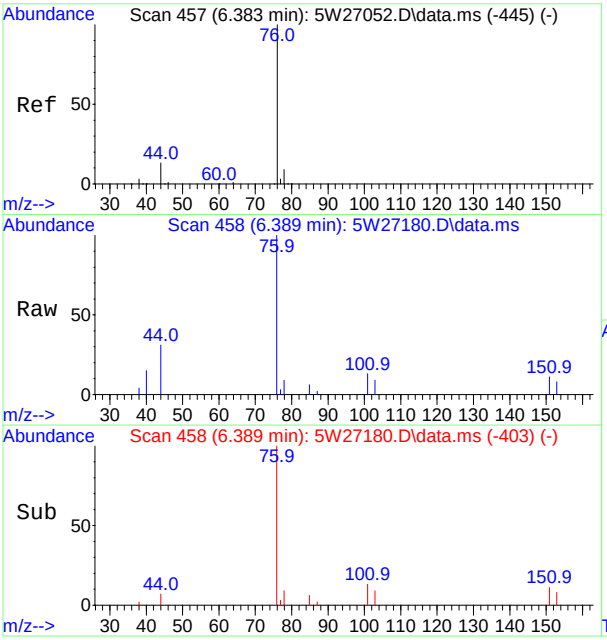


#29
Methylene Chloride
Concen: 0.50 ppb(v)
RT: 6.132 min Scan# 416
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 84 Resp: 12689

Ion	Ratio	Lower	Upper
84	100		
86	63.5	44.7	82.9
49	115.1	79.5	147.6
51	46.7	25.1	46.7#

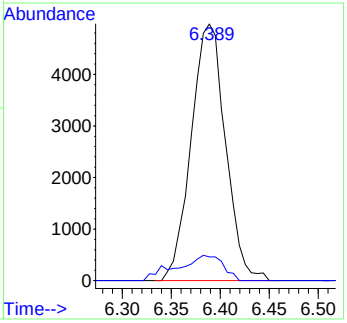


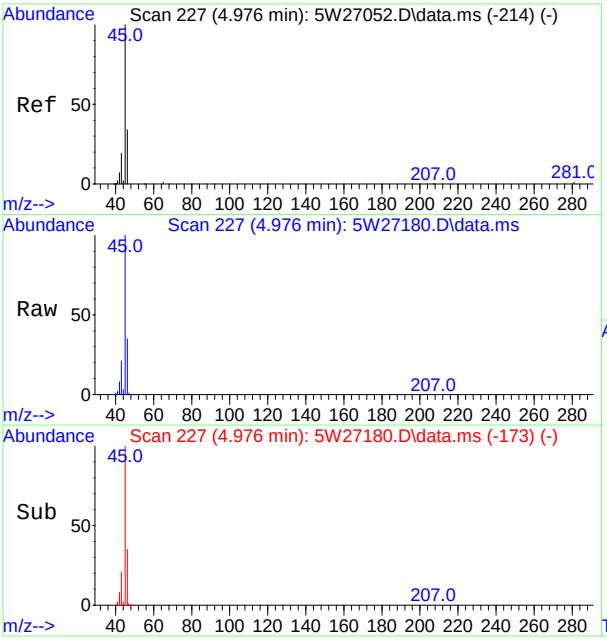


#30
Carbon Disulfide
Concen: 0.16 ppb(v)
RT: 6.389 min Scan# 458
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 76 Resp: 12166

Ion	Ratio	Lower	Upper
76	100		
78	9.2	6.6	12.4

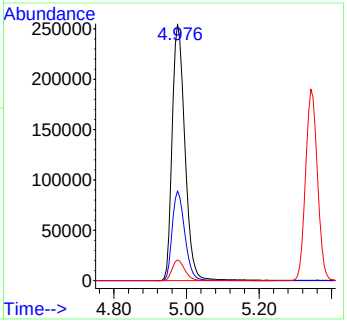


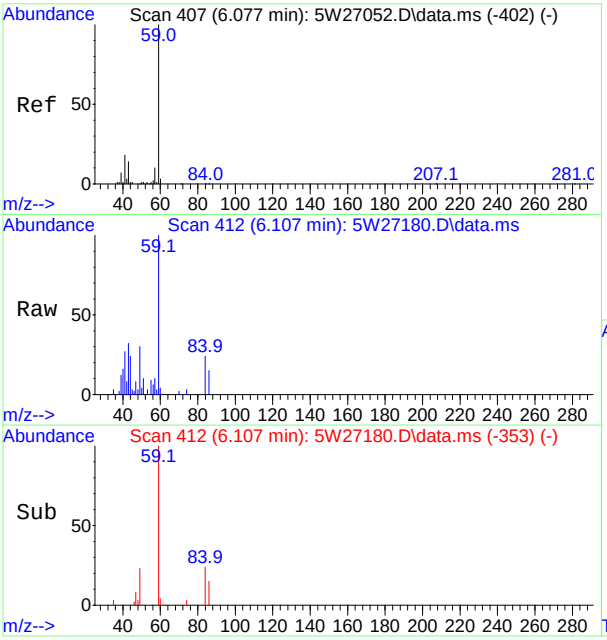


#31
Ethanol
Concen: 108.25 ppb(v)
RT: 4.976 min Scan# 227
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 45 Resp: 624497

Ion	Ratio	Lower	Upper
45	100		
46	35.0	23.5	43.7
42	8.1	5.5	10.3

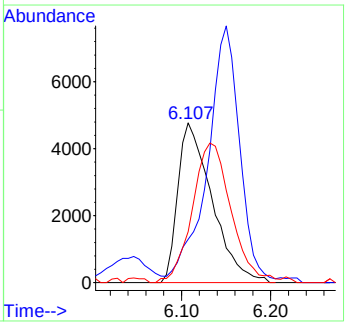


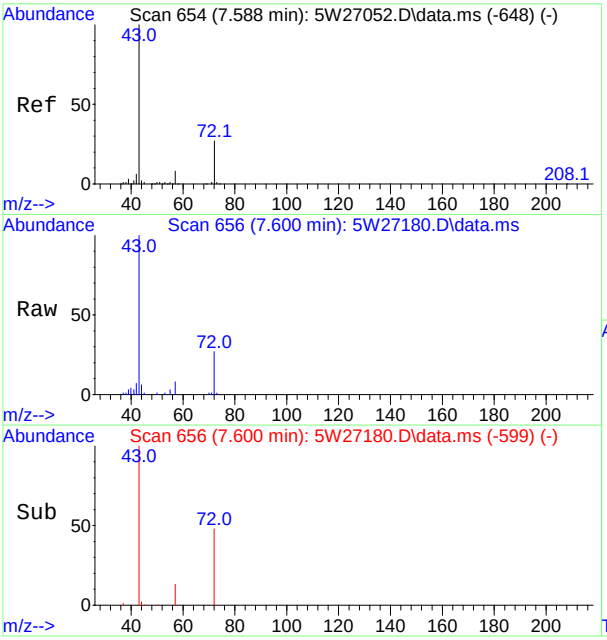


#35
tert-Butyl Alcohol
Concen: 0.26 ppb(v)
RT: 6.107 min Scan# 412
Delta R.T. 0.031 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 59 Resp: 12730

Ion	Ratio	Lower	Upper
59	100		
41	27.1	12.5	23.1#
43	31.9	9.7	17.9#

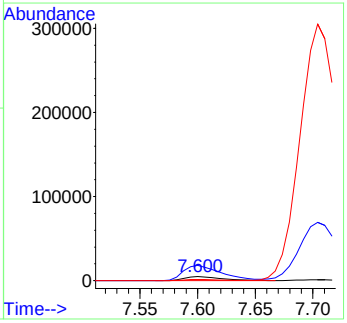


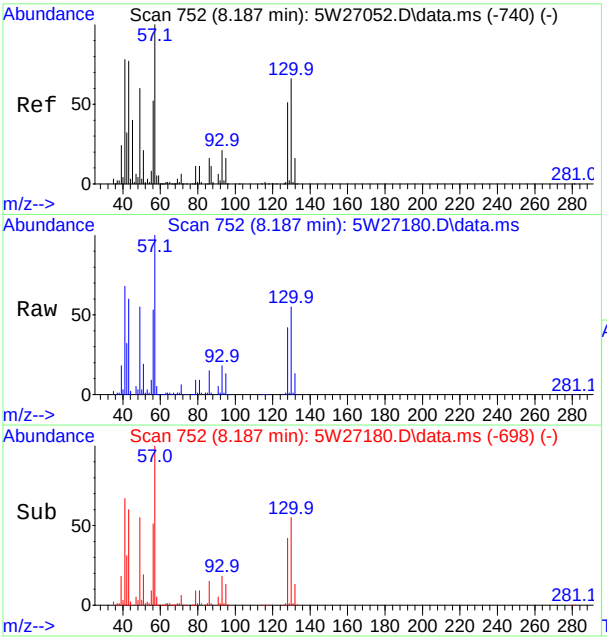


#39
2-Butanone
Concen: 0.98 ppb(v)
RT: 7.600 min Scan# 656
Delta R.T. 0.019 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 72 Resp: 10859

Ion	Ratio	Lower	Upper
72	100		
43	372.4	256.8	476.8
57	30.3	20.4	37.8

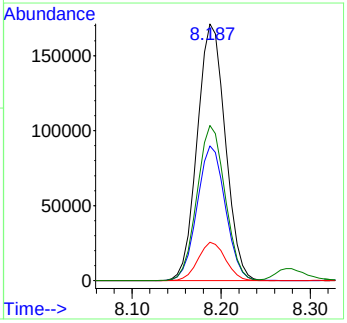


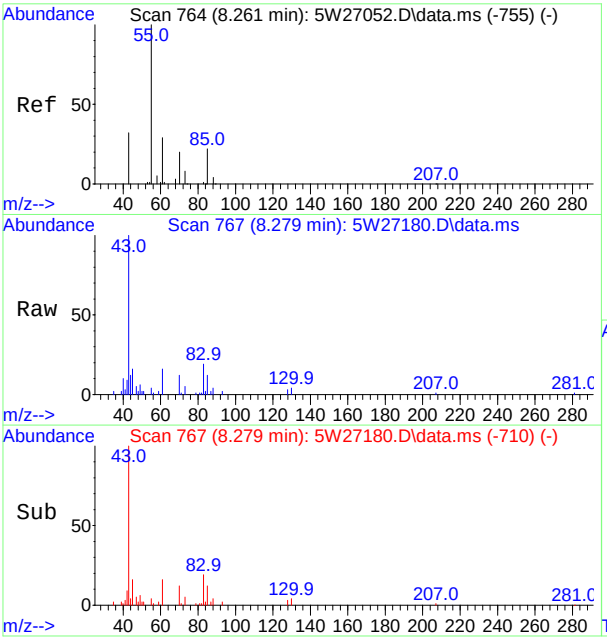


#40
Hexane
Concen: 11.24 ppb(v)
RT: 8.187 min Scan# 752
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 57 Resp: 375167

Ion	Ratio	Lower	Upper
57	100		
56	52.5	36.6	68.0
86	14.9	11.1	20.5
43	60.4	54.2	100.6

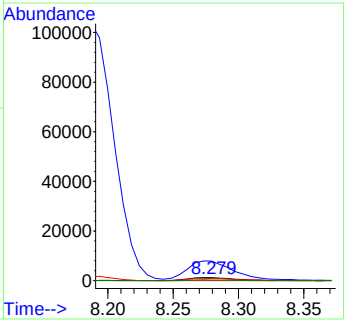


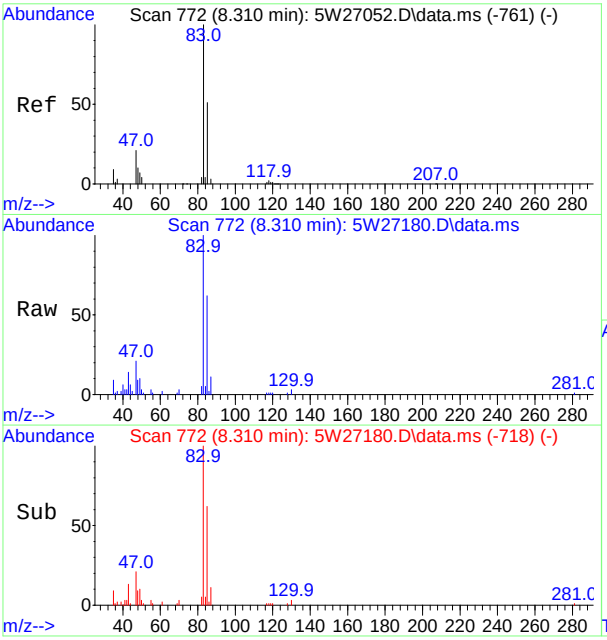


#43
Ethyl Acetate
Concen: 0.42 ppb(v)
RT: 8.279 min Scan# 767
Delta R.T. 0.019 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 61 Resp: 3015

Ion	Ratio	Lower	Upper
61	100		
43	620.5	440.8	818.6
70	74.5	51.7	95.9
88	23.3	19.4	36.0

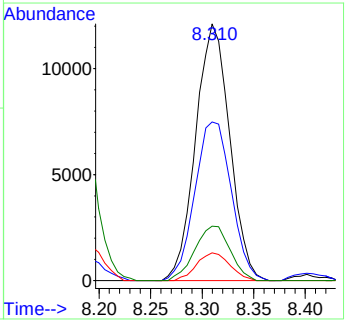


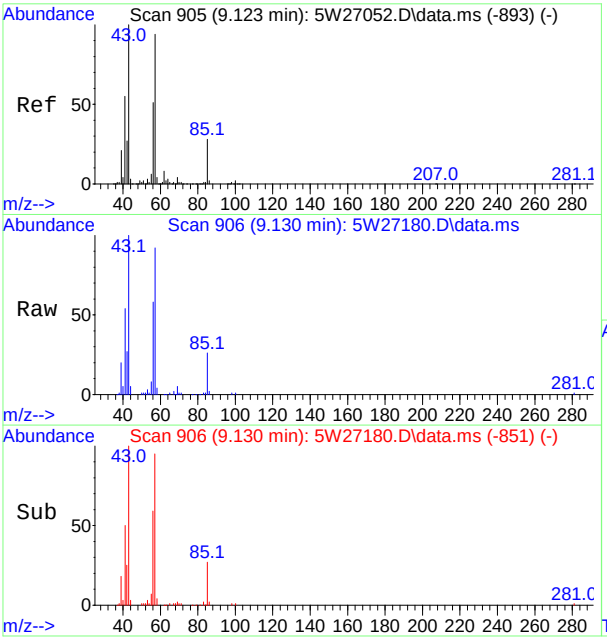


#45
Chloroform
Concen: 0.52 ppb(v)
RT: 8.310 min Scan# 772
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 83 Resp: 27866

Ion	Ratio	Lower	Upper
83	100		
85	61.8	46.2	85.8
87	10.8	7.6	14.2
47	21.2	15.0	28.0

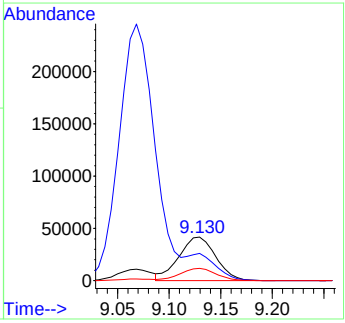




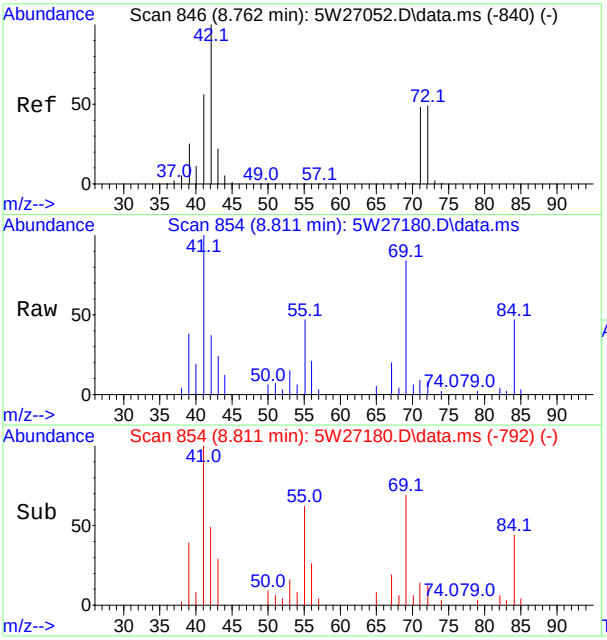
#46
2,4-Dimethylpentane
Concen: 2.70 ppb(v)
RT: 9.130 min Scan# 906
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 57 Resp: 103954

Ion	Ratio	Lower	Upper
57	100		
56	62.4	38.5	71.5
85	28.1	20.6	38.2



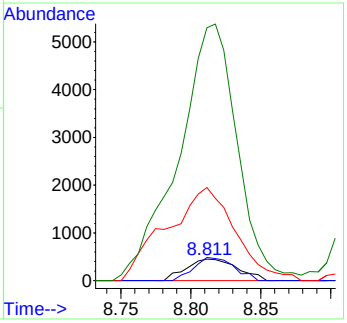
SGS ACCUTEST JC52679

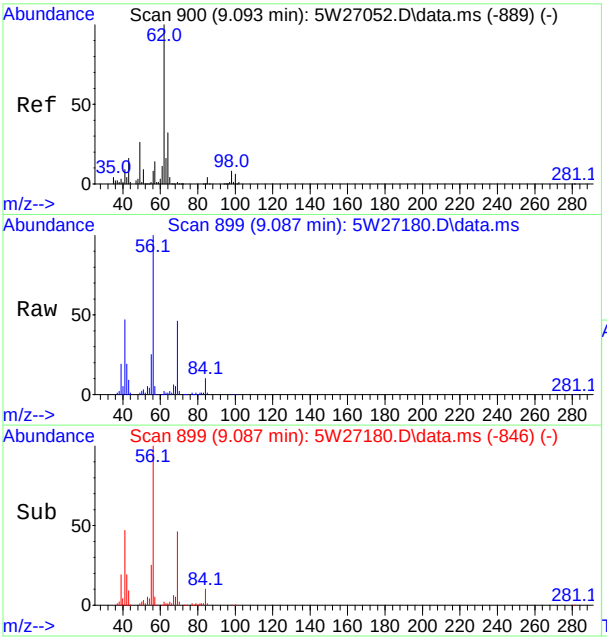


#47
Tetrahydrofuran
Concen: 0.11 ppb(v)
RT: 8.811 min Scan# 854
Delta R.T. 0.049 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 72 Resp: 1156

Ion	Ratio	Lower	Upper
72	100		
71	107.6	68.6	127.4
42	432.9	143.9	267.2#
41	1176.9	80.6	149.6#

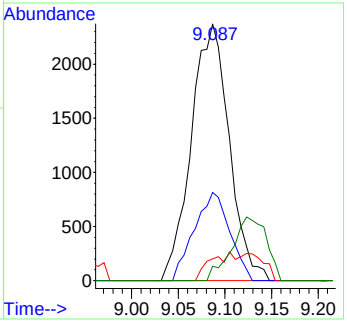


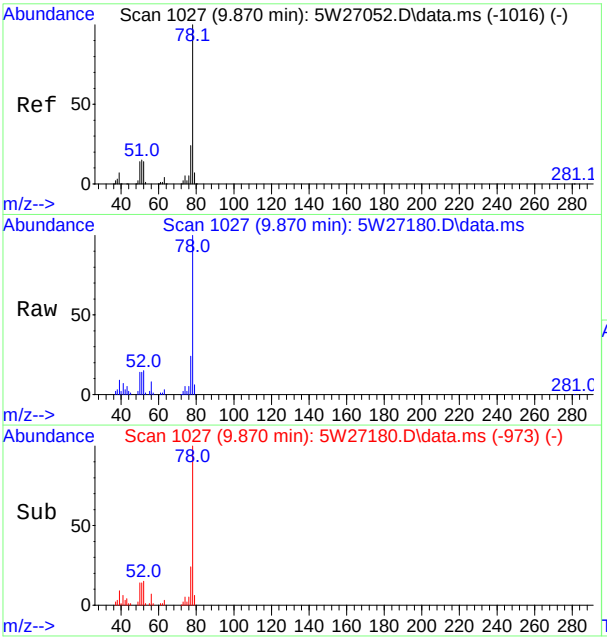


#49
1,2-Dichloroethane
Concen: 0.23 ppb(v)
RT: 9.087 min Scan# 899
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 62 Resp: 6733

Ion	Ratio	Lower	Upper
62	100		
64	34.3	22.5	41.7
98	8.5	5.9	10.9
100	5.6	4.2	7.8

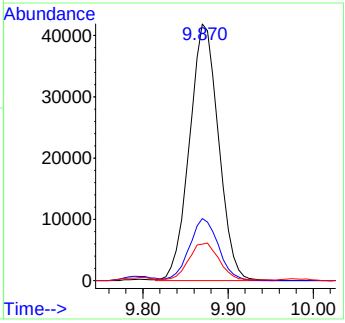


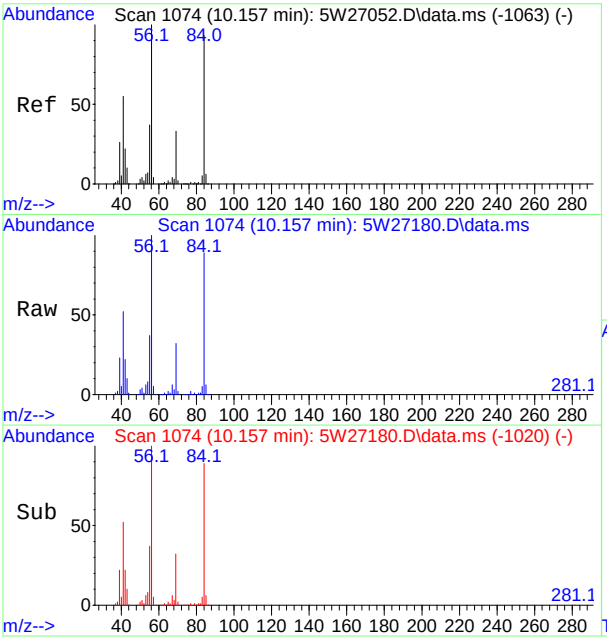


#50
Benzene
Concen: 1.29 ppb(v)
RT: 9.870 min Scan# 1027
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 78 Resp: 99352

Ion	Ratio	Lower	Upper
78	100		
77	24.2	16.8	31.2
51	14.2	10.4	19.4

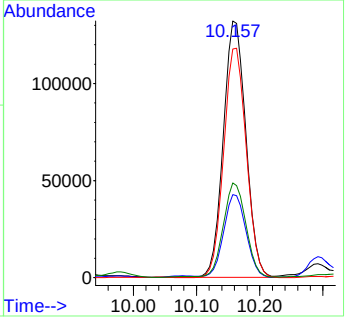


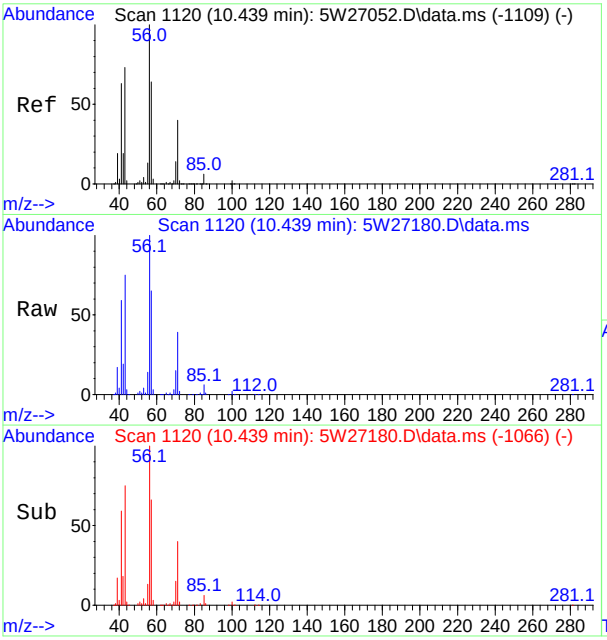


#52
Cyclohexane
Concen: 9.93 ppb(v)
RT: 10.157 min Scan# 1074
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 56 Resp: 327311

Ion	Ratio	Lower	Upper
56	100		
69	32.4	23.2	43.0
84	89.0	65.4	121.4
55	36.9	25.8	48.0

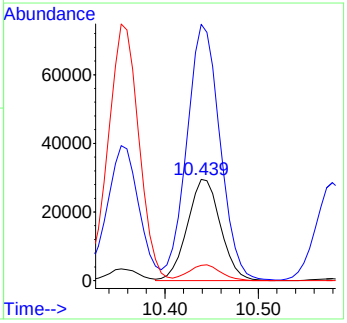


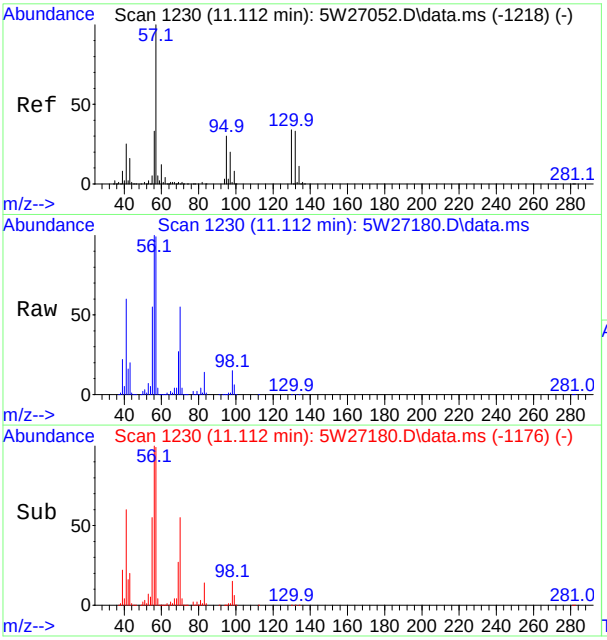


#53
2,3-Dimethylpentane
Concen: 4.78 ppb(v)
RT: 10.439 min Scan# 1120
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 71 Resp: 72912

Ion	Ratio	Lower	Upper
71	100		
56	253.4	174.6	324.2
85	15.2	11.1	20.5

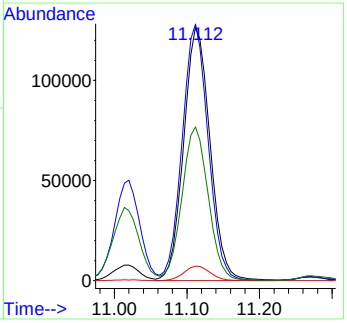


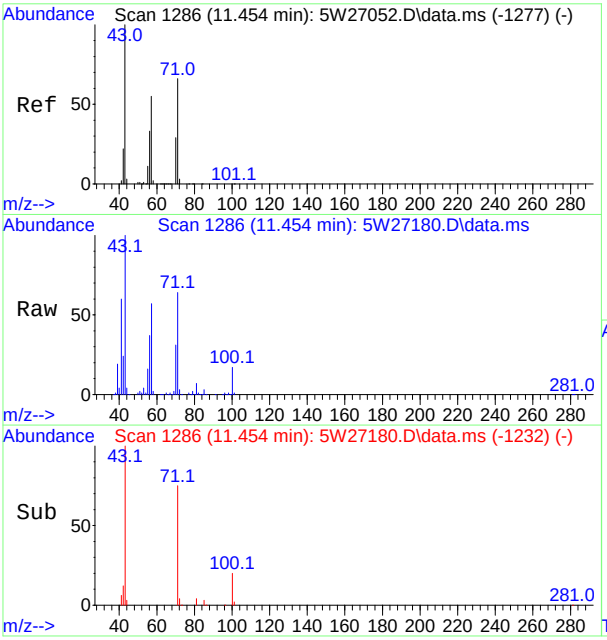


#55
2,2,4-Trimethylpentane
Concen: 3.07 ppb(v)
RT: 11.112 min Scan# 1230
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 57 Resp: 320716

Ion	Ratio	Lower	Upper
57	100		
56	101.2	23.0	42.6#
99	5.7	5.8	10.8#
41	60.6	17.7	32.9#

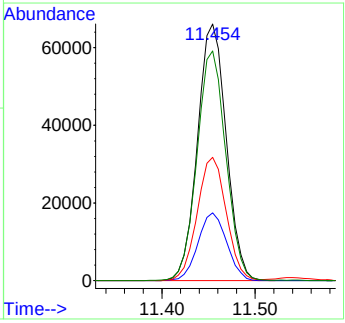


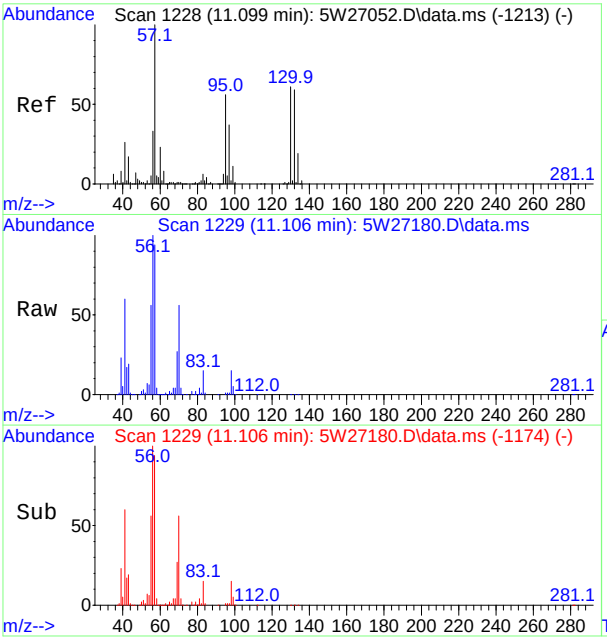


#56
Heptane
Concen: 6.37 ppb(v)
RT: 11.454 min Scan# 1286
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 71 Resp: 142470

Ion	Ratio	Lower	Upper
71	100		
100	26.4	20.1	37.3
70	48.0	34.1	63.3
57	89.4	59.4	110.4

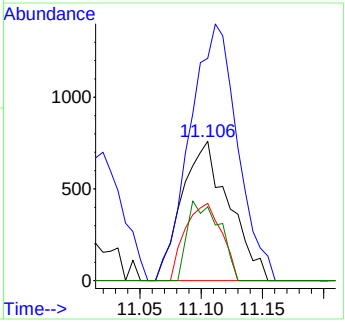


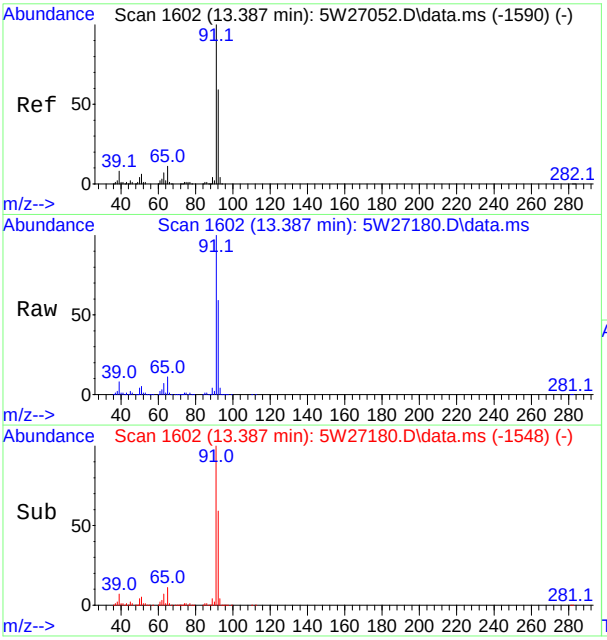


#57
Trichloroethene
Concen: 0.06 ppb(v)
RT: 11.106 min Scan# 1229
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 95 Resp: 2038

Ion	Ratio	Lower	Upper
95	100		
97	159.6	45.8	85.2#
130	55.4	75.7	140.5#
132	52.9	73.8	137.0#

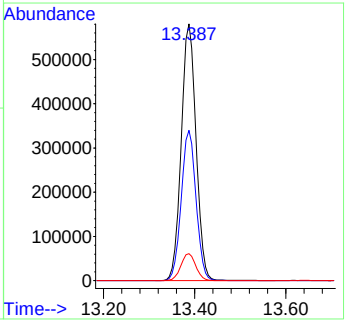


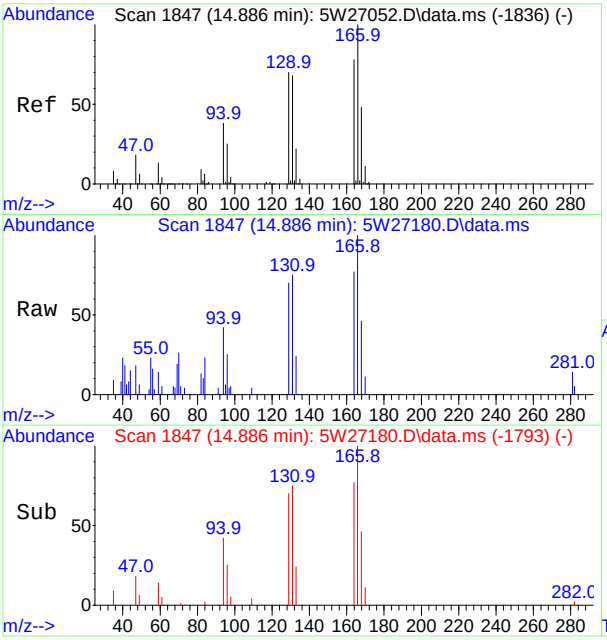


#67
Toluene
Concen: 14.83 ppb(v)
RT: 13.387 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 91 Resp: 1309677

Ion	Ratio	Lower	Upper
91	100		
92	58.5	41.4	76.8
65	10.5	7.3	13.7

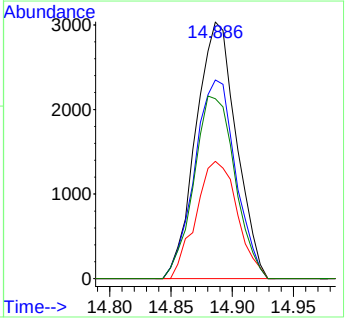


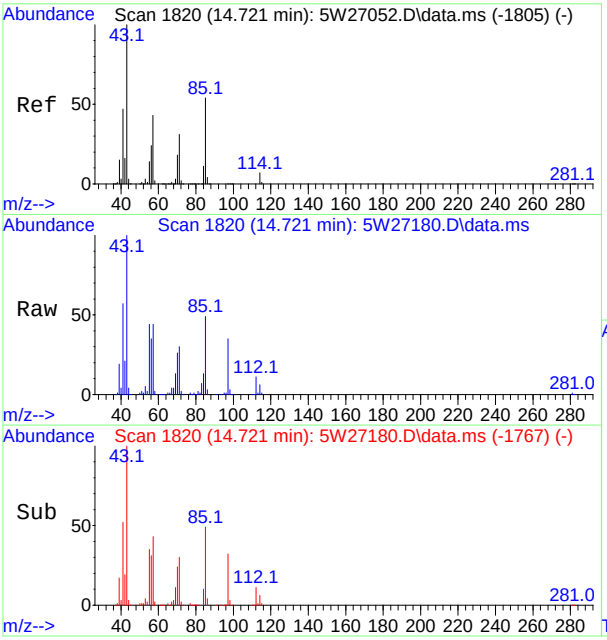


#73
Tetrachloroethene
Concen: 0.13 ppb(v)
RT: 14.886 min Scan# 1847
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:166 Resp: 6957

Ion	Ratio	Lower	Upper
166	100		
164	77.4	54.5	101.3
168	45.7	33.6	62.4
129	70.0	49.2	91.4

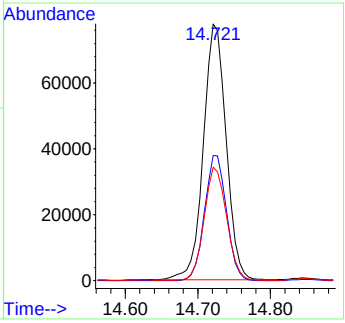


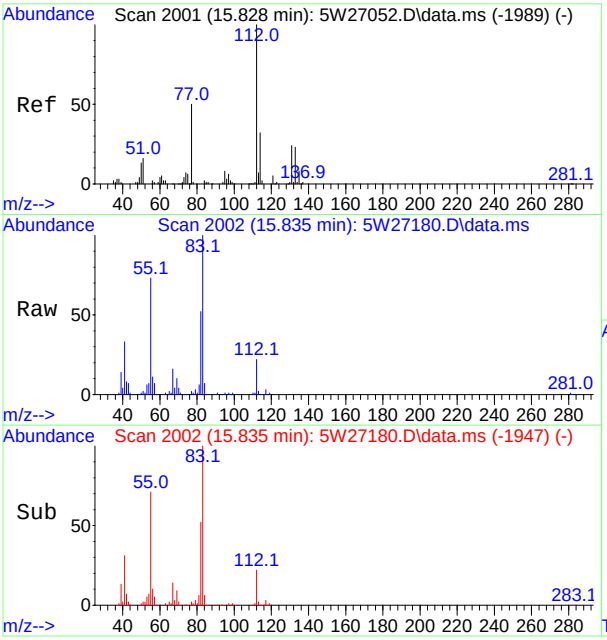


#75
Octane
Concen: 3.56 ppb(v)
RT: 14.721 min Scan# 1820
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 43 Resp: 169917

Ion	Ratio	Lower	Upper
43	100		
85	48.7	37.8	70.2
57	44.2	30.3	56.3

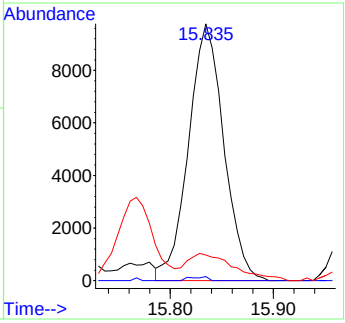


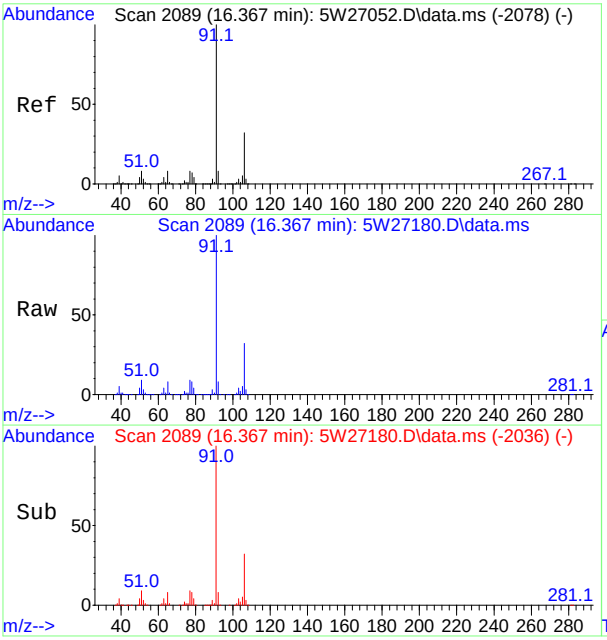


#78
Chlorobenzene
Concen: 0.30 ppb(v)
RT: 15.835 min Scan# 2002
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:112 Resp: 23197

Ion	Ratio	Lower	Upper
112	100		
114	1.6	22.7	42.1#
77	9.9	35.2	65.4#

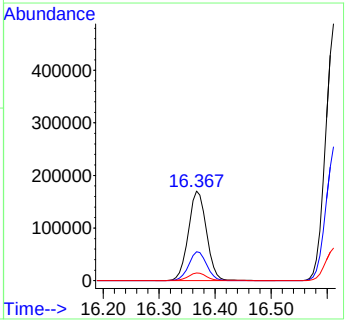


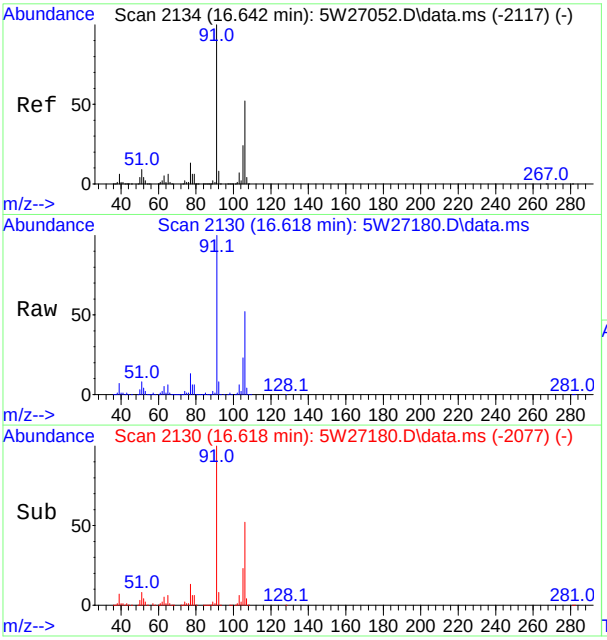


#79
Ethylbenzene
Concen: 3.38 ppb(v)
RT: 16.367 min Scan# 2089
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 91 Resp: 380900

Ion	Ratio	Lower	Upper
91	100		
106	32.1	22.4	41.6
77	8.7	5.7	10.7

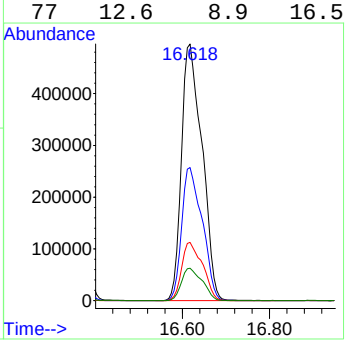


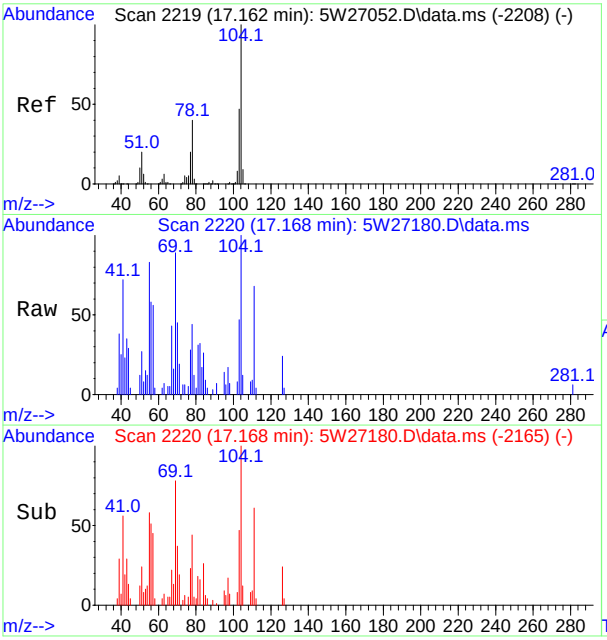


#80
m,p-Xylene
Concen: 18.81 ppb(v)
RT: 16.618 min Scan# 2130
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 91 Resp: 1624804

Ion	Ratio	Lower	Upper
91	100		
106	51.8	36.3	67.5
105	22.7	16.4	30.6
77	12.6	8.9	16.5

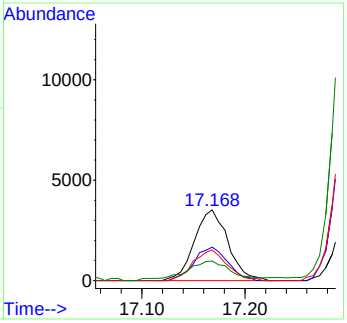


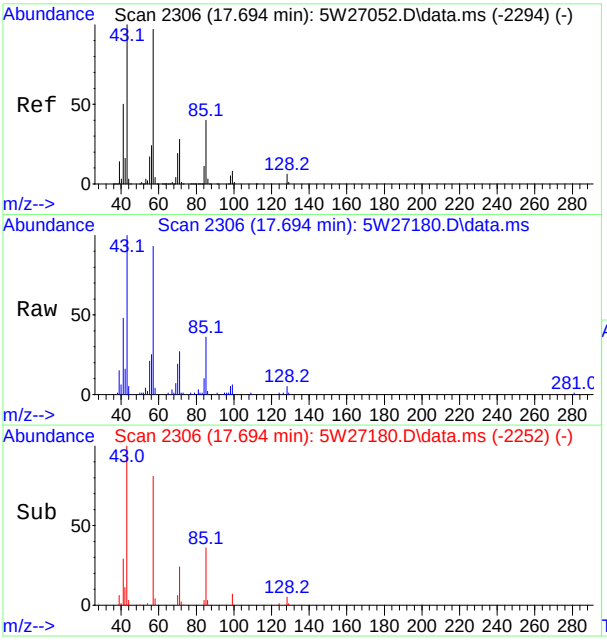


#81
Styrene
Concen: 0.12 ppb(v)
RT: 17.168 min Scan# 2220
Delta R.T. 0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:104 Resp: 7998

Ion	Ratio	Lower	Upper
104	100		
103	47.4	32.8	61.0
78	43.7	28.1	52.1
77	27.9	13.7	25.5#

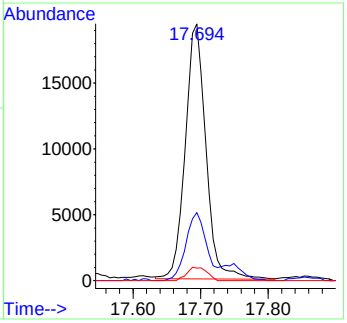


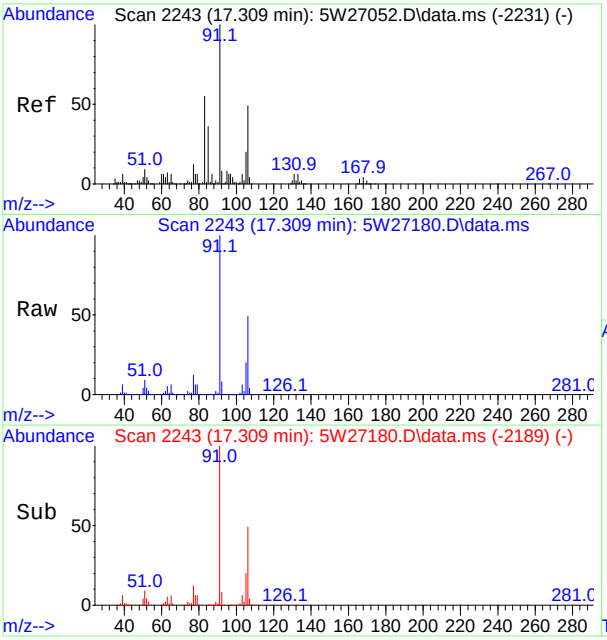


#82
Nonane
Concen: 0.83 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 43 Resp: 41172

Ion	Ratio	Lower	Upper
43	100		
71	26.6	19.3	35.9
128	4.9	4.5	8.3

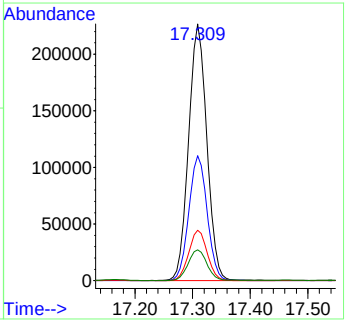


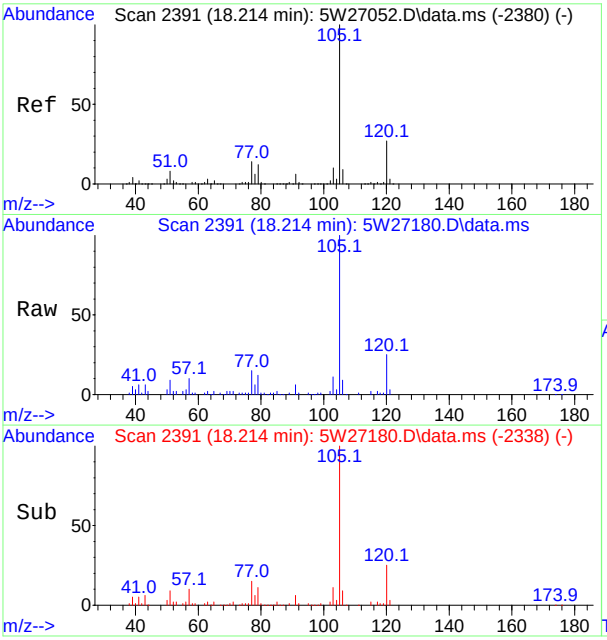


#83
o-Xylene
Concen: 5.73 ppb(v)
RT: 17.309 min Scan# 2243
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion: 91 Resp: 497280

Ion	Ratio	Lower	Upper
91	100		
106	48.6	34.4	64.0
105	19.6	13.7	25.5
77	12.0	8.5	15.7

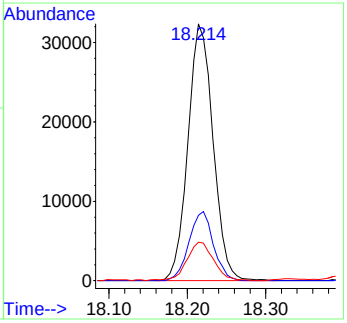


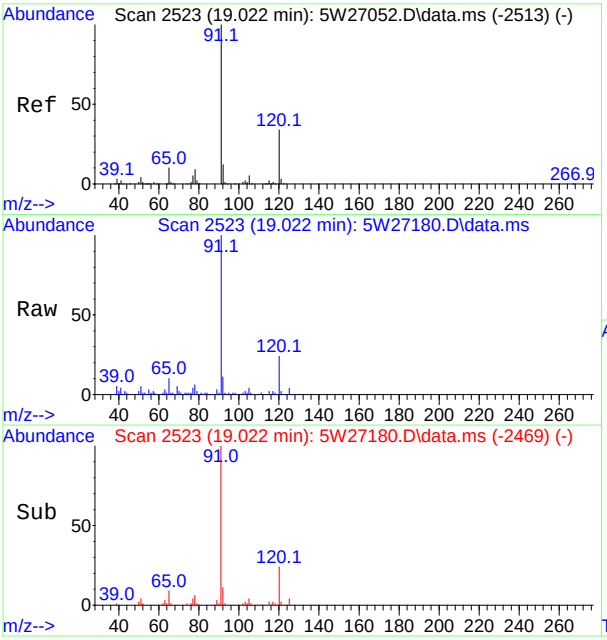


#87
Isopropylbenzene
Concen: 0.60 ppb(v)
RT: 18.214 min Scan# 2391
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:105 Resp: 72198

Ion	Ratio	Lower	Upper
105	100		
120	25.5	19.0	35.2
77	15.0	10.1	18.9

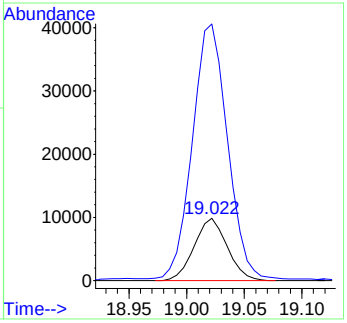


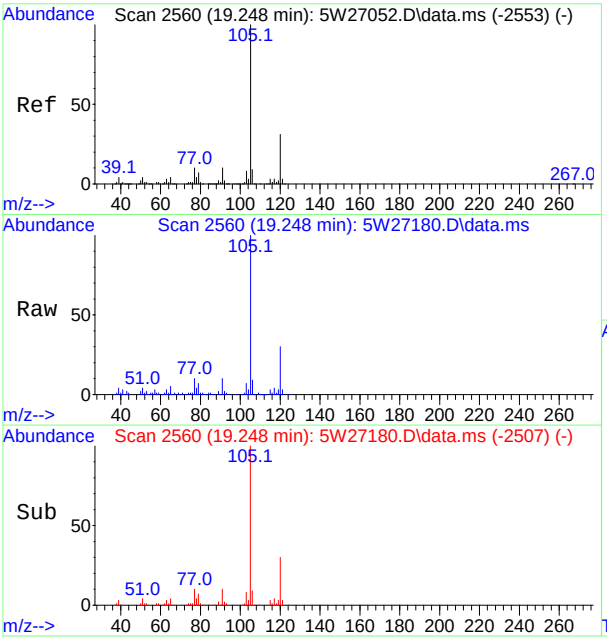


#90
n-Propylbenzene
Concen: 0.58 ppb(v)
RT: 19.022 min Scan# 2523
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:120 Resp: 19593

Ion	Ratio	Lower	Upper
120	100		
91	412.0	284.6	528.5

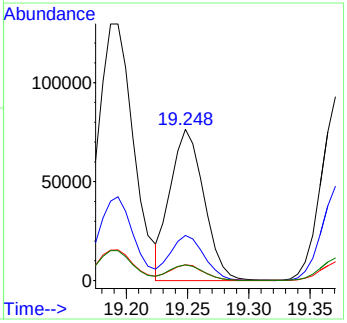


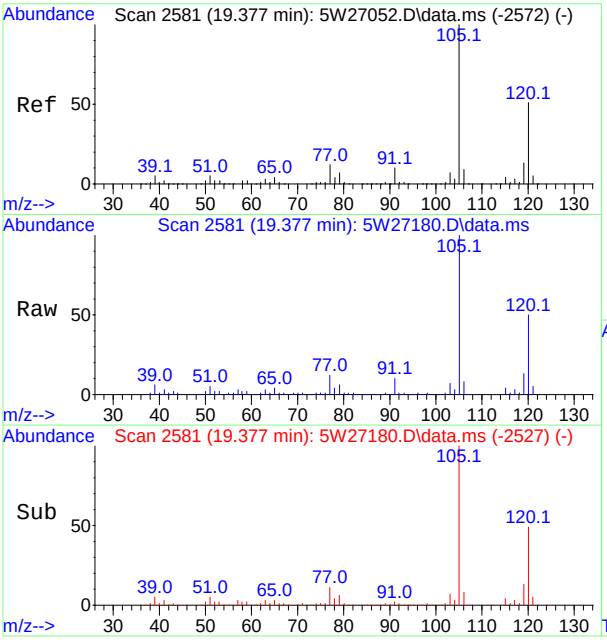


#92
4-Ethyltoluene
Concen: 1.23 ppb(v)
RT: 19.248 min Scan# 2560
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:105 Resp: 147240

Ion	Ratio	Lower	Upper
105	100		
120	29.9	21.4	39.8
91	10.5	7.3	13.7
77	10.4	7.3	13.7

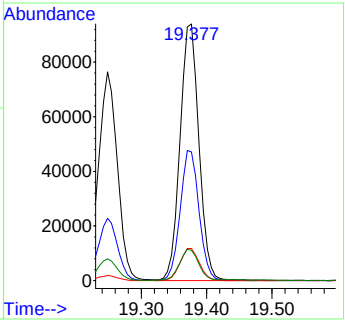


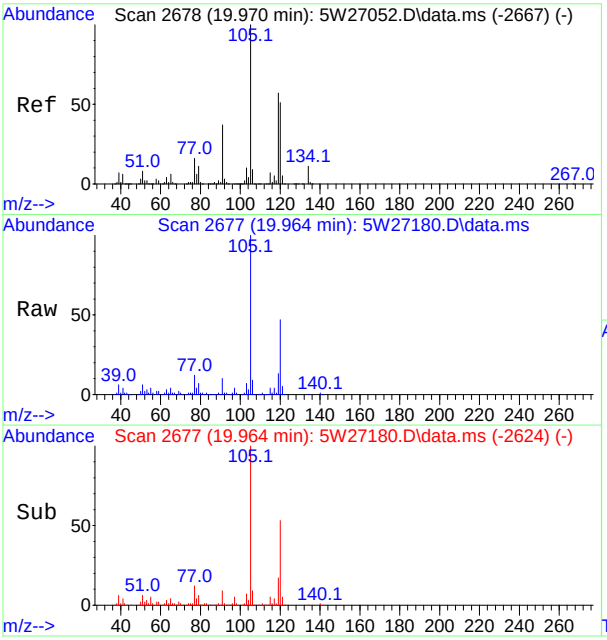


#93
1,3,5-Trimethylbenzene
Concen: 1.81 ppb(v)
RT: 19.377 min Scan# 2581
Delta R.T. 0.000 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:105 Resp: 189757

Ion	Ratio	Lower	Upper
105	100		
120	50.2	35.4	65.8
119	12.5	8.9	16.5
77	11.8	8.3	15.3

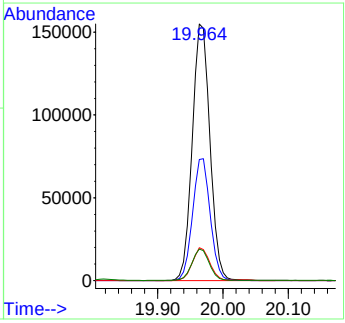


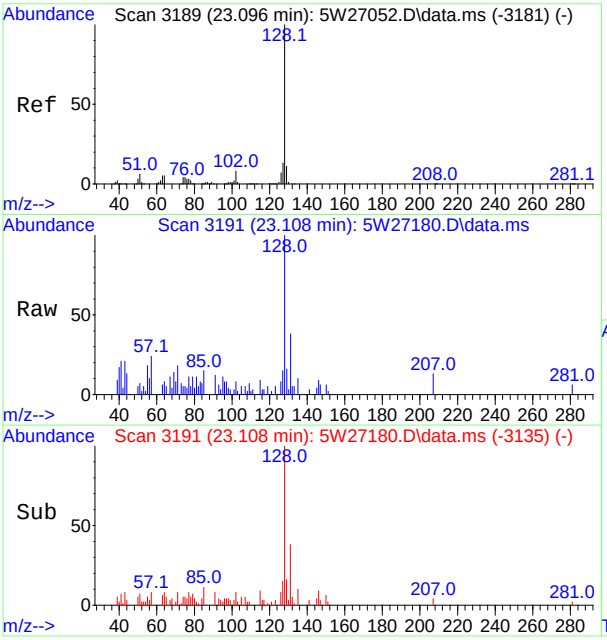


#96
1,2,4-Trimethylbenzene
Concen: 3.01 ppb(v)
RT: 19.964 min Scan# 2677
Delta R.T. -0.006 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:105 Resp: 292556

Ion	Ratio	Lower	Upper
105	100		
120	47.2	36.0	66.8
119	12.8	40.3	74.8#
77	12.3	11.3	21.1

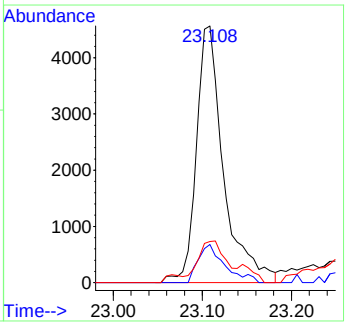




#106
Naphthalene
Concen: 0.28 ppb(v)
RT: 23.108 min Scan# 3191
Delta R.T. 0.012 min
Lab File: 5W27180.D
Acq: 11 Oct 2017 12:13 am

Tgt Ion:128 Resp: 9712

Ion	Ratio	Lower	Upper
128	100		
127	14.9	8.9	16.5
129	16.1	7.7	14.3#



Manual Integration Approval Summary

Sample Number: JC52679-1
Lab FileID: 5W27180.D
Injection Time: 10/11/17 00:13
Method: TO-15
Analyst approved: 10/11/17 15:03
Supervisor approved: 10/11/17 16:09 [redacted]

Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetonitrile	75-05-8		5.16	Missed peak

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27165.D
Acq On : 10 Oct 2017 11:35 am
Operator : [redacted]
Sample : mb
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 10 12:07:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	289293	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	1000526	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	465014	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	289293	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	666820	10.20	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 102.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1

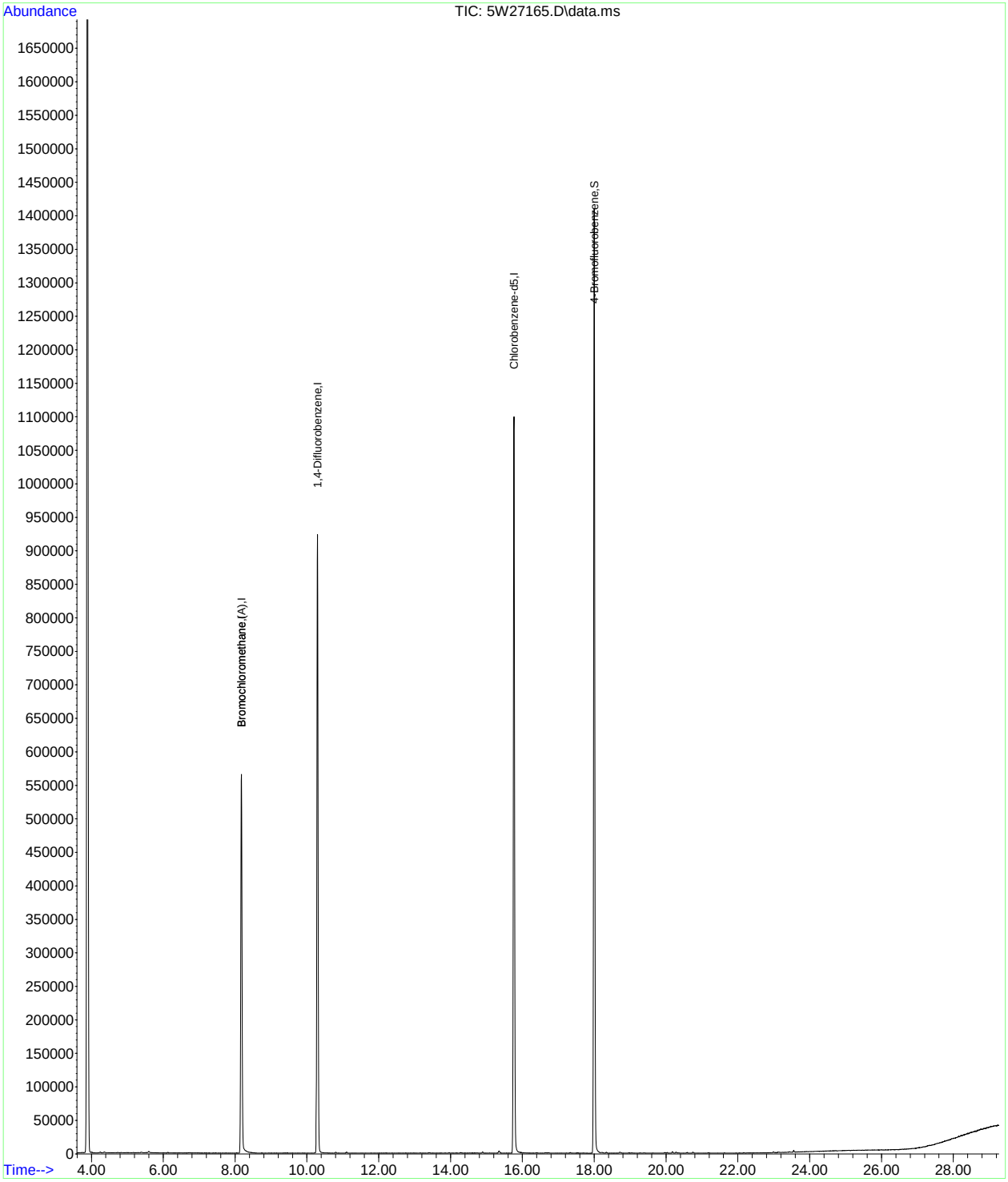
7

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27165.D
Acq On : 10 Oct 2017 11:35 am
Operator : [redacted]
Sample : mb
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 10 12:07:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60494.D
Acq On : 27 Jun 2017 3:41 pm
Operator : [redacted]
Sample : mb
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:03:18 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	152968	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	618668	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	242348	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	246805	8.37	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 83.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

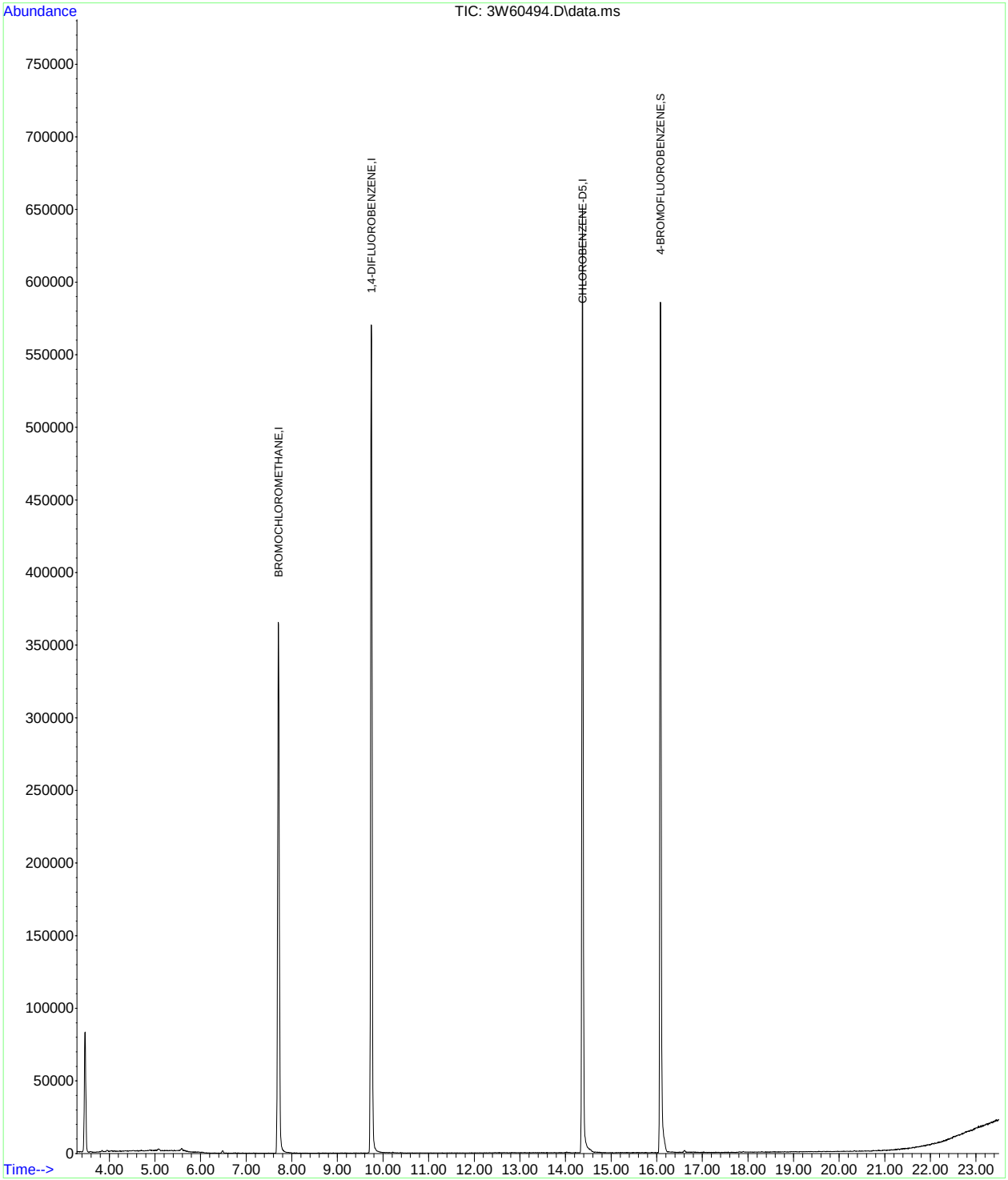
7.2.2

7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60494.D
Acq On : 27 Jun 2017 3:41 pm
Operator : [redacted]
Sample : mb
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:03:18 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27162.D
Acq On : 10 Oct 2017 9:01 am
Operator : [redacted]
Sample : bs
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 09:58:14 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	301752	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	1009715	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	445552	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	301752	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	732284	11.69	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 116.90%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	693428	11.09	ppb(v#	92
3) Freon 152A	4.009	65	147294	9.12	ppb(v	88
4) Chlorodifluoromethane	4.046	67	59203	10.49	ppb(v	94
5) Propene	4.064	41	148732	9.42	ppb(v	97
6) Chlorotrifluoroethene	4.076	116	399790	9.98	ppb(v#	90
7) Dichlorodifluoromethane	4.125	85	639706	9.81	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	408832	9.46	ppb(v	99
9) Chloromethane	4.247	50	180859	8.96	ppb(v	99
10) Dichlorotetrafluoroethane	4.321	85	587298	9.09	ppb(v	98
11) Vinyl Chloride	4.419	62	197416	8.85	ppb(v#	98
12) 1,3-Butadiene	4.517	54	129500	8.58	ppb(v	99
13) n-Butane	4.553	58	27795	9.01	ppb(v	97
14) Bromomethane	4.731	94	240045	7.96	ppb(v	99
15) Chloroethane	4.859	64	95806	8.93	ppb(v	99
16) Dichlorofluoromethane	4.933	67	451577	8.87	ppb(v	99
17) Acetonitrile	5.153	41	113874	9.06	ppb(v	97
18) Freon 123	5.257	83	558780	8.76	ppb(v	99
19) Freon 123A	5.306	117	657595	17.80	ppb(v	99
20) Bromoethene	5.141	106	241218	9.05	ppb(v	99
21) Trichlorofluoromethane	5.471	101	591515	9.25	ppb(v	99
22) Acetone	5.361	58	78841	8.04	ppb(v	89
23) Pentane	5.752	57	57128	9.30	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	547583	9.54	ppb(v	99
25) Iodomethane	5.948	142	768535	9.25	ppb(v	98
26) Isopropyl Alcohol	5.569	43	60577	9.10	ppb(v	99
27) 1,1-Dichloroethene	6.009	61	385861	10.00	ppb(v	99
28) Freon 113	6.340	101	570429	9.64	ppb(v	97
29) Methylene Chloride	6.126	84	231202	8.49	ppb(v	98
30) Carbon Disulfide	6.383	76	778693	9.82	ppb(v	99
31) Ethanol	4.975	45	49240	7.94	ppb(v	96
32) Acrylonitrile	5.746	53	169156	9.96	ppb(v	98
33) 3-Chloropropene	6.223	76	103380	9.78	ppb(v	91
34) trans-1,2-Dichloroethene	6.970	61	346156	9.78	ppb(v	100
35) tert-Butyl Alcohol	6.083	59	454089	8.61	ppb(v	98
36) Methyl tert-Butyl Ether	7.239	73	639820	9.58	ppb(v	99
37) Vinyl Acetate	7.325	43	490334	8.96	ppb(v	99
38) 1,1-Dichloroethane	7.166	63	443887	9.57	ppb(v	100
39) 2-Butanone	7.582	72	119529	10.03	ppb(v	94
40) Hexane	8.187	57	353708	9.85	ppb(v	98
41) cis-1,2-Dichloroethene	8.004	61	326592	9.64	ppb(v	99
42) Di-isopropyl Ether	8.212	87	206547	9.84	ppb(v	95
43) Ethyl Acetate	8.261	61	79078	10.16	ppb(v	92
44) Methyl Acrylate	8.248	55	399002	9.75	ppb(v	99
45) Chloroform	8.310	83	542463	9.41	ppb(v	99
46) 2,4-Dimethylpentane	9.123	57	408631	9.87	ppb(v	99
47) Tetrahydrofuran	8.768	72	111734	10.21	ppb(v	94
48) 1,1,1-Trichloroethane	9.356	97	495964	9.48	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	308239	9.71	ppb(v	99
50) Benzene	9.870	78	755090	9.11	ppb(v	99
51) Carbon Tetrachloride	10.035	117	520159	9.84	ppb(v	99
52) Cyclohexane	10.157	56	339545	9.58	ppb(v	98
53) 2,3-Dimethylpentane	10.439	71	161326	9.84	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27162.D
Acq On : 10 Oct 2017 9:01 am
Operator : [redacted]
Sample : bs
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 09:58:14 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

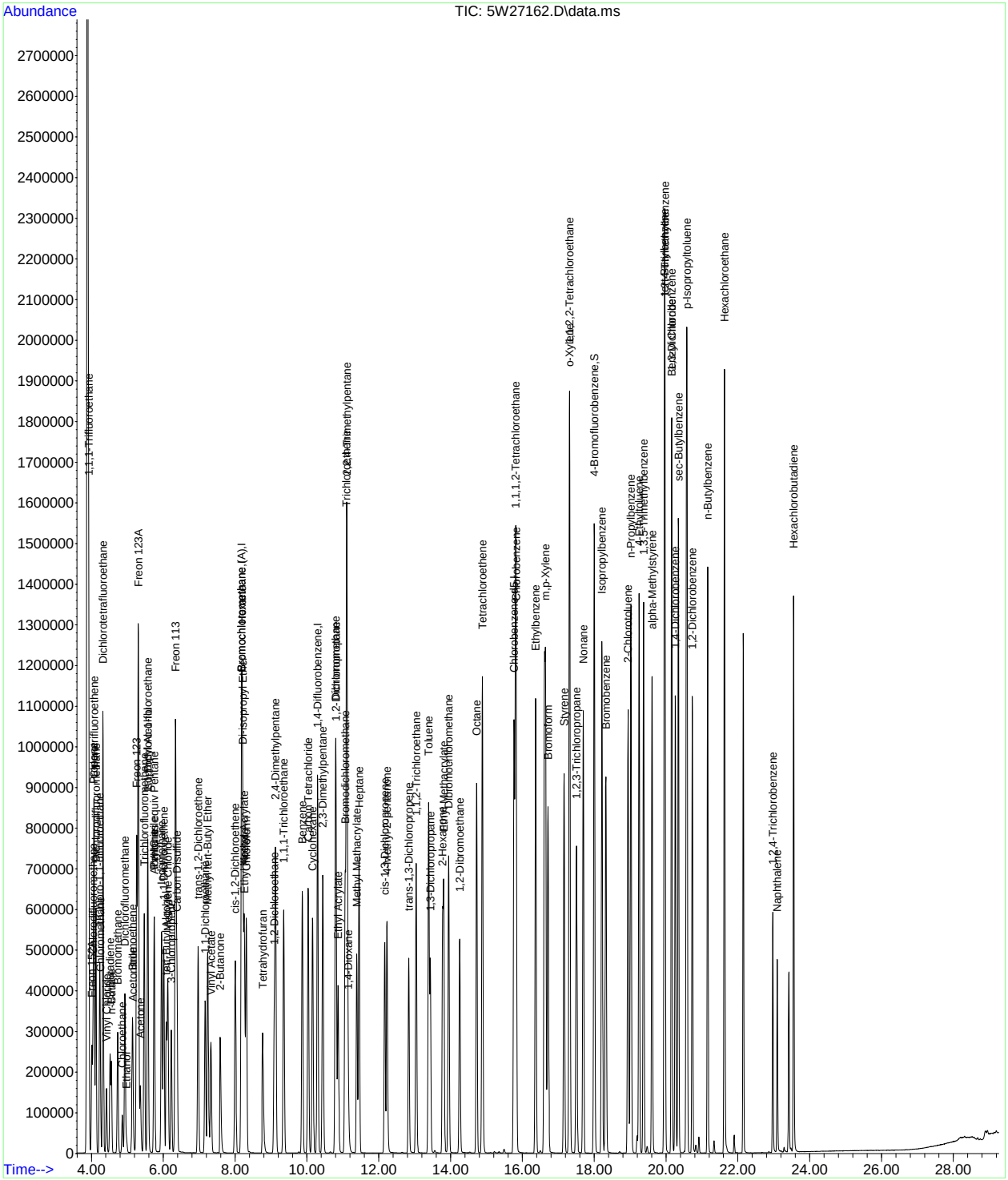
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.111	57	1117041	10.17	ppb(v	97
56)	Heptane	11.454	71	240623	10.22	ppb(v	98
57)	Trichloroethene	11.099	95	361917	9.58	ppb(v	97
58)	1,2-Dichloropropane	10.812	63	275349	9.63	ppb(v	97
59)	Dibromomethane	10.800	174	349002	8.57	ppb(v	94
60)	Ethyl Acrylate	10.873	55	527848	10.38	ppb(v	99
61)	Methyl Methacrylate	11.387	69	266259	10.16	ppb(v	94
62)	1,4-Dioxane	11.148	88	147999	9.81	ppb(v	98
63)	Bromodichloromethane	11.063	83	554915	9.58	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	415520	9.50	ppb(v	100
65)	4-Methyl-2-pentanone	12.231	58	216235	10.77	ppb(v	98
66)	trans-1,3-Dichloropropene	12.837	75	367219	9.69	ppb(v	99
67)	Toluene	13.387	91	861576	9.27	ppb(v	100
68)	1,1,2-Trichloroethane	13.045	97	318474	9.32	ppb(v	97
69)	1,3-Dichloropropane	13.436	76	407992	9.46	ppb(v	95
70)	2-Hexanone	13.779	58	289647	11.34	ppb(v	93
71)	Ethyl Methacrylate	13.809	69	428952	10.37	ppb(v	98
72)	Dibromochloromethane	13.944	129	559881	9.09	ppb(v	100
73)	Tetrachloroethene	14.886	166	486344	8.62	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	500598	8.98	ppb(v	99
75)	Octane	14.721	43	482453	9.59	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	407018	9.23	ppb(v	100
78)	Chlorobenzene	15.828	112	712594	8.74	ppb(v	99
79)	Ethylbenzene	16.367	91	1132449	9.50	ppb(v	99
80)	m,p-Xylene	16.642	91	1767727	19.37	ppb(v	99
81)	Styrene	17.162	104	683259	9.87	ppb(v	99
82)	Nonane	17.694	43	490585	9.33	ppb(v	97
83)	o-Xylene	17.309	91	901767	9.83	ppb(v	100
84)	Bromoform	16.715	173	592085	9.92	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.315	83	660231	9.41	ppb(v	100
86)	1,2,3-Trichloropropane	17.505	75	483350	9.67	ppb(v	99
87)	Isopropylbenzene	18.214	105	1242431	9.72	ppb(v	99
88)	Bromobenzene	18.324	156	441914	9.51	ppb(v	100
89)	2-Chlorotoluene	18.942	126	327707	9.61	ppb(v	99
90)	n-Propylbenzene	19.022	120	350555	9.76	ppb(v	98
92)	4-Ethyltoluene	19.248	105	1182861	9.33	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	1011128	9.14	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	492973	9.66	ppb(v	100
95)	tert-Butylbenzene	19.952	134	227355	8.98	ppb(v	99
96)	1,2,4-Trimethylbenzene	19.970	105	943723	9.19	ppb(v	99
97)	1,3-Dichlorobenzene	20.160	146	637189	9.18	ppb(v	99
98)	Benzyl Chloride	20.153	91	645727	10.18	ppb(v	99
99)	1,4-Dichlorobenzene	20.257	146	619994	9.02	ppb(v	99
100)	sec-Butylbenzene	20.349	134	266743	9.08	ppb(v	96
101)	p-Isopropyltoluene	20.582	134	305974	8.76	ppb(v	98
102)	1,2-Dichlorobenzene	20.729	146	592536	9.05	ppb(v	99
103)	n-Butylbenzene	21.163	134	246022	9.12	ppb(v	99
104)	Hexachloroethane	21.628	201	389221	8.99	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.974	180	206189	10.54	ppb(v	97
106)	Naphthalene	23.096	128	401079	10.77	ppb(v	99
107)	Hexachlorobutadiene	23.549	225	290075	7.71	ppb(v	100
109)	TVHC as equiv Pentane	5.752	TIC	1345241	10.10	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27162.D
Acq On : 10 Oct 2017 9:01 am
Operator : [redacted]
Sample : bs
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 09:58:14 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27163.D
Acq On : 10 Oct 2017 9:48 am
Operator : [redacted]
Sample : bsd
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	298317	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	1004948	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	443777	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	298317	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	728946	11.68	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 116.80%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	706088	11.42	ppb(v#	92
3) Freon 152A	4.009	65	147054	9.21	ppb(v	89
4) Chlorodifluoromethane	4.046	67	60396	10.83	ppb(v	95
5) Propene	4.064	41	151869	9.73	ppb(v	98
6) Chlorotrifluoroethene	4.070	116	391745	9.89	ppb(v#	91
7) Dichlorodifluoromethane	4.125	85	645197	10.01	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.229	65	418080	9.78	ppb(v	100
9) Chloromethane	4.247	50	192487	9.64	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	618990	9.69	ppb(v	97
11) Vinyl Chloride	4.419	62	214976	9.74	ppb(v	100
12) 1,3-Butadiene	4.517	54	135963	9.11	ppb(v	98
13) n-Butane	4.553	58	28910	9.48	ppb(v	99
14) Bromomethane	4.731	94	244122	8.19	ppb(v	99
15) Chloroethane	4.859	64	97492	9.19	ppb(v	99
16) Dichlorofluoromethane	4.933	67	462104	9.18	ppb(v	99
17) Acetonitrile	5.153	41	116181	9.35	ppb(v	97
18) Freon 123	5.257	83	569662	9.03	ppb(v	100
19) Freon 123A	5.306	117	664765	18.20	ppb(v	100
20) Bromoethene	5.141	106	243070	9.22	ppb(v	98
21) Trichlorofluoromethane	5.471	101	602541	9.53	ppb(v	100
22) Acetone	5.361	58	81046	8.36	ppb(v	91
23) Pentane	5.752	57	57613	9.49	ppb(v	95
24) 1,1-Dichloro-1-fluoroe...	5.569	81	556086	9.80	ppb(v	98
25) Iodomethane	5.954	142	768288	9.35	ppb(v	98
26) Isopropyl Alcohol	5.569	43	63624	9.66	ppb(v	99
27) 1,1-Dichloroethene	6.015	61	389831	10.22	ppb(v	98
28) Freon 113	6.340	101	572071	9.78	ppb(v	95
29) Methylene Chloride	6.126	84	230285	8.55	ppb(v	99
30) Carbon Disulfide	6.382	76	781316	9.96	ppb(v	100
31) Ethanol	4.975	45	50633	8.25	ppb(v	99
32) Acrylonitrile	5.746	53	170992	10.19	ppb(v	99
33) 3-Chloropropene	6.223	76	103531	9.90	ppb(v	93
34) trans-1,2-Dichloroethene	6.970	61	350204	10.01	ppb(v	100
35) tert-Butyl Alcohol	6.077	59	459725	8.81	ppb(v	98
36) Methyl tert-Butyl Ether	7.239	73	650696	9.86	ppb(v	99
37) Vinyl Acetate	7.325	43	499462	9.23	ppb(v	100
38) 1,1-Dichloroethane	7.172	63	449903	9.81	ppb(v	99
39) 2-Butanone	7.582	72	119674	10.15	ppb(v	98
40) Hexane	8.187	57	358169	10.09	ppb(v	99
41) cis-1,2-Dichloroethene	8.004	61	328550	9.81	ppb(v	99
42) Di-isopropyl Ether	8.212	87	211436	10.19	ppb(v	96
43) Ethyl Acetate	8.261	61	80173	10.42	ppb(v	94
44) Methyl Acrylate	8.248	55	407252	10.06	ppb(v	100
45) Chloroform	8.310	83	546443	9.58	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	413295	10.09	ppb(v	99
47) Tetrahydrofuran	8.768	72	111733	10.33	ppb(v	95
48) 1,1,1-Trichloroethane	9.356	97	503325	9.73	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	311744	9.93	ppb(v	98
50) Benzene	9.870	78	755663	9.22	ppb(v	99
51) Carbon Tetrachloride	10.035	117	519625	9.94	ppb(v	99
52) Cyclohexane	10.157	56	343741	9.81	ppb(v	98
53) 2,3-Dimethylpentane	10.445	71	162831	10.05	ppb(v	95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27163.D
Acq On : 10 Oct 2017 9:48 am
Operator : [redacted]
Sample : bsd
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

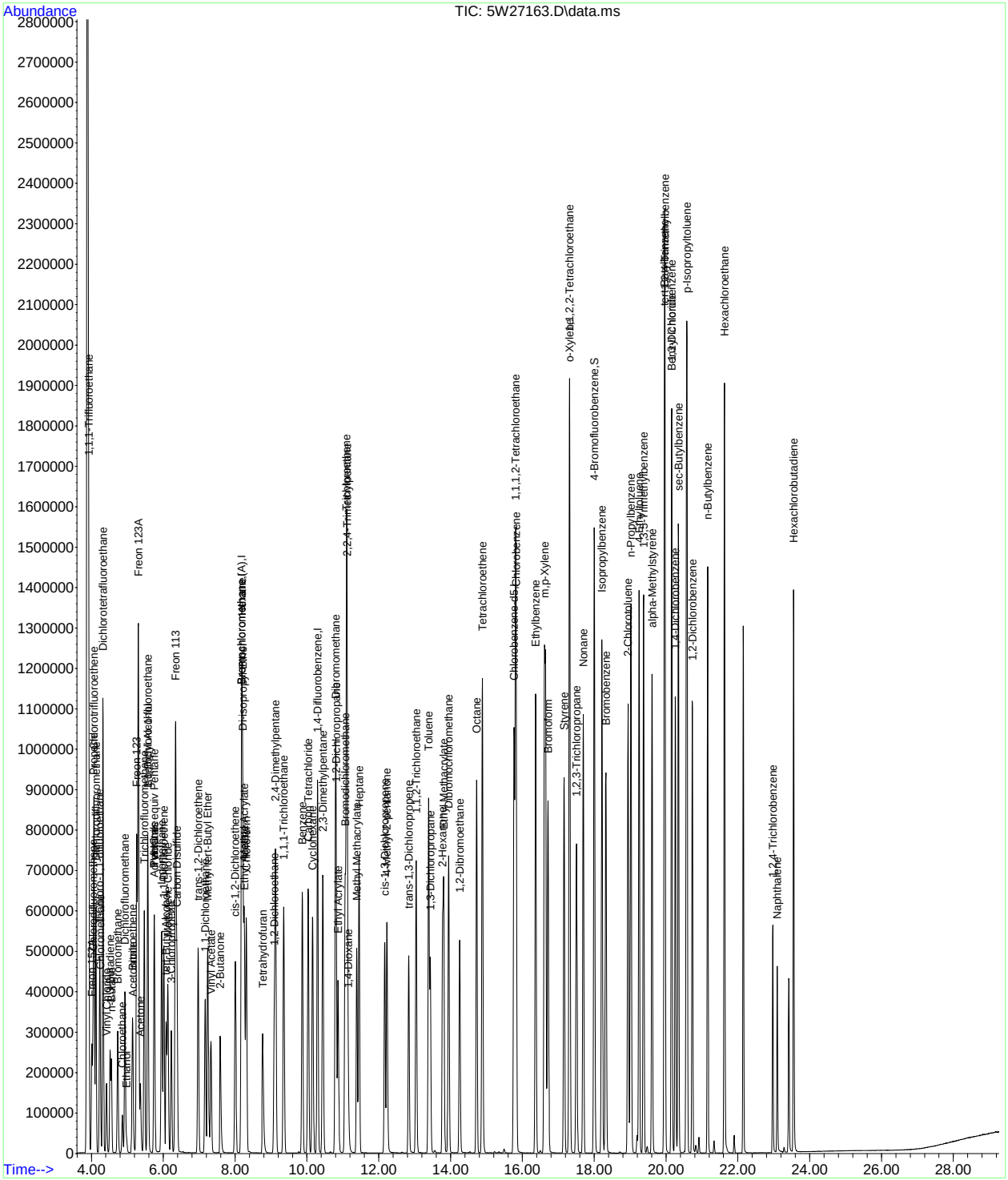
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.118	57	1128080	10.32	ppb(v	97
56)	Heptane	11.454	71	240469	10.26	ppb(v	99
57)	Trichloroethene	11.099	95	364070	9.68	ppb(v	98
58)	1,2-Dichloropropane	10.818	63	280195	9.85	ppb(v	97
59)	Dibromomethane	10.799	174	349908	8.63	ppb(v	94
60)	Ethyl Acrylate	10.867	55	536570	10.60	ppb(v	100
61)	Methyl Methacrylate	11.387	69	271556	10.41	ppb(v	92
62)	1,4-Dioxane	11.148	88	148941	9.92	ppb(v	97
63)	Bromodichloromethane	11.063	83	556785	9.66	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	420572	9.66	ppb(v	100
65)	4-Methyl-2-pentanone	12.225	58	219600	10.99	ppb(v	95
66)	trans-1,3-Dichloropropene	12.837	75	376374	9.98	ppb(v	100
67)	Toluene	13.387	91	868237	9.39	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	320535	9.42	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	412801	9.62	ppb(v	94
70)	2-Hexanone	13.779	58	291099	11.45	ppb(v	94
71)	Ethyl Methacrylate	13.809	69	436282	10.60	ppb(v	98
72)	Dibromochloromethane	13.944	129	561776	9.16	ppb(v	100
73)	Tetrachloroethene	14.886	166	487949	8.69	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	505566	9.11	ppb(v	99
75)	Octane	14.721	43	490465	9.80	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.810	131	414960	9.46	ppb(v	98
78)	Chlorobenzene	15.828	112	721342	8.88	ppb(v	99
79)	Ethylbenzene	16.367	91	1155628	9.74	ppb(v	99
80)	m,p-Xylene	16.617	91	1797827	19.78	ppb(v	99
81)	Styrene	17.162	104	690325	10.01	ppb(v	99
82)	Nonane	17.694	43	488384	9.33	ppb(v	97
83)	o-Xylene	17.309	91	908552	9.95	ppb(v	99
84)	Bromoform	16.715	173	606995	10.22	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.315	83	665136	9.51	ppb(v	100
86)	1,2,3-Trichloropropane	17.504	75	486350	9.77	ppb(v	99
87)	Isopropylbenzene	18.214	105	1253436	9.84	ppb(v	99
88)	Bromobenzene	18.324	156	447314	9.66	ppb(v	99
89)	2-Chlorotoluene	18.942	126	332921	9.80	ppb(v	97
90)	n-Propylbenzene	19.022	120	356123	9.95	ppb(v	98
92)	4-Ethyltoluene	19.248	105	1201118	9.51	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.376	105	1020253	9.25	ppb(v	100
94)	alpha-Methylstyrene	19.615	118	495758	9.76	ppb(v	100
95)	tert-Butylbenzene	19.952	134	229243	9.09	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	950537	9.29	ppb(v	99
97)	1,3-Dichlorobenzene	20.160	146	645564	9.34	ppb(v	99
98)	Benzyl Chloride	20.153	91	656675	10.39	ppb(v	99
99)	1,4-Dichlorobenzene	20.257	146	618048	9.03	ppb(v	99
100)	sec-Butylbenzene	20.349	134	267409	9.14	ppb(v	96
101)	p-Isopropyltoluene	20.582	134	307551	8.84	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	598659	9.18	ppb(v	98
103)	n-Butylbenzene	21.163	134	249205	9.28	ppb(v	99
104)	Hexachloroethane	21.628	201	391965	9.09	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.974	180	199702	10.25	ppb(v	97
106)	Naphthalene	23.096	128	394174	10.63	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	291241	7.77	ppb(v	99
109)	TVHC as equiv Pentane	5.752	TIC	1353134	10.28	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27163.D
Acq On : 10 Oct 2017 9:48 am
Operator : [redacted]
Sample : bsd
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:13 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60489.D
Acq On : 27 Jun 2017 11:58 am
Operator : [redacted]
Sample : bs
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:01:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	165282	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	716083	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.378	82	328912	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	422401	10.55	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 105.50%			
Target Compounds						Qvalue
3) FREON 115	3.883	85	400501	11.18	PPBV #	93
4) FREON 152A	3.798	65	231486	10.27	PPBV	100
5) CHLORODIFLUOROMETHANE	3.622	67	31292	9.93	PPBV	100
7) DICHLORODIFLUOROMETHANE	3.701	85	344339	10.30	PPBV	94
8) PROPYLENE	3.646	41	99197	10.65	PPBV	97
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	231486	10.27	PPBV	99
10) FREON 114	3.883	85	400501	11.18	PPBV	95
11) CHLOROMETHANE	3.823	52	42634	10.49	PPBV	92
12) VINYL CHLORIDE	3.975	62	153906	10.86	PPBV	99
13) 1,3-BUTADIENE	4.072	54	103008	10.03	PPBV	99
14) n-BUTANE	4.108	43	191878	10.73	PPBV	99
15) BROMOMETHANE	4.273	94	162875	9.46	PPBV	99
16) CHLOROETHANE	4.394	64	71440	10.54	PPBV	99
17) DICHLOROFLUOROMETHANE	4.443	67	307075	9.90	PPBV	100
18) ACETONITRILE	4.638	41	96158	9.94	PPBV	99
19) FREON 123	4.741	83	360351	9.37	PPBV	98
20) FREON 123A	4.784	117	206931	10.63	PPBV	94
21) TRICHLOROFLUOROMETHANE	4.960	101	343547	10.38	PPBV	99
23) ISOPROPYL ALCOHOL	5.009	45	239176	8.81	PPBV	99
24) ACETONE	4.826	58	57970	9.12	PPBV	94
25) PENTANE	5.240	42	131080	11.07	PPBV	96
26) TVHC as EQUIV PENTANE	5.240	TIC	601871m	9.48	PPBV	
27) IODOMETHANE	5.435	142	461083	10.28	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.489	96	140952	9.23	PPBV	99
29) CARBON DISULFIDE	5.885	76	455948	9.88	PPBV	99
30) ETHANOL	4.473	45	49197	11.97	PPBV	99
31) BROMOETHENE	4.650	106	153608	9.77	PPBV	100
32) ACRYLONITRILE	5.185	52	78353	10.19	PPBV	98
33) METHYLENE CHLORIDE	5.581	84	129315	9.74	PPBV	99
34) 3-CHLOROPROPENE	5.690	76	71486	11.47	PPBV	99
35) FREON 113	5.818	151	250538	10.09	PPBV	97
36) TRANS-1,2-DICHLOROETHY...	6.475	96	156458	9.44	PPBV	99
37) TERTIARY BUTYL ALCOHOL	5.514	59	246639	10.50	PPBV	98
38) METHYL TERTIARY BUTYL ...	6.730	73	383935	10.85	PPBV	100
39) TETRAHYDROFURAN	8.270	72	66514	11.41	PPBV	97
40) HEXANE	7.753	57	196979	10.20	PPBV	99
41) VINYL ACETATE	6.822	86	28421	13.23	PPBV #	82
42) 1,1-DICHLOROETHANE	6.682	63	247052	10.78	PPBV	100
43) METHYL ETHYL KETONE	7.077	72	63461	10.44	PPBV	93
44) cis-1,2-DICHLOROETHYLENE	7.534	96	153993	10.36	PPBV	98
45) DIISOPROPYL ETHER	7.740	59	58279	10.91	PPBV	100
46) ETHYL ACETATE	7.759	61	40830	10.82	PPBV #	95
47) METHYL ACRYLATE	7.753	55	217201	10.34	PPBV	99
48) CHLOROFORM	7.844	83	286053	10.27	PPBV	99
49) 2,4-DIMETHYLPENTANE	8.683	57	236150	9.83	PPBV	99
50) 1,1,1-TRICHLOROETHANE	8.890	97	288835	11.10	PPBV	99
51) CARBON TETRACHLORIDE	9.529	117	304779	11.18	PPBV	100
52) 1,2-DICHLOROETHANE	8.622	62	154595	10.43	PPBV	100
54) BENZENE	9.377	78	442101	10.39	PPBV	99
55) CYCLOHEXANE	9.663	84	188975	10.79	PPBV	97
56) 2,3-DIMETHYLPENTANE	9.918	71	92546	10.14	PPBV	99
57) TRICHLOROETHYLENE	10.496	95	194551	10.61	PPBV	99
58) 1,2-DICHLOROPROPANE	10.241	63	158345	10.54	PPBV	99

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60489.D
Acq On : 27 Jun 2017 11:58 am
Operator : [redacted]
Sample : bs
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:01:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
59)	DIBROMOMETHANE	10.216	174	204743	9.61	PPBV		98
60)	ETHYL ACRYLATE	10.247	55	256426	10.38	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	307472	10.65	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	648861	10.32	PPBV		99
63)	1,4-DIOXANE	10.502	88	94259	12.92	PPBV	#	73
64)	HEPTANE	10.819	43	206770	10.03	PPBV		99
65)	METHYL METHACRYLATE	10.709	69	136551	10.39	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.457	58	113769	10.51	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.415	75	253567	12.00	PPBV		89
68)	TOLUENE	12.461	92	329969	11.42	PPBV		100
69)	1,3-DICHLOROPROPANE	12.492	76	232287	11.35	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	203757	11.18	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.163	83	157787	10.78	PPBV		99
73)	2-HEXANONE	12.753	58	159437	10.84	PPBV		99
74)	ETHYL METHACRYLATE	12.765	69	238150	11.14	PPBV		100
75)	TETRACHLOROETHYLENE	13.684	164	255765	9.95	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.917	129	373487	11.54	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	298621	10.79	PPBV		100
78)	OCTANE	13.544	43	315422	11.00	PPBV		97
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	276597	11.25	PPBV		99
80)	CHLOROBENZENE	14.426	112	461965	10.69	PPBV		99
81)	ETHYLBENZENE	14.840	91	703187	10.81	PPBV		100
82)	m,p-XYLENE	15.047	106	571265	21.86	PPBV		99
83)	o-XYLENE	15.564	106	280961	10.91	PPBV		99
84)	STYRENE	15.442	104	412919	11.30	PPBV		100
85)	NONANE	15.825	43	307480	11.24	PPBV		99
86)	BROMOFORM	15.114	173	375465	11.97	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	421032	10.77	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.704	75	294637	11.34	PPBV		98
90)	ISOPROPYLBENZENE	16.245	105	806364	11.63	PPBV		100
91)	BROMOBENZENE	16.336	77	333801	10.84	PPBV		95
92)	2-CHLOROTOLUENE	16.805	126	210411	11.50	PPBV		100
93)	n-PROPYLBENZENE	16.854	120	215072	11.49	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	727959	11.82	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	630935	11.45	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	312079	11.68	PPBV		100
97)	tert-BUTYLBENZENE	17.626	134	147283	11.27	PPBV		98
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	595199	11.77	PPBV		99
99)	m-DICHLOROBENZENE	17.809	146	400697	11.31	PPBV		99
100)	BENZYL CHLORIDE	17.790	91	415024	12.24	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	387118	10.86	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	181410	11.81	PPBV		99
103)	p-ISOPROPYLTOLUENE	18.149	134	199144	11.95	PPBV		99
104)	o-DICHLOROBENZENE	18.301	146	387757	11.10	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	158425	12.68	PPBV		100
106)	HEXACHLOROETHANE	19.098	117	288795	12.24	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	244335	10.42	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.327	180	149654	9.19	PPBV		99
109)	NAPHTHALENE	20.449	128	289662	9.66	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

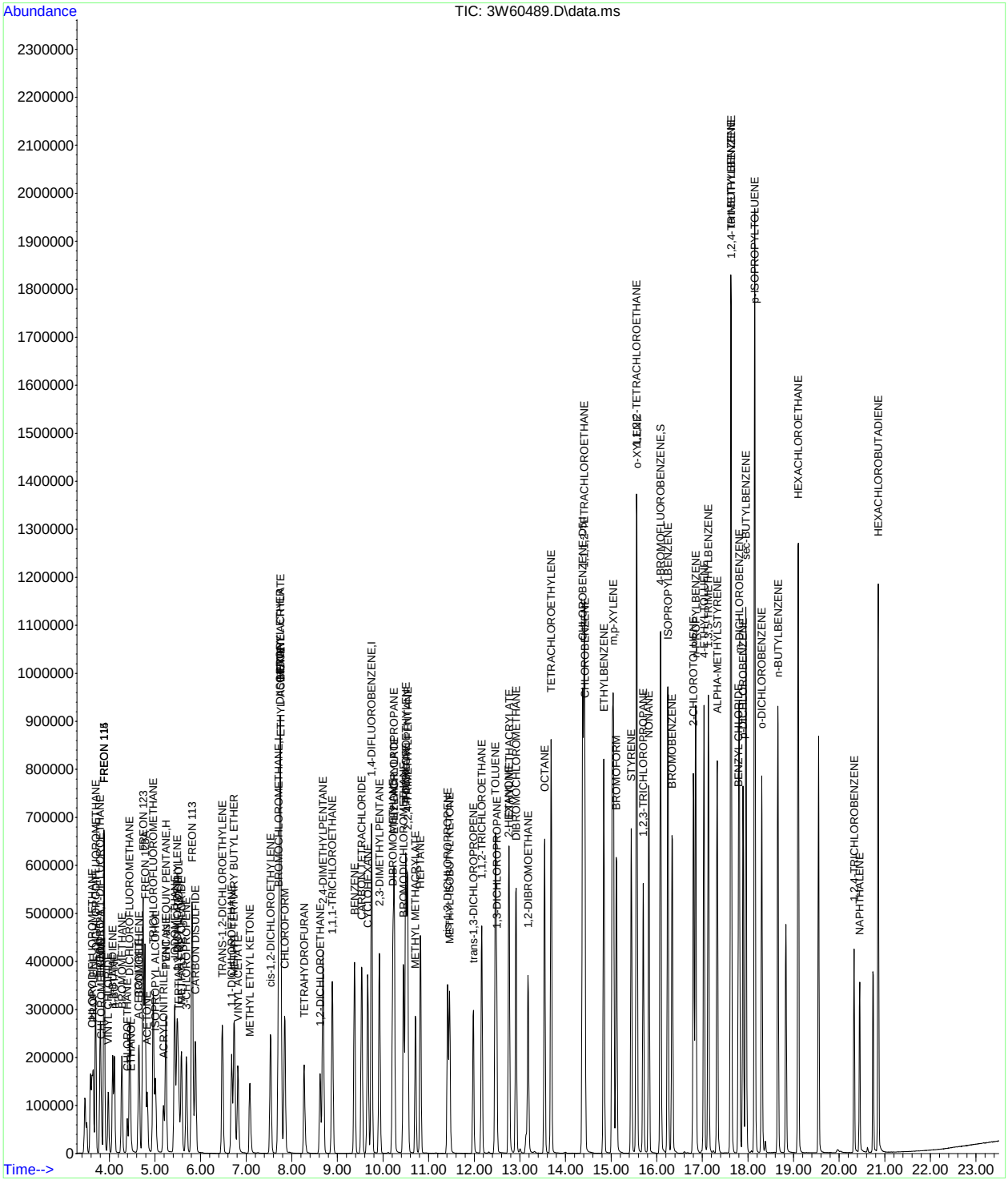
7.3.3

7

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60489.D
Acq On : 27 Jun 2017 11:58 am
Operator : [redacted]
Sample : bs
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:01:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60490.D
Acq On : 27 Jun 2017 12:43 pm
Operator : [redacted]
Sample : bsd
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:02:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	167874	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	713945	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	325663	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	415991	10.49	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.90%			
Target Compounds						Qvalue
3) FREON 115	3.883	85	404630	11.12	PPBV #	93
4) FREON 152A	3.798	65	231325	10.11	PPBV	99
5) CHLORODIFLUOROMETHANE	3.622	67	30749	9.61	PPBV	100
7) DICHLORODIFLUOROMETHANE	3.701	85	348717	10.27	PPBV	94
8) PROPYLENE	3.646	41	102744	10.86	PPBV	98
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	231325	10.11	PPBV	99
10) FREON 114	3.883	85	404630	11.12	PPBV	95
11) CHLOROMETHANE	3.817	52	43948	10.64	PPBV	93
12) VINYL CHLORIDE	3.981	62	153577	10.67	PPBV	100
13) 1,3-BUTADIENE	4.078	54	106443	10.20	PPBV	97
14) n-BUTANE	4.109	43	195743	10.78	PPBV	100
15) BROMOMETHANE	4.273	94	162456	9.29	PPBV	99
16) CHLOROETHANE	4.394	64	71566	10.40	PPBV	99
17) DICHLOROFLUOROMETHANE	4.449	67	305028	9.69	PPBV	99
18) ACETONITRILE	4.638	41	93214	9.48	PPBV	99
19) FREON 123	4.741	83	354677	9.08	PPBV	98
20) FREON 123A	4.784	117	204731	10.35	PPBV	93
21) TRICHLOROFLUOROMETHANE	4.966	101	345900	10.29	PPBV	100
23) ISOPROPYL ALCOHOL	5.009	45	223089	8.09	PPBV	99
24) ACETONE	4.833	58	57734	8.95	PPBV	93
25) PENTANE	5.246	42	130404	10.84	PPBV	97
26) TVHC as EQUIV PENTANE	5.240	TIC	608910m	9.44	PPBV	
27) IODOMETHANE	5.429	142	467569	10.27	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.483	96	141711	9.14	PPBV	99
29) CARBON DISULFIDE	5.885	76	465095	9.93	PPBV	99
30) ETHANOL	4.474	45	48756	11.68	PPBV	98
31) BROMOETHENE	4.656	106	155438	9.73	PPBV	100
32) ACRYLONITRILE	5.185	52	76847	9.84	PPBV	98
33) METHYLENE CHLORIDE	5.581	84	127879	9.48	PPBV	97
34) 3-CHLOROPROPENE	5.690	76	70702	11.17	PPBV	97
35) FREON 113	5.812	151	255553	10.14	PPBV	99
36) TRANS-1,2-DICHLOROETHY...	6.481	96	155296	9.23	PPBV	98
37) TERTIARY BUTYL ALCOHOL	5.514	59	242024	10.14	PPBV	98
38) METHYL TERTIARY BUTYL ...	6.737	73	368794	10.26	PPBV	99
39) TETRAHYDROFURAN	8.276	72	65025	10.99	PPBV	96
40) HEXANE	7.753	57	207248	10.56	PPBV	97
41) VINYL ACETATE	6.816	86	28461	13.04	PPBV	97
42) 1,1-DICHLOROETHANE	6.682	63	243850	10.48	PPBV	99
43) METHYL ETHYL KETONE	7.077	72	63942	10.36	PPBV	100
44) cis-1,2-DICHLOROETHYLENE	7.534	96	156044	10.33	PPBV	98
45) DIISOPROPYL ETHER	7.740	59	57919	10.68	PPBV #	88
46) ETHYL ACETATE	7.759	61	43037	11.22	PPBV #	96
47) METHYL ACRYLATE	7.753	55	214507	10.06	PPBV	99
48) CHLOROFORM	7.838	83	285038	10.08	PPBV	99
49) 2,4-DIMETHYLPENTANE	8.690	57	242795	9.95	PPBV	98
50) 1,1,1-TRICHLOROETHANE	8.890	97	285851	10.82	PPBV	100
51) CARBON TETRACHLORIDE	9.535	117	305030	11.02	PPBV	99
52) 1,2-DICHLOROETHANE	8.617	62	150920	10.02	PPBV	100
54) BENZENE	9.371	78	444013	10.47	PPBV	99
55) CYCLOHEXANE	9.663	84	193447	11.08	PPBV	96
56) 2,3-DIMETHYLPENTANE	9.918	71	91221	10.02	PPBV	97
57) TRICHLOROETHYLENE	10.496	95	191593	10.48	PPBV	99
58) 1,2-DICHLOROPROPANE	10.241	63	155671	10.39	PPBV	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60490.D
Acq On : 27 Jun 2017 12:43 pm
Operator : [redacted]
Sample : bsd
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:02:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

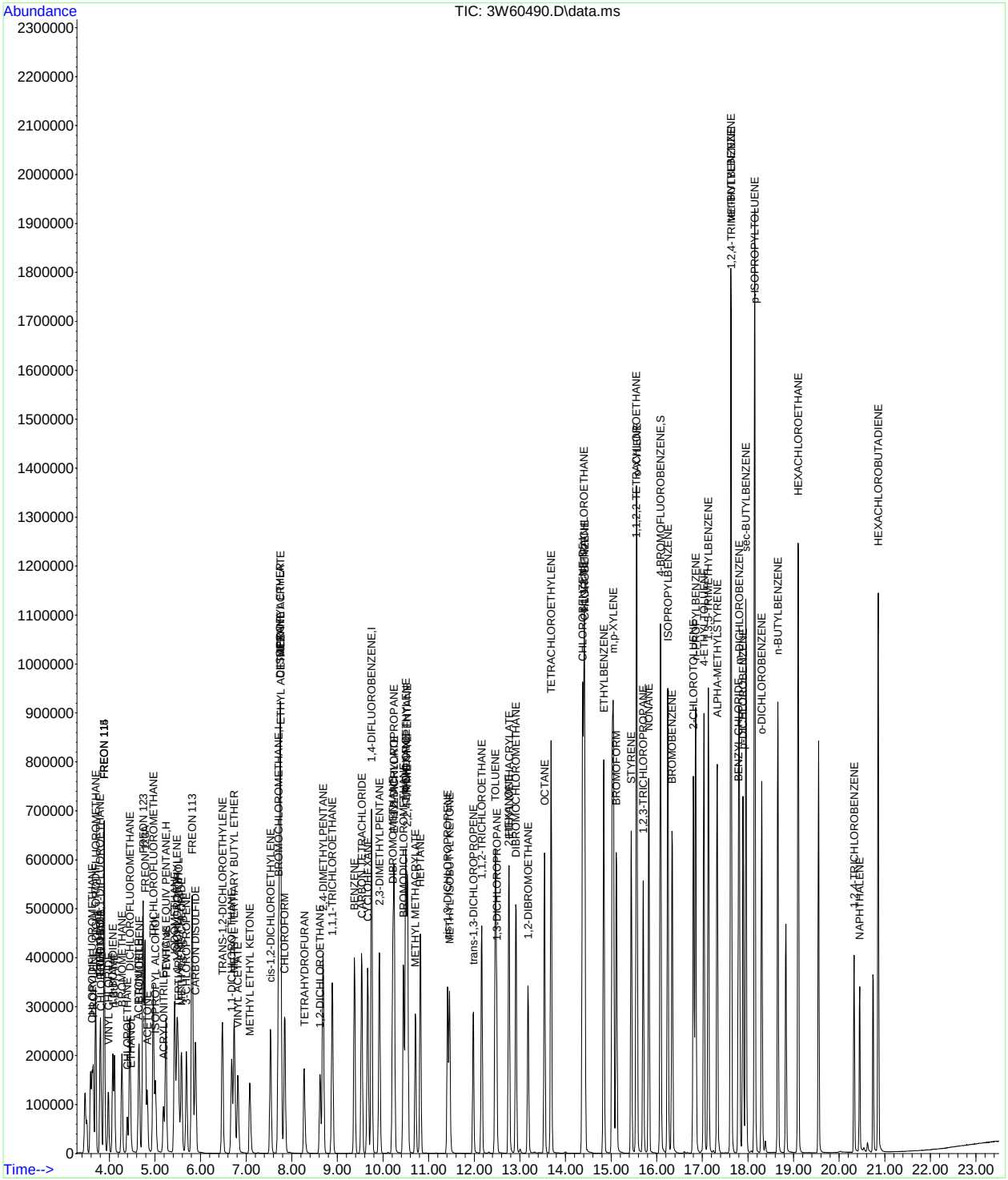
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
59)	DIBROMOMETHANE	10.216	174	201144	9.47	PPBV		99
60)	ETHYL ACRYLATE	10.247	55	257789	10.46	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	299875	10.41	PPBV		100
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	640167	10.22	PPBV		99
63)	1,4-DIOXANE	10.496	88	93099	12.80	PPBV		93
64)	HEPTANE	10.819	43	203001	9.88	PPBV		99
65)	METHYL METHACRYLATE	10.709	69	135873	10.37	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.458	58	112586	10.43	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.415	75	243301	11.54	PPBV		89
68)	TOLUENE	12.461	92	309553	10.75	PPBV		100
69)	1,3-DICHLOROPROPANE	12.492	76	217469	10.66	PPBV	#	99
70)	trans-1,3-DICHLOROPROPENE	11.981	75	194673	10.71	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.163	83	154573	10.59	PPBV		99
73)	2-HEXANONE	12.753	58	145565	10.00	PPBV		99
74)	ETHYL METHACRYLATE	12.765	69	217922	10.30	PPBV		100
75)	TETRACHLOROETHYLENE	13.684	164	246057	9.67	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.912	129	347720	10.85	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	274160	10.01	PPBV		100
78)	OCTANE	13.538	43	290369	10.23	PPBV		99
79)	1,1,1,2-TETRACHLOROETHANE	14.402	131	269901	11.09	PPBV		99
80)	CHLOROBENZENE	14.420	112	447425	10.45	PPBV		99
81)	ETHYLBENZENE	14.840	91	690479	10.72	PPBV		100
82)	m,p-XYLENE	15.047	106	558062	21.56	PPBV		98
83)	o-XYLENE	15.564	106	277336	10.87	PPBV		99
84)	STYRENE	15.442	104	401430	11.09	PPBV		100
85)	NONANE	15.826	43	303826	11.22	PPBV		99
86)	BROMOFORM	15.114	173	366656	11.81	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	415748	10.74	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.704	75	290085	11.28	PPBV		98
90)	ISOPROPYLBENZENE	16.245	105	790850	11.52	PPBV		100
91)	BROMOBENZENE	16.337	77	323597	10.61	PPBV		96
92)	2-CHLOROTOLUENE	16.805	126	204893	11.31	PPBV		100
93)	n-PROPYLBENZENE	16.854	120	210941	11.39	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	713162	11.70	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.134	105	617678	11.32	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	307122	11.60	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	143782	11.11	PPBV		97
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	586410	11.71	PPBV		100
99)	m-DICHLOROBENZENE	17.809	146	389410	11.10	PPBV		99
100)	BENZYL CHLORIDE	17.791	91	401417	11.96	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	373222	10.57	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	179634	11.81	PPBV		99
103)	p-ISOPROPYLTOLUENE	18.149	134	195538	11.85	PPBV		99
104)	o-DICHLOROBENZENE	18.302	146	377903	10.93	PPBV		99
105)	n-BUTYLBENZENE	18.654	134	155294	12.56	PPBV		100
106)	HEXACHLOROETHANE	19.099	117	281416	12.05	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	238657	10.28	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.327	180	143447	8.90	PPBV		99
109)	NAPHTHALENE	20.449	128	277673	9.35	PPBV		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60490.D
Acq On : 27 Jun 2017 12:43 pm
Operator : [redacted]
Sample : bsd
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:02:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/12/17 14:32

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27168.D
Acq On : 10 Oct 2017 2:25 pm
Operator : [redacted]
Sample : jc52203-1dup
Misc : MS20561,v5w1069,400,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 11:12:19 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.187	130	282712	10.00	ppb(v	0.01
54) 1,4-Difluorobenzene	10.298	114	968346	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	369520	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.187	130	282712	10.00	ppb(v	0.01
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	617692	11.88	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 118.80%			
Target Compounds						Qvalue
3) Freon 152A	4.003	65	1771	0.12	ppb(v#	1
4) Chlorodifluoromethane	4.040	67	1841	0.35	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	30481	0.50	ppb(v	98
8) 1-Chloro-1,1-difluoroe...	4.229	65	7239	0.18	ppb(v#	75
9) Chloromethane	4.242	50	9660	0.51	ppb(v	100
11) Vinyl Chloride	4.413	62	2191473	104.81	ppb(v#	98
13) n-Butane	4.553	58	5564	1.93	ppb(v#	86
15) Chloroethane	4.859	64	117831	11.72	ppb(v	98
17) Acetonitrile	5.171	41	2101m	0.18	ppb(v	
19) Freon 123A	5.306	117	4758	0.14	ppb(v	93
21) Trichlorofluoromethane	5.471	101	14110	0.24	ppb(v	97
22) Acetone	5.373	58	509827	55.50	ppb(v	92
23) Pentane	5.753	57	12866	2.24	ppb(v	94
26) Isopropyl Alcohol	5.600	43	1217577	195.16	ppb(v	45
27) 1,1-Dichloroethene	6.016	61	231705	6.41	ppb(v	100
28) Freon 113	6.346	101	6915	0.12	ppb(v	92
29) Methylene Chloride	6.138	84	5366	0.21	ppb(v	95
31) Ethanol	5.006	45	158325	27.23	ppb(v	98
34) trans-1,2-Dichloroethene	6.976	61	73696	2.22	ppb(v	99
38) 1,1-Dichloroethane	7.178	63	786708	18.10	ppb(v	99
39) 2-Butanone	7.612	72	33924	3.04	ppb(v	96
40) Hexane	8.194	57	425515	12.65	ppb(v	88
41) cis-1,2-Dichloroethene	8.016	61	11026892	347.29	ppb(v	89
42) Di-isopropyl Ether	8.230	87	9346	0.48	ppb(v	87
43) Ethyl Acetate	8.273	61	91773m	12.58	ppb(v	
45) Chloroform	8.316	83	7989	0.15	ppb(v	95
47) Tetrahydrofuran	8.818	72	1883	0.18	ppb(v#	60
48) 1,1,1-Trichloroethane	9.362	97	746794	15.24	ppb(v	99
49) 1,2-Dichloroethane	9.099	62	31348	1.05	ppb(v	97
50) Benzene	9.876	78	701472	9.03	ppb(v	99
52) Cyclohexane	10.163	56	291110	8.77	ppb(v	99
53) 2,3-Dimethylpentane	10.445	71	9122	0.59	ppb(v	99
56) Heptane	11.454	71	43403	1.92	ppb(v	97
57) Trichloroethene	11.106	95	2804560	77.39	ppb(v	99
62) 1,4-Dioxane	11.203	88	3512	0.24	ppb(v#	91
65) 4-Methyl-2-pentanone	12.243	58	110996	5.76	ppb(v	97
67) Toluene	13.412	91	15643071	175.52	ppb(v	98
68) 1,1,2-Trichloroethane	13.057	97	3533	0.11	ppb(v	90
73) Tetrachloroethene	14.892	166	3682265	68.07	ppb(v	97
75) Octane	14.727	43	18492	0.38	ppb(v	94
79) Ethylbenzene	16.373	91	2908931	29.43	ppb(v	99
80) m,p-Xylene	16.624	91	5434150	71.80	ppb(v	99
82) Nonane	17.694	43	8067	0.18	ppb(v	97
83) o-Xylene	17.315	91	1655162	21.76	ppb(v	99
87) Isopropylbenzene	18.220	105	99657	0.94	ppb(v	99
90) n-Propylbenzene	19.022	120	40559	1.36	ppb(v	92
92) 4-Ethyltoluene	19.248	105	236719	2.25	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	254770	2.78	ppb(v	99
96) 1,2,4-Trimethylbenzene	19.964	105	903701	10.61	ppb(v#	68
100) sec-Butylbenzene	20.349	134	3311	0.14	ppb(v	93
101) p-Isopropyltoluene	20.582	134	27395	0.95	ppb(v	92
106) Naphthalene	23.115	128	2712	0.09	ppb(v	96

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27168.D
Acq On : 10 Oct 2017 2:25 pm
Operator : [redacted]
Sample : jc52203-1dup
Misc : MS20561,v5w1069,400,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 11:12:19 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

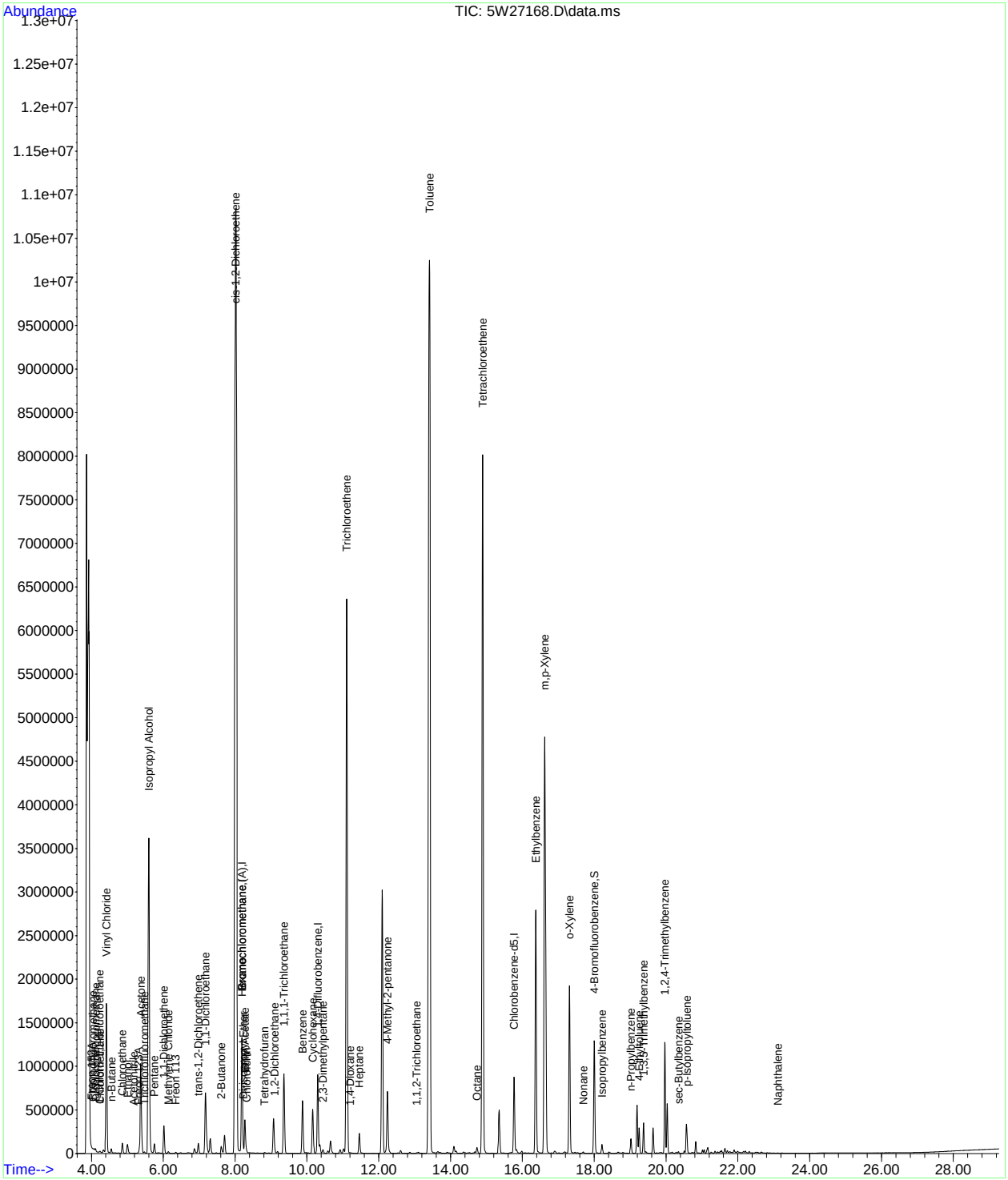
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

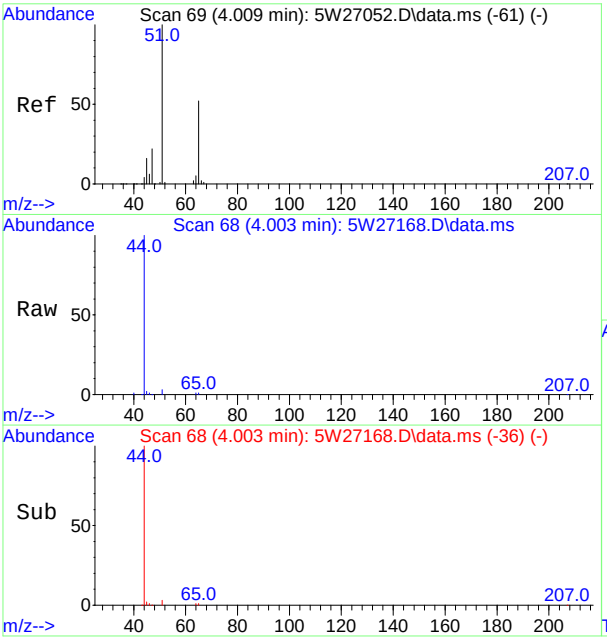
Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27168.D
Acq On : 10 Oct 2017 2:25 pm
Operator : [redacted]
Sample : jc52203-1dup
Misc : MS20561,v5w1069,400,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 11:12:19 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



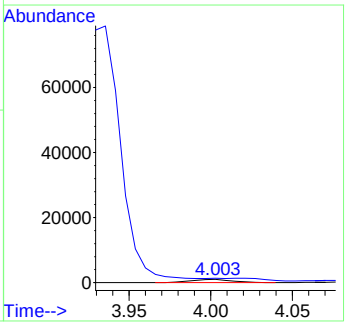
SGS ACCUTEST JC52679

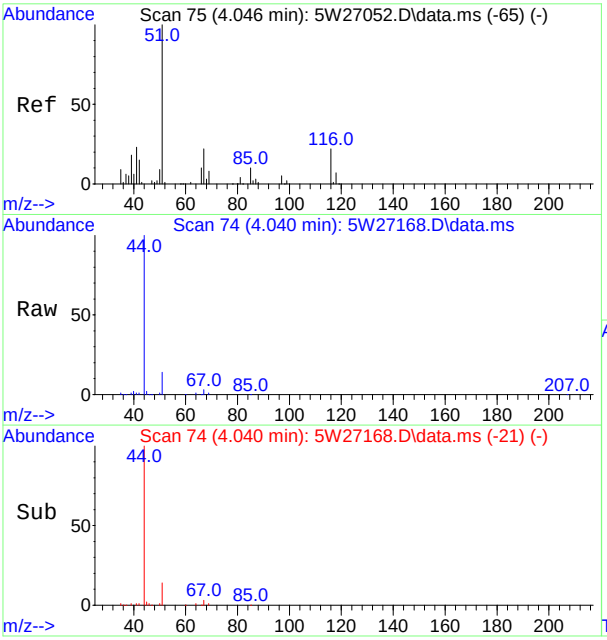


#3
Freon 152A
Concen: 0.12 ppb(v)
RT: 4.003 min Scan# 68
Delta R.T. -0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 65 Resp: 1771

Ion	Ratio	Lower	Upper
65	100		
45	130.6	21.4	39.8#

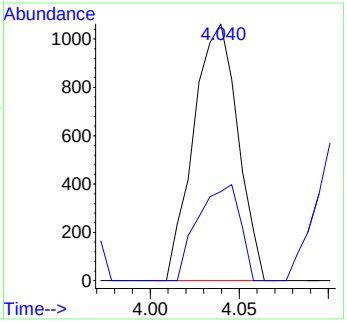


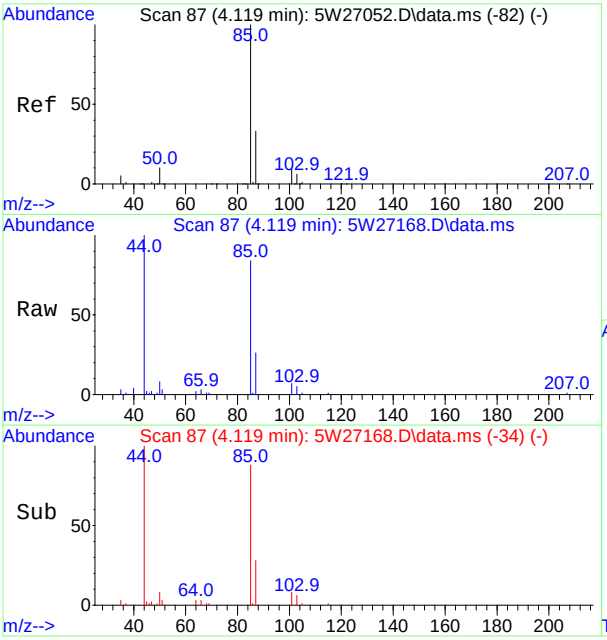


#4
Chlorodifluoromethane
Concen: 0.35 ppb(v)
RT: 4.040 min Scan# 74
Delta R.T. -0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 67 Resp: 1841

Ion	Ratio	Lower	Upper
67	100		
69	34.7	24.1	44.7

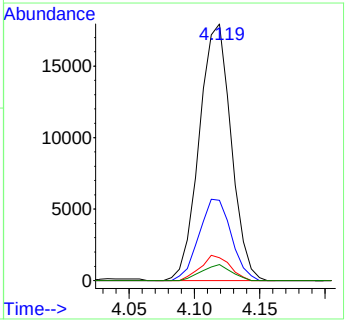


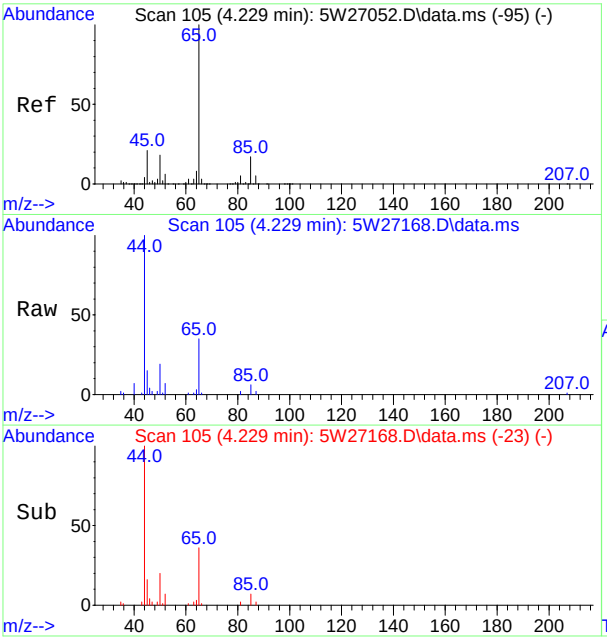


#7
Dichlorodifluoromethane
Concen: 0.50 ppb(v)
RT: 4.119 min Scan# 87
Delta R.T. -0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 85 Resp: 30481

Ion	Ratio	Lower	Upper
85	100		
87	31.3	23.0	42.6
101	8.9	6.6	12.2
103	6.3	4.2	7.8

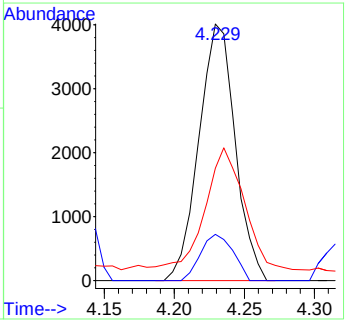


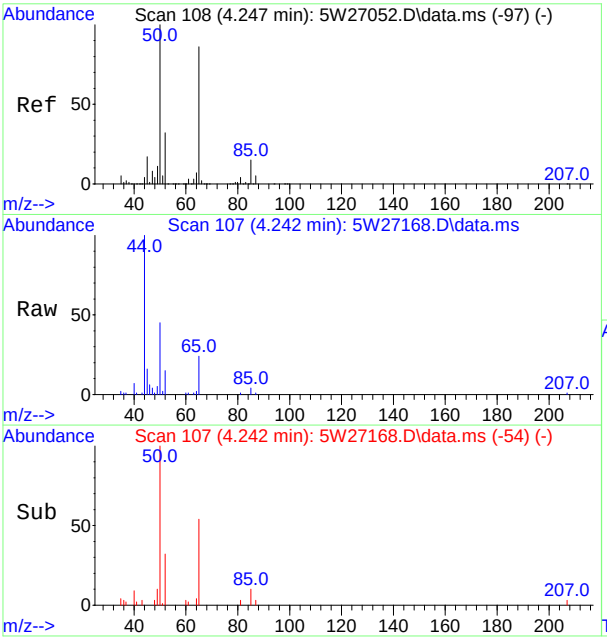


#8
1-Chloro-1,1-difluoroethane
Concen: 0.18 ppb(v)
RT: 4.229 min Scan# 105
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 65 Resp: 7239

Ion	Ratio	Lower	Upper
65	100		
85	16.2	13.6	20.4
45	0.0	16.6	25.0#

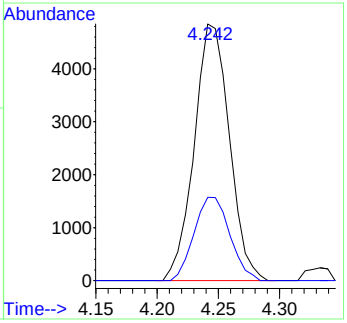


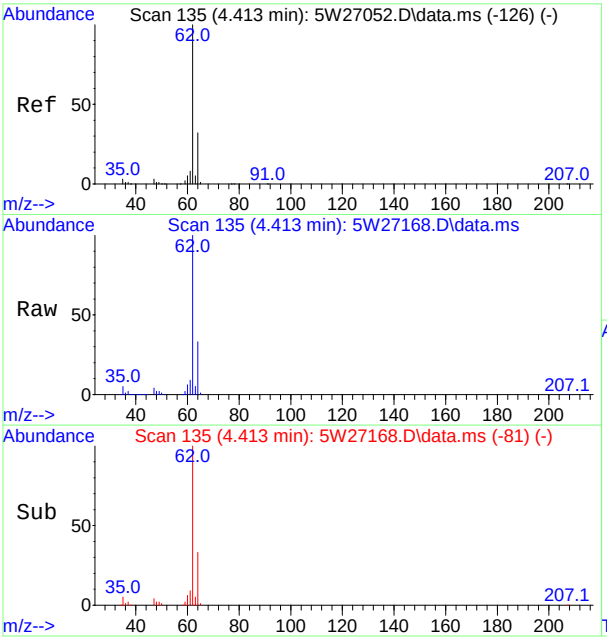


#9
Chloromethane
Concen: 0.51 ppb(v)
RT: 4.242 min Scan# 107
Delta R.T. -0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 50 Resp: 9660

Ion	Ratio	Lower	Upper
50	100		
52	32.5	22.7	42.1

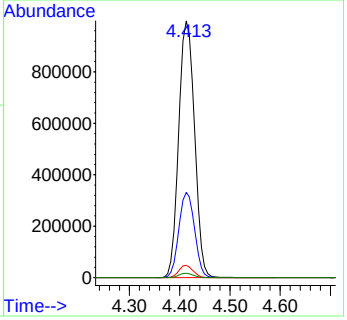


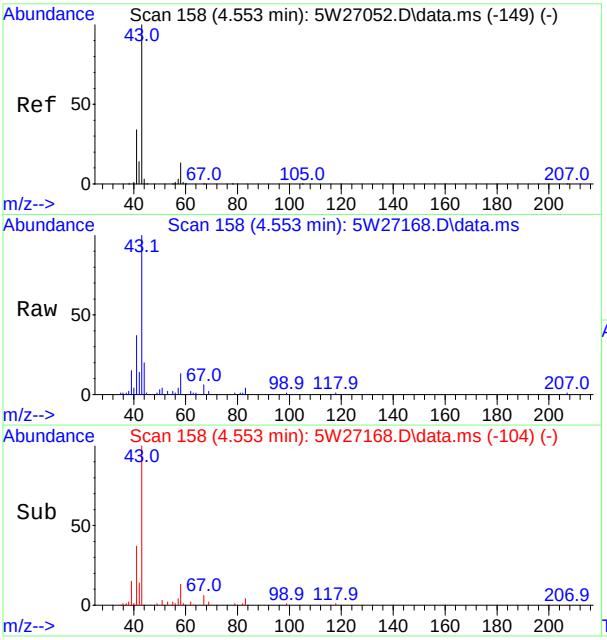


#11
Vinyl Chloride
Concen: 104.81 ppb(v)
RT: 4.413 min Scan# 135
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 62 Resp: 2191473

Ion	Ratio	Lower	Upper
62	100		
64	33.2	22.5	41.9
35	4.8	2.1	3.9#
37	1.7	0.7	1.3#

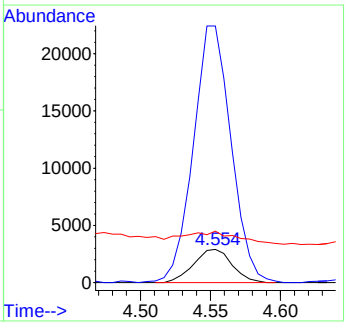


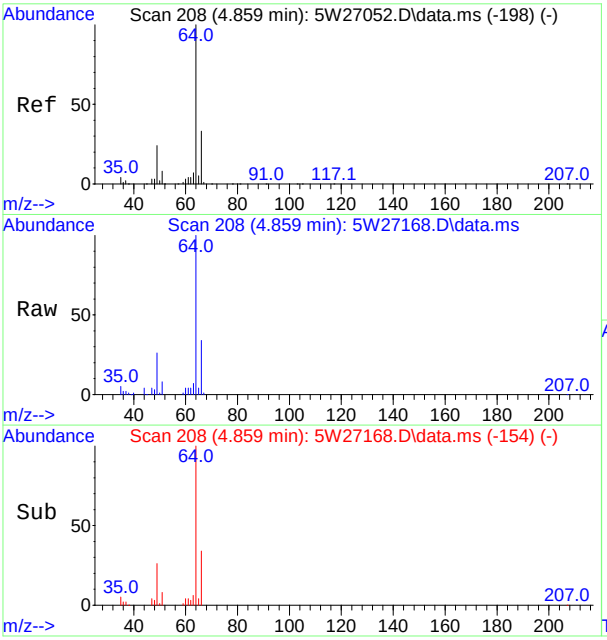


#13
n-Butane
Concen: 1.93 ppb(v)
RT: 4.553 min Scan# 158
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 58 Resp: 5564

Ion	Ratio	Lower	Upper
58	100		
43	771.4	527.9	980.5
44	154.4	25.1	46.7#

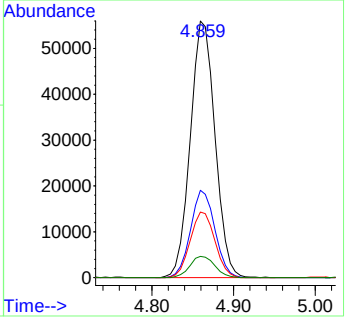


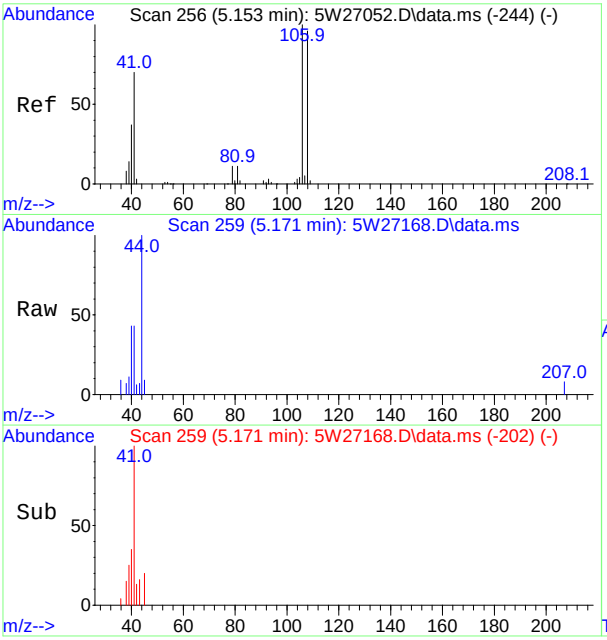


#15
Chloroethane
Concen: 11.72 ppb(v)
RT: 4.859 min Scan# 208
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 64 Resp: 117831

Ion	Ratio	Lower	Upper
64	100		
66	34.1	23.0	42.6
49	25.6	17.1	31.9
51	8.3	6.0	11.2

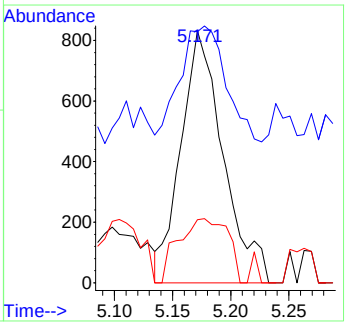


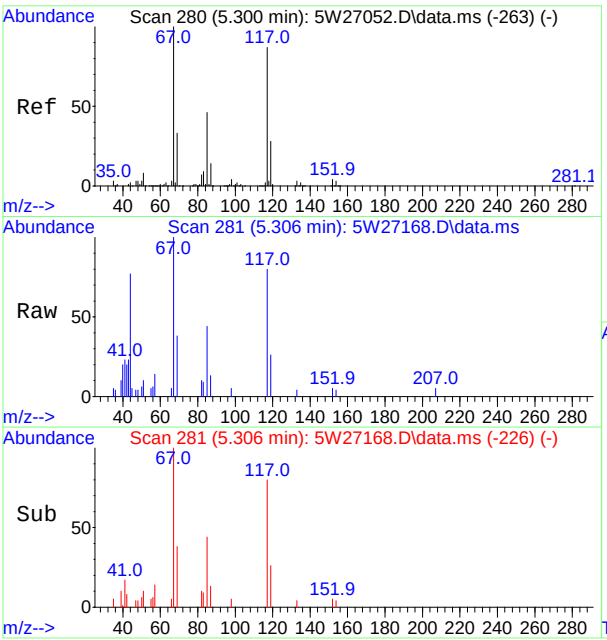


#17
Acetonitrile
Concen: 0.18 ppb(v) m
RT: 5.171 min Scan# 259
Delta R.T. 0.019 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 41 Resp: 2101

Ion	Ratio	Lower	Upper
41	100		
40	99.6	37.9	70.3#
39	25.0	13.6	25.4

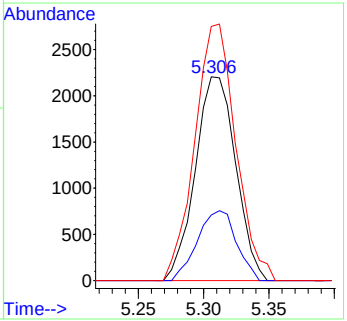




#19
Freon 123A
Concen: 0.14 ppb(v)
RT: 5.306 min Scan# 281
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:117 Resp: 4758

Ion	Ratio	Lower	Upper
117	100		
119	32.3	22.5	41.7
67	124.7	80.4	149.2



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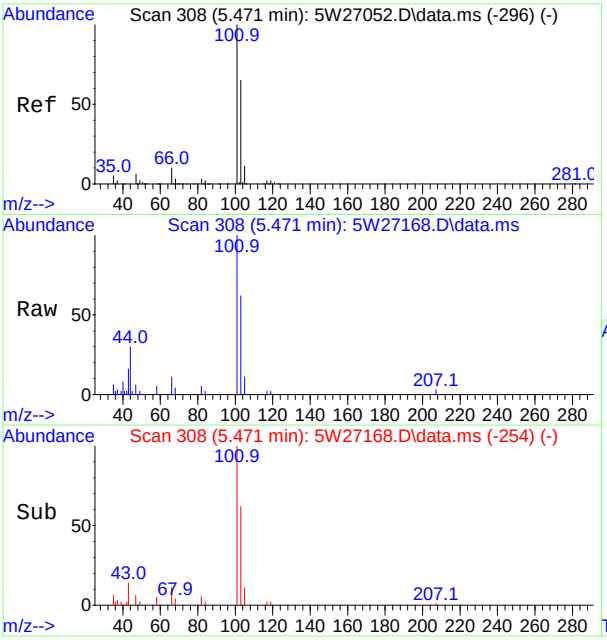
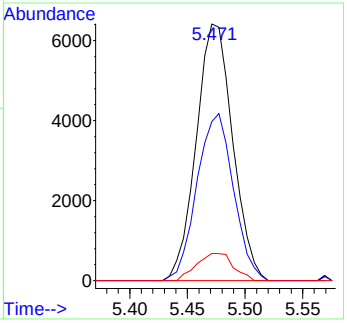
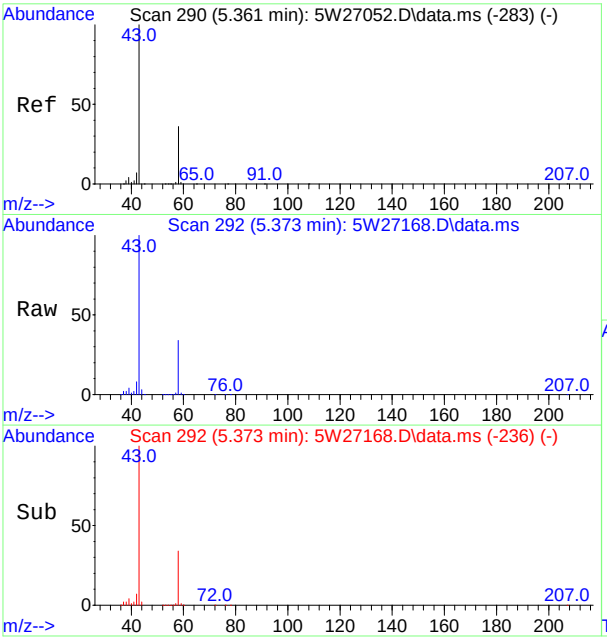


#21
Trichlorofluoromethane
Concen: 0.24 ppb(v)
RT: 5.471 min Scan# 308
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:101 Resp: 14110

Ion	Ratio	Lower	Upper
101	100		
103	62.0	45.6	84.6
105	10.6	7.5	13.9

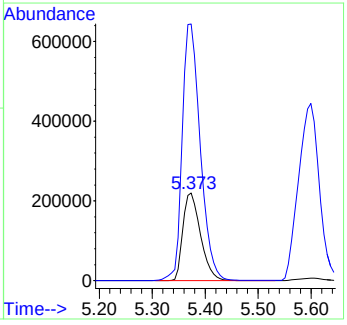


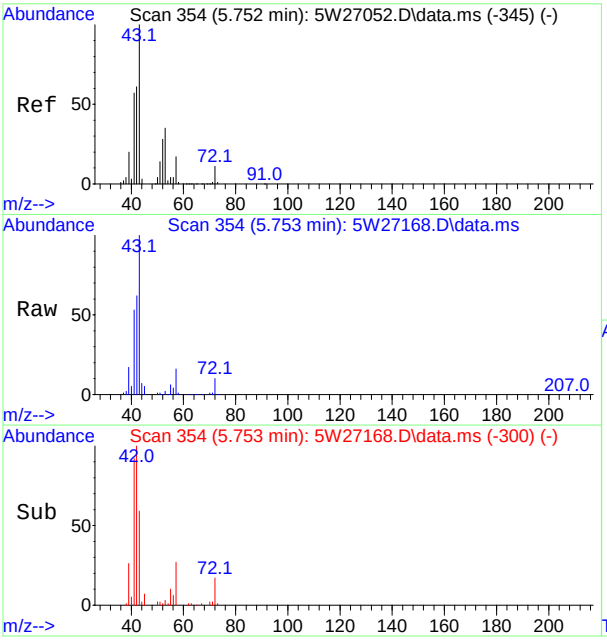


#22
Acetone
Concen: 55.50 ppb(v)
RT: 5.373 min Scan# 292
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 58 Resp: 509827

Ion	Ratio	Lower	Upper
58	100		
43	292.4	194.7	361.5

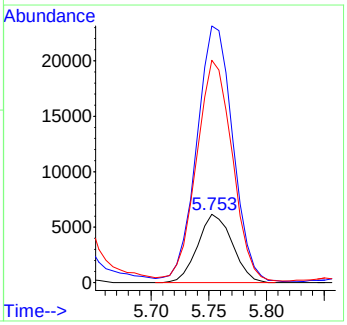


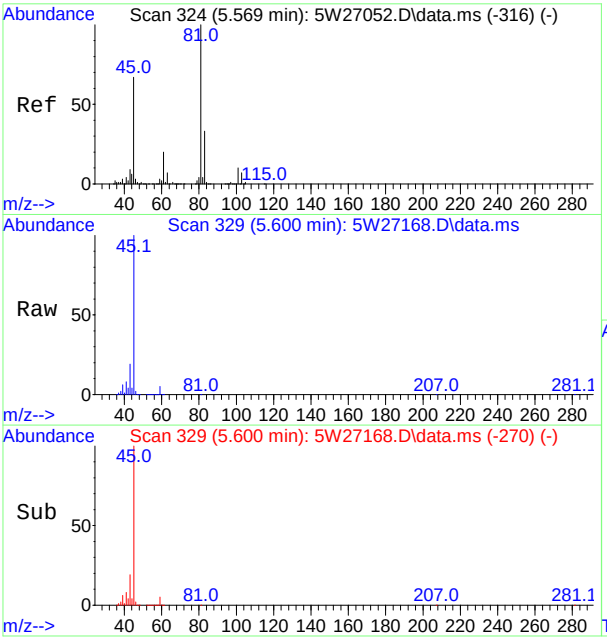


#23
Pentane
Concen: 2.24 ppb(v)
RT: 5.753 min Scan# 354
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 57 Resp: 12866

Ion	Ratio	Lower	Upper
57	100		
42	375.2	249.9	464.1
41	324.9	233.0	432.6

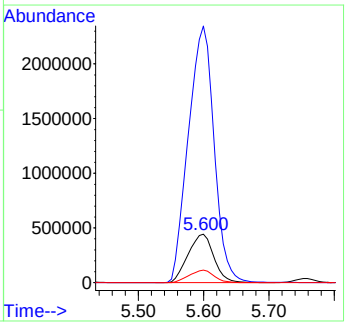


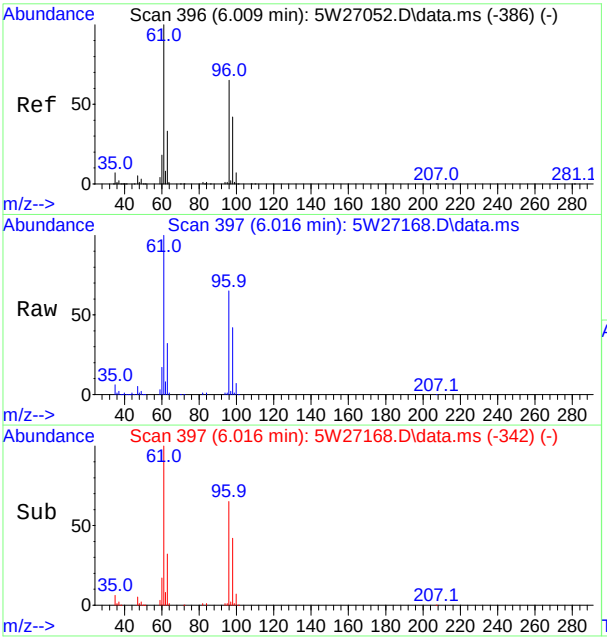


#26
Isopropyl Alcohol
Concen: 195.16 ppb(v)
RT: 5.600 min Scan# 329
Delta R.T. 0.031 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 43 Resp: 1217577

Ion	Ratio	Lower	Upper
43	100		
45	528.0	512.5	951.7
59	25.6	20.9	38.7

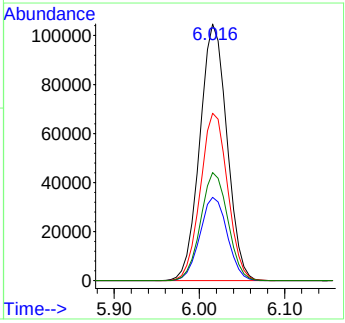


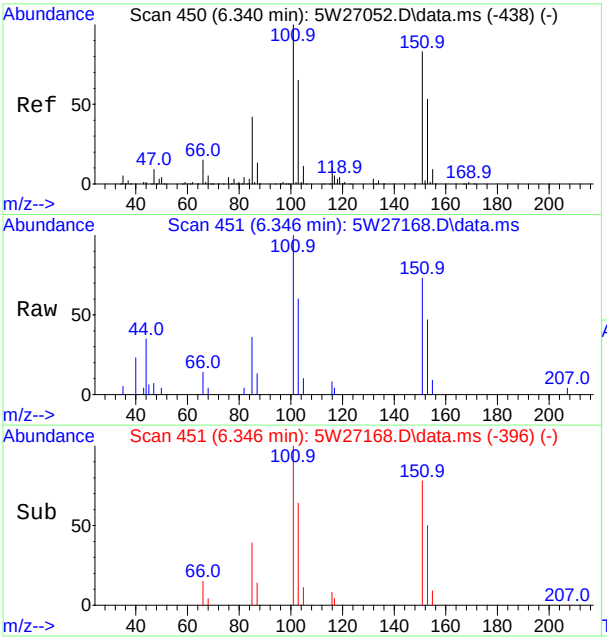


#27
1,1-Dichloroethene
Concen: 6.41 ppb(v)
RT: 6.016 min Scan# 397
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 61 Resp: 231705

Ion	Ratio	Lower	Upper
61	100		
63	32.4	22.8	42.4
96	65.1	45.7	84.9
98	42.1	29.3	54.5

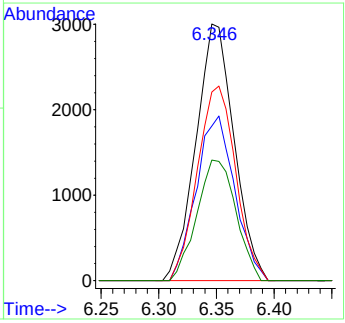




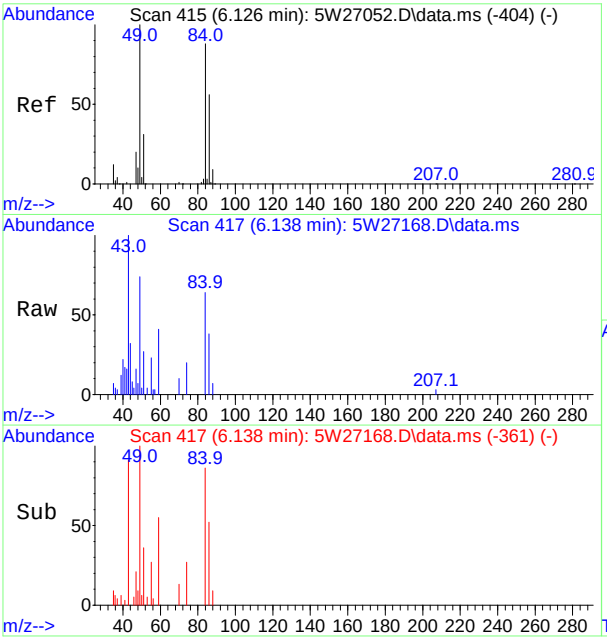
#28
Freon 113
Concen: 0.12 ppb(v)
RT: 6.346 min Scan# 451
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:101 Resp: 6915

Ion	Ratio	Lower	Upper
101	100		
103	60.2	45.3	84.1
151	73.5	58.1	107.9
153	47.0	37.1	68.9



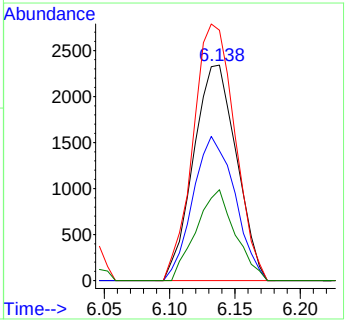
SGS ACCUTEST JC52679

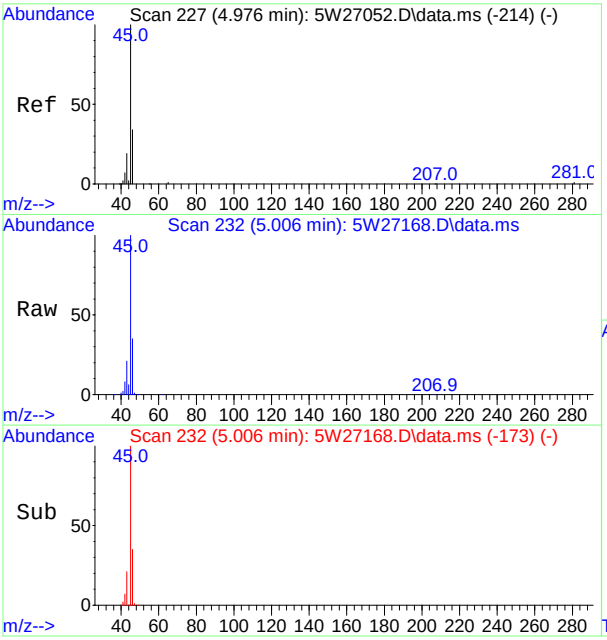


#29
Methylene Chloride
Concen: 0.21 ppb(v)
RT: 6.138 min Scan# 417
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 84 Resp: 5366

Ion	Ratio	Lower	Upper
84	100		
86	60.3	44.7	82.9
49	116.3	79.5	147.6
51	42.2	25.1	46.7

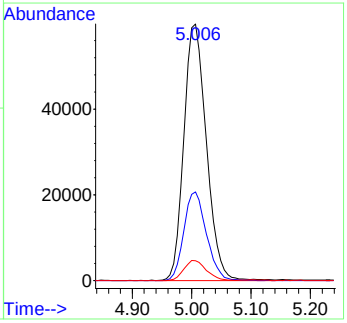


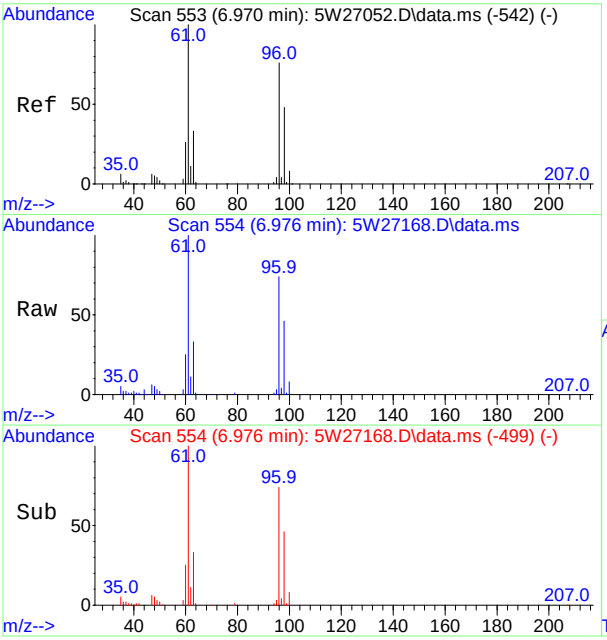


#31
Ethanol
Concen: 27.23 ppb(v)
RT: 5.006 min Scan# 232
Delta R.T. 0.031 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 45 Resp: 158325

Ion	Ratio	Lower	Upper
45	100		
46	34.6	23.5	43.7
42	7.8	5.5	10.3

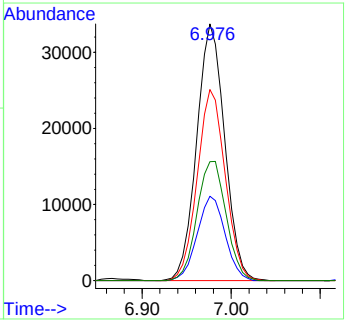


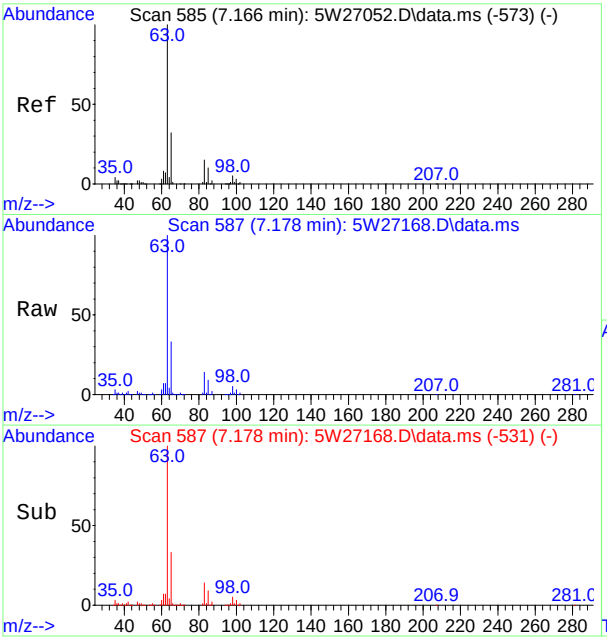


#34
trans-1,2-Dichloroethene
Concen: 2.22 ppb(v)
RT: 6.976 min Scan# 554
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 61 Resp: 73696

Ion	Ratio	Lower	Upper
61	100		
63	32.9	22.9	42.5
96	74.5	52.8	98.2
98	46.3	33.5	62.3

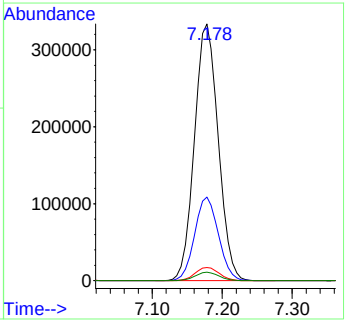




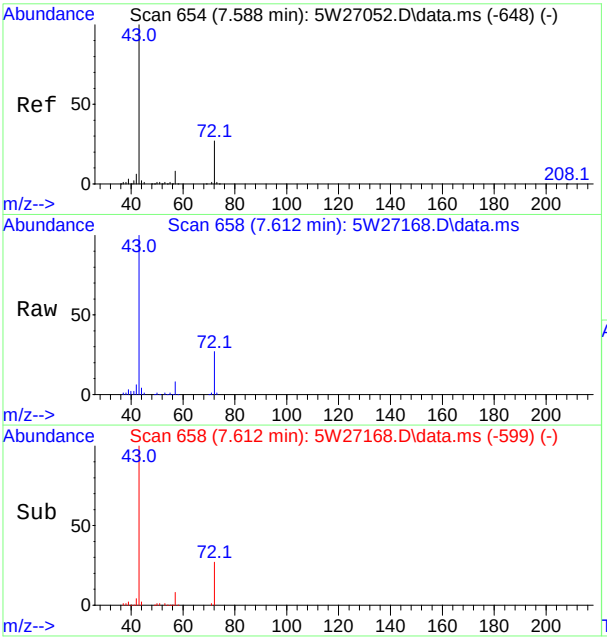
#38
1,1-Dichloroethane
Concen: 18.10 ppb(v)
RT: 7.178 min Scan# 587
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 63 Resp: 786708

Ion	Ratio	Lower	Upper
63	100		
65	32.6	22.4	41.6
98	5.1	3.7	6.9
100	3.3	2.3	4.3



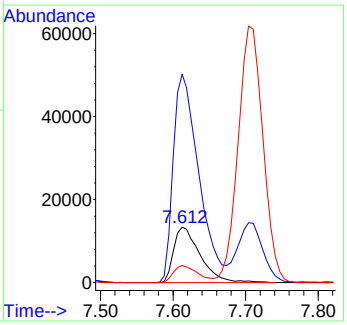
SGS ACCUTEST JC52679

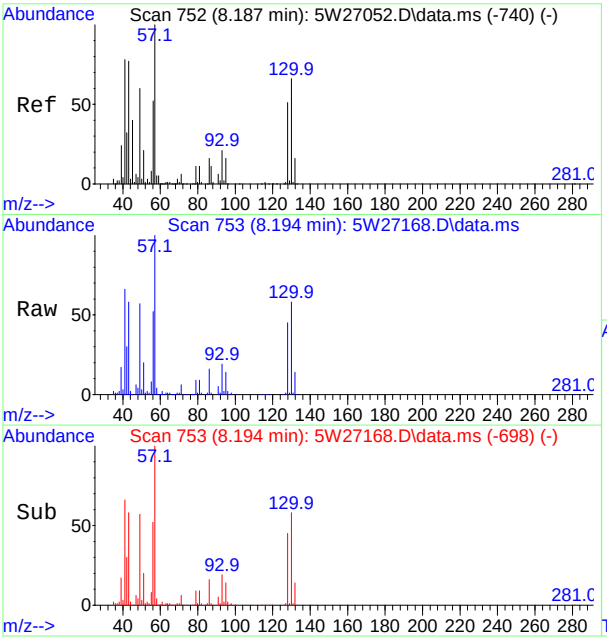


#39
2-Butanone
Concen: 3.04 ppb(v)
RT: 7.612 min Scan# 658
Delta R.T. 0.031 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 72 Resp: 33924

Ion	Ratio	Lower	Upper
72	100		
43	375.5	256.8	476.8
57	30.8	20.4	37.8

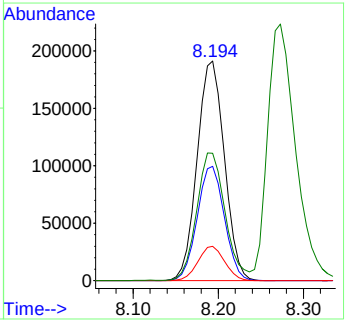


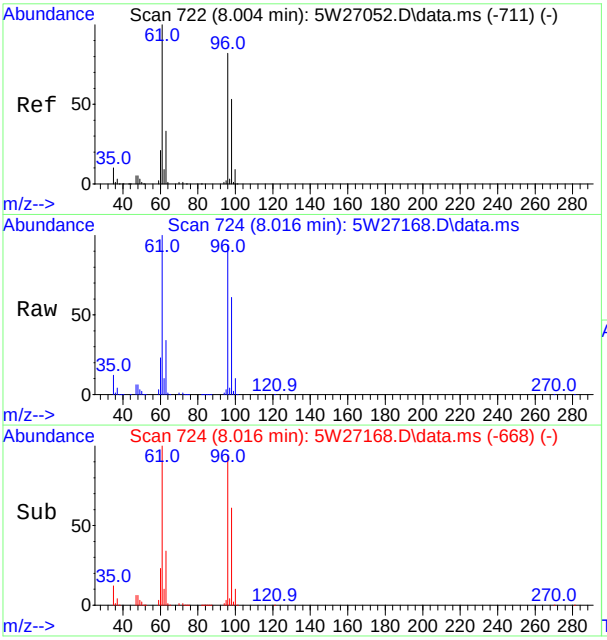


#40
Hexane
Concen: 12.65 ppb(v)
RT: 8.194 min Scan# 753
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 57 Resp: 425515

Ion	Ratio	Lower	Upper
57	100		
56	52.0	36.6	68.0
86	15.6	11.1	20.5
43	58.0	54.2	100.6

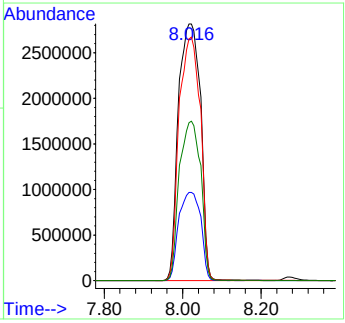


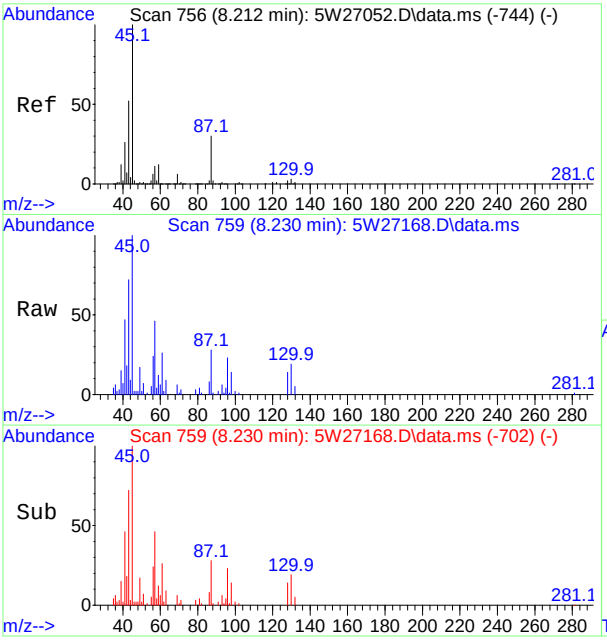


#41
cis-1,2-Dichloroethene
Concen: 347.29 ppb(v)
RT: 8.016 min Scan# 724
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 61 Resp:11026892

Ion	Ratio	Lower	Upper
61	100		
63	34.4	22.9	42.5
96	94.1	57.4	106.6
98	61.5	37.2	69.2

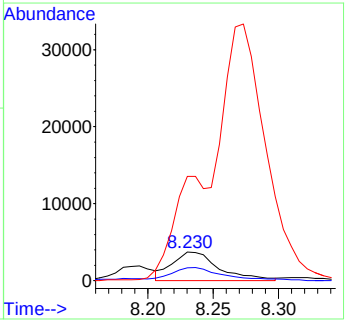


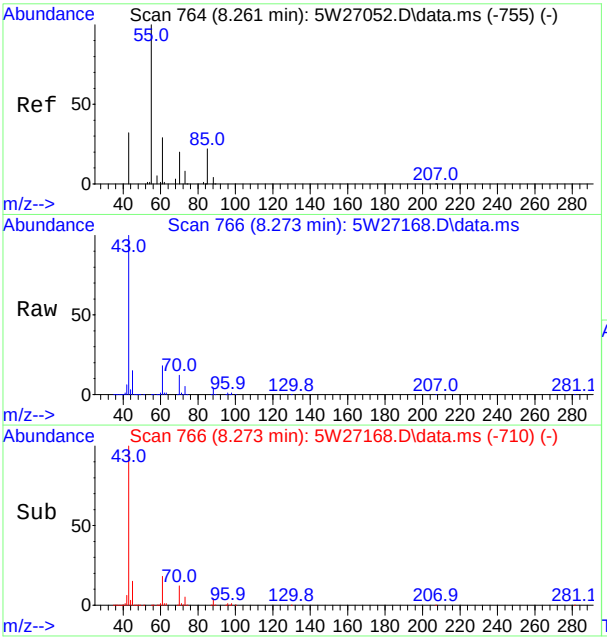


#42
Di-isopropyl Ether
Concen: 0.48 ppb(v)
RT: 8.230 min Scan# 759
Delta R.T. 0.019 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 87 Resp: 9346

Ion	Ratio	Lower	Upper
87	100		
59	45.0	28.6	53.0
45	362.8	234.0	434.6

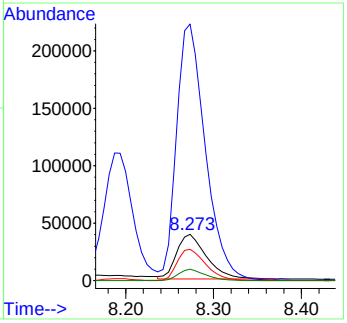


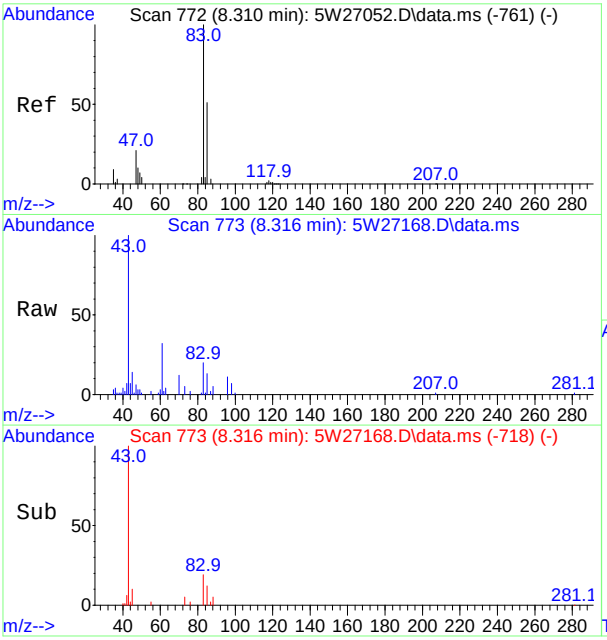


#43
Ethyl Acetate
Concen: 12.58 ppb(v) m
RT: 8.273 min Scan# 766
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 61 Resp: 91773

Ion	Ratio	Lower	Upper
61	100		
43	555.0	440.8	818.6
70	67.7	51.7	95.9
88	24.6	19.4	36.0

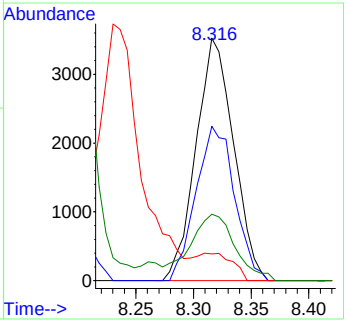




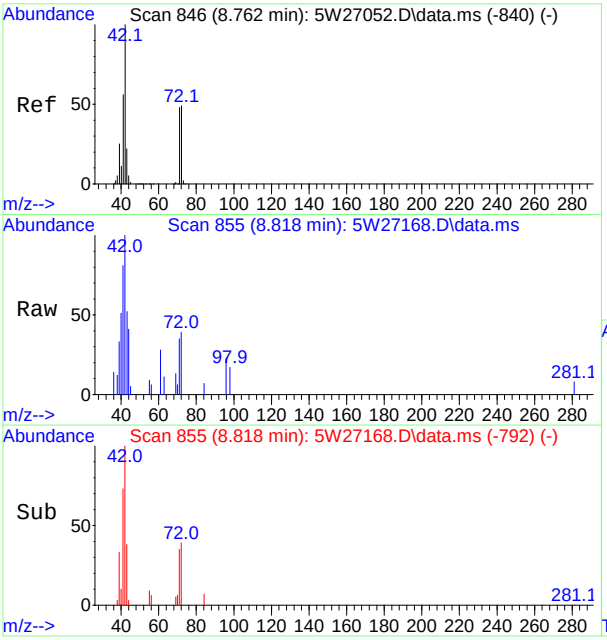
#45
Chloroform
Concen: 0.15 ppb(v)
RT: 8.316 min Scan# 773
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 83 Resp: 7989

Ion	Ratio	Lower	Upper
83	100		
85	63.6	46.2	85.8
87	11.0	7.6	14.2
47	27.4	15.0	28.0



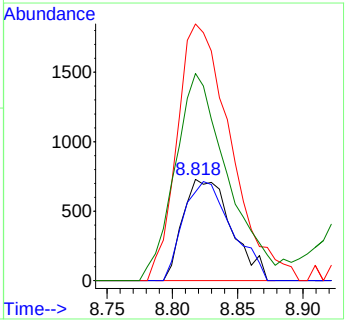
SGS ACCUTEST JC52679

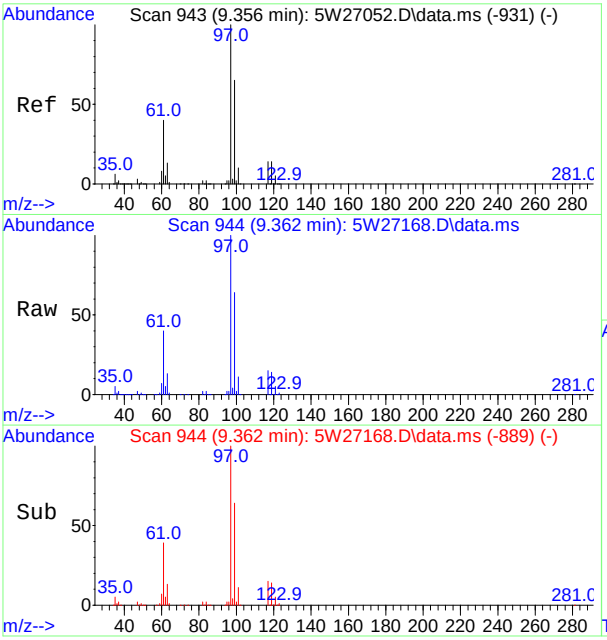


#47
Tetrahydrofuran
Concen: 0.18 ppb(v)
RT: 8.818 min Scan# 855
Delta R.T. 0.055 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 72 Resp: 1883

Ion	Ratio	Lower	Upper
72	100		
71	87.7	68.6	127.4
42	253.5	143.9	267.2
41	204.4	80.6	149.6#

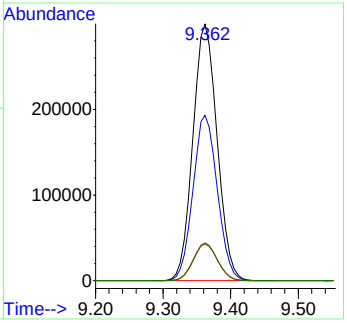


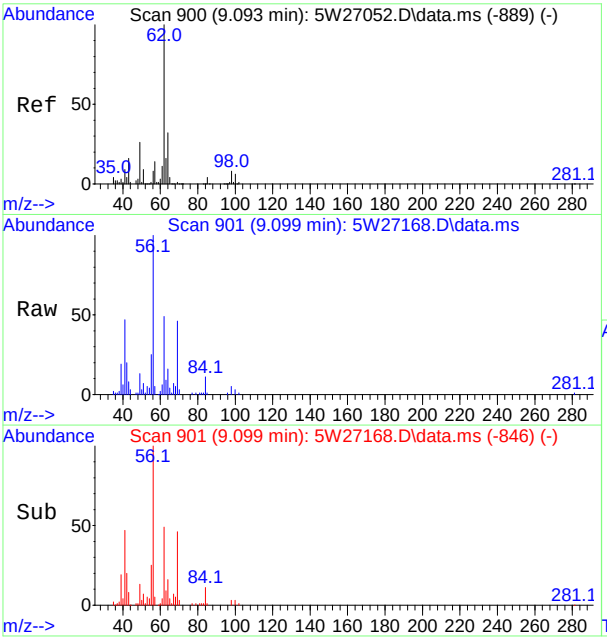


#48
1,1,1-Trichloroethane
Concen: 15.24 ppb(v)
RT: 9.362 min Scan# 944
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 97 Resp: 746794

Ion	Ratio	Lower	Upper
97	100		
99	64.4	45.3	84.1
117	14.8	10.0	18.6
119	14.4	9.7	18.1

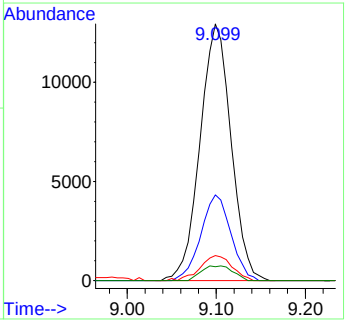


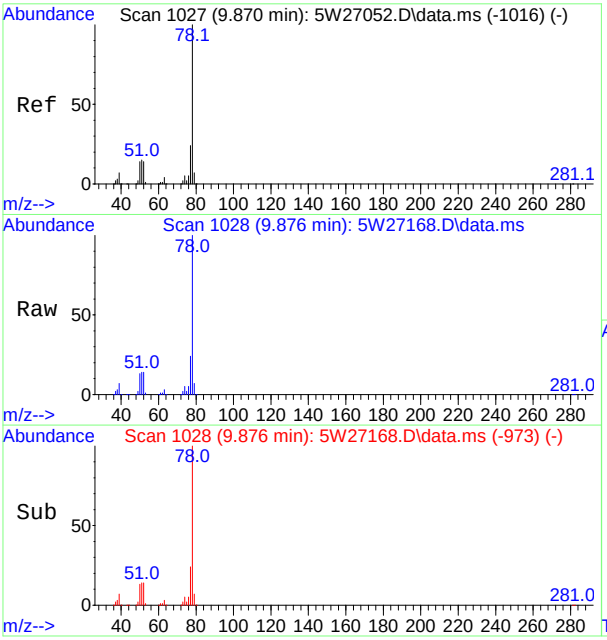


#49
1,2-Dichloroethane
Concen: 1.05 ppb(v)
RT: 9.099 min Scan# 901
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 62 Resp: 31348

Ion	Ratio	Lower	Upper
62	100		
64	33.4	22.5	41.7
98	9.8	5.9	10.9
100	5.5	4.2	7.8

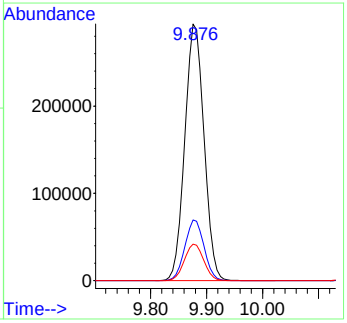


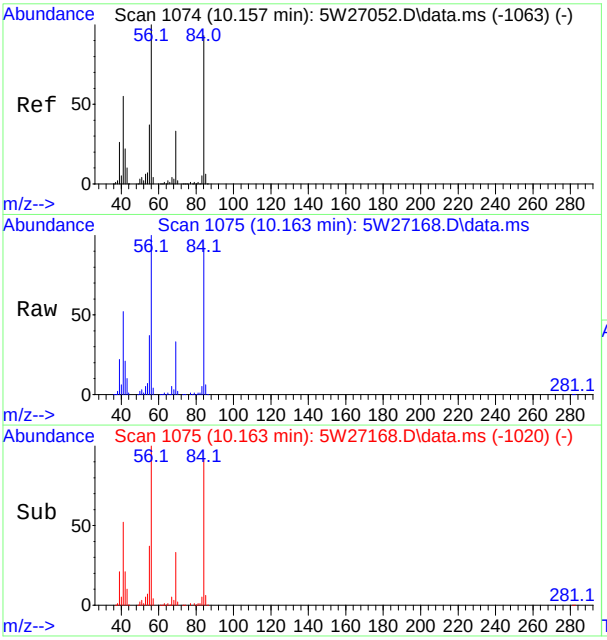


#50
Benzene
Concen: 9.03 ppb(v)
RT: 9.876 min Scan# 1028
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 78 Resp: 701472

Ion	Ratio	Lower	Upper
78	100		
77	23.7	16.8	31.2
51	14.2	10.4	19.4

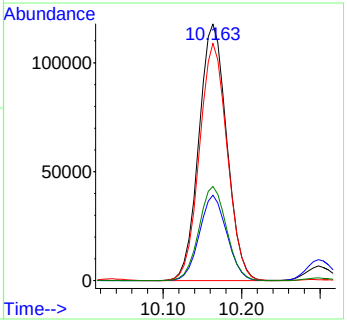


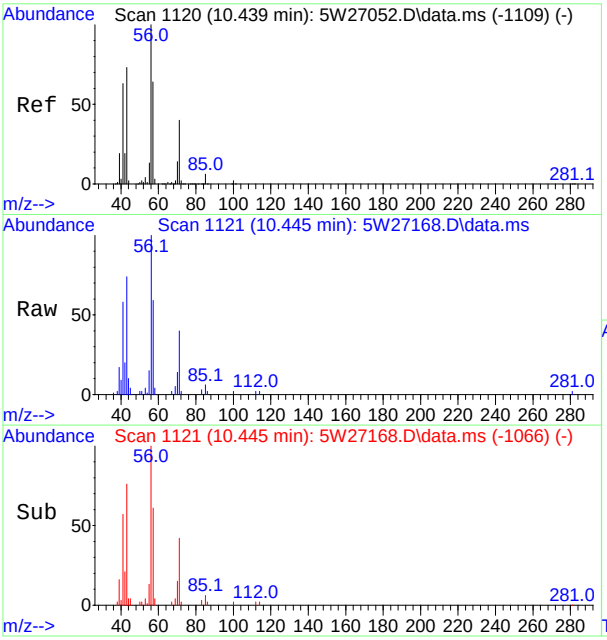


#52
Cyclohexane
Concen: 8.77 ppb(v)
RT: 10.163 min Scan# 1075
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 56 Resp: 291110

Ion	Ratio	Lower	Upper
56	100		
69	33.3	23.2	43.0
84	92.5	65.4	121.4
55	36.7	25.8	48.0

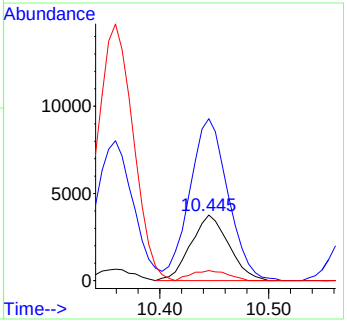


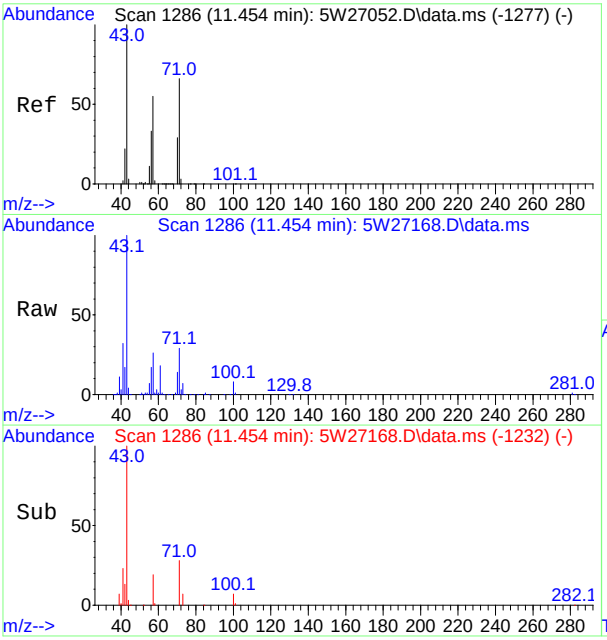


#53
2,3-Dimethylpentane
Concen: 0.59 ppb(v)
RT: 10.445 min Scan# 1121
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 71 Resp: 9122

Ion	Ratio	Lower	Upper
71	100		
56	247.1	174.6	324.2
85	15.3	11.1	20.5

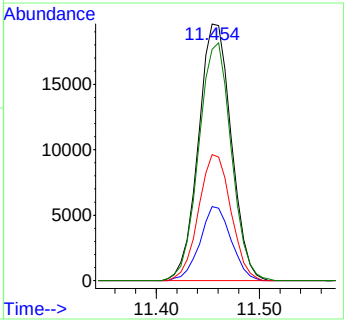


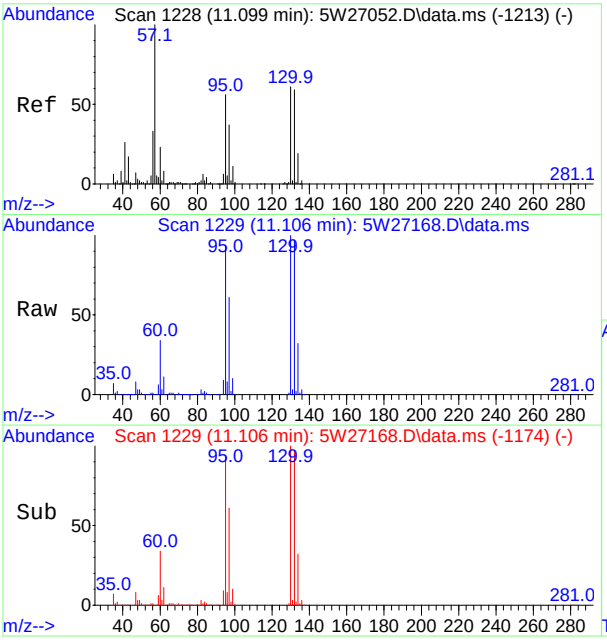


#56
Heptane
Concen: 1.92 ppb(v)
RT: 11.454 min Scan# 1286
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 71 Resp: 43403

Ion	Ratio	Lower	Upper
71	100		
100	28.9	20.1	37.3
70	49.1	34.1	63.3
57	90.1	59.4	110.4

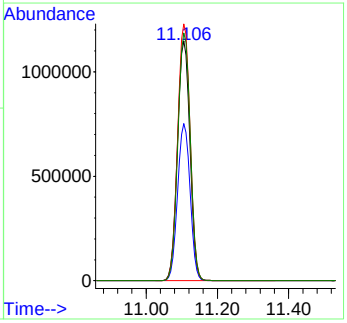


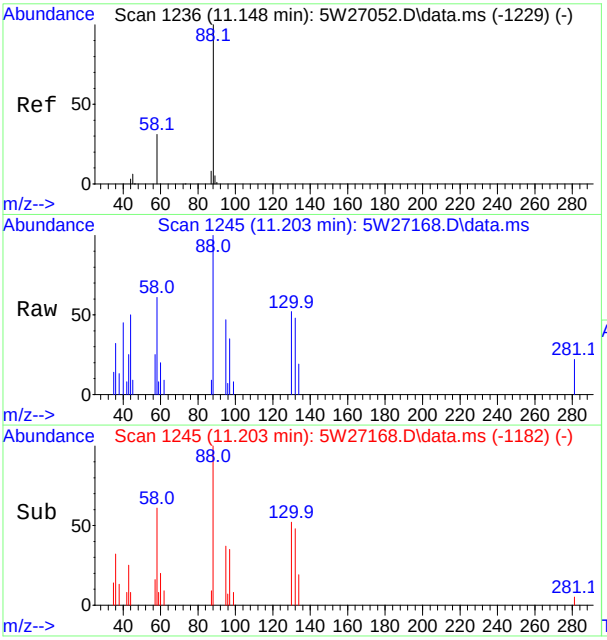


#57
Trichloroethene
Concen: 77.39 ppb(v)
RT: 11.106 min Scan# 1229
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 95 Resp: 2804560

Ion	Ratio	Lower	Upper
95	100		
97	65.5	45.8	85.2
130	107.0	75.7	140.5
132	103.3	73.8	137.0

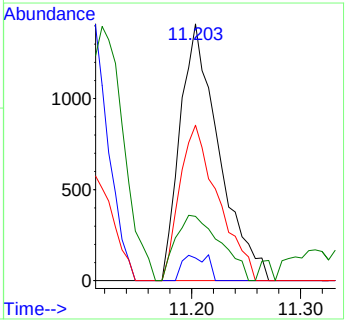


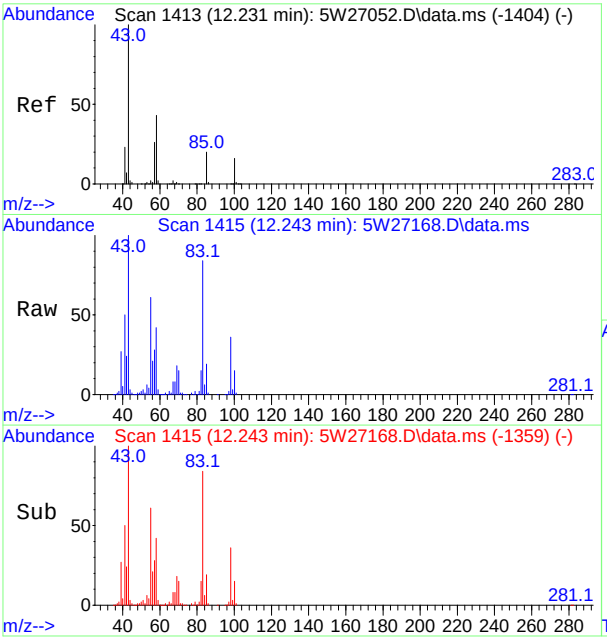


#62
1,4-Dioxane
Concen: 0.24 ppb(v)
RT: 11.203 min Scan# 1245
Delta R.T. 0.055 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 88 Resp: 3512

Ion	Ratio	Lower	Upper
88	100		
87	8.8	6.4	12.0
58	60.5	41.7	77.5
43	25.1	27.6	51.4#

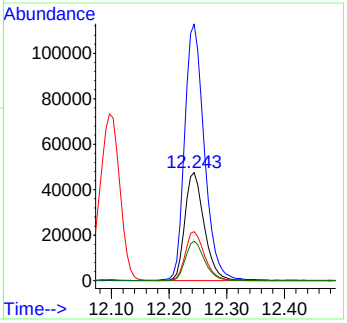


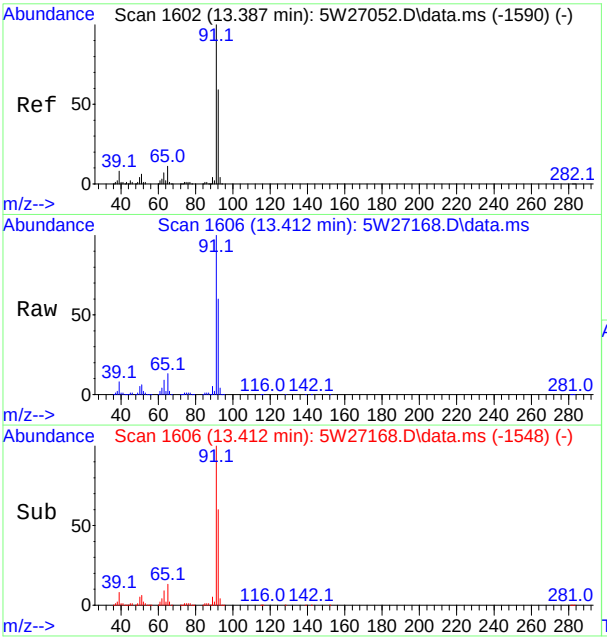


#65
4-Methyl-2-pentanone
Concen: 5.76 ppb(v)
RT: 12.243 min Scan# 1415
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 58 Resp: 110996

Ion	Ratio	Lower	Upper
58	100		
43	237.7	162.8	302.3
85	45.4	33.8	62.8
100	36.5	26.7	49.5

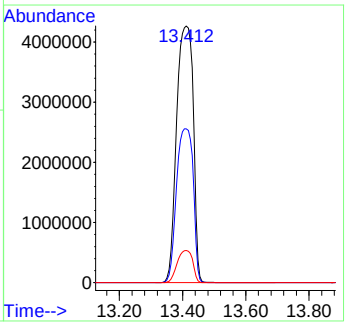


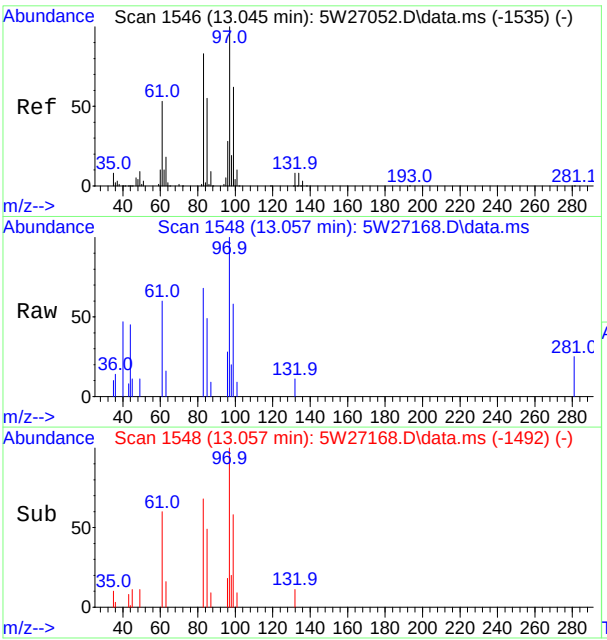


#67
Toluene
Concen: 175.52 ppb(v)
RT: 13.412 min Scan# 1606
Delta R.T. 0.025 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 91 Resp:15643071

Ion	Ratio	Lower	Upper
91	100		
92	59.9	41.4	76.8
65	12.5	7.3	13.7

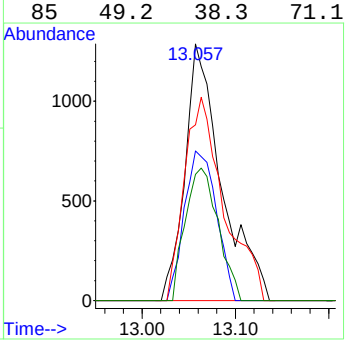


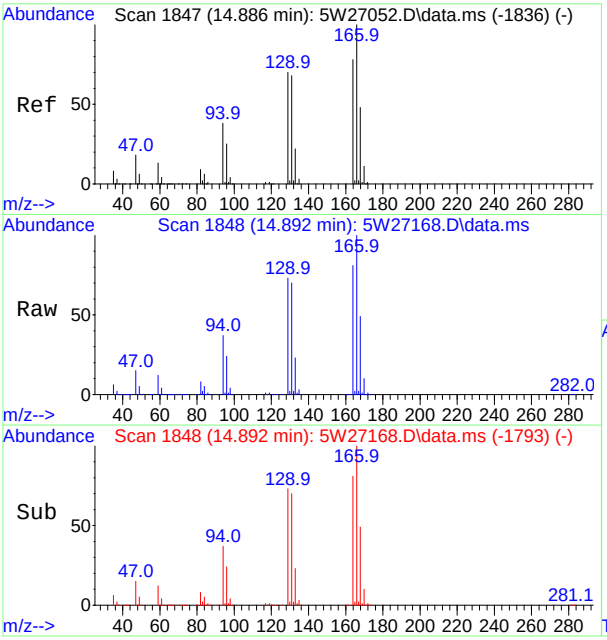


#68
1,1,2-Trichloroethane
Concen: 0.11 ppb(v)
RT: 13.057 min Scan# 1548
Delta R.T. 0.012 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 97 Resp: 3533

Ion	Ratio	Lower	Upper
97	100		
99	58.3	43.6	81.0
83	68.5	57.9	107.5
85	49.2	38.3	71.1

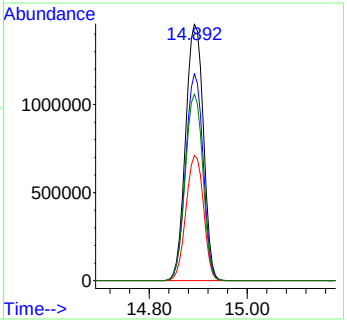


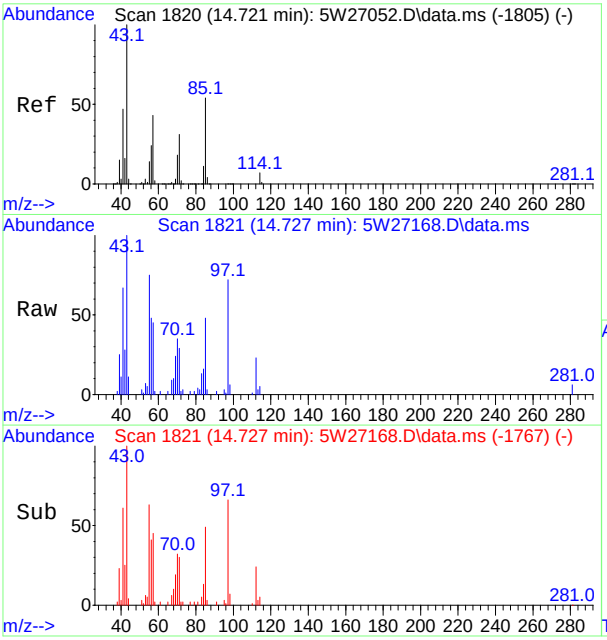


#73
Tetrachloroethene
Concen: 68.07 ppb(v)
RT: 14.892 min Scan# 1848
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:166 Resp: 3682265

Ion	Ratio	Lower	Upper
166	100		
164	80.7	54.5	101.3
168	48.8	33.6	62.4
129	72.7	49.2	91.4

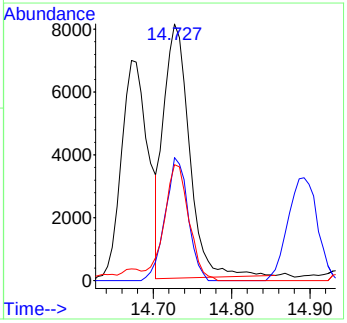


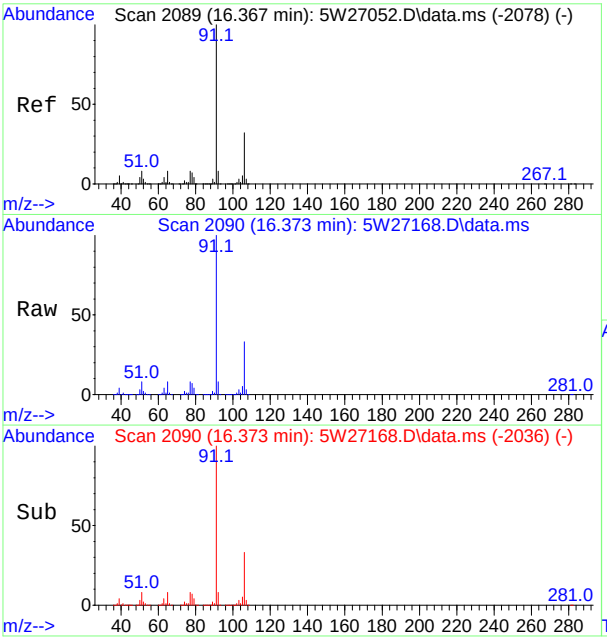


#75
Octane
Concen: 0.38 ppb(v)
RT: 14.727 min Scan# 1821
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 43 Resp: 18492

Ion	Ratio	Lower	Upper
43	100		
85	47.9	37.8	70.2
57	45.2	30.3	56.3

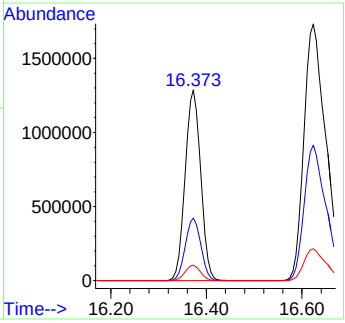


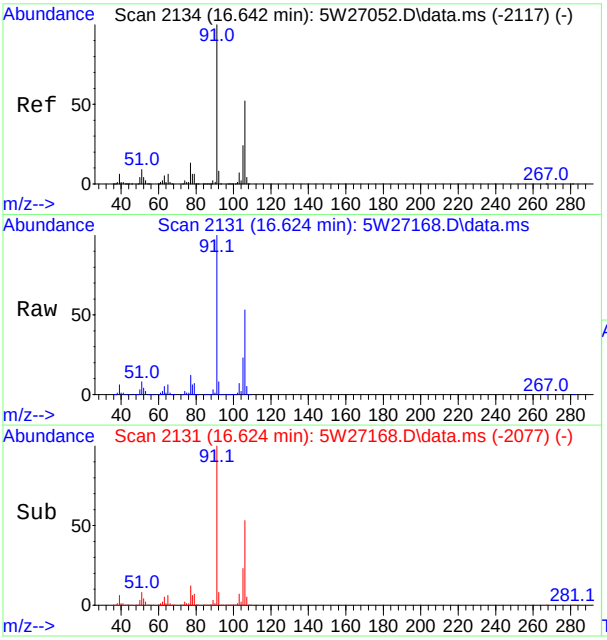


#79
Ethylbenzene
Concen: 29.43 ppb(v)
RT: 16.373 min Scan# 2090
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 91 Resp: 2908931

Ion	Ratio	Lower	Upper
91	100		
106	32.8	22.4	41.6
77	8.2	5.7	10.7

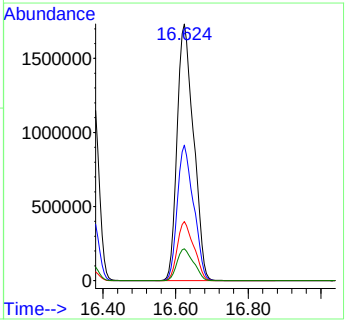


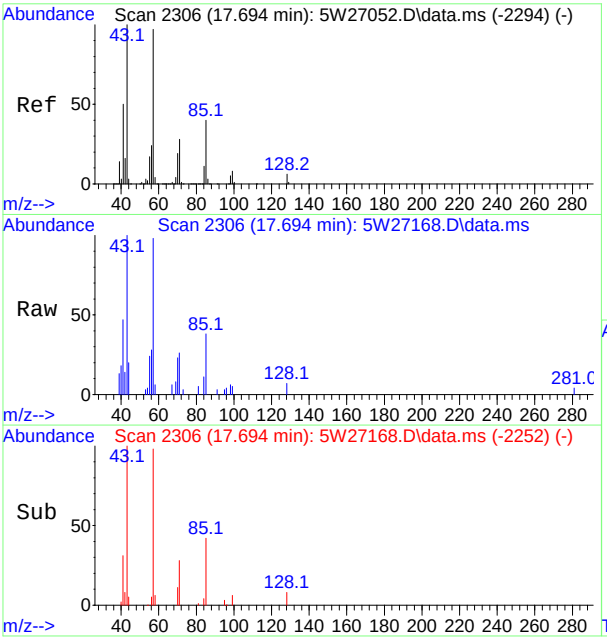


#80
m,p-Xylene
Concen: 71.80 ppb(v)
RT: 16.624 min Scan# 2131
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 91 Resp: 5434150

Ion	Ratio	Lower	Upper
91	100		
106	52.8	36.3	67.5
105	23.0	16.4	30.6
77	12.4	8.9	16.5

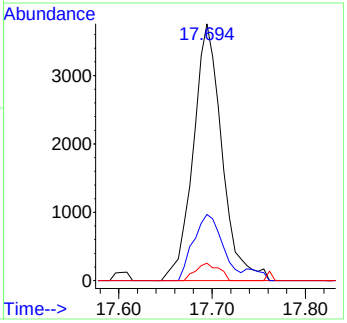


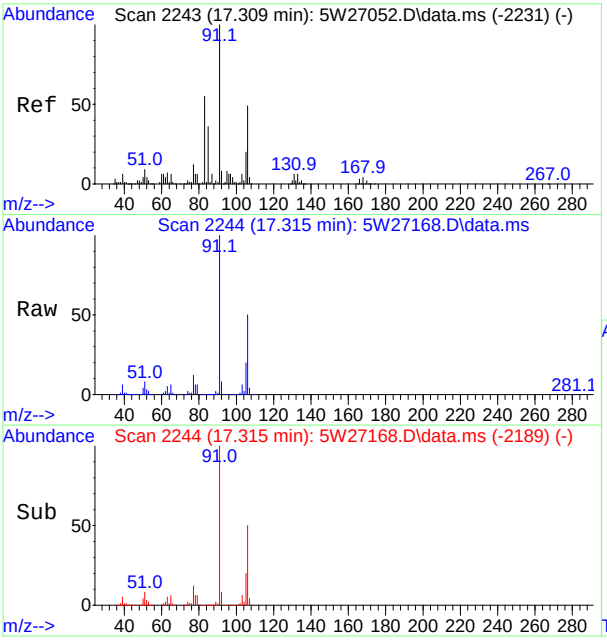


#82
Nonane
Concen: 0.18 ppb(v)
RT: 17.694 min Scan# 2306
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 43 Resp: 8067

Ion	Ratio	Lower	Upper
43	100		
71	25.8	19.3	35.9
128	6.8	4.5	8.3

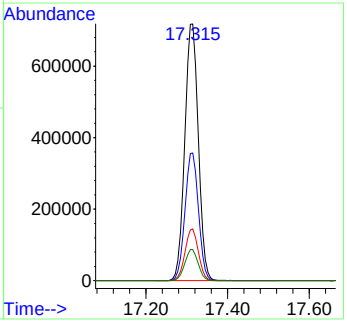


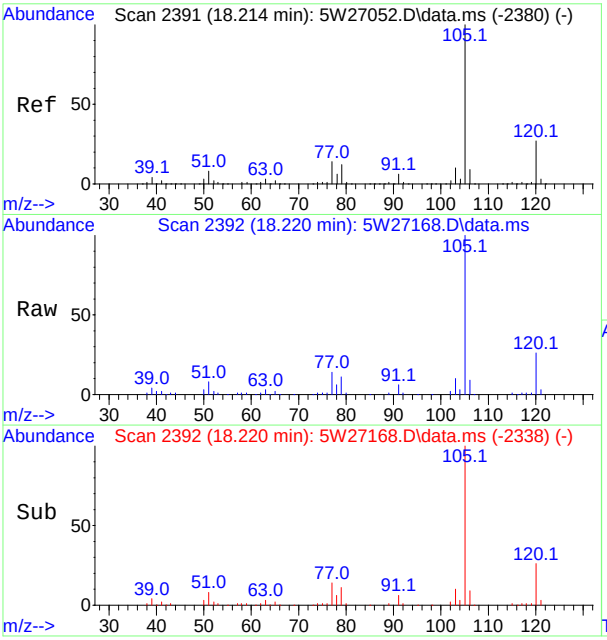


#83
o-Xylene
Concen: 21.76 ppb(v)
RT: 17.315 min Scan# 2244
Delta R.T. 0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion: 91 Resp: 1655162

Ion	Ratio	Lower	Upper
91	100		
106	49.7	34.4	64.0
105	20.1	13.7	25.5
77	12.1	8.5	15.7

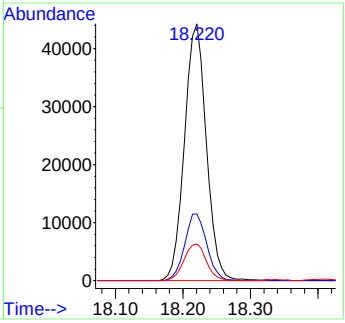


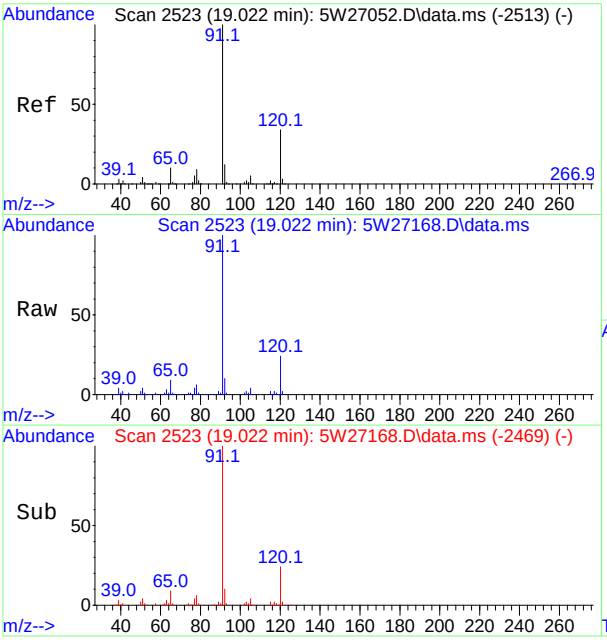


#87
Isopropylbenzene
Concen: 0.94 ppb(v)
RT: 18.220 min Scan# 2392
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:105 Resp: 99657

Ion	Ratio	Lower	Upper
105	100		
120	26.0	19.0	35.2
77	14.3	10.1	18.9

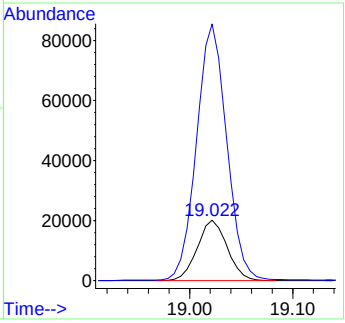


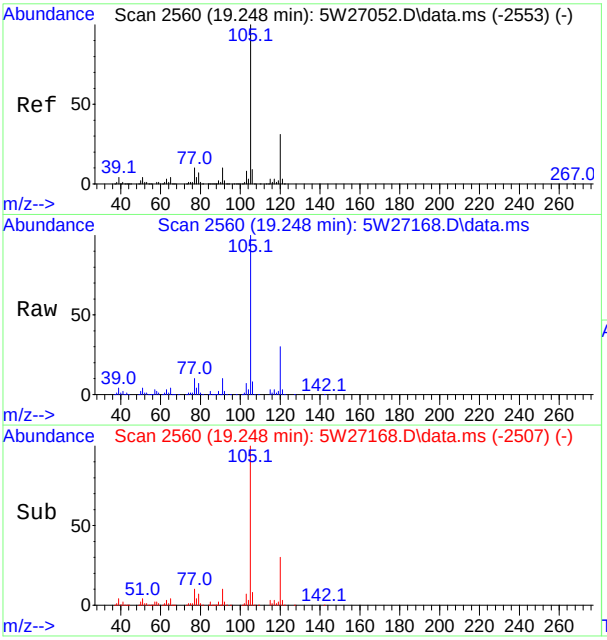


#90
n-Propylbenzene
Concen: 1.36 ppb(v)
RT: 19.022 min Scan# 2523
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:120 Resp: 40559

Ion	Ratio	Lower	Upper
120	100		
91	425.0	284.6	528.5

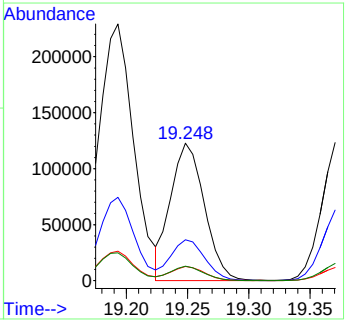


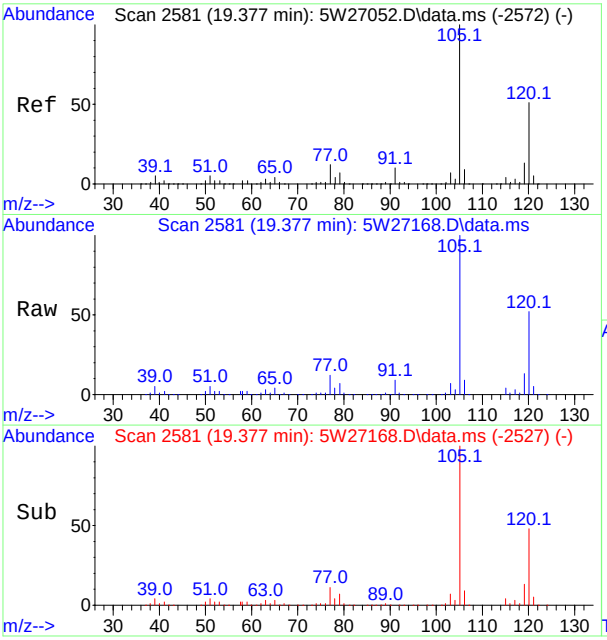


#92
4-Ethyltoluene
Concen: 2.25 ppb(v)
RT: 19.248 min Scan# 2560
Delta R.T. -0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:105 Resp: 236719

Ion	Ratio	Lower	Upper
105	100		
120	29.7	21.4	39.8
91	10.3	7.3	13.7
77	10.5	7.3	13.7

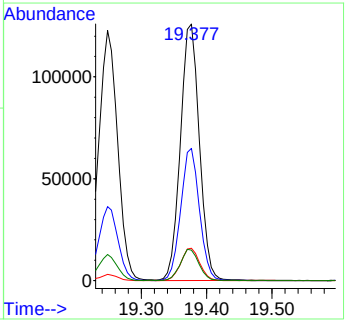




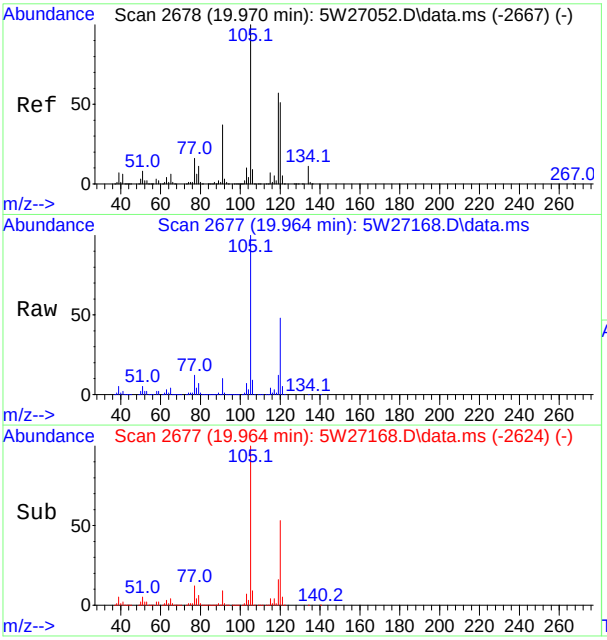
#93
1,3,5-Trimethylbenzene
Concen: 2.78 ppb(v)
RT: 19.377 min Scan# 2581
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:105 Resp: 254770

Ion	Ratio	Lower	Upper
105	100		
120	51.5	35.4	65.8
119	12.6	8.9	16.5
77	11.9	8.3	15.3



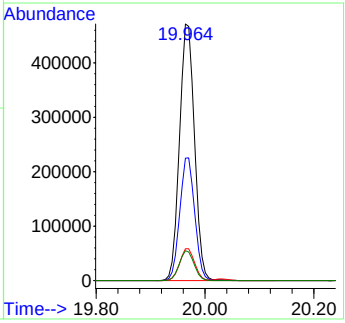
SGS ACCUTEST JC52679

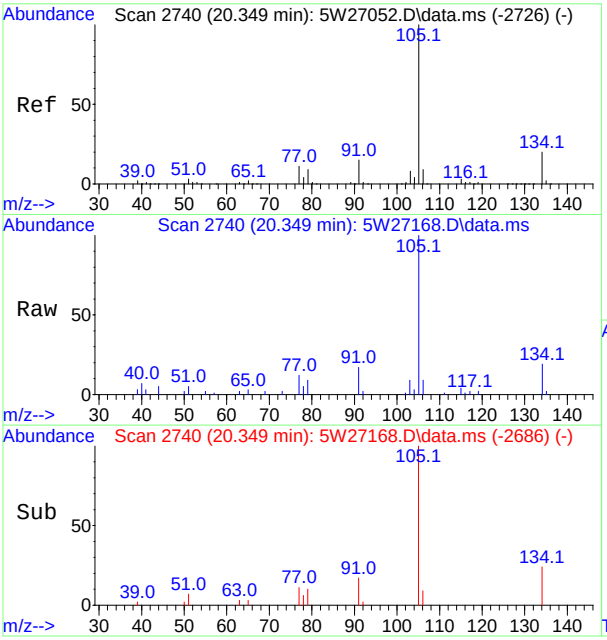


#96
1,2,4-Trimethylbenzene
Concen: 10.61 ppb(v)
RT: 19.964 min Scan# 2677
Delta R.T. -0.006 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:105 Resp: 903701

Ion	Ratio	Lower	Upper
105	100		
120	47.7	36.0	66.8
119	12.4	40.3	74.8#
77	11.6	11.3	21.1

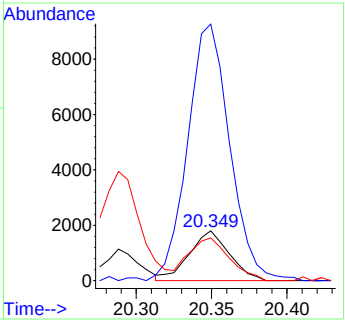


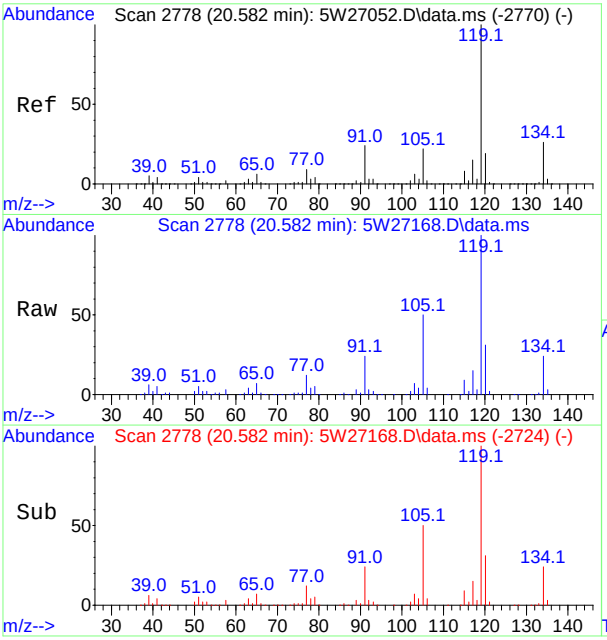


#100
sec-Butylbenzene
Concen: 0.14 ppb(v)
RT: 20.349 min Scan# 2740
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:134 Resp: 3311

Ion	Ratio	Lower	Upper
134	100		
105	515.7	348.4	647.0
91	85.8	52.8	98.2

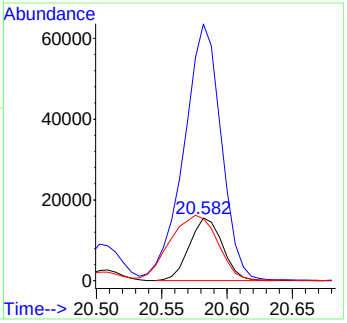


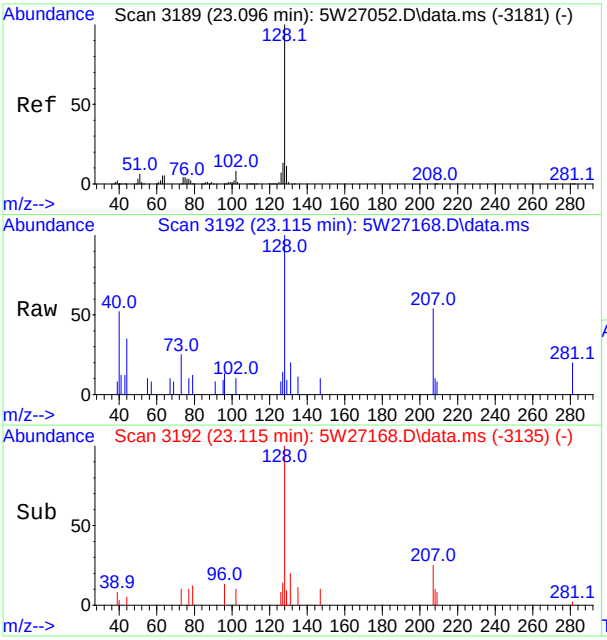


#101
p-Isopropyltoluene
Concen: 0.95 ppb(v)
RT: 20.582 min Scan# 2778
Delta R.T. 0.000 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:134 Resp: 27395

Ion	Ratio	Lower	Upper
134	100		
119	409.7	272.2	505.6
91	98.6	64.7	120.1

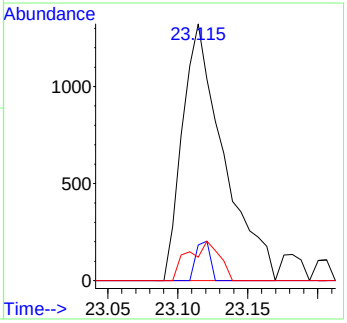




#106
Naphthalene
Concen: 0.09 ppb(v)
RT: 23.115 min Scan# 3192
Delta R.T. 0.019 min
Lab File: 5W27168.D
Acq: 10 Oct 2017 2:25 pm

Tgt Ion:128 Resp: 2712

Ion	Ratio	Lower	Upper
128	100		
127	13.9	8.9	16.5
129	9.1	7.7	14.3



Manual Integration Approval Summary

Sample Number: JC52203-1DUP
Lab FileID: 5W27168.D
Injection Time: 10/10/17 14:25
Method: TO-15
Analyst approved: 10/11/17 11:19
Supervisor approved: 10/12/17 14:32 [redacted]

Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetonitrile	75-05-8		5.17	Missed peak
Ethyl Acetate	141-78-6		8.27	Missed peak

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60501.D
Acq On : 27 Jun 2017 8:36 pm
Operator : [redacted]
Sample : scc(m254)
Misc : MS16930,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 08:45:38 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	175184	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	755067	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	298845	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	339152	9.32	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 93.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5.1

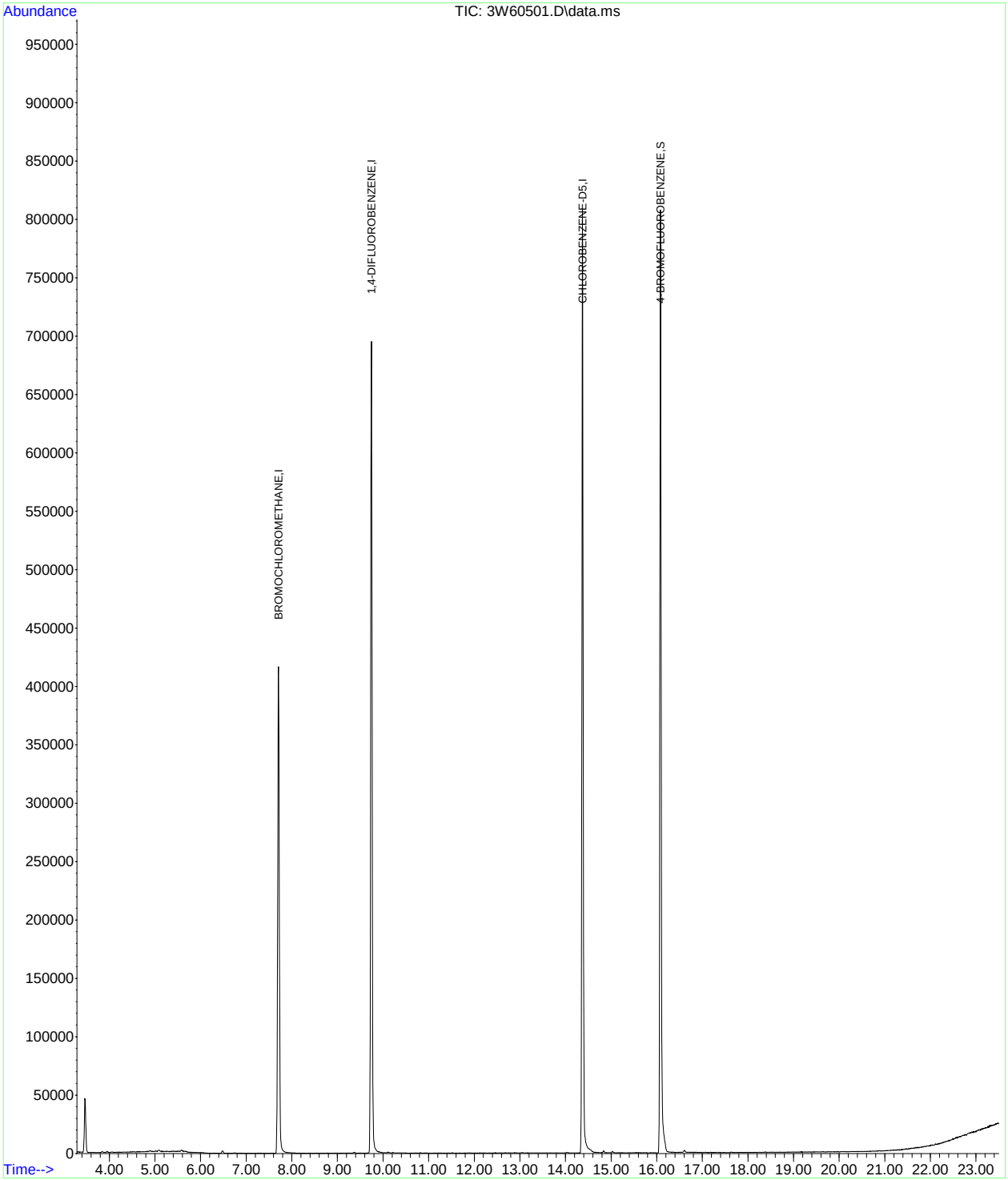
7

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60501.D
Acq On : 27 Jun 2017 8:36 pm
Operator : [redacted]
Sample : scc(m254)
Misc : MS16930,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

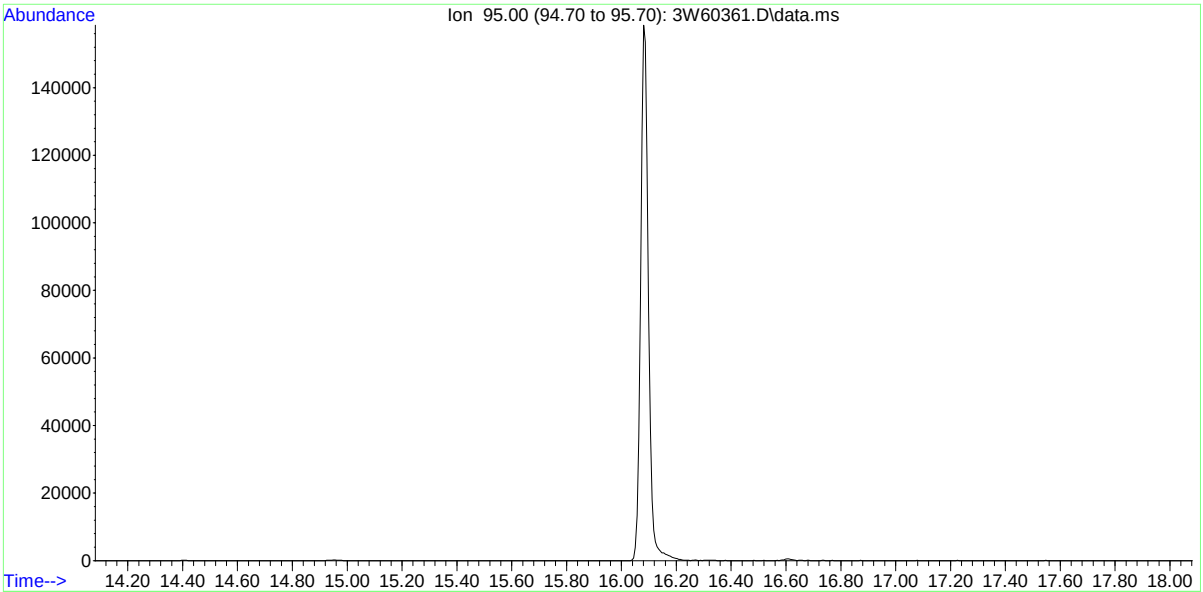
Quant Time: Jun 28 08:45:38 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



BFB

Data File : [redacted]1\DATA\3W60361.D Vial: 1
Acq On : 21 Jun 2017 12:13 pm Operator: [redacted]
Sample : bfb Inst : GCMS3W
Misc : MS16663,V3W2293,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um



AutoFind: Scans 2103, 2104, 2105; Background Corrected with Scan 2094

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.8	21597	PASS
75	95	30	66	41.8	61213	PASS
95	95	100	100	100.0	146269	PASS
96	95	5	9	6.6	9651	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.3	154019	PASS
175	174	4	9	7.8	12052	PASS
176	174	93	101	97.9	150840	PASS
177	176	5	9	6.7	10053	PASS

3W60361.D M3W2293.M Thu Jun 22 10:28:30 2017 GCMS6W

Average of 16.075 to 16.087 min.: 3W60361.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	1014	49.10	4628	63.10	3660	78.00	709
37.10	5162	50.10	21597	64.10	358	78.95	2467
38.10	4385	51.10	6794	68.00	11967	80.00	726
39.10	1803	52.10	310	69.05	11968	80.95	2472
40.05	138	55.10	374	70.00	906	81.95	507
43.15	79	56.05	1542	72.05	627	86.00	194
44.00	564	57.10	2832	73.05	5088	87.00	7994
45.10	890	58.05	130	74.10	19661	88.00	7605
46.10	35	60.05	1072	75.10	61213	91.00	475
47.10	1632	61.10	5238	76.05	5172	92.00	3345
48.05	695	62.10	5155	77.00	879	93.00	5166

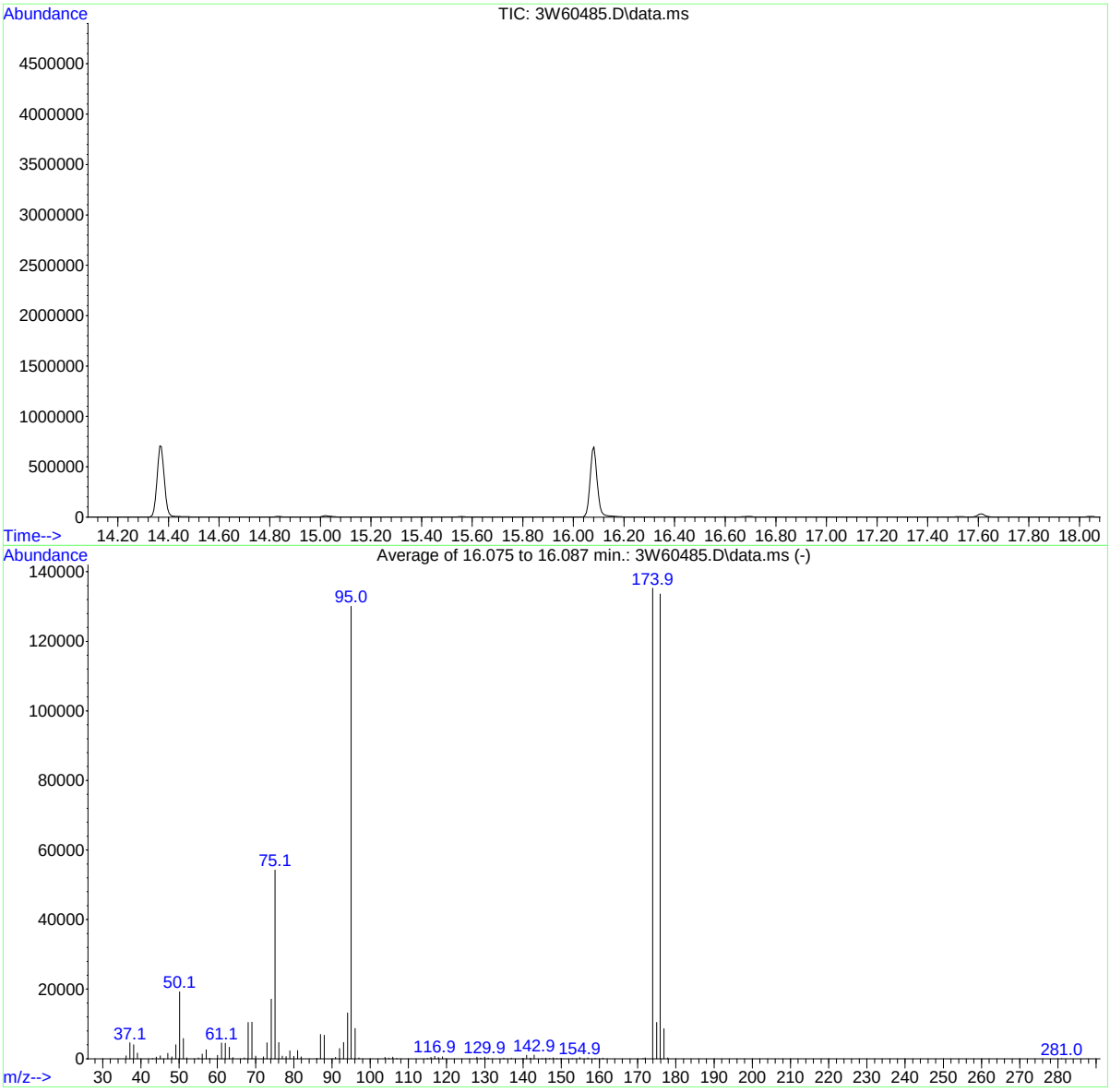
Average of 16.075 to 16.087 min.: 3W60361.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	14823	117.90	467	140.95	1053	154.95	379
95.00	146269	118.90	644	142.00	173	156.95	294
96.05	9651	123.90	35	142.95	1082	158.95	173
97.00	311	127.90	487	144.90	40	160.95	162
104.00	490	128.90	242	145.90	189	173.95	154019
104.95	183	129.90	532	146.90	81	175.00	12052
105.90	499	130.85	193	147.95	332	175.95	150840
106.95	135	134.90	179	148.90	36	176.90	10053
114.95	133	136.90	213	149.90	152	177.95	273
115.90	415	139.80	39	151.90	36		
116.95	738	140.00	79	152.90	79		

BFB

Data File : [redacted]1\DATA\3W60485.D Vial: 1
Acq On : 27 Jun 2017 8:55 am Operator: [redacted]
Sample : bfb Inst : GCMS3W
Misc : MS16797,V3W2298,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT1.P

Method : [redacted]1\METHODS\M3W2293.M (RTE Integrator)
Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um



AutoFind: Scans 2103, 2104, 2105; Background Corrected with Scan 2094

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.8	19228	PASS
75	95	30	66	41.7	54269	PASS
95	95	100	100	100.0	130085	PASS
96	95	5	9	6.7	8675	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	104.0	135259	PASS
175	174	4	9	7.7	10420	PASS
176	174	93	101	98.8	133640	PASS
177	176	5	9	6.5	8621	PASS

3W60485.D M3W2293.M Tue Jun 27 16:59:42 2017 GCMS6W

Average of 16.075 to 16.087 min.: 3W60485.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	821	51.10	5843	67.05	238	78.95	2289
37.10	4613	52.05	252	68.05	10458	80.00	725
38.10	4001	55.05	275	69.05	10522	81.00	2320
39.10	1607	56.05	1335	70.05	782	81.95	527
43.00	35	57.10	2529	72.05	561	86.05	116
44.00	456	58.05	137	73.00	4587	87.00	6976
45.05	815	60.05	991	74.10	17138	88.00	6757
47.05	1586	61.10	4495	75.10	54269	90.95	377
48.05	544	62.10	4431	76.05	4658	92.00	2901
49.10	4001	63.10	3304	77.00	730	93.00	4643
50.10	19228	64.05	301	77.95	601	94.05	13180

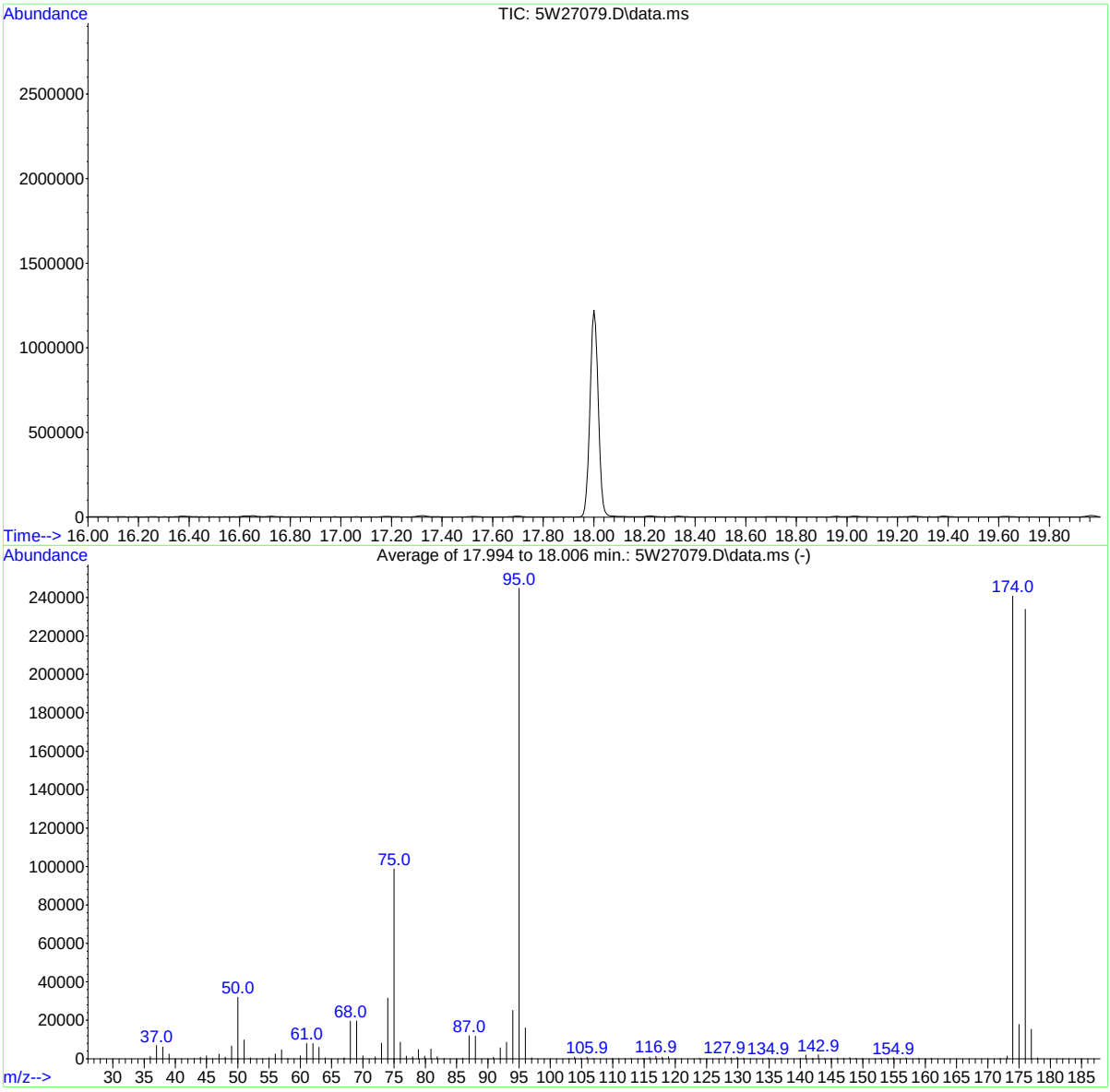
Average of 16.075 to 16.087 min.: 3W60485.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	130085	118.90	580	142.90	1076	160.90	158
96.05	8675	127.90	477	145.00	37	171.40	42
97.05	262	128.90	201	145.90	202	171.95	233
103.90	422	129.95	504	146.95	130	173.90	135259
104.90	173	130.90	158	147.90	284	175.00	10420
105.90	464	134.95	162	148.90	37	175.90	133640
106.95	83	136.90	203	149.95	117	176.90	8621
114.95	113	139.90	45	152.90	74	177.90	258
115.90	399	140.10	42	154.90	336	281.00	37
116.90	697	140.95	1000	156.95	235		
117.90	367	141.90	156	158.90	151		

BFB

Data File : [redacted]1\data\5W27079.D Vial: 1
Acq On : 6 Oct 2017 12:05 pm Operator: [redacted]
Sample : bfb Inst : A1r5w
Misc : MS20430,v5w1065,,,,,1 Multiplr: 1.00
MS Integration Params: Rteint.p

Method : [redacted]1\methods\m5w1065.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2355, 2356, 2357; Background Corrected with Scan 2344

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.0	31941	PASS
75	95	30	66	40.4	98781	PASS
95	95	100	100	100.0	244800	PASS
96	95	5	9	6.6	16052	PASS
173	174	0.00	2	0.6	1412	PASS
174	95	50	120	98.4	240832	PASS
175	174	4	9	7.4	17781	PASS
176	174	93	101	97.1	233813	PASS
177	176	5	9	6.5	15298	PASS

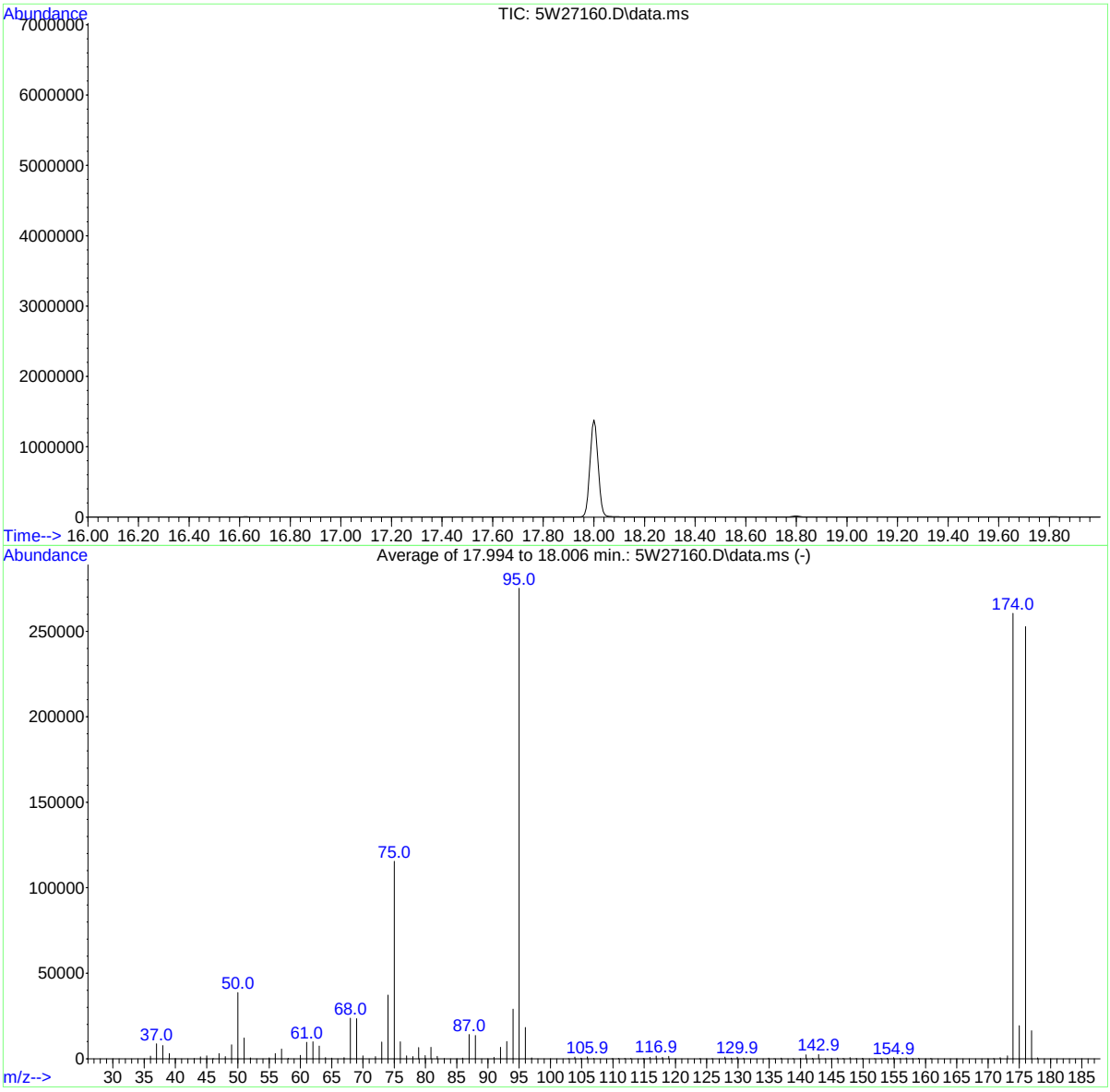
5W27079.D m5w1065.M Sat Oct 07 09:16:28 2017

SGS ACCUTEST JC52679

BFB

Data File : [redacted]1\data\5W27160.D Vial: 1
Acq On : 10 Oct 2017 7:17 am Operator: [redacted]
Sample : bfb Inst : A1r5w
Misc : MS20561,v5w1069,,,,,1 Multiplr: 1.00
MS Integration Params: Rteint.p

Method : [redacted]1\methods\m5w1065.M (RTE Integrator)
Title : TO-15 Full Scan Mode



AutoFind: Scans 2355, 2356, 2357; Background Corrected with Scan 2344

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.1	38707	PASS
75	95	30	66	42.0	115496	PASS
95	95	100	100	100.0	275179	PASS
96	95	5	9	6.6	18227	PASS
173	174	0.00	2	0.6	1663	PASS
174	95	50	120	94.7	260480	PASS
175	174	4	9	7.4	19312	PASS
176	174	93	101	97.0	252736	PASS
177	176	5	9	6.5	16349	PASS

5W27160.D m5w1065.M Tue Oct 10 11:45:34 2017

SGS ACCUTEST JC52679

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60362.D
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : 1c2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.698	128	162331	10.00	PPBV	-0.02
53) 1,4-DIFLUOROBENZENE	9.742	114	661874	10.00	PPBV	-0.01
72) CHLOROBENZENE-D5	14.372	82	261098	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.081	95	304278	9.52	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.20%			
Target Compounds						Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.488	69	1118	0.05	PPBV #	86
3) FREON 115	3.871	85	1448	0.04	PPBV #	89
4) FREON 152A	3.792	65	937	0.04	PPBV	92
6) CHLOROTRIFLUOROETHENE	3.640	116	754	0.04	PPBV #	78
7) DICHLORODIFLUOROMETHANE	3.689	85	1578m	0.05	PPBV	
9) 1-CHLORO-1,1-DIFLUOROE...	3.792	65	937	0.04	PPBV #	86
10) FREON 114	3.871	85	1448	0.04	PPBV	88
11) CHLOROMETHANE	3.823	52	168	0.04	PPBV #	1
12) VINYL CHLORIDE	3.969	62	516	0.04	PPBV #	83
13) 1,3-BUTADIENE	4.072	54	397	0.04	PPBV #	81
17) DICHLOROFLUOROMETHANE	4.443	67	1382	0.05	PPBV #	15
19) FREON 123	4.729	83	1521	0.04	PPBV	87
20) FREON 123A	4.772	117	1402	0.07	PPBV #	72
21) TRICHLOROFLUOROMETHANE	4.954	101	1393	0.04	PPBV #	89
22) 1,1-DICHLORO-1-FLUOROE...	5.033	81	1502	0.05	PPBV #	72
27) IODOMETHANE	5.423	142	1638	0.04	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.471	96	729	0.05	PPBV #	63
29) CARBON DISULFIDE	5.879	76	1982	0.04	PPBV	92
31) BROMOETHENE	4.644	106	627	0.04	PPBV #	79
35) FREON 113	5.806	151	860	0.03	PPBV	95
37) TERTIARY BUTYL ALCOHOL	5.581	59	919	0.04	PPBV #	50
38) METHYL TERTIARY BUTYL ...	6.785	73	1279	0.04	PPBV	83
42) 1,1-DICHLOROETHANE	6.670	63	779	0.03	PPBV #	78
44) cis-1,2-DICHLOROETHYLENE	7.515	96	495	0.03	PPBV	92
47) METHYL ACRYLATE	7.777	55	621	0.03	PPBV #	61
48) CHLOROFORM	7.832	83	1007	0.04	PPBV	84
49) 2,4-DIMETHYLPENTANE	8.683	57	1214	0.05	PPBV	75
50) 1,1,1-TRICHLOROETHANE	8.878	97	900	0.03	PPBV	84
51) CARBON TETRACHLORIDE	9.523	117	862	0.03	PPBV	91
54) BENZENE	9.365	78	1552	0.04	PPBV #	86
55) CYCLOHEXANE	9.669	84	587	0.04	PPBV #	79
56) 2,3-DIMETHYLPENTANE	9.912	71	401	0.05	PPBV #	92
57) TRICHLOROETHYLENE	10.496	95	601	0.03	PPBV	94
58) 1,2-DICHLOROPROPANE	10.235	63	555	0.04	PPBV #	39
59) DIBROMOMETHANE	10.204	174	908	0.05	PPBV	89
60) ETHYL ACRYLATE	10.283	55	818	0.04	PPBV #	71
61) BROMODICHLOROMETHANE	10.442	83	1023	0.04	PPBV	96
62) 2,2,4-TRIMETHYLPENTANE	10.527	57	2755	0.05	PPBV #	92
64) HEPTANE	10.813	43	1006	0.06	PPBV	79
65) METHYL METHACRYLATE	10.740	69	449	0.04	PPBV #	63
67) cis-1,3-DICHLOROPROPENE	11.421	75	569	0.03	PPBV	81
68) TOLUENE	12.455	92	1010	0.04	PPBV #	84
69) 1,3-DICHLOROPROPANE	12.492	76	603	0.03	PPBV #	87
70) trans-1,3-DICHLOROPROPENE	11.987	75	514	0.03	PPBV	94
71) 1,1,2-TRICHLOROETHANE	12.157	83	489	0.04	PPBV	97
74) ETHYL METHACRYLATE	12.790	69	621	0.04	PPBV #	70
75) TETRACHLOROETHYLENE	13.684	164	787	0.04	PPBV	97
76) DIBROMOCHLOROMETHANE	12.911	129	794	0.03	PPBV	92
77) 1,2-DIBROMOETHANE	13.179	107	724	0.03	PPBV #	94
78) OCTANE	13.538	43	1112	0.05	PPBV	84
79) 1,1,1,2-TETRACHLOROETHANE	14.402	131	640	0.03	PPBV	71
80) CHLOROBENZENE	14.420	112	1360	0.04	PPBV	92
81) ETHYLBENZENE	14.834	91	1958	0.04	PPBV	95

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60362.D
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : 1C2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
82)	m,p-XYLENE	15.041	106	1534	0.07	PPBV		93
83)	o-XYLENE	15.564	106	802	0.04	PPBV		97
84)	STYRENE	15.448	104	960	0.03	PPBV		95
85)	NONANE	15.832	43	954	0.04	PPBV	#	92
86)	BROMOFORM	15.114	173	707	0.03	PPBV	#	92
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	1180	0.04	PPBV	#	95
89)	1,2,3-TRICHLOROPROPANE	15.710	75	672	0.03	PPBV		73
90)	ISOPROPYLBENZENE	16.245	105	2030	0.04	PPBV		89
91)	BROMOBENZENE	16.343	77	962	0.04	PPBV		87
92)	2-CHLOROTOLUENE	16.805	126	482	0.03	PPBV	#	42
94)	4-ETHYLTOLUENE	17.042	105	1423m	0.03	PPBV		
95)	1,3,5-TRIMETHYLBENZENE	17.140	105	1446	0.03	PPBV	#	90
97)	tert-BUTYLBENZENE	17.638	134	282	0.03	PPBV	#	43
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	1222	0.03	PPBV	#	84
99)	m-DICHLOROBENZENE	17.815	146	899	0.03	PPBV		96
100)	BENZYL CHLORIDE	17.803	91	748	0.03	PPBV	#	58
101)	p-DICHLOROBENZENE	17.894	146	1017	0.04	PPBV		97
104)	o-DICHLOROBENZENE	18.308	146	932	0.03	PPBV		98
106)	HEXACHLOROETHANE	19.105	117	577	0.03	PPBV		92
107)	HEXACHLOROBUTADIENE	20.857	225	592	0.03	PPBV		97
108)	1,2,4-TRICHLOROBENZENE	20.333	180	592	0.05	PPBV	#	84
109)	NAPHTHALENE	20.455	128	944	0.04	PPBV	#	70

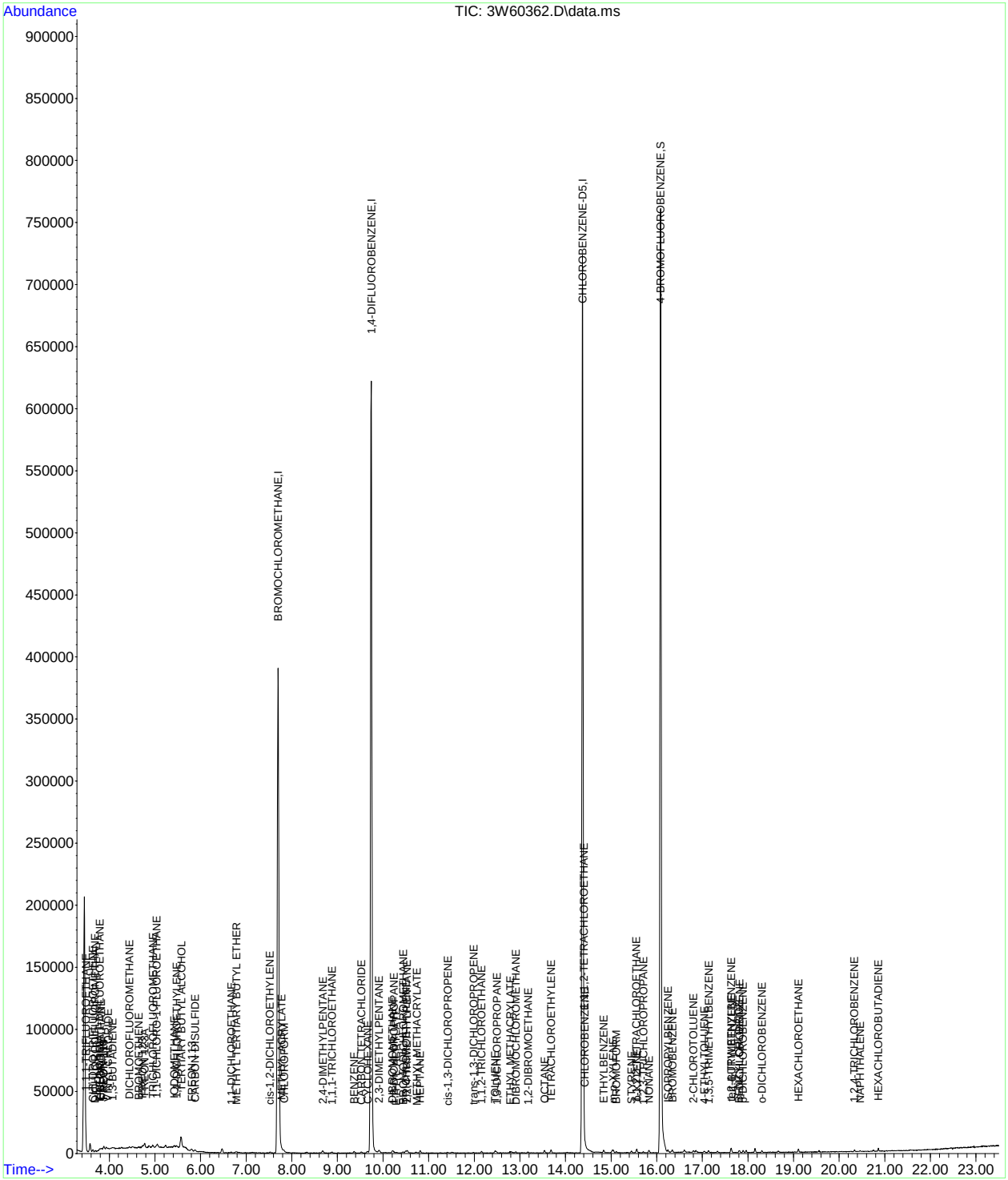
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60362.D
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : 1c2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60362.D
Injection Time: 06/21/17 12:54
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

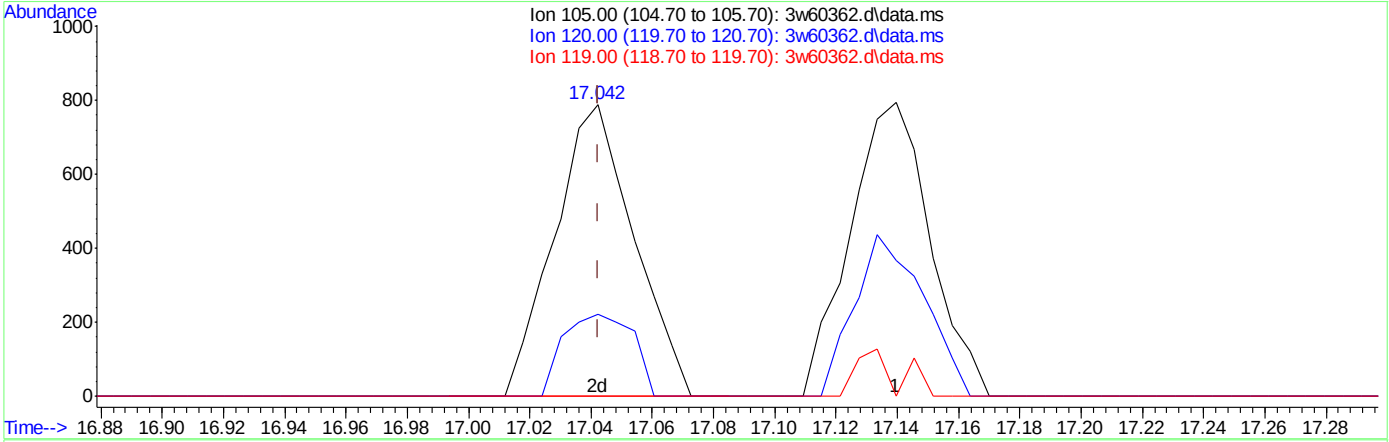
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.69	Missed peak
4-Ethyltoluene	622-96-8		17.04	Missed peak

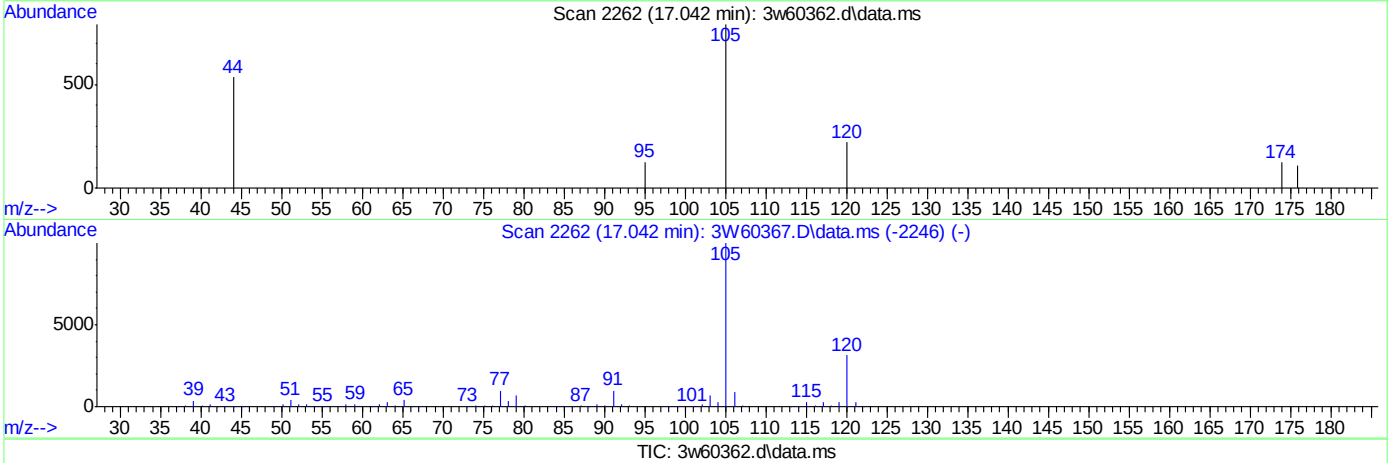
SGS ACCUTEST
JC52679

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60362.d
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : ic2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 08:58:19 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration





TIC: 3w60362.d\data.ms

(94) 4-ETHYLTOLUENE

17.042min (-0.000) 0.03PPBV m

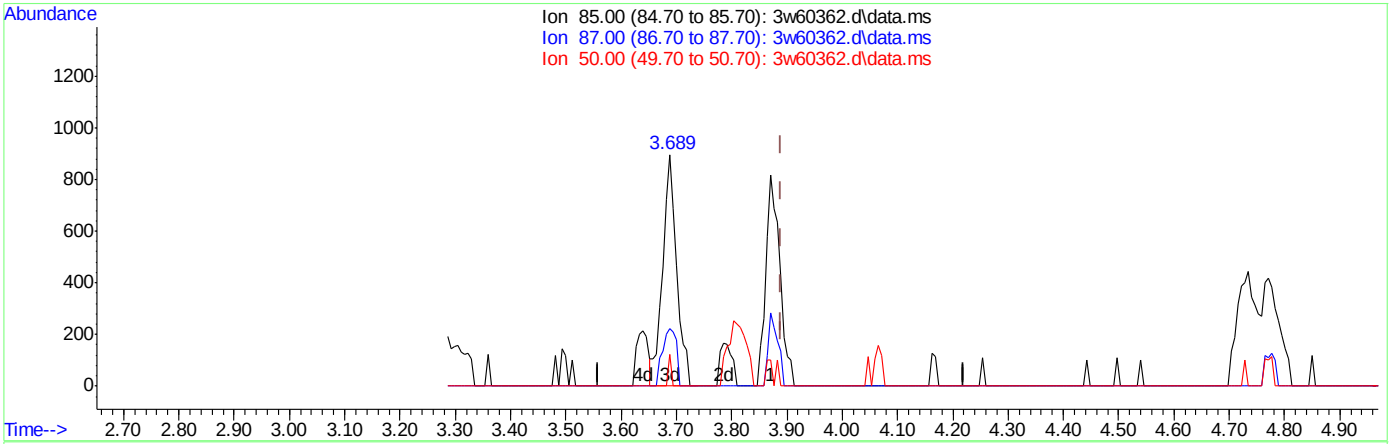
response 1423

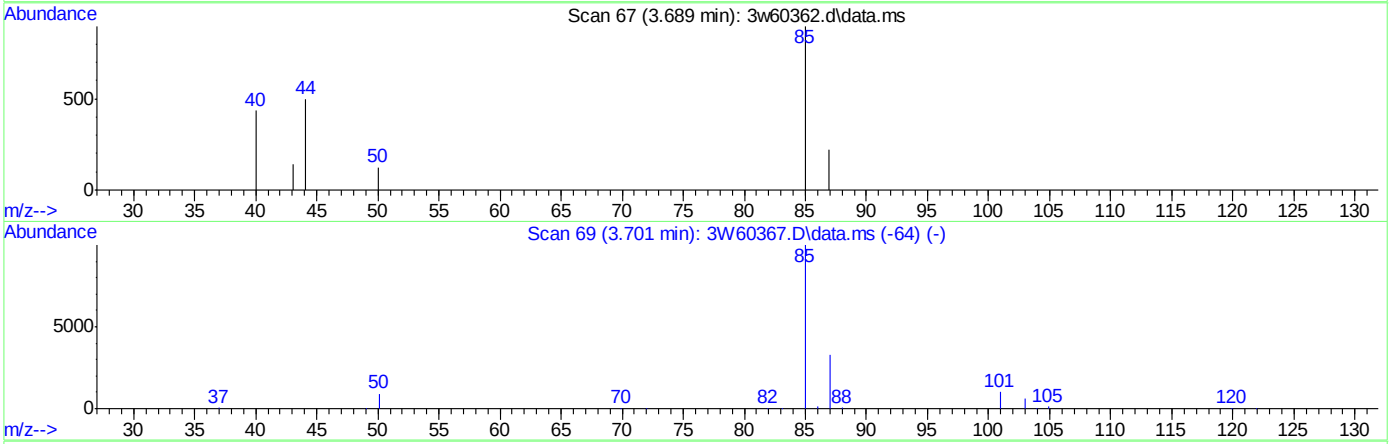
Ion	Exp%	Act%
105.00	100	100
120.00	30.60	48.42
119.00	2.40	8.64
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60362.d
Acq On : 21 Jun 2017 12:54 pm
Operator : [redacted]
Sample : ic2293-0.04
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:19:42 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:55:22 2017
Response via : Initial Calibration





TIC: 3w60362.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.689min (-0.201) 0.05PPBV m

response 1578

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	21.67
50.00	6.90	7.10
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60363.D
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : 1c2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	160222	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	673835	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.372	82	266874	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.087	95	308914	9.33	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 93.30%			
Target Compounds						Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	2461	0.11	PPBV #	93
3) FREON 115	3.890	85	3522	0.10	PPBV #	22
4) FREON 152A	3.798	65	2137	0.10	PPBV	95
5) CHLORODIFLUOROMETHANE	3.622	67	353	0.12	PPBV	84
6) CHLOROTRIFLUOROETHENE	3.652	116	1807	0.10	PPBV #	100
7) DICHLORODIFLUOROMETHANE	3.701	85	3204m	0.09	PPBV	
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	2137	0.10	PPBV #	89
10) FREON 114	3.890	85	3522	0.10	PPBV	87
11) CHLOROMETHANE	3.823	52	401	0.10	PPBV #	52
12) VINYL CHLORIDE	3.981	62	1347	0.10	PPBV #	94
13) 1,3-BUTADIENE	4.084	54	1040	0.11	PPBV #	75
14) n-BUTANE	4.115	43	1788	0.10	PPBV	81
15) BROMOMETHANE	4.279	94	2156	0.13	PPBV #	76
16) CHLOROETHANE	4.395	64	556	0.08	PPBV #	74
17) DICHLOROFLUOROMETHANE	4.449	67	3195	0.11	PPBV #	88
18) ACETONITRILE	4.693	41	1097	0.12	PPBV #	62
19) FREON 123	4.741	83	4150	0.11	PPBV #	56
20) FREON 123A	4.784	117	3663	0.19	PPBV #	70
21) TRICHLOROFLUOROMETHANE	4.973	101	3030	0.10	PPBV	92
22) 1,1-DICHLORO-1-FLUOROE...	5.052	81	3118	0.11	PPBV #	91
25) PENTANE	5.246	42	1124	0.10	PPBV	87
27) IODOMETHANE	5.435	142	4252	0.10	PPBV	97
28) 1,1-DICHLOROETHYLENE	5.484	96	1646	0.12	PPBV	95
29) CARBON DISULFIDE	5.891	76	4558	0.10	PPBV	85
31) BROMOETHENE	4.656	106	1545	0.10	PPBV	88
32) ACRYLONITRILE	5.240	52	674	0.09	PPBV #	80
34) 3-CHLOROPROPENE	5.703	76	556	0.09	PPBV #	5
35) FREON 113	5.812	151	2228	0.09	PPBV	88
37) TERTIARY BUTYL ALCOHOL	5.605	59	2236	0.09	PPBV #	88
38) METHYL TERTIARY BUTYL ...	6.792	73	3178	0.09	PPBV	76
39) TETRAHYDROFURAN	8.343	72	384	0.07	PPBV #	44
42) 1,1-DICHLOROETHANE	6.682	63	2118	0.09	PPBV	97
44) cis-1,2-DICHLOROETHYLENE	7.528	96	1447	0.10	PPBV	98
45) DIISOPROPYL ETHER	7.777	59	395	0.07	PPBV #	51
47) METHYL ACRYLATE	7.789	55	2200	0.11	PPBV #	60
48) CHLOROFORM	7.838	83	2564	0.09	PPBV #	77
49) 2,4-DIMETHYLPENTANE	8.684	57	2596	0.12	PPBV	86
50) 1,1,1-TRICHLOROETHANE	8.890	97	2463	0.10	PPBV	97
51) CARBON TETRACHLORIDE	9.529	117	2427	0.09	PPBV	98
52) 1,2-DICHLOROETHANE	8.623	62	1201	0.08	PPBV #	83
54) BENZENE	9.377	78	3931	0.10	PPBV	97
55) CYCLOHEXANE	9.663	84	1628	0.10	PPBV	84
56) 2,3-DIMETHYLPENTANE	9.918	71	908	0.11	PPBV #	97
57) TRICHLOROETHYLENE	10.496	95	1761	0.10	PPBV	94
58) 1,2-DICHLOROPROPANE	10.241	63	1393	0.10	PPBV	90
59) DIBROMOMETHANE	10.217	174	2067	0.11	PPBV	92
60) ETHYL ACRYLATE	10.284	55	2092	0.09	PPBV #	76
61) BROMODICHLOROMETHANE	10.448	83	2576	0.09	PPBV	98
62) 2,2,4-TRIMETHYLPENTANE	10.533	57	6259	0.11	PPBV	96
64) HEPTANE	10.819	43	2168	0.12	PPBV	90
65) METHYL METHACRYLATE	10.734	69	1076	0.09	PPBV #	76
67) cis-1,3-DICHLOROPROPENE	11.421	75	1746	0.08	PPBV	94
68) TOLUENE	12.461	92	2553	0.09	PPBV	94

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60363.D
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : 1c2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

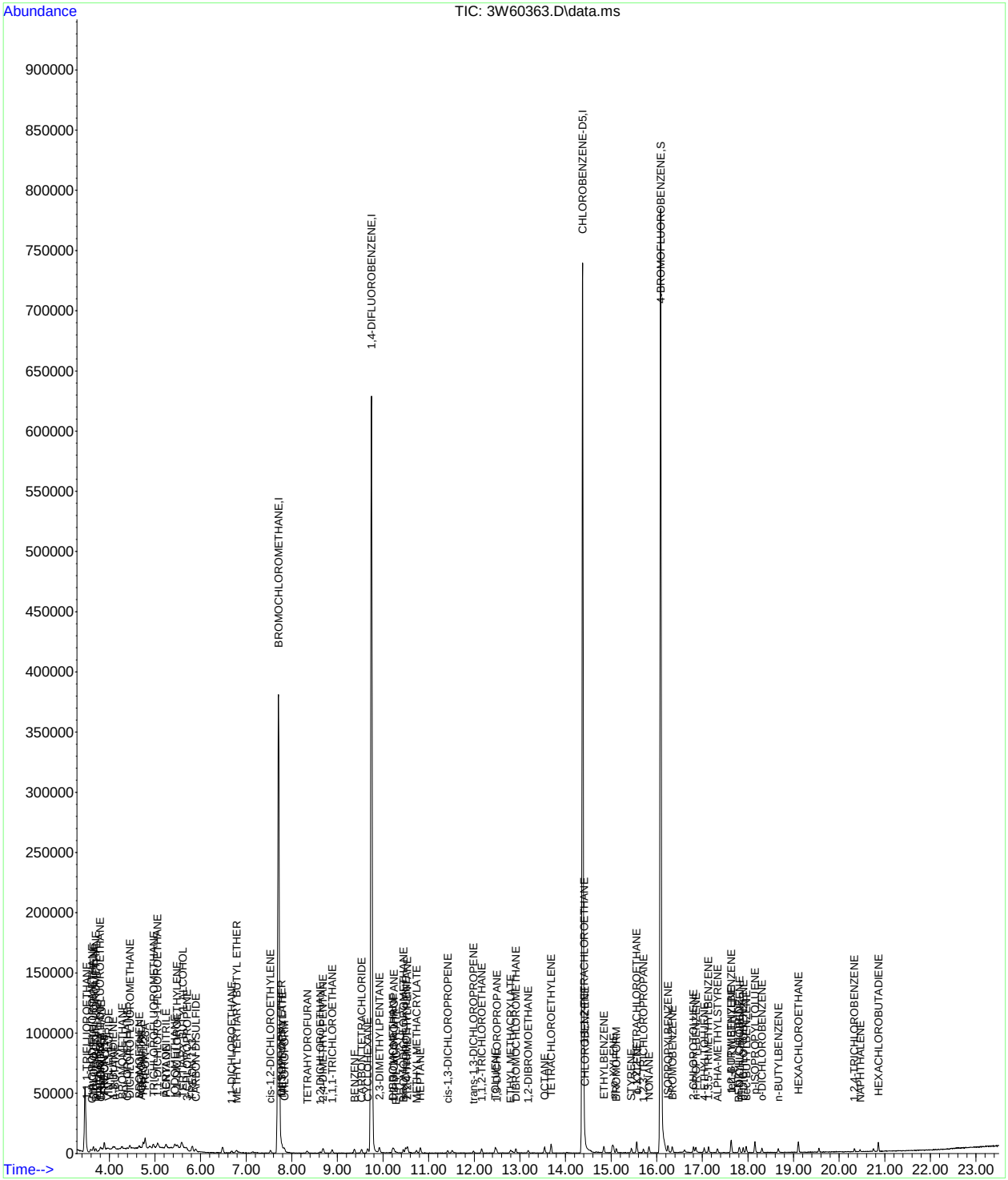
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
69)	1,3-DICHLOROPROPANE	12.492	76	1691	0.09	PPBV	#	99
70)	trans-1,3-DICHLOROPROPENE	11.981	75	1408	0.08	PPBV		90
71)	1,1,2-TRICHLOROETHANE	12.163	83	1294	0.09	PPBV		97
74)	ETHYL METHACRYLATE	12.796	69	1510	0.08	PPBV	#	88
75)	TETRACHLOROETHYLENE	13.684	164	2298	0.11	PPBV		97
76)	DIBROMOCHLOROMETHANE	12.912	129	2481	0.09	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	2084	0.09	PPBV	#	97
78)	OCTANE	13.544	43	2586	0.11	PPBV		89
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	1870	0.09	PPBV		94
80)	CHLOROBENZENE	14.426	112	3369	0.09	PPBV		98
81)	ETHYLBENZENE	14.840	91	5013	0.09	PPBV		95
82)	m,p-XYLENE	15.053	106	3998	0.18	PPBV	#	86
83)	o-XYLENE	15.564	106	1947	0.09	PPBV		91
84)	STYRENE	15.442	104	2609	0.08	PPBV		98
85)	NONANE	15.832	43	2263	0.10	PPBV	#	92
86)	BROMOFORM	15.114	173	2193	0.08	PPBV		90
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	2969	0.09	PPBV		98
89)	1,2,3-TRICHLOROPROPANE	15.710	75	1893	0.08	PPBV		87
90)	ISOPROPYLBENZENE	16.245	105	5315	0.09	PPBV		95
91)	BROMOBENZENE	16.343	77	2312	0.09	PPBV		96
92)	2-CHLOROTOLUENE	16.805	126	1296	0.08	PPBV		95
93)	n-PROPYLBENZENE	16.860	120	1098	0.07	PPBV		91
94)	4-ETHYLTOLUENE	17.042	105	3910m	0.07	PPBV		
95)	1,3,5-TRIMETHYLBENZENE	17.134	105	3805	0.08	PPBV		94
96)	ALPHA-METHYLSTYRENE	17.334	118	1408	0.06	PPBV		91
97)	tert-BUTYLBENZENE	17.632	134	945	0.08	PPBV	#	87
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	3136	0.07	PPBV	#	87
99)	m-DICHLOROBENZENE	17.815	146	2389	0.08	PPBV		98
100)	BENZYL CHLORIDE	17.797	91	1868	0.07	PPBV	#	81
101)	p-DICHLOROBENZENE	17.900	146	2424	0.08	PPBV		96
102)	sec-BUTYLBENZENE	17.967	134	937	0.07	PPBV	#	69
103)	p-ISOPROPYLTOLUENE	18.156	134	885	0.06	PPBV	#	75
104)	o-DICHLOROBENZENE	18.308	146	2218	0.08	PPBV		96
105)	n-BUTYLBENZENE	18.667	134	582	0.06	PPBV	#	73
106)	HEXACHLOROETHANE	19.105	117	1687	0.09	PPBV		90
107)	HEXACHLOROBUTADIENE	20.863	225	1672	0.08	PPBV		97
108)	1,2,4-TRICHLOROBENZENE	20.334	180	1177	0.10	PPBV		96
109)	NAPHTHALENE	20.461	128	1460	0.06	PPBV		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60363.D
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : 1C2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60363.D
Injection Time: 06/21/17 13:35
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

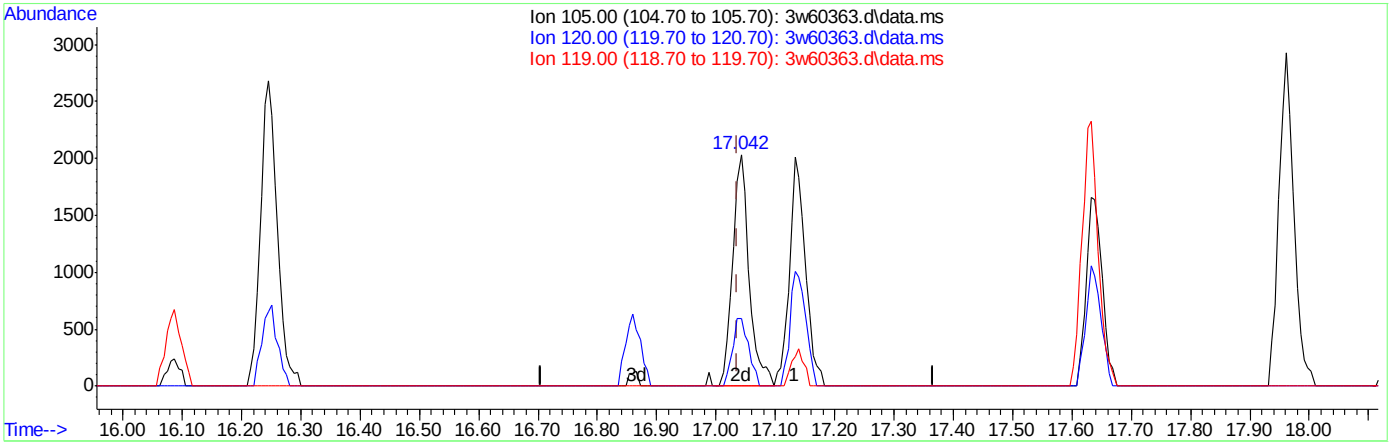
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak
4-Ethyltoluene	622-96-8		17.04	Missed peak

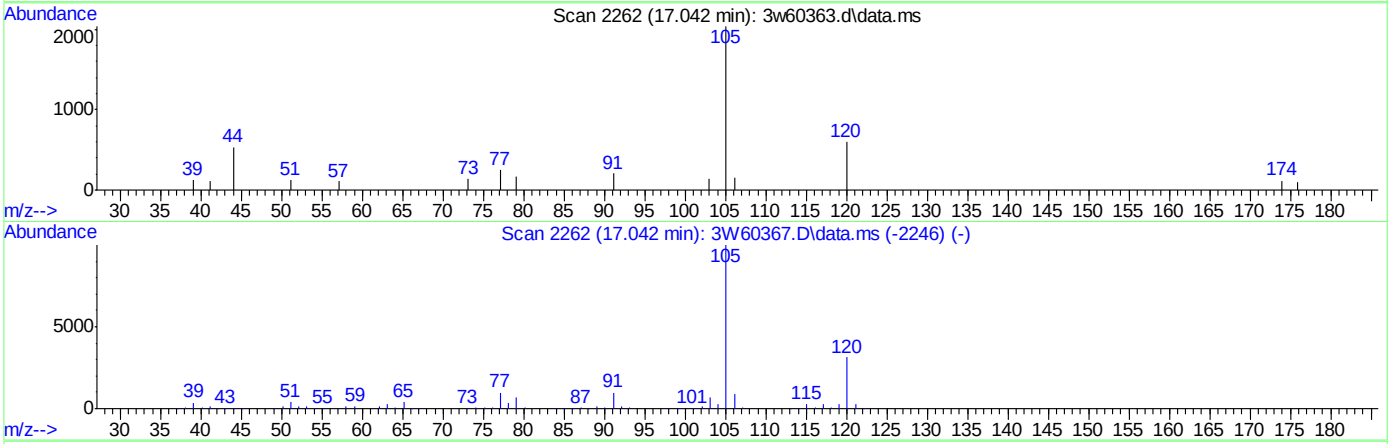
SGS ACCUTEST
JC52679

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60363.d
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : ic2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 08:55:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration





TIC: 3w60363.d\data.ms

(94) 4-ETHYLTOLUENE

17.042min (+0.006) 0.07PPBV m

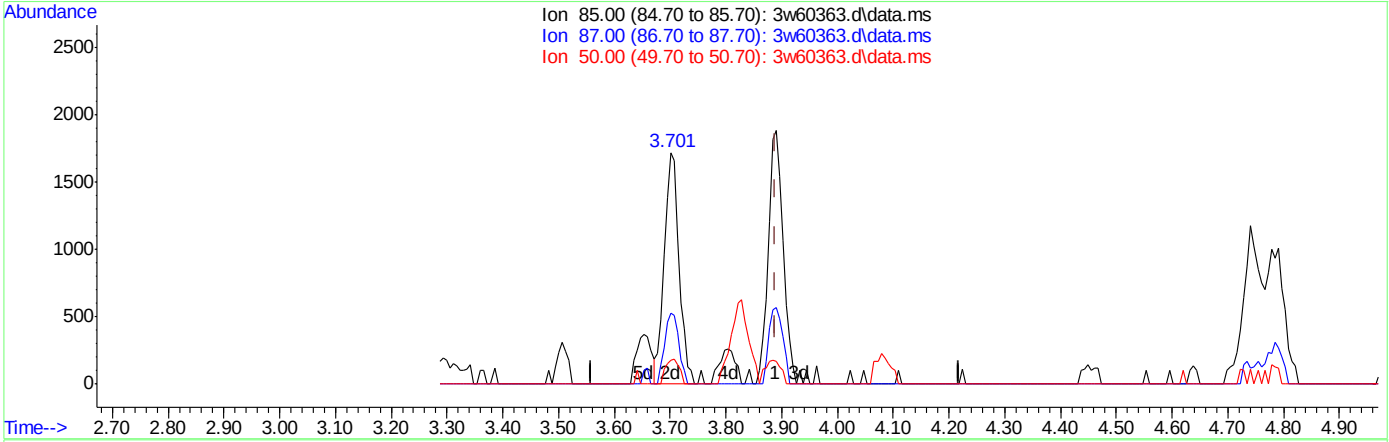
response 3910

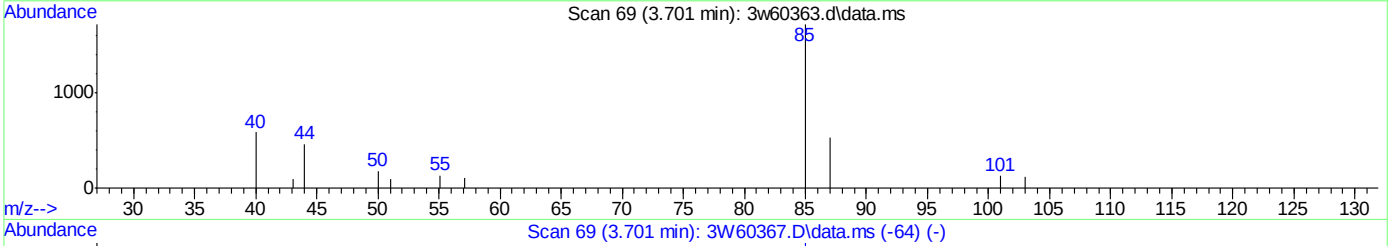
Ion	Exp%	Act%
105.00	100	100
120.00	32.10	48.16
119.00	2.60	12.30
0.00	0.00	0.00

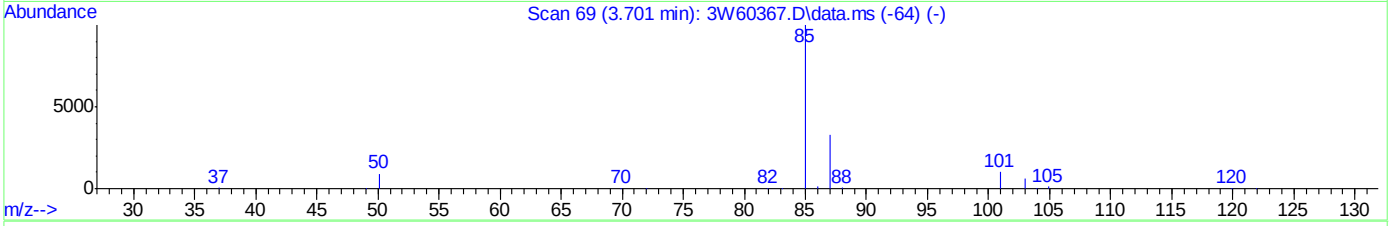
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60363.d
Acq On : 21 Jun 2017 1:35 pm
Operator : [redacted]
Sample : ic2293-0.1
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:21:06 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration







TIC: 3w60363.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 0.09PPBV m

response 3204

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	31.34
50.00	7.30	11.11
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60364.D
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : 1c2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	162274	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	677314	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.372	82	272804	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	325691	9.50	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 95.00%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	4691	0.21	PPBV		99
3) FREON 115	3.890	85	7017	0.20	PPBV	#	19
4) FREON 152A	3.798	65	4391	0.20	PPBV		94
5) CHLORODIFLUOROMETHANE	3.628	67	593	0.20	PPBV		83
6) CHLOROTRIFLUOROETHENE	3.652	116	3931	0.21	PPBV	#	98
7) DICHLORODIFLUOROMETHANE	3.701	85	6493m	0.19	PPBV		
8) PROPYLENE	3.652	41	2140	0.24	PPBV		88
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	4391	0.20	PPBV		93
10) FREON 114	3.890	85	7017	0.20	PPBV		92
11) CHLOROMETHANE	3.823	52	850	0.22	PPBV	#	86
12) VINYL CHLORIDE	3.987	62	2834	0.20	PPBV	#	94
13) 1,3-BUTADIENE	4.078	54	2058	0.21	PPBV		88
14) n-BUTANE	4.115	43	3570	0.21	PPBV		92
15) BROMOMETHANE	4.279	94	3771	0.24	PPBV		89
16) CHLOROETHANE	4.401	64	1404	0.21	PPBV		89
17) DICHLOROFLUOROMETHANE	4.449	67	6314	0.22	PPBV		99
18) ACETONITRILE	4.680	41	1846	0.20	PPBV	#	83
19) FREON 123	4.741	83	7903	0.22	PPBV	#	51
20) FREON 123A	4.784	117	7829	0.41	PPBV	#	74
21) TRICHLOROFLUOROMETHANE	4.966	101	6314	0.20	PPBV		97
22) 1,1-DICHLORO-1-FLUOROE...	5.052	81	5836	0.21	PPBV	#	98
23) ISOPROPYL ALCOHOL	5.064	45	7747	0.31	PPBV		86
24) ACETONE	4.881	58	1513	0.25	PPBV	#	61
25) PENTANE	5.246	42	2324	0.20	PPBV		92
26) TVHC as EQUIV PENTANE	5.240	TIC	15696m	0.26	PPBV		
27) IODOMETHANE	5.435	142	9052	0.20	PPBV		100
28) 1,1-DICHLOROETHYLENE	5.490	96	3059	0.22	PPBV		98
29) CARBON DISULFIDE	5.897	76	9238	0.21	PPBV		97
31) BROMOETHENE	4.656	106	3125	0.21	PPBV		95
32) ACRYLONITRILE	5.234	52	1606	0.21	PPBV	#	91
33) METHYLENE CHLORIDE	5.581	84	4058	0.29	PPBV		95
34) 3-CHLOROPROPENE	5.696	76	1136	0.18	PPBV	#	28
35) FREON 113	5.818	151	4898	0.20	PPBV		91
36) TRANS-1,2-DICHLOROETHY...	6.481	96	4278	0.28	PPBV		95
37) TERTIARY BUTYL ALCOHOL	5.593	59	5106	0.21	PPBV		69
38) METHYL TERTIARY BUTYL ...	6.779	73	7251	0.21	PPBV		87
39) TETRAHYDROFURAN	8.325	72	1132	0.19	PPBV		92
40) HEXANE	7.753	57	4355	0.24	PPBV		94
41) VINYL ACETATE	6.852	86	197	0.09	PPBV	#	1
42) 1,1-DICHLOROETHANE	6.682	63	4615	0.20	PPBV		99
43) METHYL ETHYL KETONE	7.132	72	943	0.16	PPBV		94
44) cis-1,2-DICHLOROETHYLENE	7.534	96	3002	0.20	PPBV		97
45) DIISOPROPYL ETHER	7.771	59	1029	0.19	PPBV	#	82
46) ETHYL ACETATE	7.789	61	592	0.16	PPBV	#	1
47) METHYL ACRYLATE	7.783	55	4524	0.22	PPBV	#	69
48) CHLOROFORM	7.838	83	5728	0.21	PPBV		86
49) 2,4-DIMETHYLPENTANE	8.683	57	4740	0.22	PPBV		94
50) 1,1,1-TRICHLOROETHANE	8.890	97	5175	0.21	PPBV		99
51) CARBON TETRACHLORIDE	9.529	117	5141	0.19	PPBV		99
52) 1,2-DICHLOROETHANE	8.623	62	2883	0.20	PPBV		94
54) BENZENE	9.371	78	8368	0.21	PPBV		98
55) CYCLOHEXANE	9.663	84	3442	0.21	PPBV		90
56) 2,3-DIMETHYLPENTANE	9.924	71	1802	0.23	PPBV		99

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60364.D
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : 1c2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration

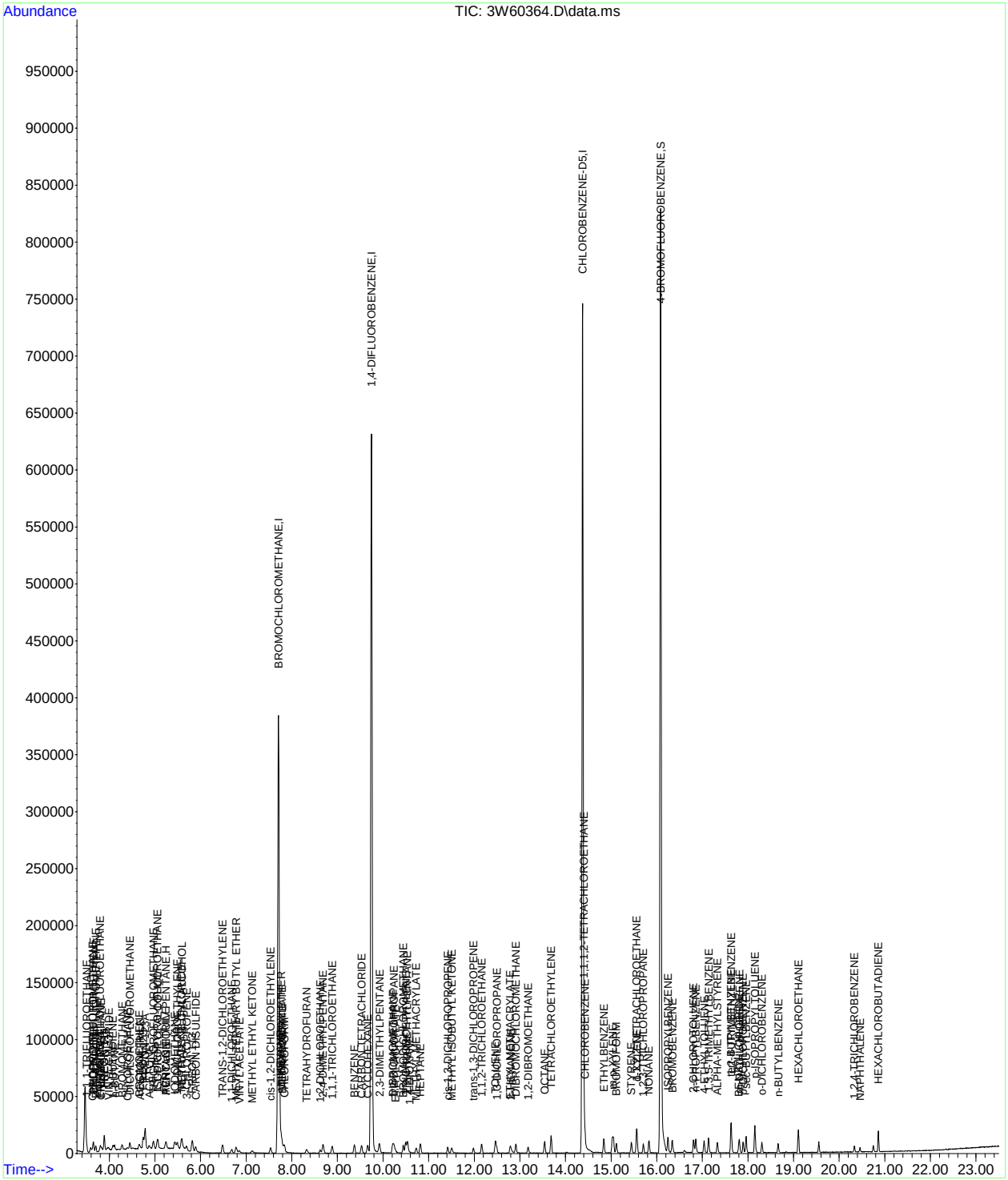
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
57)	TRICHLOROETHYLENE	10.496	95	3584	0.21	PPBV		96
58)	1,2-DICHLOROPROPANE	10.241	63	3040	0.22	PPBV		97
59)	DIBROMOMETHANE	10.210	174	4202	0.22	PPBV		93
60)	ETHYL ACRYLATE	10.271	55	4394	0.18	PPBV	#	89
61)	BROMODICHLOROMETHANE	10.442	83	5562	0.20	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	12653	0.23	PPBV		97
63)	1,4-DIOXANE	10.582	88	1392	0.20	PPBV	#	1
64)	HEPTANE	10.819	43	3922	0.22	PPBV		95
65)	METHYL METHACRYLATE	10.721	69	2561	0.20	PPBV		91
66)	METHYL ISOBUTYL KETONE	11.506	58	1762	0.17	PPBV	#	70
67)	cis-1,3-DICHLOROPROPENE	11.421	75	3949	0.19	PPBV		93
68)	TOLUENE	12.461	92	5432	0.20	PPBV		92
69)	1,3-DICHLOROPROPANE	12.492	76	3915	0.20	PPBV	#	99
70)	trans-1,3-DICHLOROPROPENE	11.981	75	3342	0.19	PPBV		96
71)	1,1,2-TRICHLOROETHANE	12.163	83	2806	0.20	PPBV		99
73)	2-HEXANONE	12.802	58	2082	0.17	PPBV	#	56
74)	ETHYL METHACRYLATE	12.784	69	3296	0.17	PPBV	#	84
75)	TETRACHLOROETHYLENE	13.684	164	4748	0.22	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.912	129	5453	0.19	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	4829	0.20	PPBV	#	96
78)	OCTANE	13.538	43	4819	0.21	PPBV		94
79)	1,1,1,2-TETRACHLOROETHANE	14.402	131	4340	0.20	PPBV		99
80)	CHLOROBENZENE	14.426	112	7453	0.20	PPBV		94
81)	ETHYLBENZENE	14.840	91	11158	0.20	PPBV		95
82)	m,p-XYLENE	15.035	106	9078	0.40	PPBV		97
83)	o-XYLENE	15.564	106	4374	0.20	PPBV	#	87
84)	STYRENE	15.442	104	5913	0.18	PPBV		97
85)	NONANE	15.826	43	4528	0.20	PPBV		93
86)	BROMOFORM	15.114	173	4894	0.18	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	6954	0.21	PPBV		96
89)	1,2,3-TRICHLOROPROPANE	15.704	75	4475	0.19	PPBV		94
90)	ISOPROPYLBENZENE	16.245	105	11859	0.20	PPBV		96
91)	BROMOBENZENE	16.343	77	5199	0.20	PPBV		97
92)	2-CHLOROTOLUENE	16.805	126	3143	0.19	PPBV		99
93)	n-PROPYLBENZENE	16.854	120	2854	0.17	PPBV		100
94)	4-ETHYLTOLUENE	17.042	105	9540	0.17	PPBV		96
95)	1,3,5-TRIMETHYLBENZENE	17.140	105	9281	0.19	PPBV		99
96)	ALPHA-METHYLSTYRENE	17.328	118	3659	0.15	PPBV		97
97)	tert-BUTYLBENZENE	17.626	134	2394	0.20	PPBV	#	87
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	8196	0.18	PPBV		89
99)	m-DICHLOROBENZENE	17.815	146	5507	0.18	PPBV		100
100)	BENZYL CHLORIDE	17.797	91	4506	0.15	PPBV		90
101)	p-DICHLOROBENZENE	17.894	146	5575	0.18	PPBV		98
102)	sec-BUTYLBENZENE	17.961	134	2400	0.18	PPBV	#	73
103)	p-ISOPROPYLTOLUENE	18.156	134	2444	0.16	PPBV	#	81
104)	o-DICHLOROBENZENE	18.308	146	5465	0.18	PPBV		97
105)	n-BUTYLBENZENE	18.667	134	1460	0.13	PPBV	#	80
106)	HEXACHLOROETHANE	19.105	117	3869	0.19	PPBV		94
107)	HEXACHLOROBUTADIENE	20.857	225	4122	0.20	PPBV		96
108)	1,2,4-TRICHLOROBENZENE	20.333	180	2254	0.18	PPBV		96
109)	NAPHTHALENE	20.455	128	3880	0.15	PPBV		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60364.D
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : 1C2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60364.D
Injection Time: 06/21/17 14:15
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

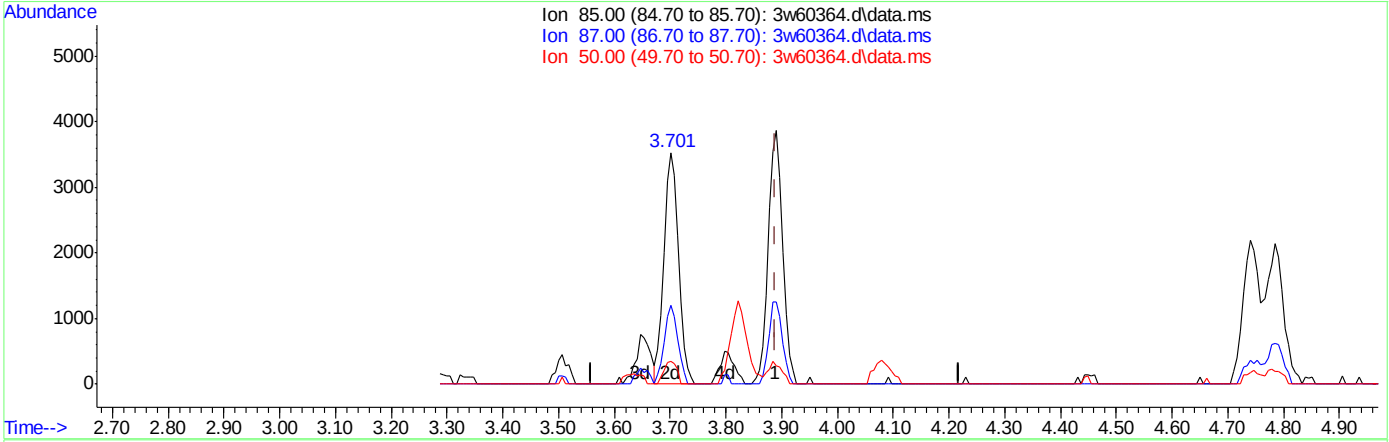
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak

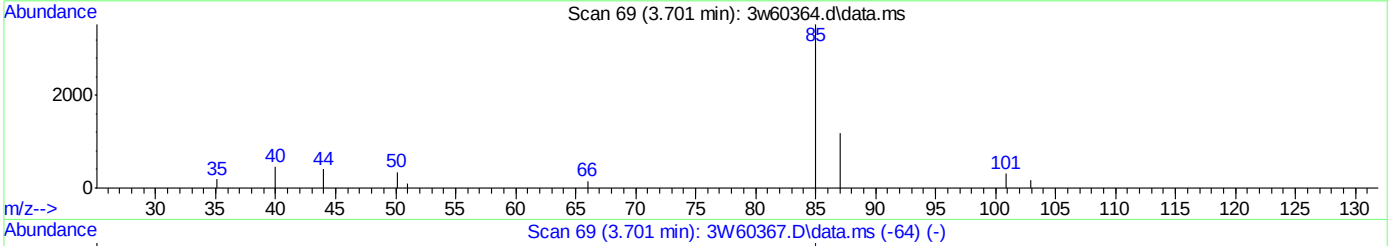
SGS ACCUTEST
JC52679

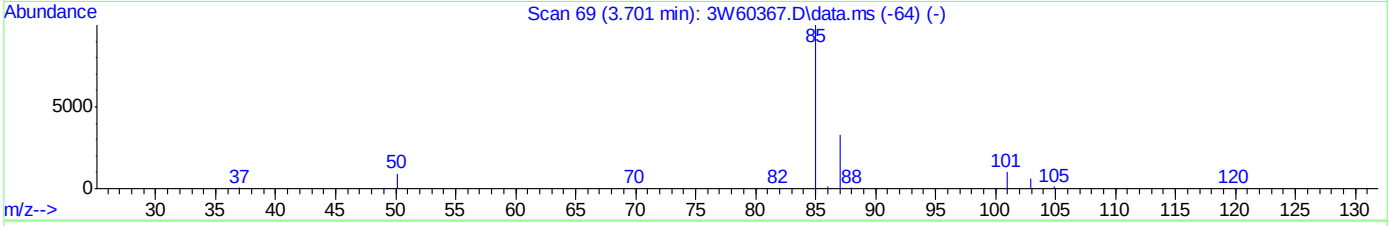
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60364.d
Acq On : 21 Jun 2017 2:15 pm
Operator : [redacted]
Sample : ic2293-0.2
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:05 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:22:04 2017
Response via : Initial Calibration







TIC: 3w60364.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 0.19PPBV m

response 6493

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	33.13
50.00	7.30	9.03
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60365.D
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : 1C2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	165414	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	680663	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.371	82	279703	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	343220	9.65	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 96.50%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	12044	0.53	PPBV		99
3) FREON 115	3.890	85	17732	0.50	PPBV	#	17
4) FREON 152A	3.804	65	11203	0.51	PPBV		82
5) CHLORODIFLUOROMETHANE	3.628	67	1584	0.54	PPBV		98
6) CHLOROTRIFLUOROETHENE	3.652	116	9621	0.50	PPBV	#	98
7) DICHLORODIFLUOROMETHANE	3.701	85	16566m	0.47	PPBV		
8) PROPYLENE	3.652	41	5044	0.58	PPBV		92
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	11203	0.51	PPBV	#	88
10) FREON 114	3.890	85	17732	0.50	PPBV		95
11) CHLOROMETHANE	3.823	52	2112	0.54	PPBV	#	89
12) VINYL CHLORIDE	3.981	62	7091	0.50	PPBV		99
13) 1,3-BUTADIENE	4.078	54	5095	0.51	PPBV		90
14) n-BUTANE	4.115	43	8647	0.48	PPBV		93
15) BROMOMETHANE	4.279	94	8567	0.56	PPBV		94
16) CHLOROETHANE	4.401	64	3486	0.51	PPBV		88
17) DICHLOROFLUOROMETHANE	4.449	67	15410	0.54	PPBV		97
18) ACETONITRILE	4.668	41	5429	0.61	PPBV		90
19) FREON 123	4.741	83	19365	0.53	PPBV	#	58
20) FREON 123A	4.784	117	20229	1.05	PPBV	#	79
21) TRICHLOROFLUOROMETHANE	4.966	101	15961	0.49	PPBV		98
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	14485	0.53	PPBV		98
23) ISOPROPYL ALCOHOL	5.045	45	14573	0.60	PPBV		95
24) ACETONE	4.863	58	3659m	0.65	PPBV		
25) PENTANE	5.240	42	6037	0.51	PPBV		98
26) TVHC as EQUIV PENTANE	5.240	TIC	36295m	0.63	PPBV		
27) IODOMETHANE	5.435	142	23156	0.52	PPBV		97
28) 1,1-DICHLOROETHYLENE	5.489	96	7078	0.50	PPBV		88
29) CARBON DISULFIDE	5.891	76	22805	0.51	PPBV		98
30) ETHANOL	4.504	45	3271	0.89	PPBV		76
31) BROMOETHENE	4.656	106	7905	0.52	PPBV		95
32) ACRYLONITRILE	5.216	52	4302	0.60	PPBV		93
33) METHYLENE CHLORIDE	5.581	84	8443	0.64	PPBV		96
34) 3-CHLOROPROPENE	5.696	76	3278	0.52	PPBV	#	78
35) FREON 113	5.818	151	12428	0.50	PPBV		90
36) TRANS-1,2-DICHLOROETHY...	6.481	96	9232	0.64	PPBV		95
37) TERTIARY BUTYL ALCOHOL	5.569	59	11538	0.44	PPBV		86
38) METHYL TERTIARY BUTYL ...	6.767	73	18738	0.54	PPBV		96
39) TETRAHYDROFURAN	8.306	72	3056	0.51	PPBV		92
40) HEXANE	7.753	57	9313	0.50	PPBV		91
41) VINYL ACETATE	6.840	86	1010	0.45	PPBV	#	79
42) 1,1-DICHLOROETHANE	6.682	63	11984	0.52	PPBV		99
43) METHYL ETHYL KETONE	7.114	72	3118	0.52	PPBV		92
44) cis-1,2-DICHLOROETHYLENE	7.534	96	7794	0.53	PPBV		97
45) DIISOPROPYL ETHER	7.753	59	2846	0.52	PPBV	#	88
46) ETHYL ACETATE	7.777	61	1807	0.48	PPBV	#	63
47) METHYL ACRYLATE	7.771	55	10754	0.52	PPBV	#	91
48) CHLOROFORM	7.832	83	14644	0.55	PPBV		97
49) 2,4-DIMETHYLPENTANE	8.683	57	10483	0.48	PPBV		97
50) 1,1,1-TRICHLOROETHANE	8.884	97	13401	0.53	PPBV		99
51) CARBON TETRACHLORIDE	9.529	117	13881	0.52	PPBV		99
52) 1,2-DICHLOROETHANE	8.616	62	7781	0.53	PPBV		97
54) BENZENE	9.371	78	21971	0.57	PPBV		98
55) CYCLOHEXANE	9.663	84	8438	0.51	PPBV		93

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60365.D
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : 1c2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration

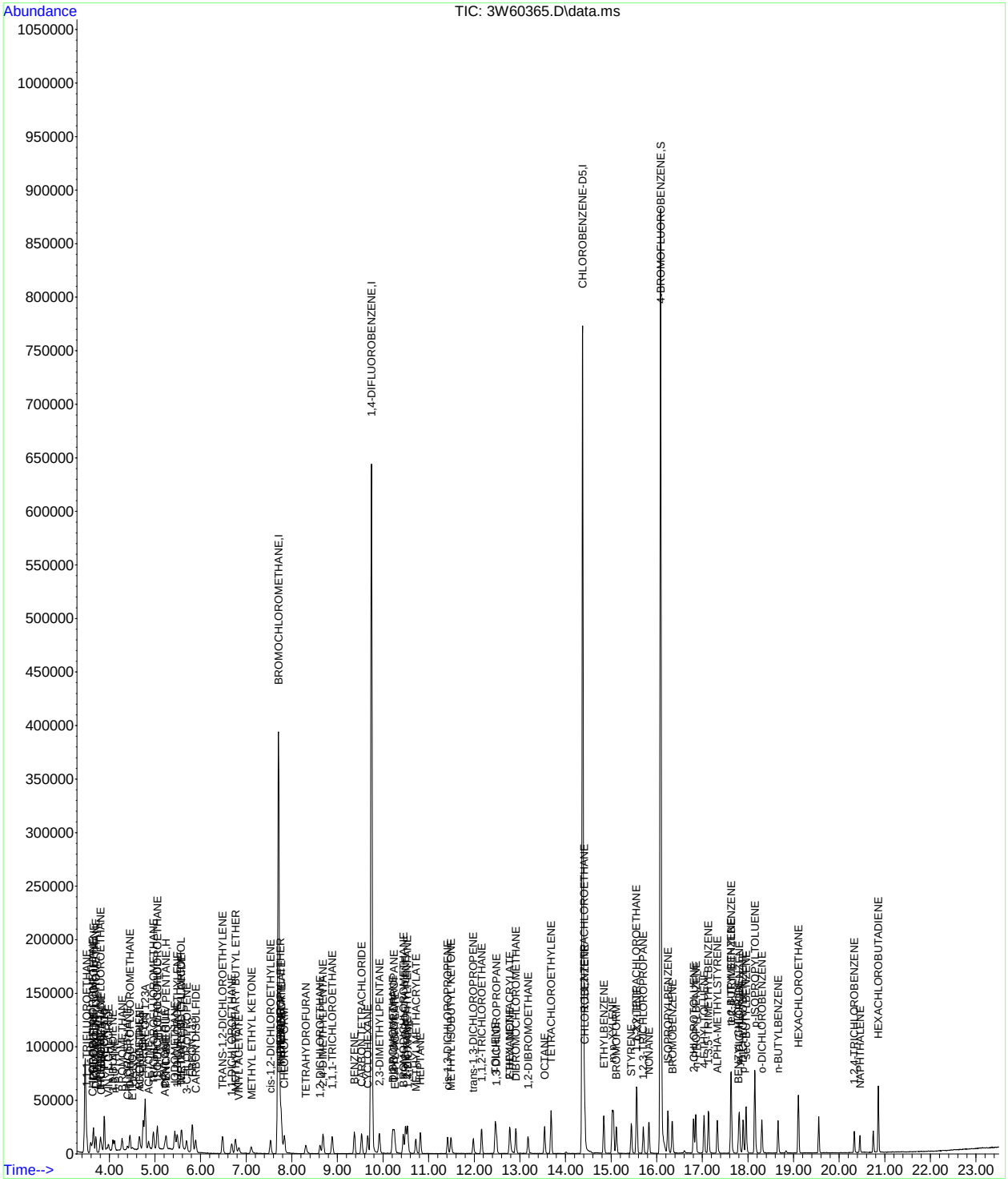
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.918	71	4163	0.53	PPBV		97
57)	TRICHLOROETHYLENE	10.490	95	9615	0.58	PPBV		94
58)	1,2-DICHLOROPROPANE	10.241	63	7818	0.58	PPBV		98
59)	DIBROMOMETHANE	10.210	174	11004	0.61	PPBV		93
60)	ETHYL ACRYLATE	10.259	55	13324	0.58	PPBV	#	95
61)	BROMODICHLOROMETHANE	10.448	83	15112	0.58	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	28823	0.53	PPBV		98
63)	1,4-DIOXANE	10.551	88	3499	0.52	PPBV	#	81
64)	HEPTANE	10.819	43	8929	0.51	PPBV		97
65)	METHYL METHACRYLATE	10.721	69	6955	0.58	PPBV		93
66)	METHYL ISOBUTYL KETONE	11.488	58	5493	0.56	PPBV	#	87
67)	cis-1,3-DICHLOROPROPENE	11.415	75	11443	0.57	PPBV		93
68)	TOLUENE	12.461	92	14773	0.56	PPBV		96
69)	1,3-DICHLOROPROPANE	12.486	76	11012	0.57	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.975	75	9821	0.57	PPBV		96
71)	1,1,2-TRICHLOROETHANE	12.163	83	7826	0.58	PPBV		98
73)	2-HEXANONE	12.778	58	7131	0.58	PPBV		96
74)	ETHYL METHACRYLATE	12.778	69	10352	0.56	PPBV		91
75)	TETRACHLOROETHYLENE	13.684	164	11913	0.58	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.911	129	15605	0.57	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	14163	0.60	PPBV		100
78)	OCTANE	13.538	43	12036	0.52	PPBV		97
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	11766	0.56	PPBV		97
80)	CHLOROBENZENE	14.420	112	20706	0.58	PPBV		99
81)	ETHYLBENZENE	14.840	91	30880	0.56	PPBV		97
82)	m,p-XYLENE	15.029	106	25021	1.13	PPBV		93
83)	o-XYLENE	15.564	106	12301	0.56	PPBV		92
84)	STYRENE	15.442	104	17800	0.56	PPBV		98
85)	NONANE	15.832	43	12065	0.53	PPBV		97
86)	BROMOFORM	15.114	173	14554	0.54	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	19451	0.60	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	13074	0.59	PPBV		94
90)	ISOPROPYLBENZENE	16.245	105	33535	0.56	PPBV		97
91)	BROMOBENZENE	16.343	77	14807	0.59	PPBV		99
92)	2-CHLOROTOLUENE	16.811	126	8807	0.55	PPBV		99
93)	n-PROPYLBENZENE	16.860	120	8768	0.52	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	29919	0.53	PPBV		97
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	27247	0.56	PPBV		99
96)	ALPHA-METHYLSTYRENE	17.328	118	12236	0.50	PPBV		98
97)	tert-BUTYLBENZENE	17.626	134	6636	0.56	PPBV	#	87
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	25193	0.54	PPBV		96
99)	m-DICHLOROBENZENE	17.809	146	17394	0.57	PPBV		100
100)	BENZYL CHLORIDE	17.790	91	14946	0.49	PPBV		96
101)	p-DICHLOROBENZENE	17.894	146	17179	0.58	PPBV		99
102)	sec-BUTYLBENZENE	17.961	134	7396	0.55	PPBV	#	79
103)	p-ISOPROPYLTOLUENE	18.155	134	7969	0.52	PPBV	#	84
104)	o-DICHLOROBENZENE	18.308	146	17130	0.56	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	5330	0.46	PPBV	#	82
106)	HEXACHLOROETHANE	19.105	117	11167	0.57	PPBV		95
107)	HEXACHLOROBUTADIENE	20.857	225	13064	0.70	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.333	180	7392	0.62	PPBV		99
109)	NAPHTHALENE	20.455	128	13619	0.55	PPBV		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60365.D
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : 1C2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60365.D
Injection Time: 06/21/17 14:55
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

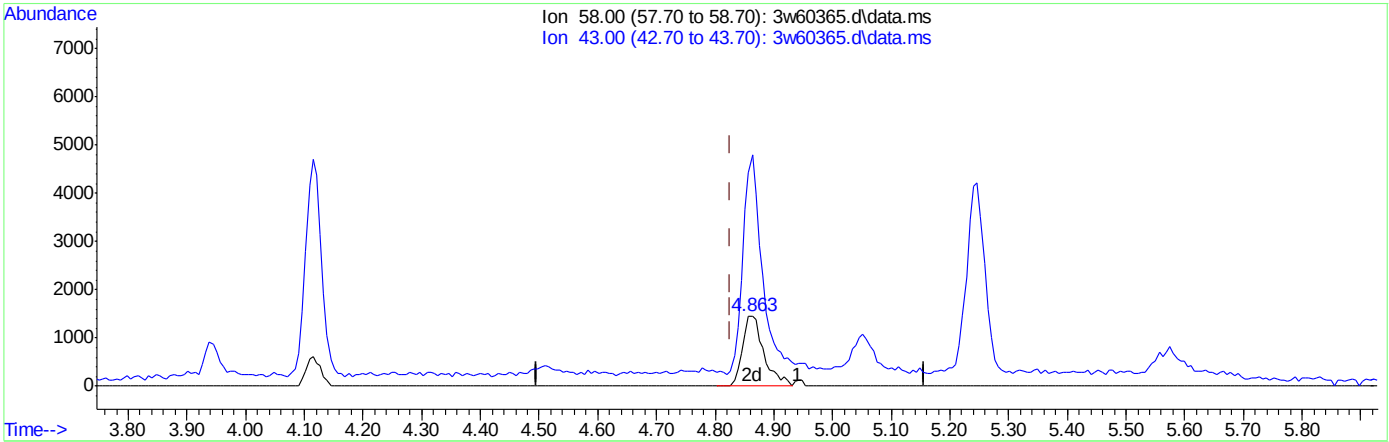
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak
Acetone	67-64-1		4.86	Missed peak

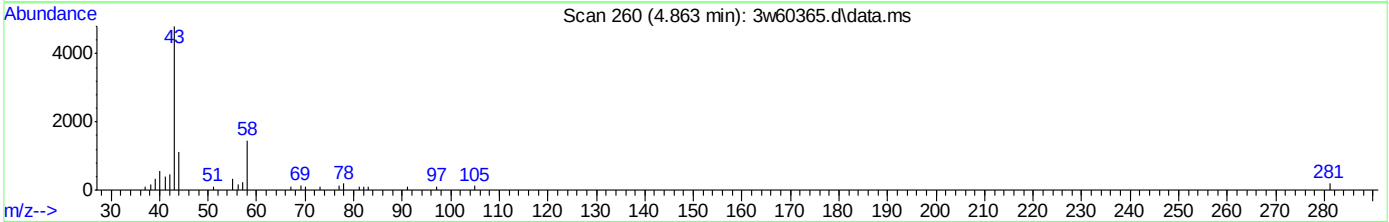
SGS ACCUTEST
JC52679

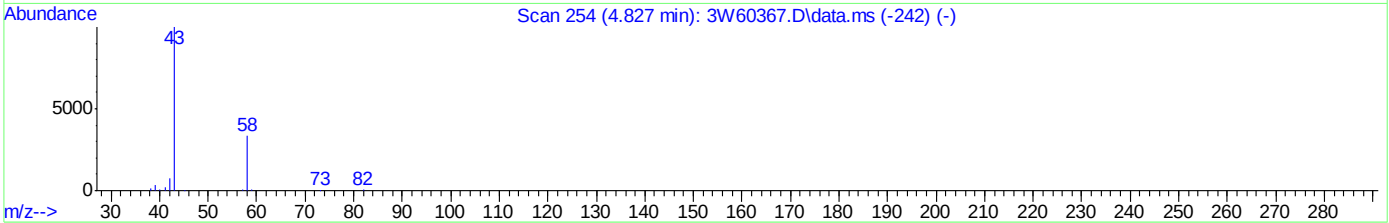
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60365.d
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : ic2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 21 16:21:17 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration







TIC: 3w60365.d\data.ms

(24) ACETONE

4.863min (+0.036) 0.65PPBV m

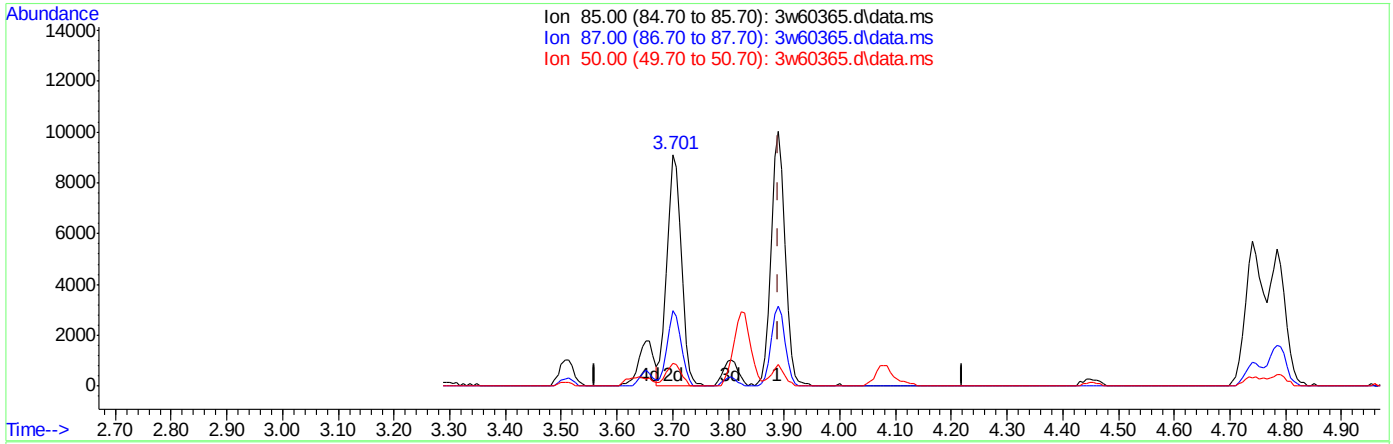
response 3659

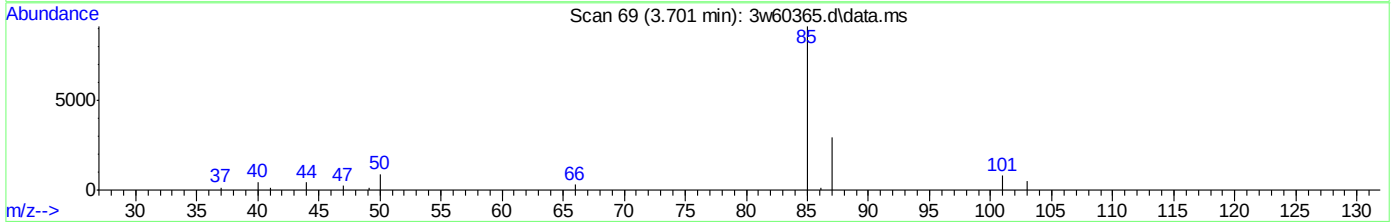
Ion	Exp%	Act%
58.00	100	100
43.00	266.80	9.21#
0.00	0.00	0.00
0.00	0.00	0.00

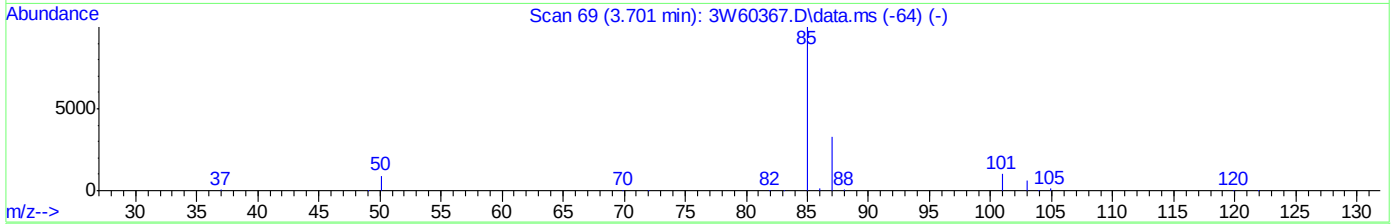
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60365.d
Acq On : 21 Jun 2017 2:55 pm
Operator : [redacted]
Sample : ic2293-0.5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:26:25 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:18:56 2017
Response via : Initial Calibration







TIC: 3w60365.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 0.47PPBV m

response 16566

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	33.44
50.00	7.30	8.70
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60366.D
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : 1c2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	160276	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	694445	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	285192	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	356234	9.64	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 96.40%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	108472	4.86	PPBV		99
3) FREON 115	3.889	85	169390	4.90	PPBV	#	16
4) FREON 152A	3.804	65	104773	4.91	PPBV		98
5) CHLORODIFLUOROMETHANE	3.622	67	14281	4.96	PPBV		97
6) CHLOROTRIFLUOROETHENE	3.652	116	92602	5.00	PPBV	#	99
7) DICHLORODIFLUOROMETHANE	3.701	85	152384m	4.41	PPBV		
8) PROPYLENE	3.646	41	41539	4.84	PPBV		97
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	104773	4.91	PPBV		97
10) FREON 114	3.889	85	169390	4.90	PPBV		97
11) CHLOROMETHANE	3.823	52	18370	4.74	PPBV		92
12) VINYL CHLORIDE	3.981	62	67459	4.80	PPBV		100
13) 1,3-BUTADIENE	4.078	54	47418	4.77	PPBV		94
14) n-BUTANE	4.115	43	83441	4.64	PPBV		97
15) BROMOMETHANE	4.279	94	73466	4.92	PPBV		99
16) CHLOROETHANE	4.394	64	32664	4.84	PPBV		84
17) DICHLOROFLUOROMETHANE	4.449	67	139279	4.99	PPBV		99
18) ACETONITRILE	4.638	41	41910	4.72	PPBV		99
19) FREON 123	4.741	83	175893	4.99	PPBV	#	55
20) FREON 123A	4.784	117	188698	10.17	PPBV		83
21) TRICHLOROFLUOROMETHANE	4.966	101	156955	5.03	PPBV		100
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	132729	5.06	PPBV		97
23) ISOPROPYL ALCOHOL	5.015	45	117449	5.06	PPBV		95
24) ACETONE	4.832	58	26476	4.67	PPBV	#	82
25) PENTANE	5.240	42	55108	4.69	PPBV		94
26) TVHC as EQUIV PENTANE	5.630	TIC	270151m	4.71	PPBV		
27) IODOMETHANE	5.435	142	217005	5.00	PPBV		96
28) 1,1-DICHLOROETHYLENE	5.489	96	67636	4.94	PPBV		87
29) CARBON DISULFIDE	5.891	76	214978	4.90	PPBV		99
30) ETHANOL	4.473	45	17628	4.93	PPBV		94
31) BROMOETHENE	4.656	106	73458	4.95	PPBV		98
32) ACRYLONITRILE	5.191	52	34281	4.86	PPBV		97
33) METHYLENE CHLORIDE	5.581	84	62484	4.82	PPBV		95
34) 3-CHLOROPROPENE	5.696	76	30271	4.93	PPBV	#	88
35) FREON 113	5.818	151	122171	5.06	PPBV		91
36) TRANS-1,2-DICHLOROETHY...	6.481	96	71052	5.17	PPBV		94
37) TERTIARY BUTYL ALCOHOL	5.520	59	129108	5.25	PPBV		97
38) METHYL TERTIARY BUTYL ...	6.737	73	170871	5.15	PPBV		100
39) TETRAHYDROFURAN	8.270	72	29124	5.06	PPBV		97
40) HEXANE	7.753	57	92844	5.25	PPBV		96
41) VINYL ACETATE	6.822	86	10774	4.98	PPBV	#	68
42) 1,1-DICHLOROETHANE	6.682	63	111452	4.97	PPBV		100
43) METHYL ETHYL KETONE	7.077	72	29319	5.04	PPBV		96
44) cis-1,2-DICHLOROETHYLENE	7.534	96	71293	5.08	PPBV		98
45) DIISOPROPYL ETHER	7.740	59	26405	5.05	PPBV		96
46) ETHYL ACETATE	7.759	61	18145	4.90	PPBV		97
47) METHYL ACRYLATE	7.753	55	100105	5.09	PPBV		96
48) CHLOROFORM	7.844	83	131377	5.12	PPBV		99
49) 2,4-DIMETHYLPENTANE	8.683	57	105778	5.04	PPBV		98
50) 1,1,1-TRICHLOROETHANE	8.884	97	124704	5.25	PPBV		99
51) CARBON TETRACHLORIDE	9.535	117	134780	5.52	PPBV		100
52) 1,2-DICHLOROETHANE	8.616	62	71211	5.02	PPBV		98
54) BENZENE	9.371	78	200011	5.15	PPBV		99
55) CYCLOHEXANE	9.663	84	85693	5.16	PPBV		97

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60366.D
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : 1c2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration

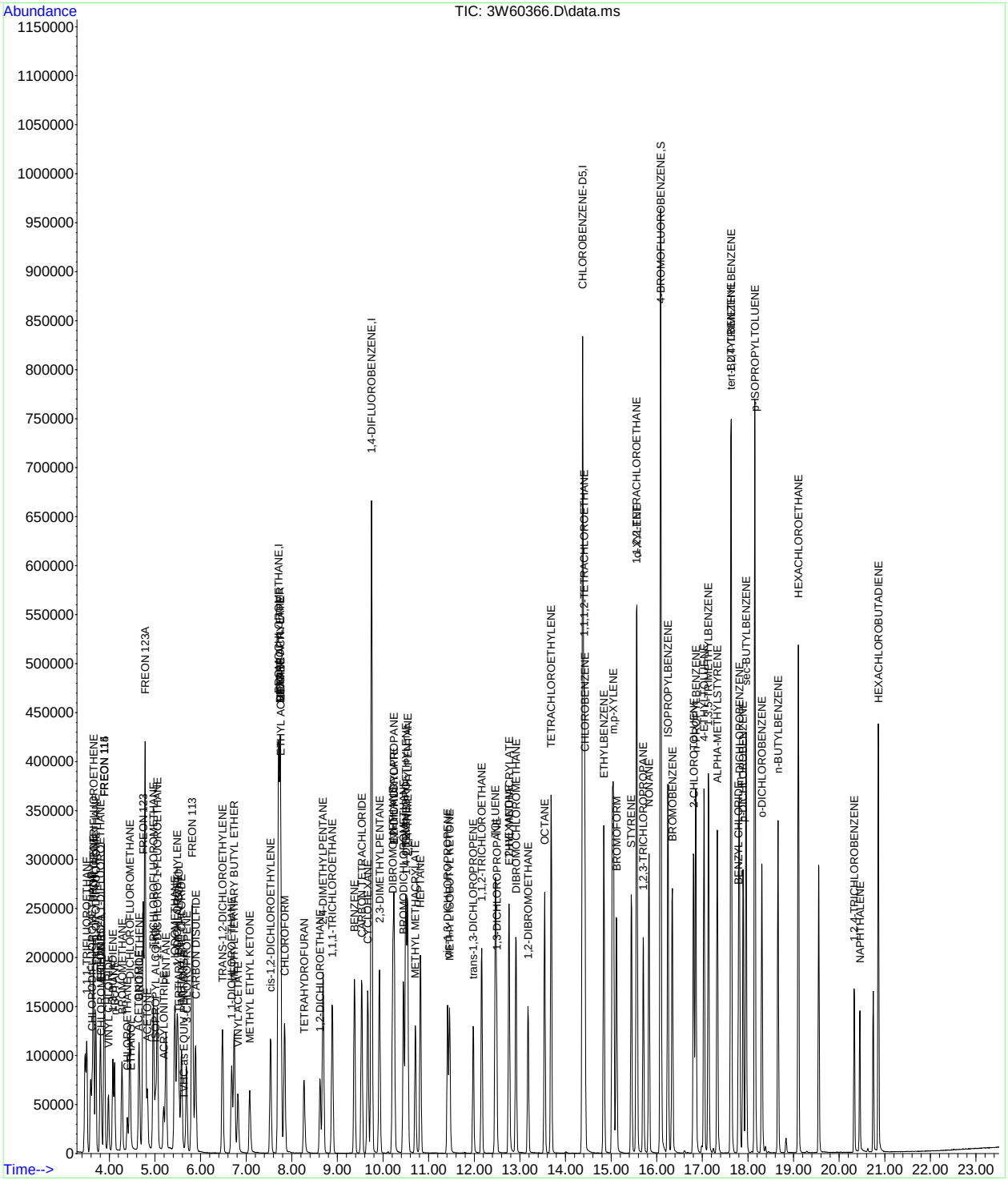
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.924	71	40718	5.10	PPBV		93
57)	TRICHLOROETHYLENE	10.496	95	86847	5.30	PPBV		96
58)	1,2-DICHLOROPROPANE	10.241	63	69786	5.18	PPBV		100
59)	DIBROMOMETHANE	10.216	174	93983	5.28	PPBV		95
60)	ETHYL ACRYLATE	10.241	55	117192	5.04	PPBV		98
61)	BROMODICHLOROMETHANE	10.448	83	135484	5.29	PPBV		98
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	284854	5.19	PPBV		97
63)	1,4-DIOXANE	10.508	88	36393	5.57	PPBV	#	1
64)	HEPTANE	10.819	43	91826	5.23	PPBV		98
65)	METHYL METHACRYLATE	10.709	69	61936	5.17	PPBV		96
66)	METHYL ISOBUTYL KETONE	11.457	58	50335	4.98	PPBV		95
67)	cis-1,3-DICHLOROPROPENE	11.415	75	104855	5.19	PPBV		94
68)	TOLUENE	12.461	92	137493	5.16	PPBV		98
69)	1,3-DICHLOROPROPANE	12.492	76	100038	5.21	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.975	75	90505	5.27	PPBV		98
71)	1,1,2-TRICHLOROETHANE	12.163	83	69626	5.19	PPBV		98
73)	2-HEXANONE	12.759	58	62772	5.05	PPBV		96
74)	ETHYL METHACRYLATE	12.765	69	96759	5.20	PPBV		97
75)	TETRACHLOROETHYLENE	13.684	164	109504	5.39	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.917	129	148632	5.63	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	123330	5.32	PPBV		99
78)	OCTANE	13.544	43	122202	5.33	PPBV		98
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	113142	5.57	PPBV		97
80)	CHLOROBENZENE	14.426	112	189520	5.34	PPBV		98
81)	ETHYLBENZENE	14.840	91	289545	5.35	PPBV		98
82)	m,p-XYLENE	15.047	106	232910	10.59	PPBV		94
83)	o-XYLENE	15.564	106	115281	5.33	PPBV		94
84)	STYRENE	15.442	104	164438	5.17	PPBV		99
85)	NONANE	15.832	43	118570	5.25	PPBV		97
86)	BROMOFORM	15.120	173	146116	5.59	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	170970	5.28	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	116606	5.27	PPBV		95
90)	ISOPROPYLBENZENE	16.245	105	313097	5.33	PPBV		98
91)	BROMOBENZENE	16.343	77	131109	5.20	PPBV		99
92)	2-CHLOROTOLUENE	16.811	126	83582	5.25	PPBV		100
93)	n-PROPYLBENZENE	16.860	120	87370	5.19	PPBV		99
94)	4-ETHYLTOLUENE	17.036	105	297112	5.26	PPBV		98
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	254675	5.27	PPBV		98
96)	ALPHA-METHYLSTYRENE	17.328	118	125866	5.04	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	61161	5.18	PPBV	#	88
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	240244	5.17	PPBV		99
99)	m-DICHLOROBENZENE	17.815	146	156569	5.05	PPBV		99
100)	BENZYL CHLORIDE	17.790	91	153214	4.86	PPBV		97
101)	p-DICHLOROBENZENE	17.894	146	152089	4.99	PPBV		100
102)	sec-BUTYLBENZENE	17.961	134	70406	5.21	PPBV	#	84
103)	p-ISOPROPYLTOLUENE	18.155	134	78931m	5.10	PPBV		
104)	o-DICHLOROBENZENE	18.308	146	156358	5.08	PPBV		100
105)	n-BUTYLBENZENE	18.660	134	56986	4.68	PPBV	#	83
106)	HEXACHLOROETHANE	19.104	117	107777	5.88	PPBV		97
107)	HEXACHLOROBUTADIENE	20.863	225	93378	4.87	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	61212	4.99	PPBV		100
109)	NAPHTHALENE	20.455	128	125249	4.83	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60366.D
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : 1c2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60366.D
Injection Time: 06/21/17 15:35
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

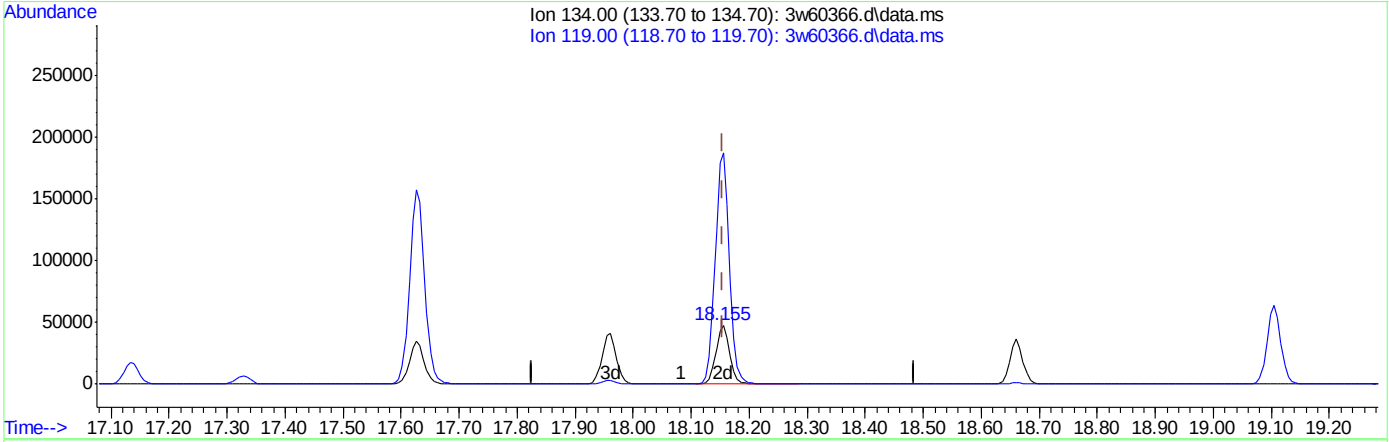
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak
p-Isopropyltoluene	99-87-6		18.16	Missed peak

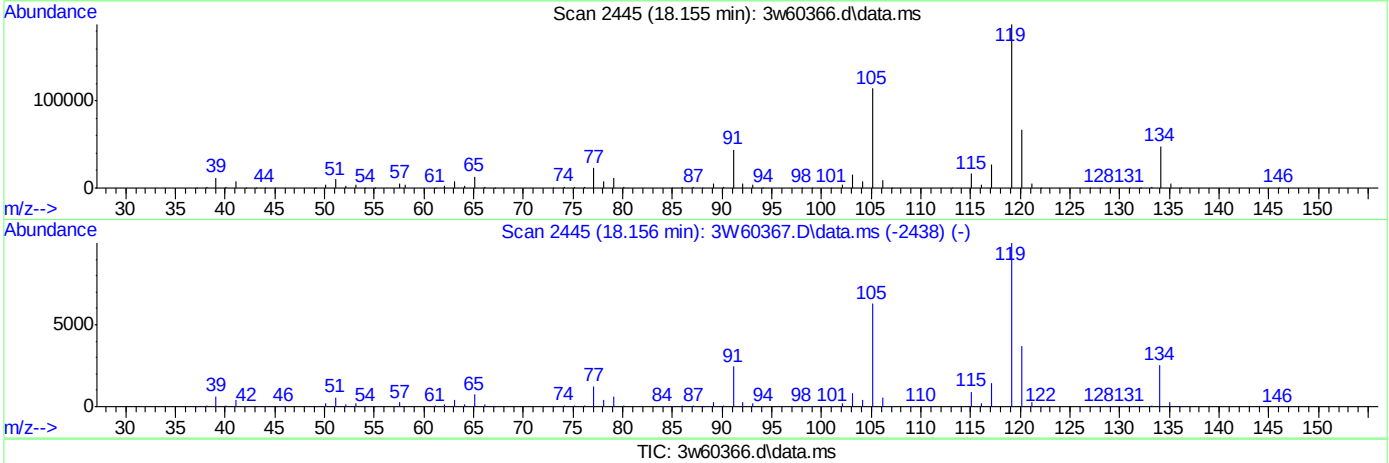
SGS ACCUTEST
JC52679

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60366.d
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : ic2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 21 16:18:45 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration





TIC: 3w60366.d\data.ms

(103) p-ISOPROPYLTOLUENE

18.155min (-0.000) 5.10PPBV m

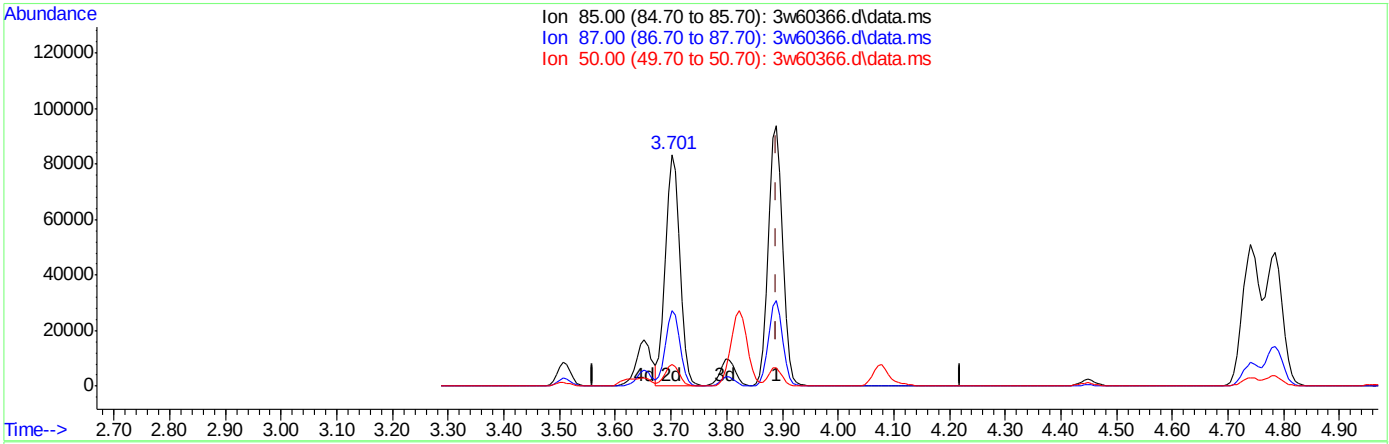
response 78931

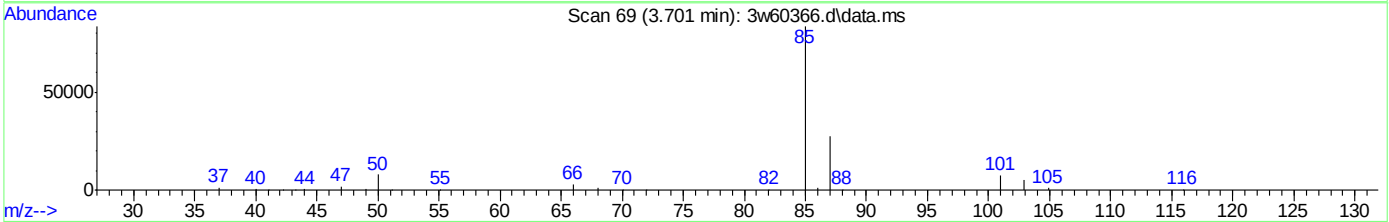
Ion	Exp%	Act%
134.00	100	100
119.00	384.00	1.27#
0.00	0.00	0.00
0.00	0.00	0.00

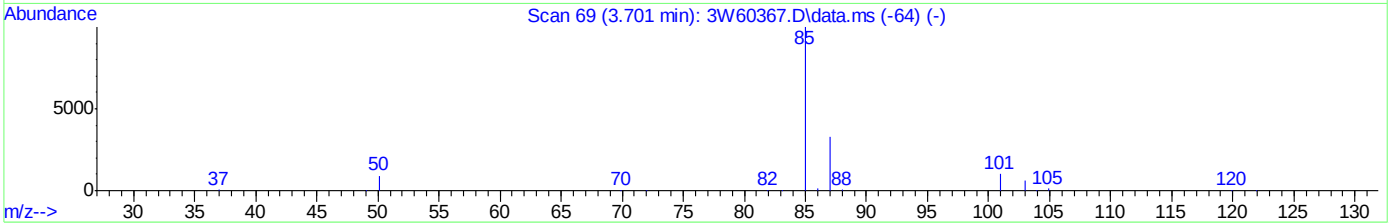
Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60366.d
Acq On : 21 Jun 2017 3:35 pm
Operator : [redacted]
Sample : ic2293-5
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:23:41 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 15:21:17 2017
Response via : Initial Calibration







TIC: 3w60366.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 4.41PPBV m

response 152384

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.18
50.00	7.30	7.93
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60367.D
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : 1C2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.716	128	155655	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.754	114	690506	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	294329	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	369538	10.11	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.10%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	225817	10.27	PPBV		99
3) FREON 115	3.890	85	345251	10.34	PPBV	#	16
4) FREON 152A	3.805	65	216588	10.41	PPBV		99
5) CHLORODIFLUOROMETHANE	3.622	67	29391	10.32	PPBV		93
6) CHLOROTRIFLUOROETHENE	3.652	116	190805	10.47	PPBV	#	99
7) DICHLORODIFLUOROMETHANE	3.701	85	312034m	9.37	PPBV		
8) PROPYLENE	3.652	41	84919	9.39	PPBV		96
9) 1-CHLORO-1,1-DIFLUOROE...	3.805	65	216588	10.41	PPBV		98
10) FREON 114	3.890	85	345251	10.34	PPBV		97
11) CHLOROMETHANE	3.823	52	37407	9.73	PPBV	#	89
12) VINYL CHLORIDE	3.981	62	138119	10.29	PPBV		100
13) 1,3-BUTADIENE	4.078	54	97124	10.13	PPBV		93
14) n-BUTANE	4.115	43	171737	10.24	PPBV		97
15) BROMOMETHANE	4.279	94	149596	9.50	PPBV		99
16) CHLOROETHANE	4.395	64	65840	10.05	PPBV		85
17) DICHLOROFLUOROMETHANE	4.449	67	280788	9.90	PPBV		99
18) ACETONITRILE	4.638	41	86206	9.62	PPBV		99
19) FREON 123	4.741	83	355264	9.95	PPBV	#	59
20) FREON 123A	4.784	117	382324	20.62	PPBV		84
21) TRICHLOROFLUOROMETHANE	4.966	101	323591	10.69	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.052	81	271310	10.19	PPBV		97
23) ISOPROPYL ALCOHOL	5.009	45	239546	8.72	PPBV		95
24) ACETONE	4.827	58	55103	8.89	PPBV	#	81
25) PENTANE	5.246	42	112684	10.10	PPBV		93
26) TVHC as EQUIV PENTANE	5.240	TIC	546729m	8.72	PPBV		
27) IODOMETHANE	5.435	142	440203	10.28	PPBV		96
28) 1,1-DICHLOROETHYLENE	5.490	96	138029	10.14	PPBV		88
29) CARBON DISULFIDE	5.891	76	431991	10.07	PPBV		99
30) ETHANOL	4.474	45	35570	8.18	PPBV		96
31) BROMOETHENE	4.656	106	149283	10.20	PPBV		98
32) ACRYLONITRILE	5.192	52	70822	9.67	PPBV		97
33) METHYLENE CHLORIDE	5.587	84	125412	8.35	PPBV		95
34) 3-CHLOROPROPENE	5.696	76	61522	10.49	PPBV	#	87
35) FREON 113	5.818	151	250720	10.66	PPBV		92
36) TRANS-1,2-DICHLOROETHY...	6.481	96	141009	8.67	PPBV		95
37) TERTIARY BUTYL ALCOHOL	5.514	59	254245	10.68	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	343237	10.14	PPBV		100
39) TETRAHYDROFURAN	8.264	72	59605	10.63	PPBV		97
40) HEXANE	7.753	57	176751	9.60	PPBV		94
41) VINYL ACETATE	6.822	86	23071	13.11	PPBV	#	69
42) 1,1-DICHLOROETHANE	6.682	63	223909	10.17	PPBV		100
43) METHYL ETHYL KETONE	7.077	72	59654	10.98	PPBV	#	91
44) cis-1,2-DICHLOROETHYLENE	7.540	96	143739	10.17	PPBV		98
45) DIISOPROPYL ETHER	7.741	59	54123	10.56	PPBV		98
46) ETHYL ACETATE	7.759	61	38823	11.62	PPBV	#	88
47) METHYL ACRYLATE	7.753	55	201740	10.02	PPBV		98
48) CHLOROFORM	7.850	83	266370	10.10	PPBV		99
49) 2,4-DIMETHYLPENTANE	8.690	57	208600	10.00	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.890	97	254656	10.47	PPBV		99
51) CARBON TETRACHLORIDE	9.535	117	276950	11.00	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	143284	10.22	PPBV		98
54) BENZENE	9.377	78	402963	9.73	PPBV		100
55) CYCLOHEXANE	9.669	84	173589	10.18	PPBV		99

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60367.D
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : 1c2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration

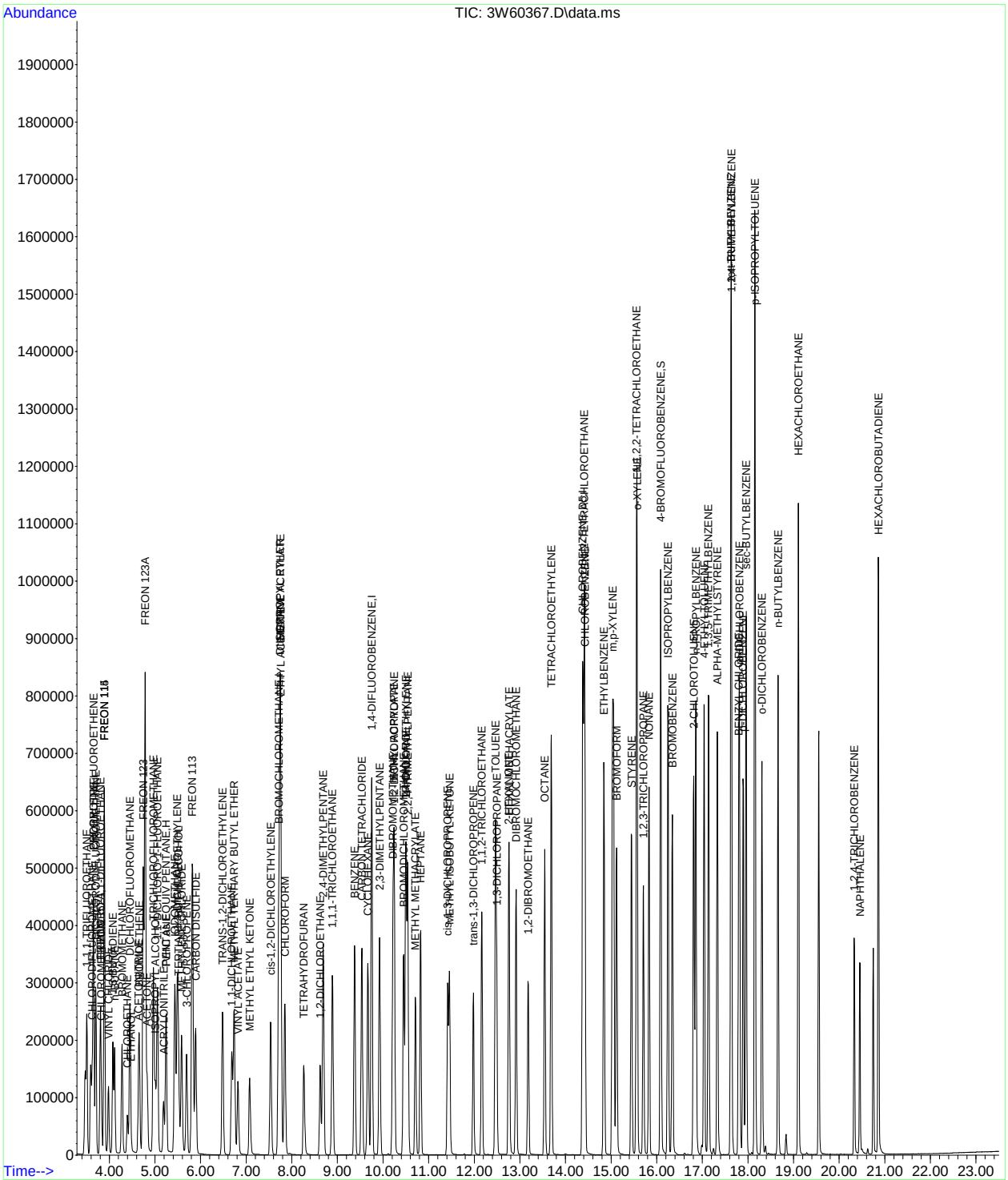
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.925	71	82954	9.85	PPBV		95
57)	TRICHLOROETHYLENE	10.496	95	173836	9.75	PPBV		96
58)	1,2-DICHLOROPROPANE	10.247	63	141989	9.69	PPBV		99
59)	DIBROMOMETHANE	10.217	174	190465	9.51	PPBV		96
60)	ETHYL ACRYLATE	10.241	55	249845	10.43	PPBV		98
61)	BROMODICHLOROMETHANE	10.454	83	275747	9.90	PPBV		98
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	564172	9.64	PPBV		97
63)	1,4-DIOXANE	10.496	88	75957	10.88	PPBV	#	1
64)	HEPTANE	10.825	43	178386	9.66	PPBV		98
65)	METHYL METHACRYLATE	10.709	69	129613	10.09	PPBV		96
66)	METHYL ISOBUTYL KETONE	11.458	58	108819	10.83	PPBV		97
67)	cis-1,3-DICHLOROPROPENE	11.415	75	215053	10.20	PPBV		95
68)	TOLUENE	12.467	92	284143	10.19	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	204496	10.06	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	186977	10.38	PPBV		98
71)	1,1,2-TRICHLOROETHANE	12.163	83	141893	9.89	PPBV		99
73)	2-HEXANONE	12.753	58	138138	10.62	PPBV		97
74)	ETHYL METHACRYLATE	12.766	69	208087	10.57	PPBV		97
75)	TETRACHLOROETHYLENE	13.690	164	220761	9.37	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.918	129	307165	10.22	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	252893	9.61	PPBV		100
78)	OCTANE	13.544	43	241699	9.65	PPBV		98
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	235315	10.18	PPBV		97
80)	CHLOROBENZENE	14.426	112	388226	9.74	PPBV		98
81)	ETHYLBENZENE	14.840	91	599449	9.96	PPBV		98
82)	m,p-XYLENE	15.035	106	485030	19.89	PPBV		95
83)	o-XYLENE	15.570	106	239320	10.01	PPBV		94
84)	STYRENE	15.448	104	353730	10.39	PPBV		99
85)	NONANE	15.832	43	243850	9.99	PPBV		97
86)	BROMOFORM	15.120	173	318239	11.15	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	359931	9.78	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.710	75	245302	9.95	PPBV		96
90)	ISOPROPYLBENZENE	16.245	105	646902	9.96	PPBV		98
91)	BROMOBENZENE	16.343	77	280425	9.99	PPBV		99
92)	2-CHLOROTOLUENE	16.811	126	176448	10.20	PPBV		100
93)	n-PROPYLBENZENE	16.860	120	185843	10.73	PPBV		99
94)	4-ETHYLTOLUENE	17.042	105	640572	10.95	PPBV		97
95)	1,3,5-TRIMETHYLBENZENE	17.134	105	537569	10.25	PPBV		98
96)	ALPHA-METHYLSTYRENE	17.328	118	278440	11.45	PPBV		98
97)	tert-BUTYLBENZENE	17.626	134	129461	10.02	PPBV	#	90
98)	1,2,4-TRIMETHYLBENZENE	17.639	105	521267	10.70	PPBV		96
99)	m-DICHLOROBENZENE	17.815	146	352590	10.80	PPBV		99
100)	BENZYL CHLORIDE	17.797	91	367465	12.25	PPBV		97
101)	p-DICHLOROBENZENE	17.894	146	342008	10.60	PPBV		99
102)	sec-BUTYLBENZENE	17.961	134	150968	10.60	PPBV	#	85
103)	p-ISOPROPYLTOLUENE	18.156	134	173384	11.15	PPBV		92
104)	o-DICHLOROBENZENE	18.308	146	349015	10.77	PPBV		100
105)	n-BUTYLBENZENE	18.661	134	137720	12.69	PPBV	#	84
106)	HEXACHLOROETHANE	19.105	117	234919	10.98	PPBV		97
107)	HEXACHLOROBUTADIENE	20.863	225	221117	9.96	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	138432	10.45	PPBV		100
109)	NAPHTHALENE	20.455	128	291187	11.40	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60367.D
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : 1c2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Manual Integration Approval Summary

Sample Number: V3W2293-ICC2293 **Method:** TO-15
Lab FileID: 3W60367.D **Analyst approved:** 06/23/17 09:39
Injection Time: 06/21/17 16:16 **Supervisor approved:** 06/26/17 13:53 [redacted]

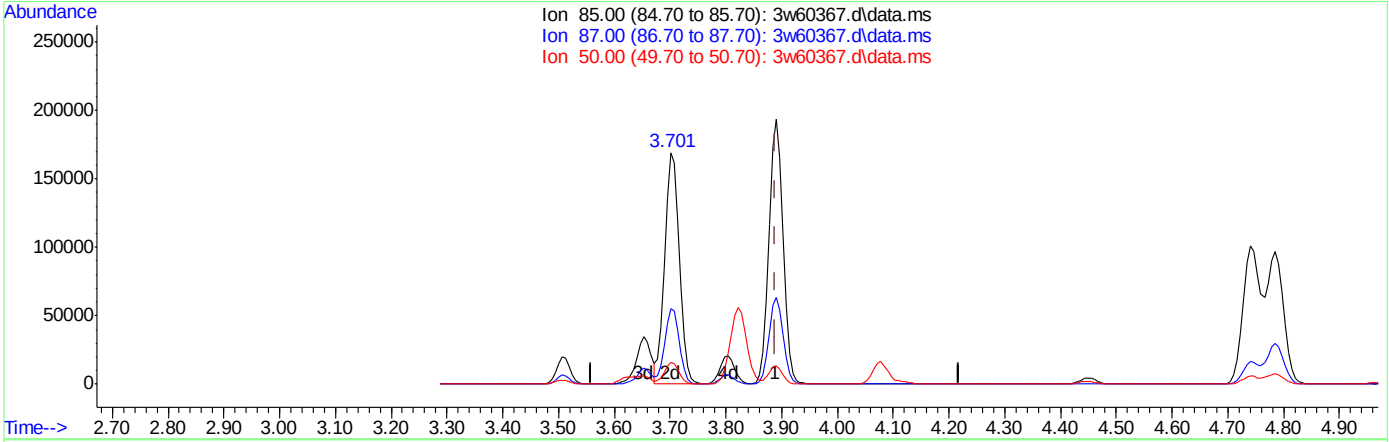
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.70	Missed peak

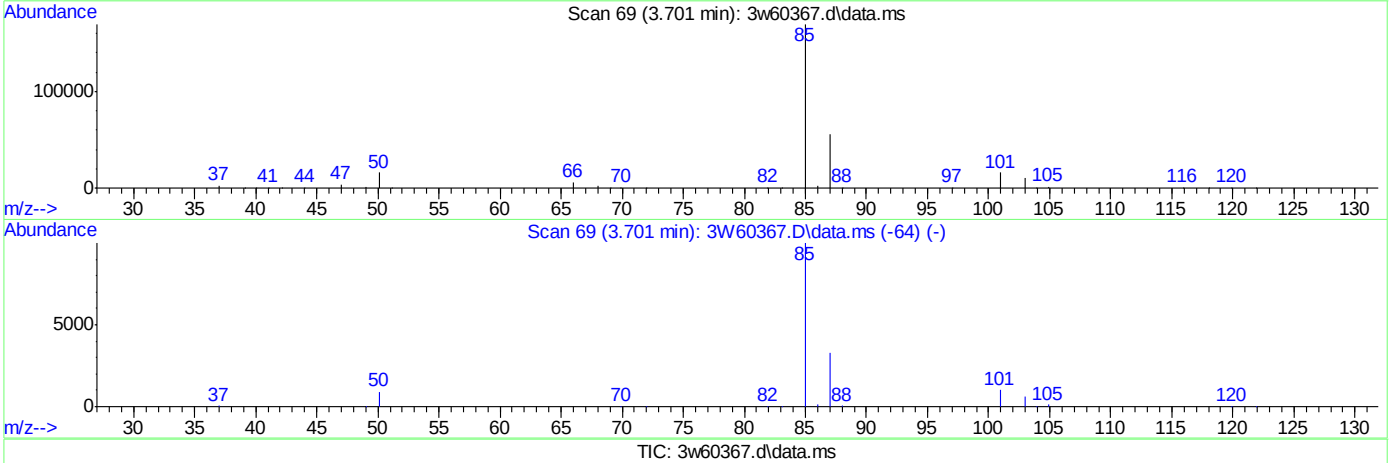
SGS ACCUTEST
JC52679

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60367.d
Acq On : 21 Jun 2017 4:16 pm
Operator : [redacted]
Sample : icc2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:25:34 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 16:23:36 2017
Response via : Initial Calibration





TIC: 3w60367.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.701min (-0.189) 9.37PPBV m

response 312034

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.16
50.00	7.30	7.57
0.00	0.00	0.00

3W60370.D

Manual Integrations APPROVED (compounds with "m" flag)

[redacted]

06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60370.D
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : 1C2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.728	128	158824	10.00	PPBV		0.01
53) 1,4-DIFLUOROBENZENE	9.760	114	726608	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.384	82	350562	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.093	95	430300	9.92	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.20%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	890616	39.44	PPBV		98
3) FREON 115	3.889	85	1343802	39.18	PPBV	#	99
4) FREON 152A	3.804	65	872096	40.63	PPBV		100
5) CHLORODIFLUOROMETHANE	3.622	67	119469	40.60	PPBV		99
6) CHLOROTRIFLUOROETHENE	3.652	116	766325	40.54	PPBV		99
7) DICHLORODIFLUOROMETHANE	3.707	85	1215567m	35.53	PPBV		
8) PROPYLENE	3.652	41	331607	36.52	PPBV		99
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	872096	40.63	PPBV		100
10) FREON 114	3.889	85	1343802	39.18	PPBV		99
11) CHLOROMETHANE	3.823	52	150286m	38.71	PPBV		
12) VINYL CHLORIDE	3.981	62	563483	40.91	PPBV		100
13) 1,3-BUTADIENE	4.078	54	400252	40.88	PPBV		100
14) n-BUTANE	4.115	43	692283	40.61	PPBV		100
15) BROMOMETHANE	4.279	94	597329	37.55	PPBV		100
16) CHLOROETHANE	4.400	64	269670	40.45	PPBV		100
17) DICHLOROFLUOROMETHANE	4.455	67	1129217	39.03	PPBV		100
18) ACETONITRILE	4.638	41	358309	39.59	PPBV		100
19) FREON 123	4.747	83	1402264	38.49	PPBV		98
20) FREON 123A	4.790	117	1497314	78.25	PPBV		97
21) TRICHLOROFLUOROMETHANE	4.972	101	1295794	41.04	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.064	81	1101820	40.07	PPBV		99
23) ISOPROPYL ALCOHOL	5.015	45	827586	30.47	PPBV		99
24) ACETONE	4.832	58	230437	37.32	PPBV		98
25) PENTANE	5.252	42	467566	41.14	PPBV		100
26) TVHC as EQUIV PENTANE	5.240	TIC	2228117m	34.19	PPBV		
27) IODOMETHANE	5.447	142	1703099	38.73	PPBV		97
28) 1,1-DICHLOROETHYLENE	5.496	96	547130	39.33	PPBV		99
29) CARBON DISULFIDE	5.897	76	1708470	39.14	PPBV		100
30) ETHANOL	4.473	45	122707	29.42	PPBV		99
31) BROMOETHENE	4.656	106	601988	40.05	PPBV		100
32) ACRYLONITRILE	5.197	52	304904	40.72	PPBV		99
33) METHYLENE CHLORIDE	5.593	84	308801	22.42	PPBV		92
34) 3-CHLOROPROPENE	5.702	76	250590	41.59	PPBV		97
35) FREON 113	5.830	151	1008689	41.18	PPBV		100
36) TRANS-1,2-DICHLOROETHY...	6.493	96	575632	35.47	PPBV		100
37) TERTIARY BUTYL ALCOHOL	5.520	59	691790	29.15	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	1401545	40.24	PPBV		100
39) TETRAHYDROFURAN	8.264	72	248179	42.51	PPBV		98
40) HEXANE	7.765	57	715004	38.24	PPBV		99
41) VINYL ACETATE	6.828	86	103473	52.78	PPBV	#	93
42) 1,1-DICHLOROETHANE	6.700	63	920236	40.69	PPBV		100
43) METHYL ETHYL KETONE	7.083	72	257576	45.04	PPBV		97
44) cis-1,2-DICHLOROETHYLENE	7.552	96	598492	41.05	PPBV		99
45) DIISOPROPYL ETHER	7.753	59	216557	40.72	PPBV	#	93
46) ETHYL ACETATE	7.771	61	157155	44.05	PPBV	#	96
47) METHYL ACRYLATE	7.765	55	830885	40.08	PPBV		99
48) CHLOROFORM	7.862	83	1109908	40.71	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.695	57	883981	41.28	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.902	97	1053228	41.37	PPBV		99
51) CARBON TETRACHLORIDE	9.541	117	1170067	43.29	PPBV		100
52) 1,2-DICHLOROETHANE	8.635	62	616970	42.62	PPBV		100
54) BENZENE	9.389	78	1683997	38.58	PPBV		99
55) CYCLOHEXANE	9.675	84	715797	39.52	PPBV		100

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60370.D
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : 1C2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration

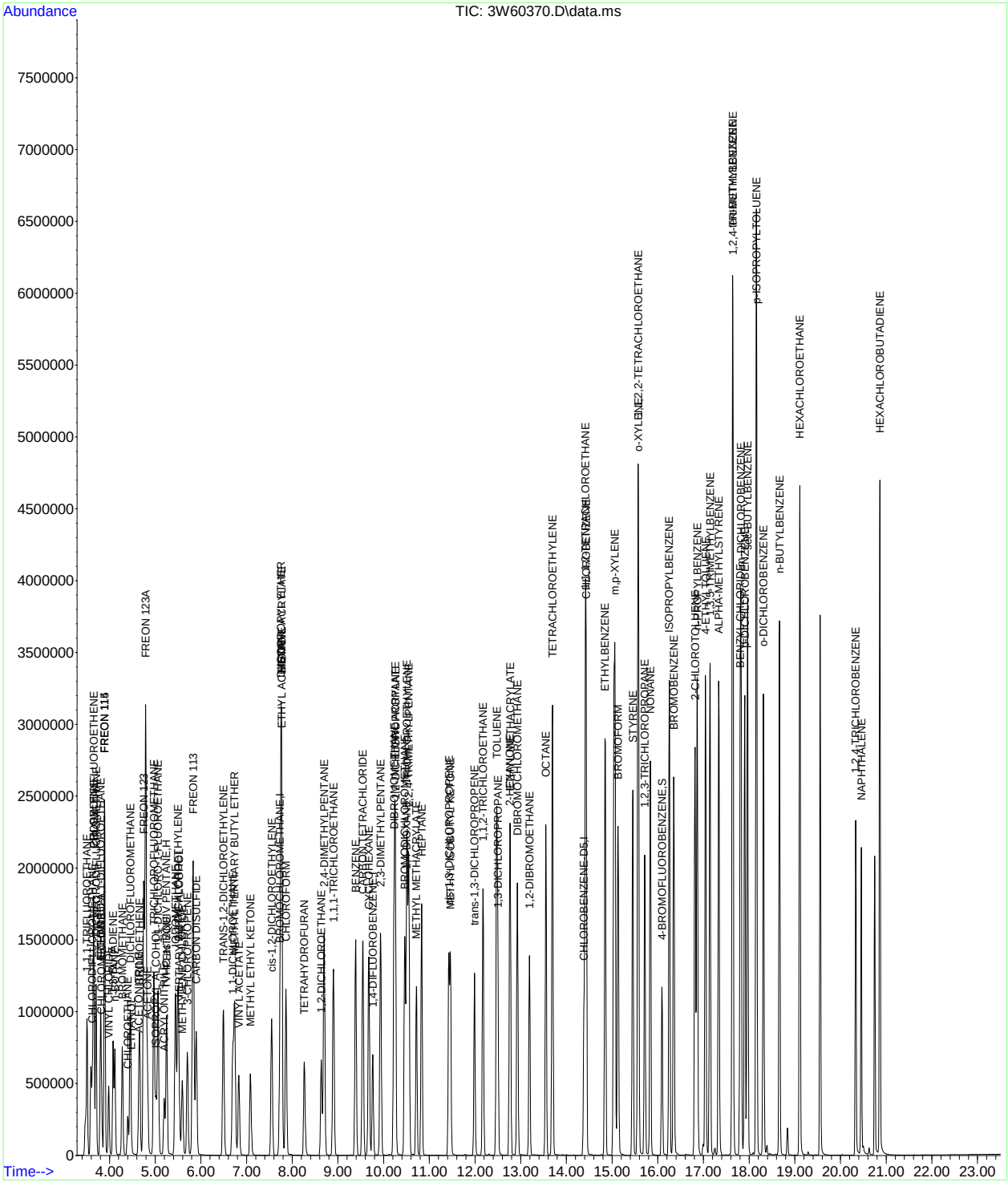
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.937	71	352336	39.58	PPBV		99
57)	TRICHLOROETHYLENE	10.508	95	750799	39.68	PPBV		99
58)	1,2-DICHLOROPROPANE	10.259	63	578413	37.45	PPBV		97
59)	DIBROMOMETHANE	10.229	174	803123	38.01	PPBV		100
60)	ETHYL ACRYLATE	10.253	55	1071788	41.61	PPBV		100
61)	BROMODICHLOROMETHANE	10.460	83	1191053	40.01	PPBV		100
62)	2,2,4-TRIMETHYLPENTANE	10.551	57	2359053	38.29	PPBV		100
63)	1,4-DIOXANE	10.496	88	269532	35.77	PPBV		91
64)	HEPTANE	10.831	43	771543	39.76	PPBV		99
65)	METHYL METHACRYLATE	10.715	69	563000	40.98	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.464	58	466259	42.99	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.427	75	959875	42.42	PPBV		100
68)	TOLUENE	12.473	92	1205539	40.42	PPBV		100
69)	1,3-DICHLOROPROPANE	12.504	76	899249	41.30	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.987	75	848090	43.50	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.175	83	611653	40.16	PPBV		99
73)	2-HEXANONE	12.759	58	615055	39.10	PPBV		99
74)	ETHYL METHACRYLATE	12.771	69	905207	38.05	PPBV		100
75)	TETRACHLOROETHYLENE	13.696	164	948633	34.18	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.930	129	1351545	36.95	PPBV		99
77)	1,2-DIBROMOETHANE	13.191	107	1128195	36.16	PPBV		100
78)	OCTANE	13.550	43	1032646	35.06	PPBV		98
79)	1,1,1,2-TETRACHLOROETHANE	14.414	131	964417	34.57	PPBV		97
80)	CHLOROBENZENE	14.432	112	1664599	35.11	PPBV		99
81)	ETHYLBENZENE	14.846	91	2546255	35.44	PPBV		99
82)	m,p-XYLENE	15.059	106	2042522	70.27	PPBV		99
83)	o-XYLENE	15.576	106	988917	34.71	PPBV		100
84)	STYRENE	15.454	104	1576463	38.30	PPBV		98
85)	NONANE	15.838	43	1055698	36.37	PPBV		98
86)	BROMOFORM	15.132	173	1438814	40.21	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.570	83	1467377	33.63	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.716	75	1075709	36.56	PPBV		99
90)	ISOPROPYLBENZENE	16.251	105	2686073	34.78	PPBV		98
91)	BROMOBENZENE	16.349	77	1264431	37.56	PPBV		100
92)	2-CHLOROTOLUENE	16.817	126	765417	36.92	PPBV		99
93)	n-PROPYLBENZENE	16.866	120	808717	38.53	PPBV		100
94)	4-ETHYLTOLUENE	17.048	105	2729687	38.17	PPBV		98
95)	1,3,5-TRIMETHYLBENZENE	17.146	105	2278742	36.22	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.334	118	1238782	41.31	PPBV		99
97)	tert-BUTYLBENZENE	17.638	134	519263	33.92	PPBV		98
98)	1,2,4-TRIMETHYLBENZENE	17.644	105	2164879	36.69	PPBV		96
99)	m-DICHLOROBENZENE	17.821	146	1610440	40.21	PPBV		99
100)	BENZYL CHLORIDE	17.803	91	1857056	48.12	PPBV		99
101)	p-DICHLOROBENZENE	17.906	146	1620955	41.05	PPBV		99
102)	sec-BUTYLBENZENE	17.967	134	647837	37.64	PPBV		93
103)	p-ISOPROPYLTOLUENE	18.162	134	711781	37.50	PPBV		94
104)	o-DICHLOROBENZENE	18.314	146	1576831	39.84	PPBV		99
105)	n-BUTYLBENZENE	18.666	134	655565	47.40	PPBV		94
106)	HEXACHLOROETHANE	19.111	117	1011575	37.65	PPBV		99
107)	HEXACHLOROBUTADIENE	20.863	225	979245	36.64	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.333	180	829154	50.06	PPBV		99
109)	NAPHTHALENE	20.455	128	1711859	52.80	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60370.D
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : 1c2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration



Manual Integration Approval Summary

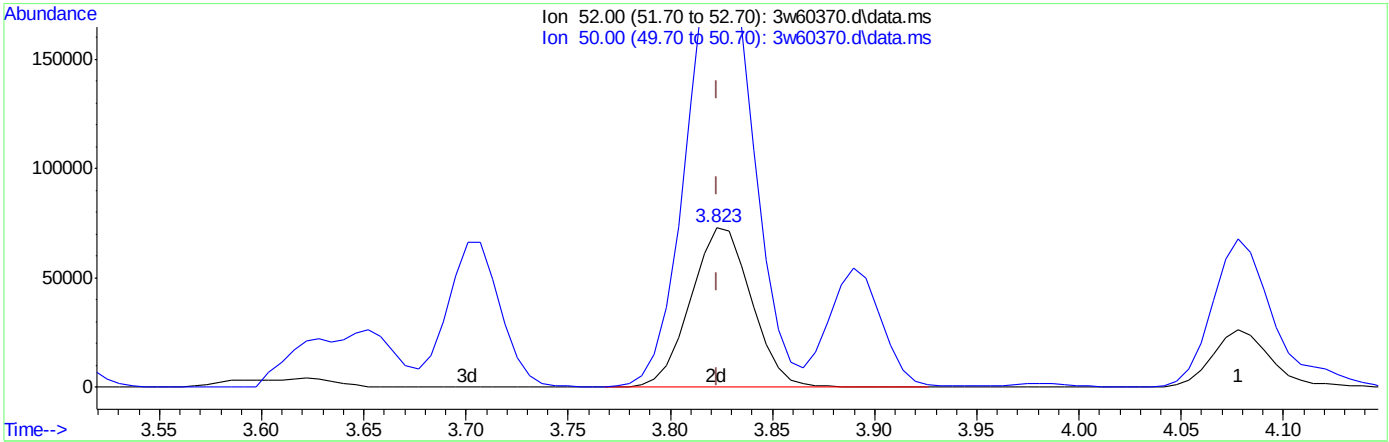
Sample Number:	V3W2293-IC2293	**Method:**	TO-15
Lab FileID:	3W60370.D	**Analyst approved:**	06/23/17 09:39
Injection Time:	06/21/17 18:21	**Supervisor approved:**	06/26/17 13:53 [redacted]

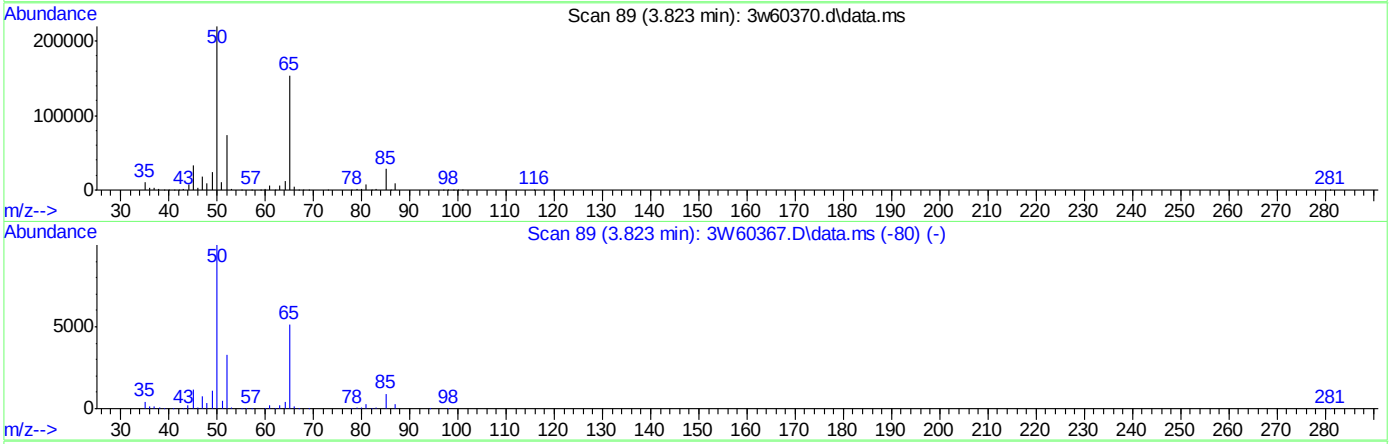
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.71	Missed peak
Chloromethane	74-87-3		3.82	Missed peak

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60370.d
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : ic2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 08:48:24 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration





TIC: 3w60370.d\data.ms

(11) CHLOROMETHANE

3.823min (-0.000) 38.71PPBV m

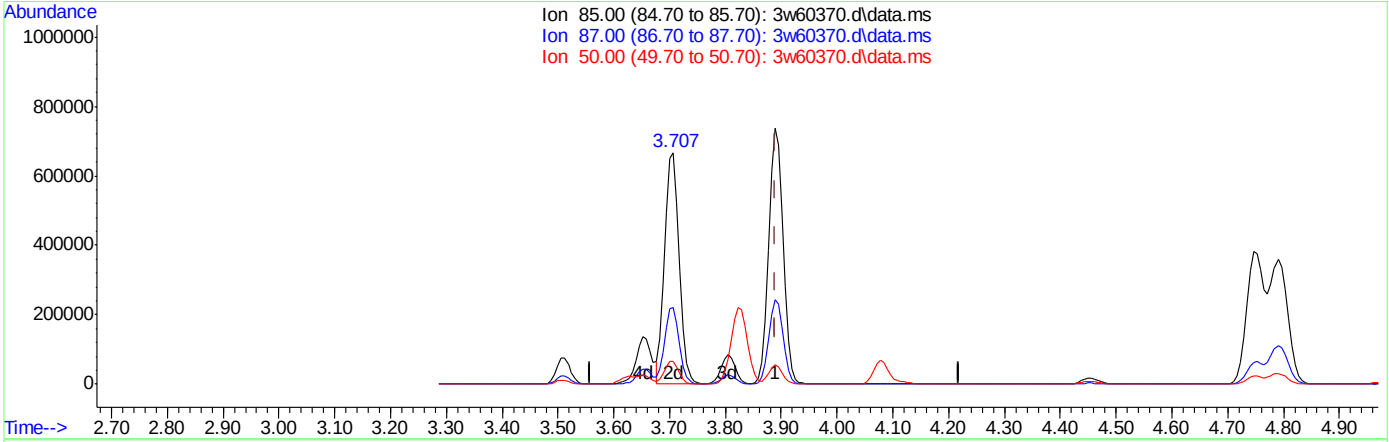
response 150286

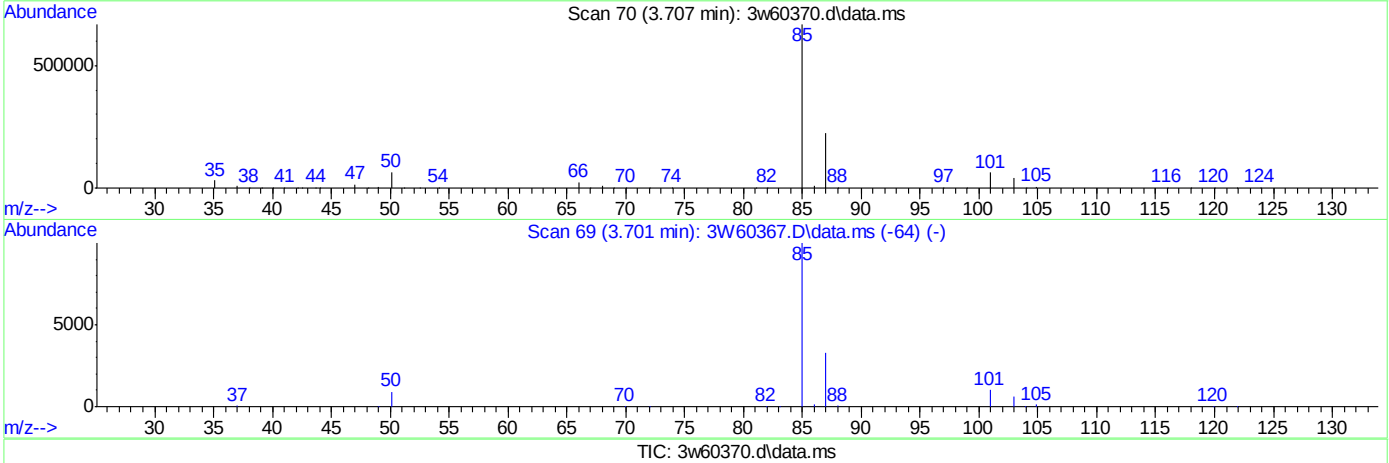
Ion	Exp%	Act%
52.00	100	100
50.00	265.70	300.76#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60370.d
Acq On : 21 Jun 2017 6:21 pm
Operator : [redacted]
Sample : ic2293-40
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:11 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Thu Jun 22 08:40:31 2017
Response via : Initial Calibration





TIC: 3w60370.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.707min (-0.183) 35.53PPBV m

response 1215567

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.56
50.00	6.90	7.88
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
06/26/17 13:53

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60372.D
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : 1C2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.722	128	159146	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.760	114	709572	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.378	82	317938	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.087	95	401366	10.19	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.90%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	446785	19.74	PPBV		99
3) FREON 115	3.896	85	687067	19.95	PPBV	#	100
4) FREON 152A	3.804	65	430135	19.92	PPBV		100
5) CHLORODIFLUOROMETHANE	3.628	67	58949	20.01	PPBV		100
6) CHLOROTRIFLUOROETHENE	3.658	116	380538	20.05	PPBV		99
7) DICHLORODIFLUOROMETHANE	3.707	85	612198m	17.81	PPBV		
8) PROPYLENE	3.652	41	167175	18.35	PPBV		99
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	430135	19.92	PPBV		100
10) FREON 114	3.896	85	687067	19.95	PPBV		100
11) CHLOROMETHANE	3.829	52	74963	19.23	PPBV		99
12) VINYL CHLORIDE	3.987	62	278963	20.17	PPBV		100
13) 1,3-BUTADIENE	4.078	54	196230	19.99	PPBV		100
14) n-BUTANE	4.121	43	342740	20.01	PPBV		100
15) BROMOMETHANE	4.279	94	296700	18.56	PPBV		100
16) CHLOROETHANE	4.401	64	131875	19.65	PPBV		100
17) DICHLOROFLUOROMETHANE	4.455	67	559333	19.22	PPBV		100
18) ACETONITRILE	4.638	41	174181	19.14	PPBV		99
19) FREON 123	4.747	83	705635	19.26	PPBV		99
20) FREON 123A	4.790	117	757146	39.33	PPBV		99
21) TRICHLOROFLUOROMETHANE	4.972	101	645198	20.35	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.058	81	543393	19.64	PPBV		100
23) ISOPROPYL ALCOHOL	5.015	45	444297	16.17	PPBV		99
24) ACETONE	4.833	58	111715	17.97	PPBV		100
25) PENTANE	5.246	42	229302	20.08	PPBV		99
26) TVHC as EQUIV PENTANE	5.240	TIC	1093651m	16.82	PPBV		
27) IODOMETHANE	5.441	142	865546	19.56	PPBV		99
28) 1,1-DICHLOROETHYLENE	5.496	96	270673	19.34	PPBV		99
29) CARBON DISULFIDE	5.897	76	853525	19.48	PPBV		100
30) ETHANOL	4.474	45	65698	15.57	PPBV		100
31) BROMOETHENE	4.662	106	298471	19.75	PPBV		100
32) ACRYLONITRILE	5.198	52	146324	19.46	PPBV		99
33) METHYLENE CHLORIDE	5.593	84	152333	11.05	PPBV		92
34) 3-CHLOROPROPENE	5.702	76	120210	19.93	PPBV		97
35) FREON 113	5.830	151	498043	20.18	PPBV		100
36) TRANS-1,2-DICHLOROETHY...	6.493	96	280808	17.24	PPBV		100
37) TERTIARY BUTYL ALCOHOL	5.520	59	400757	16.55	PPBV		99
38) METHYL TERTIARY BUTYL ...	6.737	73	677009	19.26	PPBV		100
39) TETRAHYDROFURAN	8.264	72	118797	20.15	PPBV		99
40) HEXANE	7.765	57	357925	19.04	PPBV		100
41) VINYL ACETATE	6.828	86	48270	24.46	PPBV	#	95
42) 1,1-DICHLOROETHANE	6.694	63	451797	19.90	PPBV		100
43) METHYL ETHYL KETONE	7.083	72	122127	21.15	PPBV		97
44) cis-1,2-DICHLOROETHYLENE	7.546	96	289377	19.74	PPBV		100
45) DIISOPROPYL ETHER	7.747	59	106859	19.93	PPBV		97
46) ETHYL ACETATE	7.765	61	78399	21.80	PPBV	#	96
47) METHYL ACRYLATE	7.759	55	409706	19.62	PPBV		100
48) CHLOROFORM	7.856	83	540389	19.72	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.696	57	430808	20.01	PPBV		100
50) 1,1,1-TRICHLOROETHANE	8.896	97	511648	19.99	PPBV		99
51) CARBON TETRACHLORIDE	9.541	117	568290	20.91	PPBV		100
52) 1,2-DICHLOROETHANE	8.629	62	292587	20.09	PPBV		100
54) BENZENE	9.383	78	824273	19.31	PPBV		100
55) CYCLOHEXANE	9.675	84	349508	19.69	PPBV		100

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60372.D
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : 1c2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration

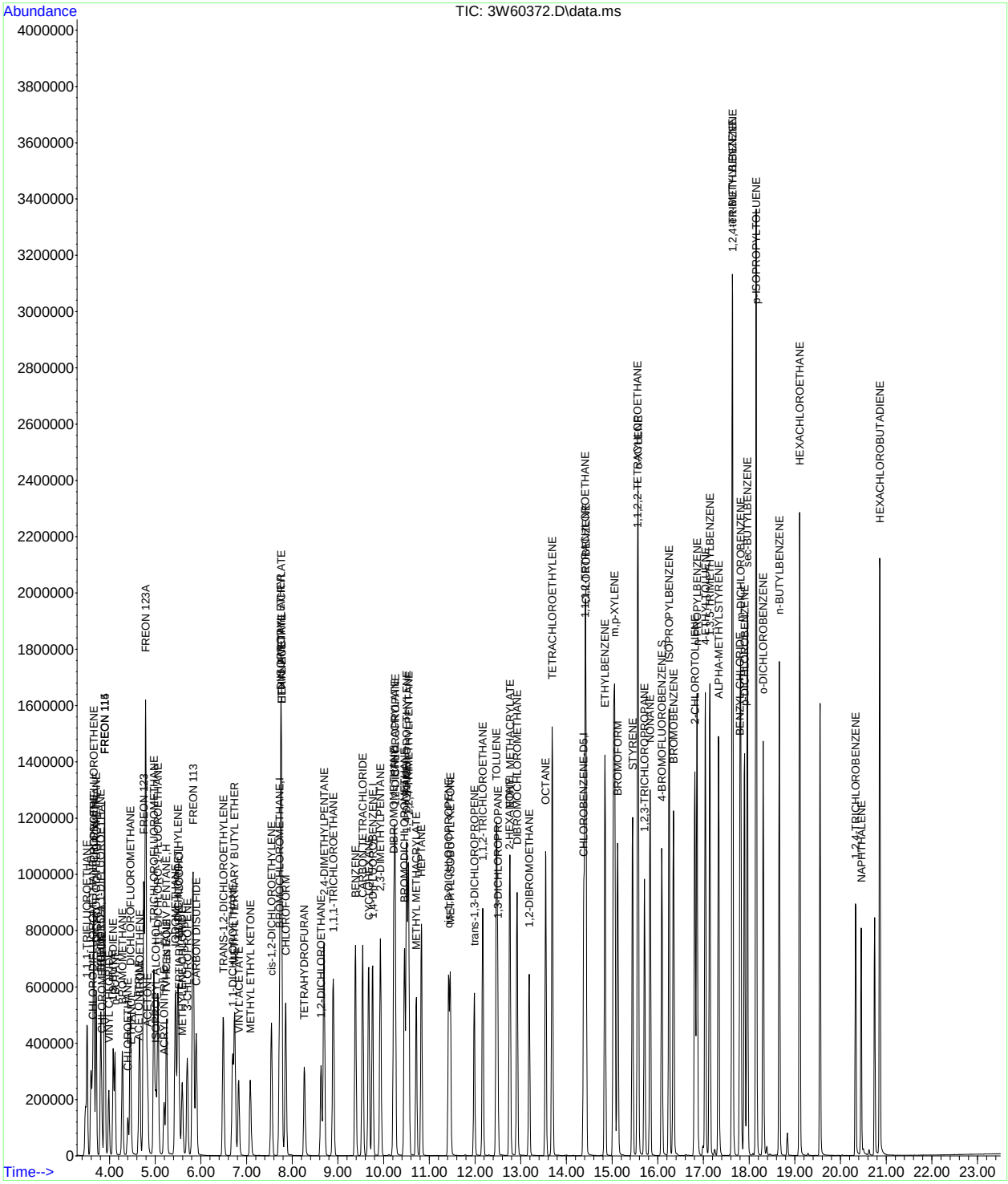
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.931	71	170102	19.53	PPBV		100
57)	TRICHLOROETHYLENE	10.502	95	359243	19.42	PPBV		100
58)	1,2-DICHLOROPROPANE	10.253	63	286721	18.99	PPBV		99
59)	DIBROMOMETHANE	10.223	174	388916	18.84	PPBV		100
60)	ETHYL ACRYLATE	10.247	55	506857	19.97	PPBV		100
61)	BROMODICHLOROMETHANE	10.454	83	573530	19.72	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.545	57	1165698	19.38	PPBV		100
63)	1,4-DIOXANE	10.496	88	139346	18.65	PPBV		95
64)	HEPTANE	10.825	43	369770	19.47	PPBV		100
65)	METHYL METHACRYLATE	10.715	69	263854	19.54	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.458	58	216161	20.14	PPBV		100
67)	cis-1,3-DICHLOROPROPENE	11.421	75	448566	20.24	PPBV		99
68)	TOLUENE	12.467	92	581601	19.92	PPBV		100
69)	1,3-DICHLOROPROPANE	12.498	76	428034	20.08	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.987	75	390206	20.40	PPBV		100
71)	1,1,2-TRICHLOROETHANE	12.169	83	290739	19.49	PPBV		100
73)	2-HEXANONE	12.753	58	281411	19.49	PPBV		100
74)	ETHYL METHACRYLATE	12.765	69	421843	19.33	PPBV		99
75)	TETRACHLOROETHYLENE	13.690	164	456524	18.14	PPBV		100
76)	DIBROMOCHLOROMETHANE	12.924	129	646233	19.48	PPBV		100
77)	1,2-DIBROMOETHANE	13.185	107	526635	18.57	PPBV		100
78)	OCTANE	13.544	43	495468	18.55	PPBV		99
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	476342	18.81	PPBV		99
80)	CHLOROBENZENE	14.426	112	805855	18.71	PPBV		100
81)	ETHYLBENZENE	14.846	91	1226242	18.75	PPBV		100
82)	m,p-XYLENE	15.053	106	990019	37.40	PPBV		99
83)	o-XYLENE	15.570	106	483883	18.66	PPBV		100
84)	STYRENE	15.448	104	736848	19.66	PPBV		100
85)	NONANE	15.832	43	500790	19.00	PPBV		99
86)	BROMOFORM	15.120	173	674084	20.71	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	722737	18.16	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.710	75	502863	18.74	PPBV		99
90)	ISOPROPYLBENZENE	16.251	105	1304354	18.53	PPBV		100
91)	BROMOBENZENE	16.343	77	583872	19.04	PPBV		100
92)	2-CHLOROTOLUENE	16.811	126	359663	19.03	PPBV		99
93)	n-PROPYLBENZENE	16.860	120	381439	19.92	PPBV		100
94)	4-ETHYLTOLUENE	17.042	105	1305700	20.02	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.140	105	1087822	18.97	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.334	118	574344	20.95	PPBV		100
97)	tert-BUTYLBENZENE	17.632	134	255247	18.31	PPBV		100
98)	1,2,4-TRIMETHYLBENZENE	17.638	105	1052476	19.56	PPBV		98
99)	m-DICHLOROBENZENE	17.815	146	739538	20.20	PPBV		99
100)	BENZYL CHLORIDE	17.797	91	818186	23.14	PPBV		100
101)	p-DICHLOROBENZENE	17.900	146	733244	20.35	PPBV		99
102)	sec-BUTYLBENZENE	17.961	134	305026	19.41	PPBV		98
103)	p-ISOPROPYLTOLUENE	18.156	134	347653	20.06	PPBV		98
104)	o-DICHLOROBENZENE	18.308	146	722800	19.99	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	290161	22.85	PPBV		99
106)	HEXACHLOROETHANE	19.105	117	489903	20.07	PPBV		100
107)	HEXACHLOROBUTADIENE	20.863	225	455398	18.65	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.333	180	331252	21.99	PPBV		100
109)	NAPHTHALENE	20.455	128	681197	23.01	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60372.D
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : 1c2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V3W2293-IC2293
Lab FileID: 3W60372.D
Injection Time: 06/21/17 19:43
Method: TO-15
Analyst approved: 06/23/17 09:39
Supervisor approved: 06/26/17 13:53 [redacted]

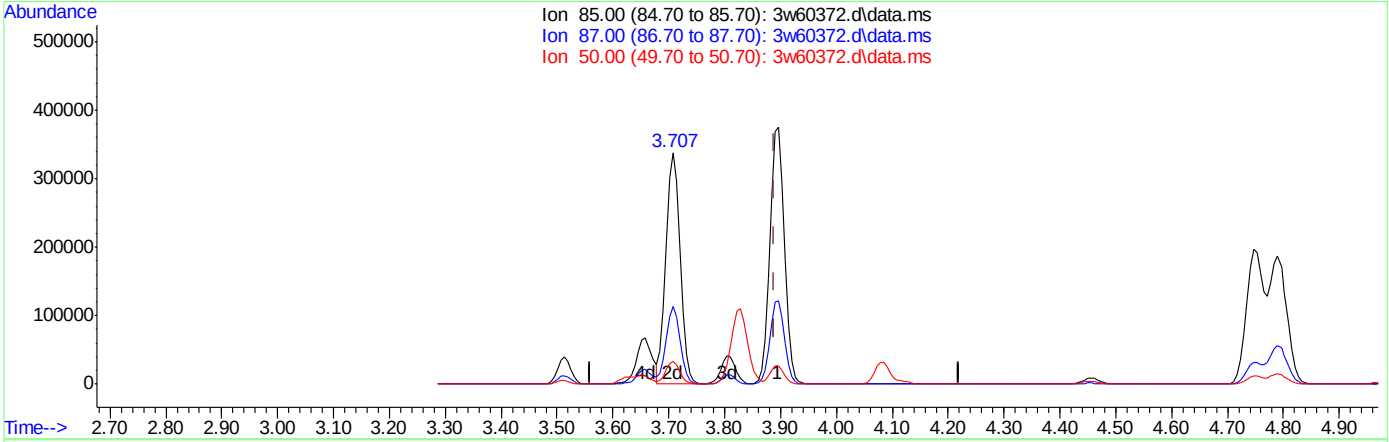
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.71	Missed peak

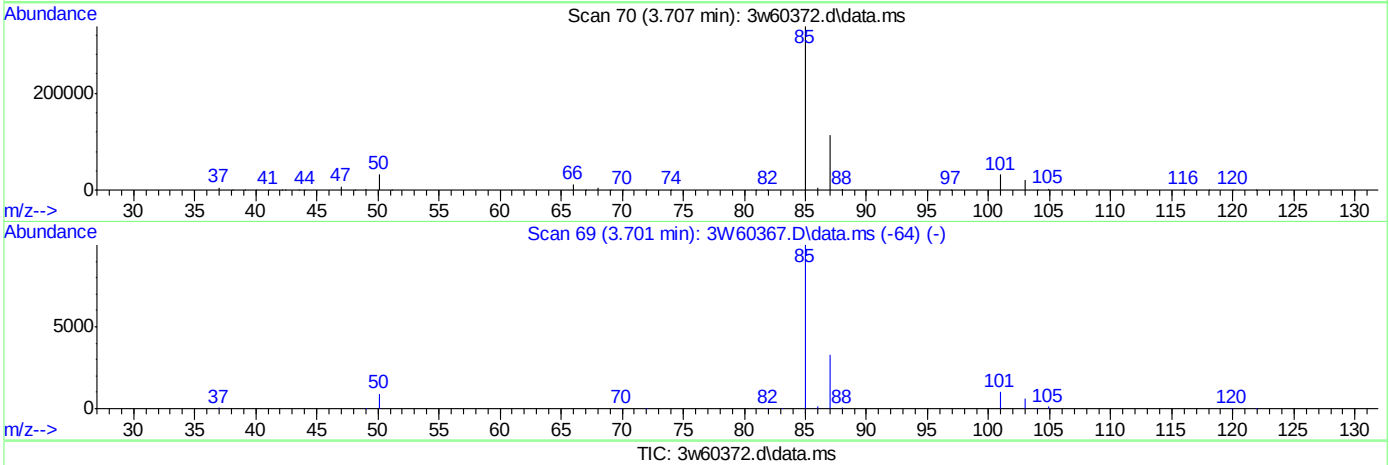
SGS ACCUTEST
JC52679

Quantitation Report (Qedit)

Data Path : [redacted]1\DATA\3w core\
Data File : 3w60372.d
Acq On : 21 Jun 2017 7:43 pm
Operator : [redacted]
Sample : ic2293-20
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:27:28 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Wed Jun 21 17:22:50 2017
Response via : Initial Calibration





TIC: 3w60372.d\data.ms

(7) DICHLORODIFLUOROMETHANE

3.707min (-0.183) 17.81PPBV m

response 612198

Ion	Exp%	Act%
85.00	100	100
87.00	32.80	36.55
50.00	6.90	7.92
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60374.D
Acq On : 21 Jun 2017 9:03 pm
Operator : [redacted]
Sample : icv2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:31:32 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	7.710	128	159909	10.00	PPBV	0.00
53) 1,4-DIFLUOROBENZENE	9.754	114	684080	10.00	PPBV	0.00
72) CHLOROBENZENE-D5	14.378	82	297347	10.00	PPBV	0.00
System Monitoring Compounds						
87) 4-BROMOFLUOROBENZENE	16.087	95	384020	10.61	PPBV	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 106.10%			
Target Compounds						Qvalue
3) FREON 115	3.883	85	369899	10.67	PPBV #	93
4) FREON 152A	3.798	65	217643	9.98	PPBV	100
5) CHLORODIFLUOROMETHANE	3.622	67	29075	9.53	PPBV	97
7) DICHLORODIFLUOROMETHANE	3.701	85	313441	9.69	PPBV	94
8) PROPYLENE	3.646	41	83777	9.30	PPBV	100
10) FREON 114	3.883	85	369899	10.67	PPBV	95
11) CHLOROMETHANE	3.823	52	38239	9.72	PPBV #	88
12) VINYL CHLORIDE	3.975	62	138877	10.13	PPBV	99
13) 1,3-BUTADIENE	4.072	54	93852	9.44	PPBV	100
14) n-BUTANE	4.115	43	172780	9.99	PPBV	100
15) BROMOMETHANE	4.273	94	149728	8.99	PPBV	100
16) CHLOROETHANE	4.394	64	66499	10.14	PPBV	99
17) DICHLOROFLUOROMETHANE	4.449	67	296144	9.87	PPBV	100
18) ACETONITRILE	4.632	41	84312	9.01	PPBV	99
19) FREON 123	4.741	83	336113	9.04	PPBV	98
20) FREON 123A	4.784	117	195435	10.37	PPBV	95
21) TRICHLOROFLUOROMETHANE	4.966	101	327154	10.22	PPBV	100
23) ISOPROPYL ALCOHOL	5.009	45	204682	7.80	PPBV	99
24) ACETONE	4.826	58	52849	8.60	PPBV	99
25) PENTANE	5.240	42	118959	10.38	PPBV	100
26) TVHC as EQUIV PENTANE	5.240	TIC	571929m	9.31	PPBV	
27) IODOMETHANE	5.435	142	439495	10.13	PPBV	99
28) 1,1-DICHLOROETHYLENE	5.483	96	131731	8.92	PPBV	99
29) CARBON DISULFIDE	5.891	76	407048	9.12	PPBV	100
30) ETHANOL	4.467	45	45985	11.56	PPBV	98
31) BROMOETHENE	4.650	106	144354	9.49	PPBV	99
32) ACRYLONITRILE	5.185	52	72365	9.72	PPBV	99
33) METHYLENE CHLORIDE	5.581	84	121379	9.45	PPBV	100
34) 3-CHLOROPROPENE	5.690	76	67024	11.12	PPBV	99
35) FREON 113	5.818	151	240241	10.00	PPBV	99
36) TRANS-1,2-DICHLOROETHY...	6.481	96	144658	9.02	PPBV	99
37) TERTIARY BUTYL ALCOHOL	5.514	59	235944	10.38	PPBV	99
38) METHYL TERTIARY BUTYL ...	6.737	73	335973	9.82	PPBV	100
39) TETRAHYDROFURAN	8.264	72	59188	10.50	PPBV	99
40) HEXANE	7.753	57	177750	9.51	PPBV	99
41) VINYL ACETATE	6.822	86	25369	12.20	PPBV	99
42) 1,1-DICHLOROETHANE	6.682	63	223420	10.08	PPBV	100
43) METHYL ETHYL KETONE	7.077	72	57235	9.74	PPBV	99
44) cis-1,2-DICHLOROETHYLENE	7.534	96	142846	9.93	PPBV	100
45) DIISOPROPYL ETHER	7.740	59	52848	10.23	PPBV	99
46) ETHYL ACETATE	7.759	61	37008	10.13	PPBV #	95
47) METHYL ACRYLATE	7.753	55	196705	9.68	PPBV	100
48) CHLOROFORM	7.844	83	265392	9.85	PPBV	100
49) 2,4-DIMETHYLPENTANE	8.689	57	214298	9.22	PPBV	100
50) 1,1,1-TRICHLOROETHANE	8.890	97	272649	10.83	PPBV	100
51) CARBON TETRACHLORIDE	9.535	117	285074	10.81	PPBV	100
52) 1,2-DICHLOROETHANE	8.623	62	144478	10.07	PPBV	99
54) BENZENE	9.377	78	406033	9.99	PPBV	100
55) CYCLOHEXANE	9.669	84	178715	10.68	PPBV	100
56) 2,3-DIMETHYLPENTANE	9.924	71	84720	9.71	PPBV	100
57) TRICHLOROETHYLENE	10.496	95	175554	10.02	PPBV	99
58) 1,2-DICHLOROPROPANE	10.247	63	139272	9.71	PPBV	100
59) DIBROMOMETHANE	10.216	174	190195	9.35	PPBV	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60374.D
Acq On : 21 Jun 2017 9:03 pm
Operator : [redacted]
Sample : icv2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:31:32 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
60)	ETHYL ACRYLATE	10.241	55	238304	10.10	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	278547	10.10	PPBV		100
62)	2,2,4-TRIMETHYLPENTANE	10.539	57	587991	9.79	PPBV		100
63)	1,4-DIOXANE	10.496	88	89716	12.87	PPBV		98
64)	HEPTANE	10.819	43	182929	9.29	PPBV		100
65)	METHYL METHACRYLATE	10.709	69	125639	10.01	PPBV		99
66)	METHYL ISOBUTYL KETONE	11.457	58	103209	9.98	PPBV		99
67)	cis-1,3-DICHLOROPROPENE	11.415	75	224330	11.11	PPBV		99
68)	TOLUENE	12.467	92	279956	10.14	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	198126	10.13	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	182342	10.47	PPBV		100
71)	1,1,2-TRICHLOROETHANE	12.163	83	140659	10.06	PPBV		100
73)	2-HEXANONE	12.753	58	132984	10.00	PPBV		99
74)	ETHYL METHACRYLATE	12.765	69	202355	10.47	PPBV		99
75)	TETRACHLOROETHYLENE	13.690	164	221248	9.53	PPBV		100
76)	DIBROMOCHLOROMETHANE	12.918	129	314820	10.76	PPBV		99
77)	1,2-DIBROMOETHANE	13.179	107	251715	10.06	PPBV		100
78)	OCTANE	13.544	43	247734	9.56	PPBV		100
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	233495	10.51	PPBV		99
80)	CHLOROBENZENE	14.426	112	383110	9.80	PPBV		100
81)	ETHYLBENZENE	14.840	91	590992	10.05	PPBV		100
82)	m,p-XYLENE	15.047	106	475328	20.12	PPBV		99
83)	o-XYLENE	15.564	106	234152	10.05	PPBV		100
84)	STYRENE	15.448	104	347743	10.52	PPBV		100
85)	NONANE	15.832	43	240540	9.73	PPBV		99
86)	BROMOFORM	15.120	173	314601	11.10	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	351875	9.95	PPBV		100
89)	1,2,3-TRICHLOROPROPANE	15.710	75	242762	10.34	PPBV		100
90)	ISOPROPYLBENZENE	16.245	105	680418	10.85	PPBV		100
91)	BROMOBENZENE	16.343	77	269870	9.69	PPBV		100
92)	2-CHLOROTOLUENE	16.811	126	175111	10.59	PPBV		100
93)	n-PROPYLBENZENE	16.860	120	178847	10.57	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	613330	11.02	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	524768	10.53	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	265304	10.98	PPBV		100
97)	tert-BUTYLBENZENE	17.626	134	124291	10.52	PPBV		99
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	501050	10.96	PPBV		100
99)	m-DICHLOROBENZENE	17.815	146	340044	10.62	PPBV		99
100)	BENZYL CHLORIDE	17.797	91	350314	11.43	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	331400	10.28	PPBV		100
102)	sec-BUTYLBENZENE	17.961	134	153095	11.03	PPBV		100
103)	p-ISOPROPYLTOLUENE	18.155	134	168225	11.17	PPBV		100
104)	o-DICHLOROBENZENE	18.308	146	332052	10.52	PPBV		99
105)	n-BUTYLBENZENE	18.660	134	132021	11.69	PPBV		98
106)	HEXACHLOROETHANE	19.105	117	240794	11.29	PPBV		100
107)	HEXACHLOROBUTADIENE	20.857	225	206330	9.73	PPBV		100
108)	1,2,4-TRICHLOROBENZENE	20.327	180	124998	8.49	PPBV		99
109)	NAPHTHALENE	20.449	128	243011	8.96	PPBV		100

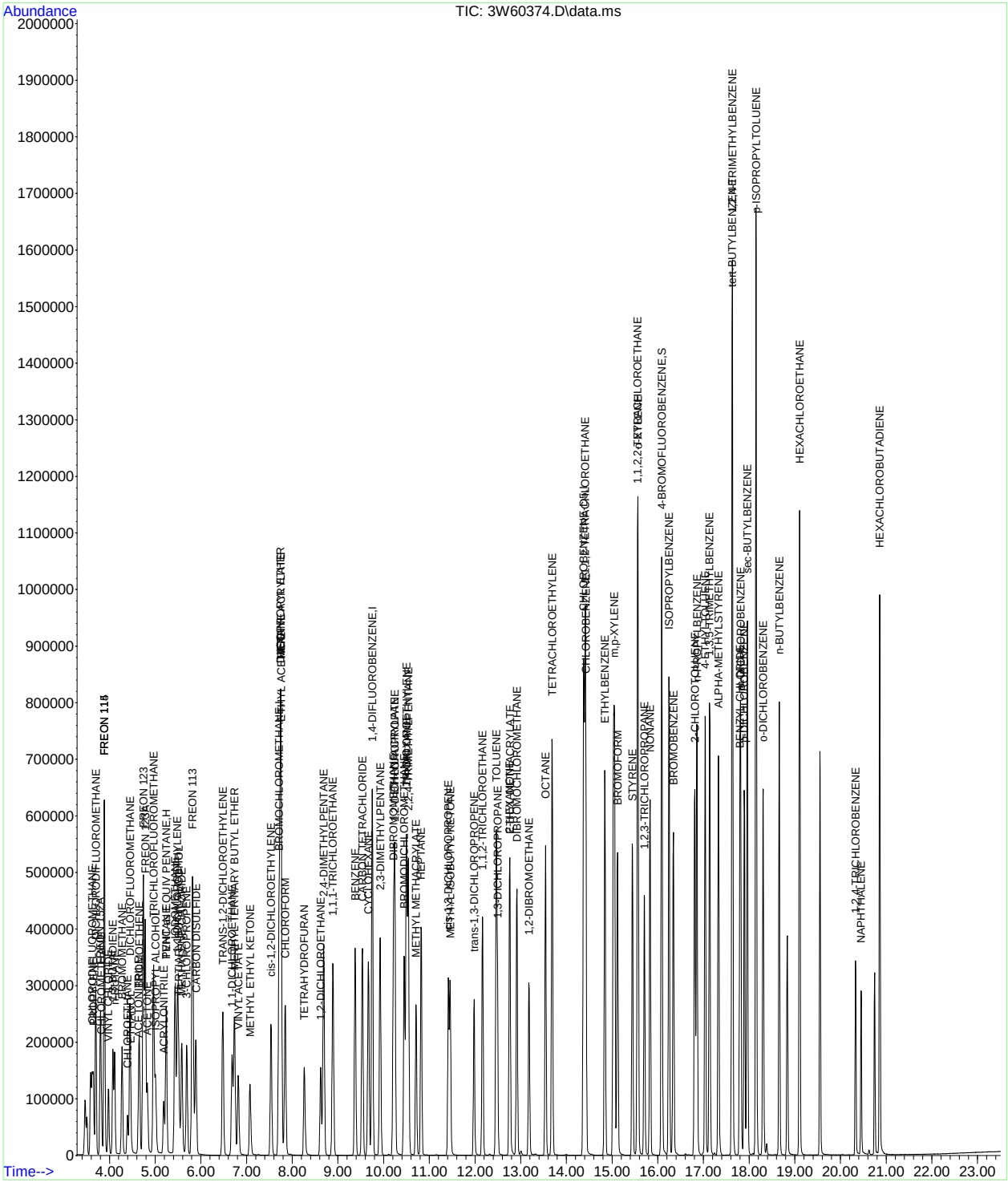
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60374.D
Acq On : 21 Jun 2017 9:03 pm
Operator : [redacted]
Sample : icv2293-10
Misc : MS16663,V3W2293,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 23 09:31:32 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60487.D
Acq On : 27 Jun 2017 10:37 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:00:14 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	154664	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	688631	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.372	82	315502	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.081	95	401319	10.45	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.50%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.500	69	225474	9.91	PPBV		98
3) FREON 115	3.883	85	335157	10.00	PPBV	#	99
4) FREON 152A	3.798	65	204439	9.69	PPBV		100
5) CHLORODIFLUOROMETHANE	3.622	67	28219	9.57	PPBV		100
6) CHLOROTRIFLUOROETHENE	3.652	116	187428	10.26	PPBV		98
7) DICHLORODIFLUOROMETHANE	3.701	85	300927	9.62	PPBV		94
8) PROPYLENE	3.646	41	87829	10.08	PPBV		98
9) 1-CHLORO-1,1-DIFLUOROE...	3.798	65	204439	9.69	PPBV		100
10) FREON 114	3.883	85	335157	10.00	PPBV		99
11) CHLOROMETHANE	3.823	52	37786	9.93	PPBV		98
12) VINYL CHLORIDE	3.975	62	136264	10.28	PPBV		100
13) 1,3-BUTADIENE	4.072	54	95114	9.89	PPBV		98
14) n-BUTANE	4.115	43	167342	10.00	PPBV		100
15) BROMOMETHANE	4.273	94	143101	8.88	PPBV		100
16) CHLOROETHANE	4.394	64	64313	10.14	PPBV		99
17) DICHLOROFLUOROMETHANE	4.449	67	263536	9.08	PPBV		100
18) ACETONITRILE	4.638	41	80672	8.91	PPBV		99
19) FREON 123	4.741	83	331324	9.21	PPBV		97
20) FREON 123A	4.784	117	353669	19.41	PPBV		98
21) TRICHLOROFLUOROMETHANE	4.966	101	307535	9.93	PPBV		100
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	251878	8.89	PPBV		99
23) ISOPROPYL ALCOHOL	5.009	45	224520	8.84	PPBV		99
24) ACETONE	4.832	58	50625	8.51	PPBV		96
25) PENTANE	5.240	42	106904	9.65	PPBV		97
26) TVHC as EQUIV PENTANE	5.240	TIC	504713m	8.49	PPBV		
27) IODOMETHANE	5.435	142	402083	9.58	PPBV		98
28) 1,1-DICHLOROETHYLENE	5.483	96	128446	8.99	PPBV		100
29) CARBON DISULFIDE	5.891	76	412403	9.55	PPBV		100
30) ETHANOL	4.474	45	34709	9.02	PPBV		99
31) BROMOETHENE	4.650	106	140744	9.57	PPBV		100
32) ACRYLONITRILE	5.191	52	64267	8.93	PPBV		98
33) METHYLENE CHLORIDE	5.581	84	116169	9.35	PPBV		99
34) 3-CHLOROPROPENE	5.690	76	56600	9.71	PPBV		98
35) FREON 113	5.818	151	229666	9.89	PPBV		99
36) TRANS-1,2-DICHLOROETHY...	6.481	96	130187	8.40	PPBV		96
37) TERTIARY BUTYL ALCOHOL	5.514	59	226646	10.31	PPBV		98
38) METHYL TERTIARY BUTYL ...	6.737	73	310450	9.38	PPBV		99
39) TETRAHYDROFURAN	8.270	72	56022	10.27	PPBV		95
40) HEXANE	7.753	57	174482	9.65	PPBV		98
41) VINYL ACETATE	6.822	86	20570	10.23	PPBV		99
42) 1,1-DICHLOROETHANE	6.682	63	215260	10.04	PPBV		99
43) METHYL ETHYL KETONE	7.077	72	56603	9.95	PPBV		97
44) cis-1,2-DICHLOROETHYLENE	7.534	96	137933	9.91	PPBV		99
45) DIISOPROPYL ETHER	7.747	59	50382	10.08	PPBV	#	93
46) ETHYL ACETATE	7.759	61	36974	10.47	PPBV		99
47) METHYL ACRYLATE	7.753	55	192335	9.79	PPBV		99
48) CHLOROFORM	7.844	83	255660	9.81	PPBV		100
49) 2,4-DIMETHYLPENTANE	8.683	57	213176	9.49	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.890	97	241112	9.90	PPBV		98
51) CARBON TETRACHLORIDE	9.529	117	272944	10.70	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	139330	10.04	PPBV		99
54) BENZENE	9.371	78	397270	9.71	PPBV		99
55) CYCLOHEXANE	9.663	84	167536	9.95	PPBV		98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60487.D
Acq On : 27 Jun 2017 10:37 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:00:14 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

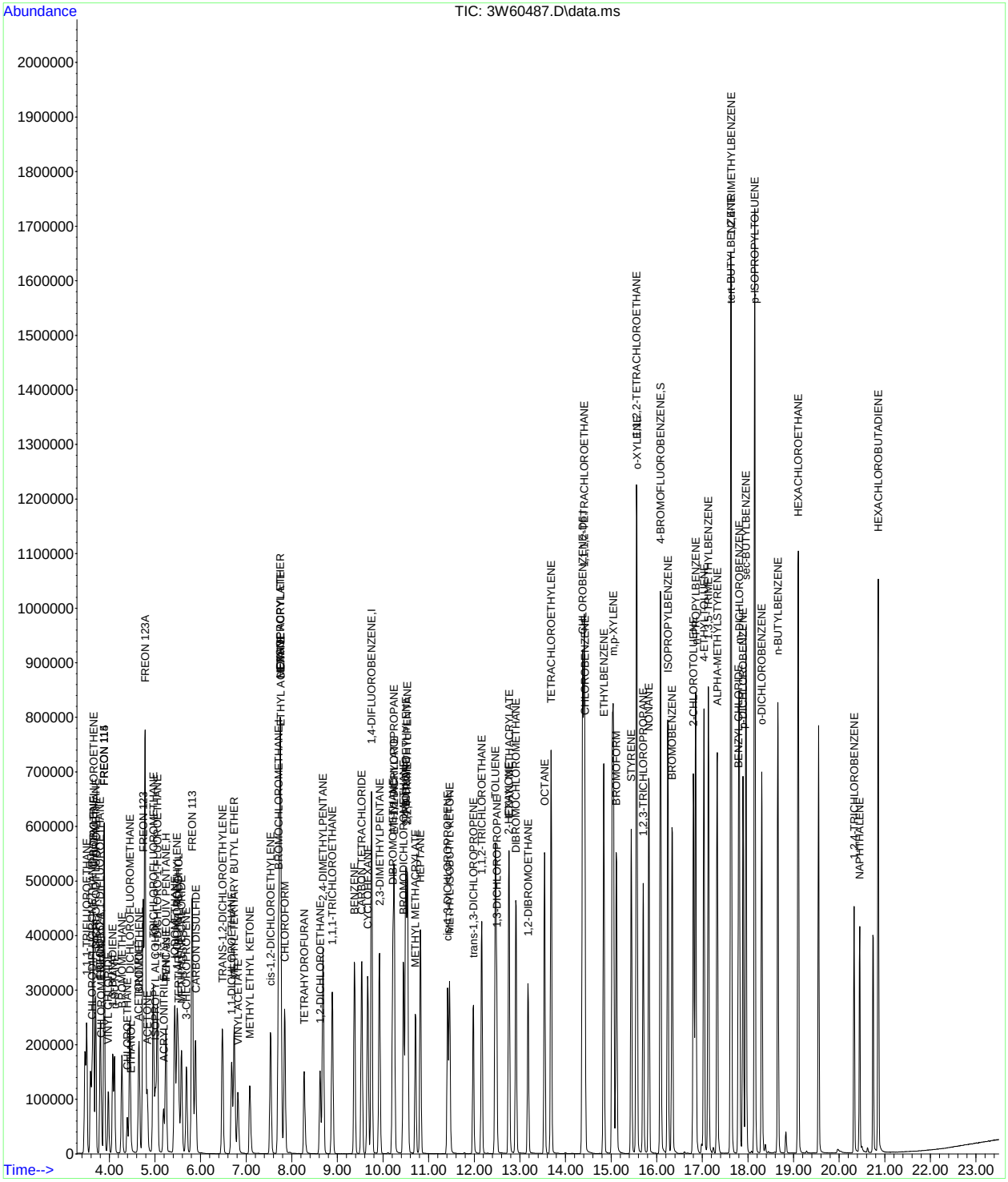
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.924	71	80843	9.21	PPBV		99
57)	TRICHLOROETHYLENE	10.496	95	167433	9.49	PPBV		99
58)	1,2-DICHLOROPROPANE	10.241	63	140192	9.70	PPBV		98
59)	DIBROMOMETHANE	10.216	174	176619	8.62	PPBV		97
60)	ETHYL ACRYLATE	10.247	55	232927	9.80	PPBV		100
61)	BROMODICHLOROMETHANE	10.448	83	269191	9.69	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	566865	9.38	PPBV		100
63)	1,4-DIOXANE	10.502	88	69627	9.92	PPBV	#	60
64)	HEPTANE	10.819	43	187521	9.46	PPBV		98
65)	METHYL METHACRYLATE	10.709	69	121254	9.59	PPBV		98
66)	METHYL ISOBUTYL KETONE	11.458	58	106605	10.24	PPBV		97
67)	cis-1,3-DICHLOROPROPENE	11.415	75	215319	10.59	PPBV		90
68)	TOLUENE	12.461	92	283018	10.19	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	206478	10.49	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.981	75	186351	10.63	PPBV		100
71)	1,1,2-TRICHLOROETHANE	12.163	83	142251	10.11	PPBV		98
73)	2-HEXANONE	12.753	58	139888	9.92	PPBV		98
74)	ETHYL METHACRYLATE	12.765	69	204252	9.96	PPBV		98
75)	TETRACHLOROETHYLENE	13.684	164	219420	8.90	PPBV		99
76)	DIBROMOCHLOROMETHANE	12.911	129	313842	10.11	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	253638	9.56	PPBV		100
78)	OCTANE	13.538	43	269372	9.80	PPBV		96
79)	1,1,1,2-TETRACHLOROETHANE	14.408	131	236953	10.05	PPBV		99
80)	CHLOROBENZENE	14.426	112	397222	9.58	PPBV		99
81)	ETHYLBENZENE	14.840	91	609451	9.77	PPBV		100
82)	m,p-XYLENE	15.047	106	499348	19.92	PPBV		99
83)	o-XYLENE	15.564	106	247112	10.00	PPBV		100
84)	STYRENE	15.442	104	361046	10.30	PPBV		99
85)	NONANE	15.826	43	284220	10.83	PPBV		97
86)	BROMOFORM	15.114	173	328315	10.91	PPBV		100
88)	1,1,2,2-TETRACHLOROETHANE	15.558	83	378646	10.09	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	263346	10.57	PPBV		97
90)	ISOPROPYLBENZENE	16.245	105	664615	9.99	PPBV		100
91)	BROMOBENZENE	16.337	77	303134	10.26	PPBV		93
92)	2-CHLOROTOLUENE	16.805	126	180856	10.31	PPBV		100
93)	n-PROPYLBENZENE	16.854	120	191037	10.64	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	653857	11.07	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	551666	10.43	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	280422	10.94	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	129333	10.32	PPBV		96
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	533253	10.99	PPBV		100
99)	m-DICHLOROBENZENE	17.809	146	356671	10.50	PPBV		99
100)	BENZYL CHLORIDE	17.791	91	388676	11.95	PPBV		99
101)	p-DICHLOROBENZENE	17.894	146	346390	10.13	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	152678	10.36	PPBV		98
103)	p-ISOPROPYLTOLUENE	18.149	134	175156	10.96	PPBV		100
104)	o-DICHLOROBENZENE	18.302	146	348250	10.40	PPBV		99
105)	n-BUTYLBENZENE	18.654	134	136776	11.42	PPBV		96
106)	HEXACHLOROETHANE	19.098	117	246866	10.91	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	217777	9.68	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	156883	10.04	PPBV		99
109)	NAPHTHALENE	20.449	128	332848	11.57	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60487.D
Acq On : 27 Jun 2017 10:37 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS16797,V3W2298,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 27 17:00:14 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60516.D
Acq On : 28 Jun 2017 10:07 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS17009,V3W2299,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 14:43:21 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	7.710	128	173612	10.00	PPBV		0.00
53) 1,4-DIFLUOROBENZENE	9.748	114	779248	10.00	PPBV		0.00
72) CHLOROBENZENE-D5	14.372	82	336441	10.00	PPBV		0.00
System Monitoring Compounds							
87) 4-BROMOFLUOROBENZENE	16.081	95	421459	10.29	PPBV		0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 102.90%				
Target Compounds							Qvalue
2) 1,1,1-TRIFLUOROETHANE	3.506	69	250288	9.80	PPBV		98
3) FREON 115	3.890	85	366696	9.74	PPBV	#	98
4) FREON 152A	3.804	65	224395	9.48	PPBV		99
5) CHLORODIFLUOROMETHANE	3.622	67	31081	9.39	PPBV		99
6) CHLOROTRIFLUOROETHENE	3.652	116	203970	9.95	PPBV		99
7) DICHLORODIFLUOROMETHANE	3.701	85	331996	9.46	PPBV		94
8) PROPYLENE	3.646	41	103514	10.58	PPBV		98
9) 1-CHLORO-1,1-DIFLUOROE...	3.804	65	224395	9.48	PPBV		99
10) FREON 114	3.890	85	366696	9.74	PPBV		98
11) CHLOROMETHANE	3.823	52	42720	10.00	PPBV	#	88
12) VINYL CHLORIDE	3.981	62	152186	10.22	PPBV		100
13) 1,3-BUTADIENE	4.078	54	105712	9.80	PPBV		99
14) n-BUTANE	4.115	43	195121	10.39	PPBV		99
15) BROMOMETHANE	4.279	94	155660	8.61	PPBV		99
16) CHLOROETHANE	4.394	64	73887	10.38	PPBV		99
17) DICHLOROFLUOROMETHANE	4.449	67	303854	9.33	PPBV		100
18) ACETONITRILE	4.644	41	94845	9.33	PPBV		98
19) FREON 123	4.741	83	373150	9.24	PPBV		94
20) FREON 123A	4.784	117	391840	19.16	PPBV		95
21) TRICHLOROFLUOROMETHANE	4.966	101	330332	9.50	PPBV		99
22) 1,1-DICHLORO-1-FLUOROE...	5.051	81	284895	8.96	PPBV		100
23) ISOPROPYL ALCOHOL	5.015	45	259802	9.11	PPBV		99
24) ACETONE	4.832	58	58465	8.76	PPBV		94
25) PENTANE	5.240	42	121273	9.75	PPBV		96
26) TVHC as EQUIV PENTANE	5.240	TIC	579774m	8.69	PPBV		
27) IODOMETHANE	5.435	142	432758	9.19	PPBV		98
28) 1,1-DICHLOROETHYLENE	5.490	96	137783	8.59	PPBV		97
29) CARBON DISULFIDE	5.891	76	458584	9.46	PPBV		100
30) ETHANOL	4.474	45	41763	9.67	PPBV		100
31) BROMOETHENE	4.656	106	152507	9.24	PPBV		99
32) ACRYLONITRILE	5.191	52	75503	9.34	PPBV		99
33) METHYLENE CHLORIDE	5.587	84	128663	9.22	PPBV		97
34) 3-CHLOROPROPENE	5.690	76	64040	9.79	PPBV		95
35) FREON 113	5.818	151	255939	9.82	PPBV		97
36) TRANS-1,2-DICHLOROETHY...	6.481	96	148815	8.55	PPBV		96
37) TERTIARY BUTYL ALCOHOL	5.520	59	261147	10.58	PPBV		98
38) METHYL TERTIARY BUTYL ...	6.743	73	349135	9.40	PPBV		98
39) TETRAHYDROFURAN	8.276	72	63191	10.32	PPBV		93
40) HEXANE	7.753	57	201454	9.93	PPBV		99
41) VINYL ACETATE	6.822	86	23164	10.26	PPBV	#	85
42) 1,1-DICHLOROETHANE	6.682	63	244863	10.17	PPBV		100
43) METHYL ETHYL KETONE	7.083	72	62801	9.84	PPBV		93
44) cis-1,2-DICHLOROETHYLENE	7.534	96	149915	9.60	PPBV		97
45) DIISOPROPYL ETHER	7.747	59	58199	10.38	PPBV	#	93
46) ETHYL ACETATE	7.765	61	43002	10.84	PPBV	#	96
47) METHYL ACRYLATE	7.753	55	221047	10.02	PPBV		98
48) CHLOROFORM	7.844	83	281661	9.63	PPBV		99
49) 2,4-DIMETHYLPENTANE	8.683	57	236370	9.37	PPBV		99
50) 1,1,1-TRICHLOROETHANE	8.890	97	264343	9.67	PPBV		99
51) CARBON TETRACHLORIDE	9.529	117	296622	10.36	PPBV		100
52) 1,2-DICHLOROETHANE	8.623	62	151007	9.70	PPBV		99
54) BENZENE	9.377	78	434904	9.39	PPBV		99
55) CYCLOHEXANE	9.663	84	185710	9.75	PPBV		95

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60516.D
Acq On : 28 Jun 2017 10:07 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS17009,V3W2299,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 14:43:21 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration

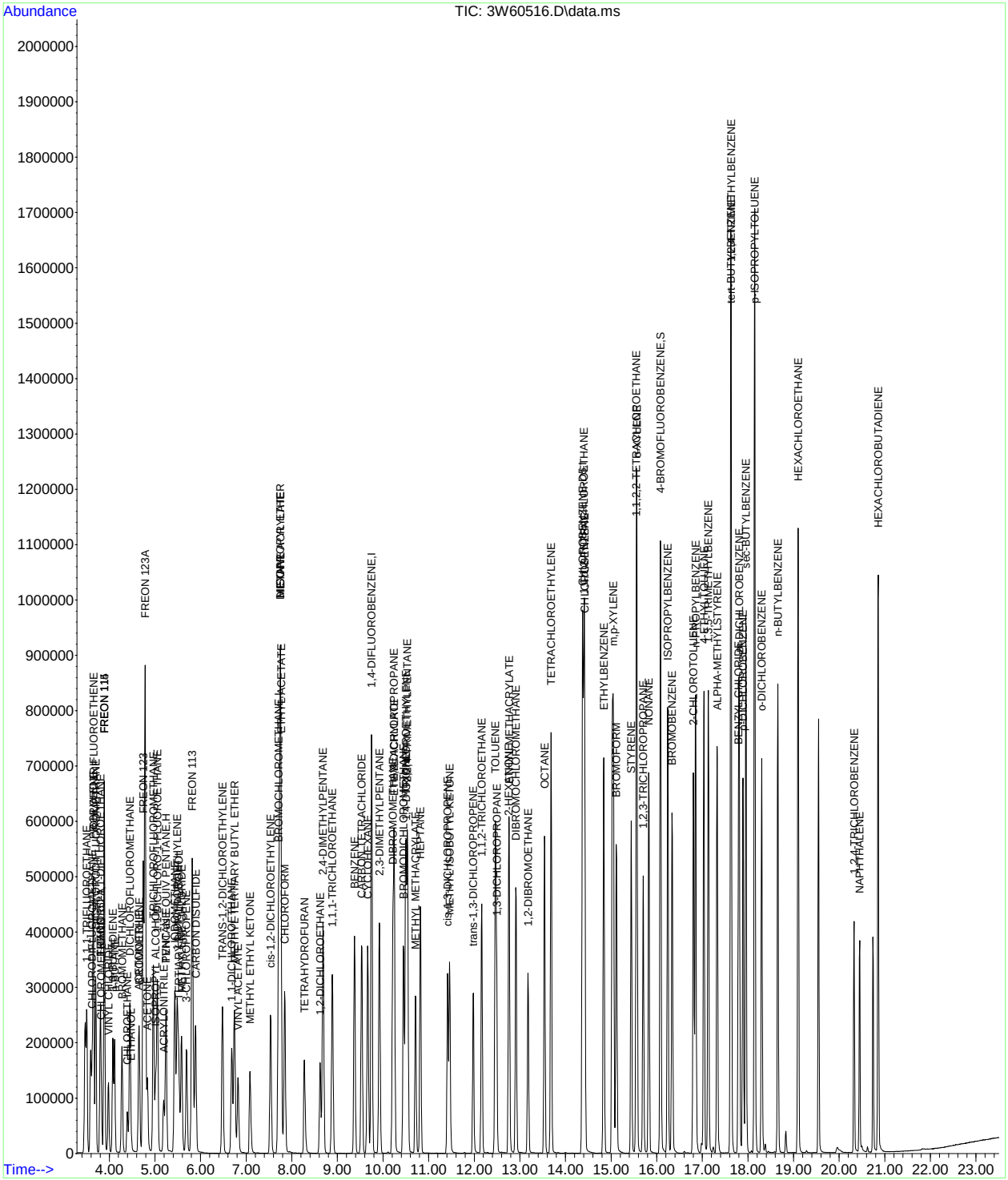
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56)	2,3-DIMETHYLPENTANE	9.918	71	89770	9.03	PPBV		95
57)	TRICHLOROETHYLENE	10.496	95	182832	9.16	PPBV		98
58)	1,2-DICHLOROPROPANE	10.241	63	156021	9.54	PPBV		98
59)	DIBROMOMETHANE	10.216	174	189370	8.17	PPBV		96
60)	ETHYL ACRYLATE	10.247	55	264723	9.84	PPBV		99
61)	BROMODICHLOROMETHANE	10.448	83	293125	9.33	PPBV		99
62)	2,2,4-TRIMETHYLPENTANE	10.533	57	633528	9.26	PPBV		100
63)	1,4-DIOXANE	10.508	88	78468	9.88	PPBV	#	1
64)	HEPTANE	10.819	43	208921	9.32	PPBV		96
65)	METHYL METHACRYLATE	10.715	69	135410	9.47	PPBV		96
66)	METHYL ISOBUTYL KETONE	11.458	58	116582	9.90	PPBV		95
67)	cis-1,3-DICHLOROPROPENE	11.415	75	230507	10.02	PPBV		90
68)	TOLUENE	12.461	92	295722	9.41	PPBV		99
69)	1,3-DICHLOROPROPANE	12.492	76	219518	9.86	PPBV	#	100
70)	trans-1,3-DICHLOROPROPENE	11.975	75	199146	10.04	PPBV		99
71)	1,1,2-TRICHLOROETHANE	12.163	83	149033	9.36	PPBV		98
73)	2-HEXANONE	12.753	58	149670	9.95	PPBV		97
74)	ETHYL METHACRYLATE	12.765	69	219713	10.05	PPBV		98
75)	TETRACHLOROETHYLENE	13.684	164	221727	8.44	PPBV		98
76)	DIBROMOCHLOROMETHANE	12.911	129	324657	9.81	PPBV		100
77)	1,2-DIBROMOETHANE	13.179	107	264860	9.36	PPBV		100
78)	OCTANE	13.538	43	275568	9.40	PPBV		96
79)	1,1,1,2-TETRACHLOROETHANE	14.402	131	240026	9.54	PPBV		99
80)	CHLOROBENZENE	14.420	112	403767	9.13	PPBV		99
81)	ETHYLBENZENE	14.840	91	613913	9.23	PPBV		100
82)	m,p-XYLENE	15.047	106	501655	18.76	PPBV		99
83)	o-XYLENE	15.564	106	248319	9.42	PPBV		99
84)	STYRENE	15.442	104	360375	9.64	PPBV		100
85)	NONANE	15.826	43	274256	9.80	PPBV		98
86)	BROMOFORM	15.114	173	332560	10.37	PPBV		99
88)	1,1,2,2-TETRACHLOROETHANE	15.552	83	378678	9.47	PPBV		99
89)	1,2,3-TRICHLOROPROPANE	15.704	75	261886	9.86	PPBV		97
90)	ISOPROPYLBENZENE	16.239	105	663446	9.35	PPBV		100
91)	BROMOBENZENE	16.337	77	301249	9.56	PPBV		95
92)	2-CHLOROTOLUENE	16.805	126	179739	9.60	PPBV		99
93)	n-PROPYLBENZENE	16.854	120	190139	9.93	PPBV		100
94)	4-ETHYLTOLUENE	17.036	105	653279	10.37	PPBV		99
95)	1,3,5-TRIMETHYLBENZENE	17.133	105	551697	9.78	PPBV		100
96)	ALPHA-METHYLSTYRENE	17.328	118	279660	10.23	PPBV		99
97)	tert-BUTYLBENZENE	17.626	134	130107	9.74	PPBV		96
98)	1,2,4-TRIMETHYLBENZENE	17.632	105	535574	10.35	PPBV		100
99)	m-DICHLOROBENZENE	17.809	146	356617	9.84	PPBV		99
100)	BENZYL CHLORIDE	17.791	91	384782	11.10	PPBV		100
101)	p-DICHLOROBENZENE	17.894	146	350489	9.61	PPBV		99
102)	sec-BUTYLBENZENE	17.955	134	152800	9.73	PPBV		98
103)	p-ISOPROPYLTOLUENE	18.149	134	175831	10.32	PPBV		99
104)	o-DICHLOROBENZENE	18.302	146	350472	9.81	PPBV		98
105)	n-BUTYLBENZENE	18.654	134	141127	11.05	PPBV		99
106)	HEXACHLOROETHANE	19.098	117	248189	10.28	PPBV		99
107)	HEXACHLOROBUTADIENE	20.857	225	221776	9.25	PPBV		99
108)	1,2,4-TRICHLOROBENZENE	20.327	180	150713	9.05	PPBV		99
109)	NAPHTHALENE	20.449	128	316278	10.31	PPBV		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\DATA\
Data File : 3W60516.D
Acq On : 28 Jun 2017 10:07 am
Operator : [redacted]
Sample : cc2293-10
Misc : MS17009,V3W2299,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 28 14:43:21 2017
Quant Method : [redacted]1\METHODS\M3W2293.M
Quant Title : TO15 by GCMS w/Rtx-1, 60 m X 0.32mm ID X 1.0 um
QLast Update : Fri Jun 23 09:30:15 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27080.D
Acq On : 6 Oct 2017 12:49 pm
Operator : [redacted]
Sample : 1c1065-0.04
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 07 09:20:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:46:10 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	285389	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	995094	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	428758	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	285794	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	607099	9.92	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.20%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	2760	0.05	ppb(v#	86
4) Chlorodifluoromethane	4.046	67	192	0.04	ppb(v#	40
5) Propene	4.058	41	736	0.05	ppb(v#	38
6) Chlorotrifluoroethene	4.070	116	1587	0.04	ppb(v	95
7) Dichlorodifluoromethane	4.125	85	2621	0.04	ppb(v#	96
8) 1-Chloro-1,1-difluoroe...	4.229	65	1864	0.04	ppb(v#	73
9) Chloromethane	4.254	50	829	0.04	ppb(v	83
10) Dichlorotetrafluoroethane	4.321	85	2703	0.04	ppb(v	96
11) Vinyl Chloride	4.413	62	877	0.04	ppb(v#	87
12) 1,3-Butadiene	4.517	54	630	0.04	ppb(v#	66
14) Bromomethane	4.731	94	1655	0.06	ppb(v	96
15) Chloroethane	4.865	64	409	0.04	ppb(v#	38
16) Dichlorofluoromethane	4.933	67	2301	0.05	ppb(v#	95
18) Freon 123	5.257	83	2838	0.05	ppb(v#	95
19) Freon 123A	5.300	117	3269	0.09	ppb(v	97
20) Bromoethene	5.141	106	1091	0.04	ppb(v#	87
21) Trichlorofluoromethane	5.471	101	2577	0.04	ppb(v#	93
23) Pentane	5.752	57	272	0.05	ppb(v#	43
24) 1,1-Dichloro-1-fluoroe...	5.569	81	2747	0.05	ppb(v#	17
25) Iodomethane	5.948	142	3489	0.04	ppb(v	97
27) 1,1-Dichloroethene	6.009	61	1542	0.04	ppb(v	93
28) Freon 113	6.340	101	2314	0.04	ppb(v	93
29) Methylene Chloride	6.126	84	1608	0.06	ppb(v	85
30) Carbon Disulfide	6.389	76	3172	0.04	ppb(v	100
32) Acrylonitrile	5.765	53	680	0.04	ppb(v#	66
33) 3-Chloropropene	6.230	76	409	0.04	ppb(v#	89
34) trans-1,2-Dichloroethene	6.970	61	1408	0.04	ppb(v	89
35) tert-Butyl Alcohol	6.126	59	2453	0.05	ppb(v#	65
37) Vinyl Acetate	7.337	43	2583	0.05	ppb(v	95
38) 1,1-Dichloroethane	7.172	63	1962	0.04	ppb(v#	96
39) 2-Butanone	7.637	72	433	0.04	ppb(v#	85
40) Hexane	8.193	57	1529	0.05	ppb(v#	83
41) cis-1,2-Dichloroethene	8.004	61	1398	0.04	ppb(v	95
42) Di-isopropyl Ether	8.236	87	838	0.04	ppb(v	99
44) Methyl Acrylate	8.273	55	1737	0.04	ppb(v#	79
45) Chloroform	8.310	83	2453	0.04	ppb(v	91
46) 2,4-Dimethylpentane	9.123	57	1654	0.04	ppb(v	92
47) Tetrahydrofuran	8.842	72	332	0.03	ppb(v#	78
48) 1,1,1-Trichloroethane	9.362	97	2132	0.04	ppb(v	97
49) 1,2-Dichloroethane	9.087	62	1271	0.04	ppb(v#	90
50) Benzene	9.870	78	3561	0.04	ppb(v	97
51) Carbon Tetrachloride	10.035	117	2144	0.04	ppb(v	94
52) Cyclohexane	10.163	56	1465	0.04	ppb(v	97
53) 2,3-Dimethylpentane	10.432	71	644	0.04	ppb(v#	64
55) 2,2,4-Trimethylpentane	11.118	57	4709	0.04	ppb(v	97
56) Heptane	11.460	71	906	0.04	ppb(v	82
57) Trichloroethene	11.099	95	1760	0.05	ppb(v	83
58) 1,2-Dichloropropane	10.818	63	1185	0.04	ppb(v#	87
59) Dibromomethane	10.800	174	2082	0.05	ppb(v	97
60) Ethyl Acrylate	10.916	55	1840	0.04	ppb(v#	75
61) Methyl Methacrylate	11.424	69	1033	0.04	ppb(v	97
63) Bromodichloromethane	11.063	83	2493	0.04	ppb(v	97

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27080.D
Acq On : 6 Oct 2017 12:49 pm
Operator : [redacted]
Sample : ic1065-0.04
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 07 09:20:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:46:10 2017
Response via : Initial Calibration

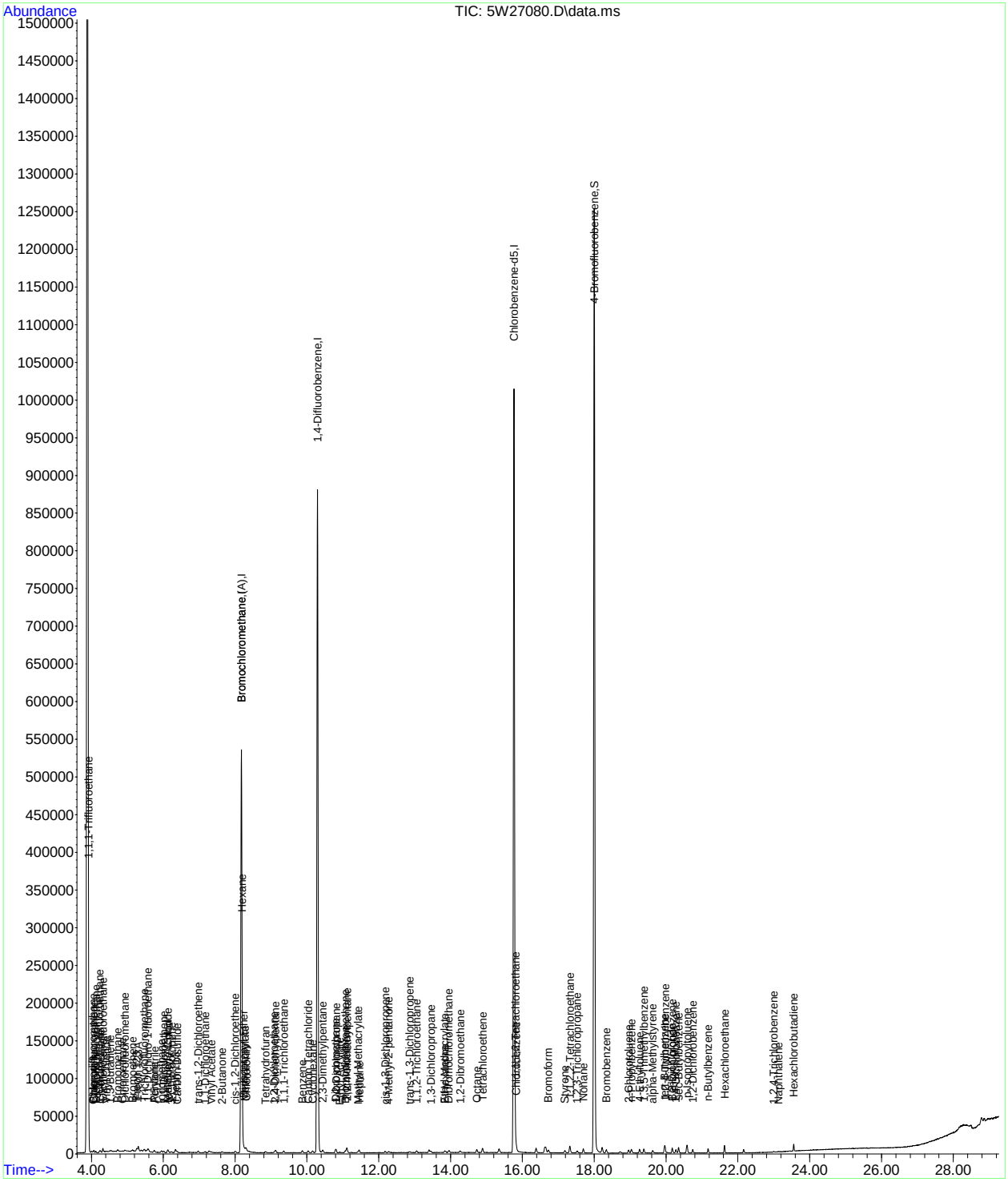
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
64)	cis-1,3-Dichloropropene	12.182	75	1724	0.04	ppb(v#	87
65)	4-Methyl-2-pentanone	12.274	58	652	0.03	ppb(v#	88
66)	trans-1,3-Dichloropropene	12.861	75	1502	0.04	ppb(v#	88
68)	1,1,2-Trichloroethane	13.051	97	1401	0.04	ppb(v	94
69)	1,3-Dichloropropane	13.455	76	1740	0.04	ppb(v#	88
70)	2-Hexanone	13.840	58	638	0.03	ppb(v#	82
71)	Ethyl Methacrylate	13.834	69	1637	0.04	ppb(v#	82
72)	Dibromochloromethane	13.950	129	2734	0.04	ppb(v#	93
73)	Tetrachloroethene	14.892	166	2735	0.05	ppb(v	90
74)	1,2-Dibromoethane	14.268	107	2575	0.05	ppb(v#	92
75)	Octane	14.727	43	2429	0.05	ppb(v	93
76)	1,1,1,2-Tetrachloroethane	15.810	131	1991	0.04	ppb(v#	1
78)	Chlorobenzene	15.828	112	3946	0.05	ppb(v	92
81)	Styrene	17.180	104	3071	0.05	ppb(v	92
82)	Nonane	17.694	43	2755	0.05	ppb(v#	89
84)	Bromoform	16.721	173	2733	0.05	ppb(v#	88
85)	1,1,2,2-Tetrachloroethane	17.327	83	3320	0.05	ppb(v#	95
86)	1,2,3-Trichloropropane	17.523	75	2241	0.04	ppb(v	92
88)	Bromobenzene	18.337	156	2288	0.05	ppb(v	90
89)	2-Chlorotoluene	18.961	126	1581	0.05	ppb(v	77
90)	n-Propylbenzene	19.034	120	1536	0.04	ppb(v	75
92)	4-Ethyltoluene	19.260	105	6331	0.05	ppb(v#	94
93)	1,3,5-Trimethylbenzene	19.383	105	5266	0.05	ppb(v	95
94)	alpha-Methylstyrene	19.627	118	2148	0.04	ppb(v	92
95)	tert-Butylbenzene	19.952	134	1185	0.05	ppb(v	95
96)	1,2,4-Trimethylbenzene	19.976	105	4804	0.05	ppb(v	93
97)	1,3-Dichlorobenzene	20.172	146	3333	0.05	ppb(v	94
98)	Benzyl Chloride	20.172	91	2619	0.05	ppb(v#	90
99)	1,4-Dichlorobenzene	20.270	146	3381	0.05	ppb(v	97
100)	sec-Butylbenzene	20.355	134	1352	0.05	ppb(v	92
101)	p-Isopropyltoluene	20.588	134	1645	0.05	ppb(v	98
102)	1,2-Dichlorobenzene	20.741	146	3130	0.05	ppb(v	94
103)	n-Butylbenzene	21.169	134	1152	0.04	ppb(v	97
104)	Hexachloroethane	21.634	201	1933	0.04	ppb(v	91
105)	1,2,4-Trichlorobenzene	22.998	180	628	0.04	ppb(v#	80
106)	Naphthalene	23.127	128	1426	0.05	ppb(v#	69
107)	Hexachlorobutadiene	23.549	225	2145	0.06	ppb(v	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27080.D
Acq On : 6 Oct 2017 12:49 pm
Operator : [redacted]
Sample : 1c1065-0.04
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 07 09:20:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:46:10 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27081.D
Acq On : 6 Oct 2017 1:35 pm
Operator : [redacted]
Sample : ic1065-0.1
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:46:47 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:43:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.138	130	256090	10.00	ppb(v	-0.04
54) 1,4-Difluorobenzene	10.267	114	886442	10.00	ppb(v	-0.02
77) Chlorobenzene-d5	15.761	82	385129	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.138	130	256090	10.00	ppb(v	-0.04
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	545688	9.90	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 99.00%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.862	69	6391	0.13	ppb(v#	92
3) Freon 152A	3.954	65	1810	0.13	ppb(v	89
4) Chlorodifluoromethane	3.985	67	476	0.10	ppb(v#	81
5) Propene	4.009	41	1493	0.11	ppb(v#	72
6) Chlorotrifluoroethene	4.015	116	3566	0.11	ppb(v	98
7) Dichlorodifluoromethane	4.064	85	6068	0.11	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.174	65	4070	0.11	ppb(v#	67
9) Chloromethane	4.199	50	1939	0.11	ppb(v	87
10) Dichlorotetrafluoroethane	4.266	85	6056	0.11	ppb(v	95
11) Vinyl Chloride	4.364	62	2101	0.11	ppb(v#	96
12) 1,3-Butadiene	4.462	54	1473	0.11	ppb(v	93
13) n-Butane	4.492	58	297	0.11	ppb(v#	14
14) Bromomethane	4.670	94	3051	0.13	ppb(v	88
15) Chloroethane	4.810	64	1014	0.11	ppb(v#	95
16) Dichlorofluoromethane	4.878	67	4772	0.11	ppb(v	93
18) Freon 123	5.202	83	6113	0.11	ppb(v	100
19) Freon 123A	5.251	117	6992	0.22	ppb(v	96
20) Bromoethene	5.086	106	2435	0.11	ppb(v#	89
21) Trichlorofluoromethane	5.416	101	6002	0.11	ppb(v	97
22) Acetone	5.330	58	1097	0.13	ppb(v	88
23) Pentane	5.704	57	601	0.12	ppb(v	72
24) 1,1-Dichloro-1-fluoroe...	5.514	81	5560	0.12	ppb(v	98
25) Iodomethane	5.899	142	7759	0.11	ppb(v	98
27) 1,1-Dichloroethene	5.961	61	3445	0.11	ppb(v	95
28) Freon 113	6.291	101	5535	0.11	ppb(v	90
29) Methylene Chloride	6.077	84	2704	0.13	ppb(v	94
30) Carbon Disulfide	6.340	76	7153	0.11	ppb(v	97
32) Acrylonitrile	5.710	53	1448	0.10	ppb(v	90
33) 3-Chloropropene	6.175	76	952	0.11	ppb(v	90
34) trans-1,2-Dichloroethene	6.921	61	3158	0.11	ppb(v	97
35) tert-Butyl Alcohol	6.065	59	5734	0.13	ppb(v#	86
37) Vinyl Acetate	7.294	43	5335	0.12	ppb(v	98
38) 1,1-Dichloroethane	7.123	63	4187	0.11	ppb(v#	99
39) 2-Butanone	7.588	72	1000	0.10	ppb(v	99
40) Hexane	8.151	57	3152	0.11	ppb(v	88
41) cis-1,2-Dichloroethene	7.973	61	3068	0.11	ppb(v	98
42) Di-isopropyl Ether	8.200	87	1716	0.10	ppb(v	89
43) Ethyl Acetate	8.261	61	569	0.08	ppb(v#	73
44) Methyl Acrylate	8.236	55	3550	0.10	ppb(v	91
45) Chloroform	8.273	83	5425	0.11	ppb(v#	94
46) 2,4-Dimethylpentane	9.093	57	3675	0.11	ppb(v	99
47) Tetrahydrofuran	8.793	72	930	0.10	ppb(v	78
48) 1,1,1-Trichloroethane	9.331	97	4892	0.11	ppb(v	94
49) 1,2-Dichloroethane	9.062	62	2843	0.10	ppb(v#	90
50) Benzene	9.845	78	8004	0.12	ppb(v	98
51) Carbon Tetrachloride	10.010	117	4822	0.11	ppb(v	95
52) Cyclohexane	10.133	56	3228	0.11	ppb(v	93
53) 2,3-Dimethylpentane	10.414	71	1458	0.11	ppb(v#	91
55) 2,2,4-Trimethylpentane	11.093	57	10101	0.10	ppb(v	96
56) Heptane	11.442	71	2191	0.11	ppb(v	94
57) Trichloroethene	11.081	95	3554	0.11	ppb(v	95
58) 1,2-Dichloropropane	10.800	63	2756	0.11	ppb(v	93

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27081.D
Acq On : 6 Oct 2017 1:35 pm
Operator : [redacted]
Sample : ic1065-0.1
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:46:47 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:43:11 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
59)	Dibromomethane	10.775	174	4012	0.12	ppb(v	87
60)	Ethyl Acrylate	10.885	55	4424	0.10	ppb(v#	82
61)	Methyl Methacrylate	11.393	69	2215	0.10	ppb(v	84
62)	1,4-Dioxane	11.197	88	1344	0.10	ppb(v#	83
63)	Bromodichloromethane	11.038	83	5546	0.11	ppb(v	98
64)	cis-1,3-Dichloropropene	12.164	75	3960	0.10	ppb(v	92
65)	4-Methyl-2-pentanone	12.250	58	1527	0.08	ppb(v	77
66)	trans-1,3-Dichloropropene	12.843	75	3292	0.10	ppb(v	99
68)	1,1,2-Trichloroethane	13.039	97	3267	0.11	ppb(v	95
69)	1,3-Dichloropropane	13.436	76	4004	0.10	ppb(v	97
70)	2-Hexanone	13.816	58	1801	0.08	ppb(v	93
71)	Ethyl Methacrylate	13.828	69	3359	0.09	ppb(v#	97
72)	Dibromochloromethane	13.938	129	6033	0.11	ppb(v	96
73)	Tetrachloroethene	14.880	166	5557	0.12	ppb(v	96
74)	1,2-Dibromoethane	14.256	107	5246	0.11	ppb(v#	97
75)	Octane	14.721	43	4647	0.11	ppb(v	96
76)	1,1,1,2-Tetrachloroethane	15.804	131	4251	0.11	ppb(v#	1
78)	Chlorobenzene	15.822	112	8260	0.12	ppb(v	98
81)	Styrene	17.174	104	6474	0.11	ppb(v	97
82)	Nonane	17.688	43	5248	0.12	ppb(v	97
84)	Bromoform	16.722	173	5559	0.11	ppb(v	98
85)	1,1,2,2-Tetrachloroethane	17.321	83	6794	0.11	ppb(v#	93
86)	1,2,3-Trichloropropane	17.511	75	4980	0.12	ppb(v	87
88)	Bromobenzene	18.337	156	4590	0.12	ppb(v	92
89)	2-Chlorotoluene	18.955	126	3371	0.12	ppb(v	93
90)	n-Propylbenzene	19.028	120	3388	0.11	ppb(v	97
92)	4-Ethyltoluene	19.254	105	12223	0.12	ppb(v	97
93)	1,3,5-Trimethylbenzene	19.377	105	11033	0.12	ppb(v	96
94)	alpha-Methylstyrene	19.621	118	4702	0.11	ppb(v	99
95)	tert-Butylbenzene	19.952	134	2598	0.12	ppb(v	81
96)	1,2,4-Trimethylbenzene	19.970	105	10152	0.11	ppb(v	97
97)	1,3-Dichlorobenzene	20.166	146	6613	0.11	ppb(v	95
98)	Benzyl Chloride	20.166	91	5374	0.11	ppb(v	98
99)	1,4-Dichlorobenzene	20.270	146	6773	0.12	ppb(v	98
100)	sec-Butylbenzene	20.349	134	2766	0.11	ppb(v	91
101)	p-Isopropyltoluene	20.588	134	3375	0.11	ppb(v	99
102)	1,2-Dichlorobenzene	20.741	146	6333	0.12	ppb(v	99
103)	n-Butylbenzene	21.169	134	2460	0.11	ppb(v	98
104)	Hexachloroethane	21.628	201	4264	0.11	ppb(v	95
105)	1,2,4-Trichlorobenzene	22.986	180	1341	0.09	ppb(v	94
106)	Naphthalene	23.121	128	2050	0.08	ppb(v#	86
107)	Hexachlorobutadiene	23.555	225	3982	0.13	ppb(v	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.13

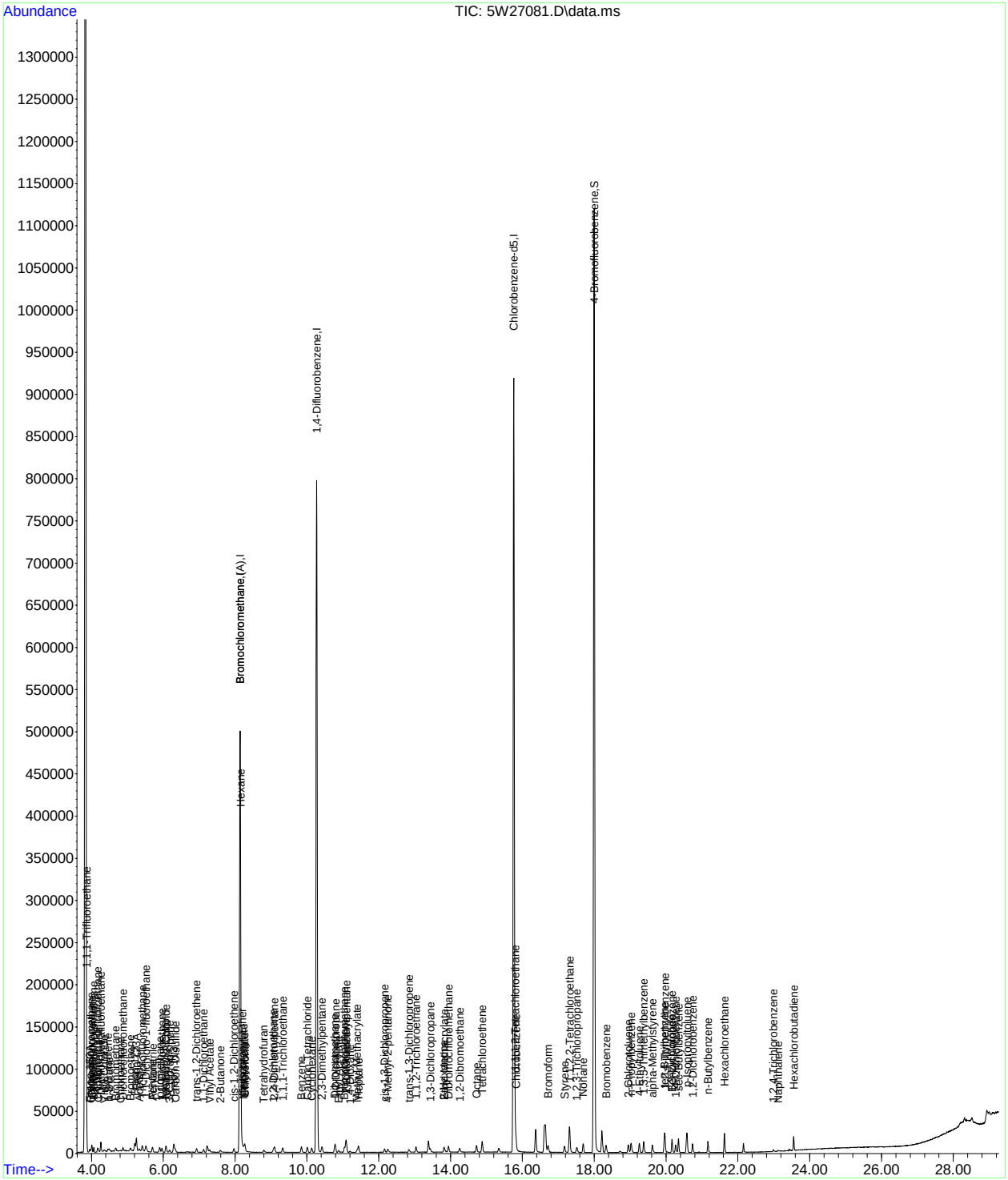
7

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27081.D
Acq On : 6 Oct 2017 1:35 pm
Operator : [redacted]
Sample : 1c1065-0.1
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:46:47 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:43:11 2017
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/08/17 11:18

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27082.D
Acq On : 6 Oct 2017 2:28 pm
Operator : [redacted]
Sample : ic1065-0.2
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 06 17:43:03 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:41:19 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.157	130	269496	10.00	ppb(v	-0.02
54) 1,4-Difluorobenzene	10.279	114	937921	10.00	ppb(v	-0.01
77) Chlorobenzene-d5	15.761	82	416042	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.157	130	269496	10.00	ppb(v	-0.02
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	585106	9.75	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 97.50%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.880	69	9669	0.18	ppb(v#	95
3) Freon 152A	3.978	65	3202	0.24	ppb(v#	83
4) Chlorodifluoromethane	4.015	67	1059	0.21	ppb(v	90
5) Propene	4.033	41	2838	0.21	ppb(v#	86
6) Chlorotrifluoroethene	4.039	116	7049	0.20	ppb(v	98
7) Dichlorodifluoromethane	4.094	85	11811	0.20	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.198	65	7740	0.20	ppb(v#	81
9) Chloromethane	4.223	50	3646	0.20	ppb(v	98
10) Dichlorotetrafluoroethane	4.290	85	11394	0.20	ppb(v	95
11) Vinyl Chloride	4.388	62	3953	0.20	ppb(v#	98
12) 1,3-Butadiene	4.492	54	2778	0.21	ppb(v	98
13) n-Butane	4.523	58	504	0.18	ppb(v#	60
14) Bromomethane	4.706	94	5535	0.23	ppb(v	98
15) Chloroethane	4.835	64	1904	0.19	ppb(v	92
16) Dichlorofluoromethane	4.908	67	9204	0.21	ppb(v	94
17) Acetonitrile	5.141	41	2347	0.20	ppb(v#	55
18) Freon 123	5.232	83	11757	0.21	ppb(v	98
19) Freon 123A	5.275	117	13650	0.41	ppb(v	99
20) Bromoethene	5.110	106	4799	0.20	ppb(v#	94
21) Trichlorofluoromethane	5.440	101	11823	0.20	ppb(v	99
22) Acetone	5.355	58	2054	0.24	ppb(v	97
23) Pentane	5.728	57	1166	0.22	ppb(v	82
24) 1,1-Dichloro-1-fluoroe...	5.544	81	9765	0.20	ppb(v	99
25) Iodomethane	5.924	142	14571	0.20	ppb(v	98
26) Isopropyl Alcohol	5.557	43	1533	0.23	ppb(v#	21
27) 1,1-Dichloroethene	5.985	61	6844	0.20	ppb(v	95
28) Freon 113	6.321	101	10493	0.20	ppb(v	94
29) Methylene Chloride	6.107	84	4837	0.22	ppb(v	94
30) Carbon Disulfide	6.358	76	14018	0.20	ppb(v	99
31) Ethanol	4.957	45	1605	0.29	ppb(v#	89
32) Acrylonitrile	5.728	53	3047	0.20	ppb(v	96
33) 3-Chloropropene	6.199	76	1821	0.19	ppb(v	94
34) trans-1,2-Dichloroethene	6.945	61	6081	0.19	ppb(v	98
35) tert-Butyl Alcohol	6.083	59	9736	0.22	ppb(v	97
36) Methyl tert-Butyl Ether	7.245	73	12517	0.21	ppb(v	99
37) Vinyl Acetate	7.312	43	10036	0.22	ppb(v	99
38) 1,1-Dichloroethane	7.147	63	8253	0.20	ppb(v	99
39) 2-Butanone	7.600	72	2136	0.20	ppb(v	88
40) Hexane	8.169	57	6181	0.19	ppb(v	90
41) cis-1,2-Dichloroethene	7.991	61	5895	0.20	ppb(v	95
42) Di-isopropyl Ether	8.212	87	3755	0.20	ppb(v	94
43) Ethyl Acetate	8.261	61	1430	0.20	ppb(v	84
44) Methyl Acrylate	8.242	55	7377	0.20	ppb(v	94
45) Chloroform	8.291	83	10678	0.21	ppb(v	97
46) 2,4-Dimethylpentane	9.111	57	7372	0.20	ppb(v	95
47) Tetrahydrofuran	8.799	72	1952	0.19	ppb(v	94
48) 1,1,1-Trichloroethane	9.337	97	9456	0.21	ppb(v	96
49) 1,2-Dichloroethane	9.074	62	5811	0.20	ppb(v	97
50) Benzene	9.857	78	14958	0.21	ppb(v	99
51) Carbon Tetrachloride	10.023	117	8933	0.20	ppb(v	95
52) Cyclohexane	10.151	56	6167	0.20	ppb(v	99
53) 2,3-Dimethylpentane	10.432	71	2823	0.19	ppb(v	99

SGS ACCUTEST JC52679

7.7.14
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Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27082.D
Acq On : 6 Oct 2017 2:28 pm
Operator : [redacted]
Sample : ic1065-0.2
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 06 17:43:03 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:41:19 2017
Response via : Initial Calibration

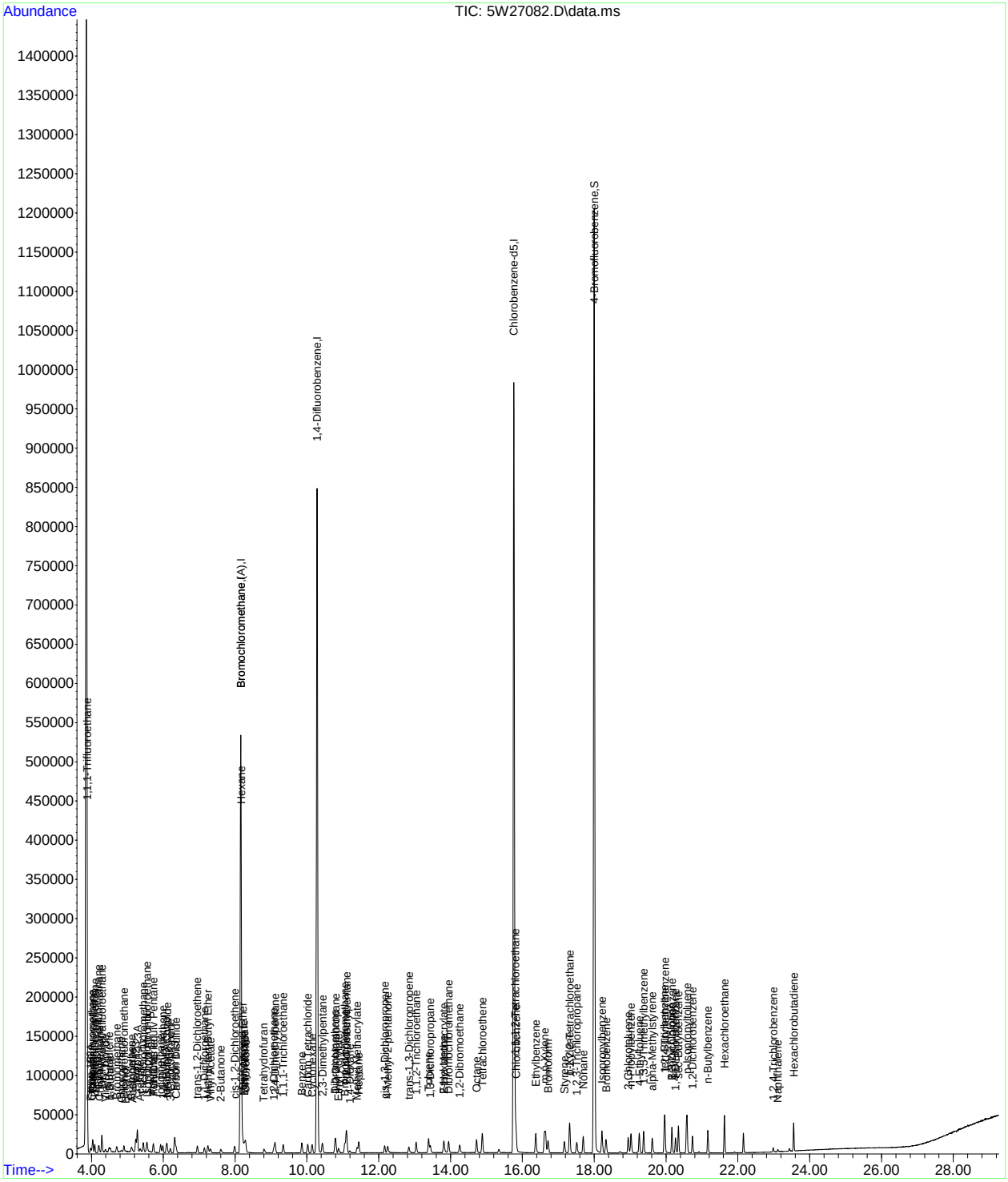
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.105	57	20186	0.20	ppb(v	99
56)	Heptane	11.442	71	4268	0.19	ppb(v	96
57)	Trichloroethene	11.087	95	6865	0.20	ppb(v	93
58)	1,2-Dichloropropane	10.806	63	5421	0.21	ppb(v	95
59)	Dibromomethane	10.781	174	7748	0.22	ppb(v	98
60)	Ethyl Acrylate	10.879	55	9281	0.19	ppb(v	99
61)	Methyl Methacrylate	11.393	69	4732	0.19	ppb(v	98
62)	1,4-Dioxane	11.191	88	2862	0.21	ppb(v#	91
63)	Bromodichloromethane	11.050	83	10863	0.21	ppb(v	98
64)	cis-1,3-Dichloropropene	12.170	75	8200	0.20	ppb(v	98
65)	4-Methyl-2-pentanone	12.249	58	3689	0.19	ppb(v	93
66)	trans-1,3-Dichloropropene	12.843	75	7186	0.20	ppb(v	97
67)	Toluene	13.387	91	18979	0.21	ppb(v	97
68)	1,1,2-Trichloroethane	13.045	97	6602	0.21	ppb(v	94
69)	1,3-Dichloropropane	13.430	76	8354	0.20	ppb(v	98
70)	2-Hexanone	13.809	58	4568	0.17	ppb(v	91
71)	Ethyl Methacrylate	13.816	69	7313	0.19	ppb(v	98
72)	Dibromochloromethane	13.944	129	11816	0.21	ppb(v	100
73)	Tetrachloroethene	14.886	166	10695	0.22	ppb(v	98
74)	1,2-Dibromoethane	14.250	107	10639	0.20	ppb(v	94
75)	Octane	14.721	43	9147	0.20	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.804	131	8562	0.20	ppb(v#	1
78)	Chlorobenzene	15.822	112	15890	0.21	ppb(v	96
79)	Ethylbenzene	16.373	91	26928	0.23	ppb(v	98
80)	m,p-Xylene	16.624	91	42004	0.47	ppb(v	97
81)	Styrene	17.168	104	12139	0.19	ppb(v	97
82)	Nonane	17.694	43	9915	0.22	ppb(v	100
83)	o-Xylene	17.315	91	20919	0.23	ppb(v	100
84)	Bromoform	16.715	173	11161	0.20	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.321	83	13725	0.21	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	9809	0.22	ppb(v	92
87)	Isopropylbenzene	18.220	105	29157	0.23	ppb(v	100
88)	Bromobenzene	18.330	156	8866	0.21	ppb(v	96
89)	2-Chlorotoluene	18.948	126	6444	0.21	ppb(v	97
90)	n-Propylbenzene	19.022	120	6863	0.21	ppb(v	89
92)	4-Ethyltoluene	19.254	105	23753	0.21	ppb(v	97
93)	1,3,5-Trimethylbenzene	19.377	105	22096	0.22	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	9187	0.20	ppb(v	99
95)	tert-Butylbenzene	19.952	134	4945	0.22	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	20288	0.22	ppb(v	99
97)	1,3-Dichlorobenzene	20.166	146	13087	0.21	ppb(v	99
98)	Benzyl Chloride	20.160	91	10707	0.19	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	12841	0.22	ppb(v	99
100)	sec-Butylbenzene	20.343	134	5888	0.22	ppb(v	89
101)	p-Isopropyltoluene	20.588	134	7282	0.23	ppb(v	96
102)	1,2-Dichlorobenzene	20.735	146	12433	0.22	ppb(v	97
103)	n-Butylbenzene	21.163	134	5103	0.21	ppb(v	85
104)	Hexachloroethane	21.628	201	9026	0.23	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.986	180	2680	0.16	ppb(v	96
106)	Naphthalene	23.108	128	4779	0.16	ppb(v	96
107)	Hexachlorobutadiene	23.555	225	7830	0.25	ppb(v	97
109)	TVHC as equiv Pentane	5.728	TIC	25471m	0.21	ppb(v	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27082.D
Acq On : 6 Oct 2017 2:28 pm
Operator : [redacted]
Sample : 1c1065-0.2
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 06 17:43:03 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:41:19 2017
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	V5W1065-IC1065	**Method:**	TO-15
Lab FileID:	5W27082.D	**Analyst approved:**	10/07/17 09:23 [redacted]
Injection Time:	10/06/17 14:28	**Supervisor approved:**	10/08/17 11:18

Parameter	CAS	Sig#	R.T. (min.)	Reason
TVHC As Equiv Pentane			5.73	Missed peak

SGS ACCUTEST
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JC52679

Manual Integrations APPROVED (compounds with "m" flag)
[redacted]
10/08/17 11:18

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27084.D
Acq On : 6 Oct 2017 4:10 pm
Operator : [redacted]
Sample : ic1065-0.5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:41:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:38:49 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	287053	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	994982	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	435260	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	287167	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	630672	10.09	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 100.90%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	21900	0.32	ppb(v	100
3) Freon 152A	4.009	65	7284	0.51	ppb(v	90
4) Chlorodifluoromethane	4.046	67	2623	0.46	ppb(v	95
5) Propene	4.064	41	7145	0.49	ppb(v#	93
6) Chlorotrifluoroethene	4.070	116	18064	0.47	ppb(v	99
7) Dichlorodifluoromethane	4.125	85	29963	0.48	ppb(v	97
8) 1-Chloro-1,1-difluoroe...	4.229	65	19865	0.48	ppb(v#	93
9) Chloromethane	4.248	50	9483	0.49	ppb(v	99
10) Dichlorotetrafluoroethane	4.321	85	29903	0.48	ppb(v	97
11) Vinyl Chloride	4.413	62	10395	0.49	ppb(v#	99
12) 1,3-Butadiene	4.517	54	7051	0.50	ppb(v	95
13) n-Butane	4.553	58	1498	0.48	ppb(v#	69
14) Bromomethane	4.731	94	13109	0.50	ppb(v	96
15) Chloroethane	4.859	64	5190	0.49	ppb(v#	96
16) Dichlorofluoromethane	4.933	67	23421	0.48	ppb(v	98
17) Acetonitrile	5.165	41	6259	0.48	ppb(v#	78
18) Freon 123	5.257	83	29877	0.49	ppb(v	99
19) Freon 123A	5.300	117	34665	0.97	ppb(v	94
20) Bromoethene	5.141	106	12335	0.48	ppb(v	98
21) Trichlorofluoromethane	5.471	101	30376	0.49	ppb(v	99
22) Acetone	5.379	58	4829	0.56	ppb(v	82
23) Pentane	5.753	57	2709	0.48	ppb(v	89
24) 1,1-Dichloro-1-fluoroe...	5.569	81	24859	0.46	ppb(v	99
25) Iodomethane	5.948	142	37137	0.47	ppb(v	95
26) Isopropyl Alcohol	5.575	43	3979	0.64	ppb(v#	56
27) 1,1-Dichloroethene	6.009	61	17801	0.47	ppb(v	97
28) Freon 113	6.340	101	27356	0.48	ppb(v	97
29) Methylene Chloride	6.126	84	11415	0.50	ppb(v	95
30) Carbon Disulfide	6.383	76	36224	0.47	ppb(v	98
31) Ethanol	4.982	45	3146	0.57	ppb(v#	96
32) Acrylonitrile	5.746	53	7413	0.43	ppb(v	99
33) 3-Chloropropene	6.224	76	4713	0.45	ppb(v	92
34) trans-1,2-Dichloroethene	6.970	61	16271	0.47	ppb(v	98
35) tert-Butyl Alcohol	6.095	59	24586	0.54	ppb(v	97
36) Methyl tert-Butyl Ether	7.257	73	31753	0.49	ppb(v	97
37) Vinyl Acetate	7.331	43	23324	0.47	ppb(v	97
38) 1,1-Dichloroethane	7.166	63	21486	0.49	ppb(v	97
39) 2-Butanone	7.612	72	5489	0.46	ppb(v	98
40) Hexane	8.187	57	16231	0.46	ppb(v	89
41) cis-1,2-Dichloroethene	8.004	61	15358	0.47	ppb(v	98
42) Di-isopropyl Ether	8.224	87	9580	0.46	ppb(v	93
43) Ethyl Acetate	8.279	61	3649	0.46	ppb(v	98
44) Methyl Acrylate	8.261	55	19122	0.49	ppb(v	98
45) Chloroform	8.310	83	27006	0.50	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	18725	0.46	ppb(v	97
47) Tetrahydrofuran	8.799	72	5214	0.47	ppb(v	90
48) 1,1,1-Trichloroethane	9.356	97	23519	0.47	ppb(v	96
49) 1,2-Dichloroethane	9.087	62	15193	0.50	ppb(v	99
50) Benzene	9.870	78	37610	0.49	ppb(v	99
51) Carbon Tetrachloride	10.035	117	22849	0.45	ppb(v	97
52) Cyclohexane	10.157	56	15780	0.46	ppb(v	96
53) 2,3-Dimethylpentane	10.439	71	7456	0.46	ppb(v	95

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27084.D
Acq On : 6 Oct 2017 4:10 pm
Operator : [redacted]
Sample : ic1065-0.5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:41:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:38:49 2017
Response via : Initial Calibration

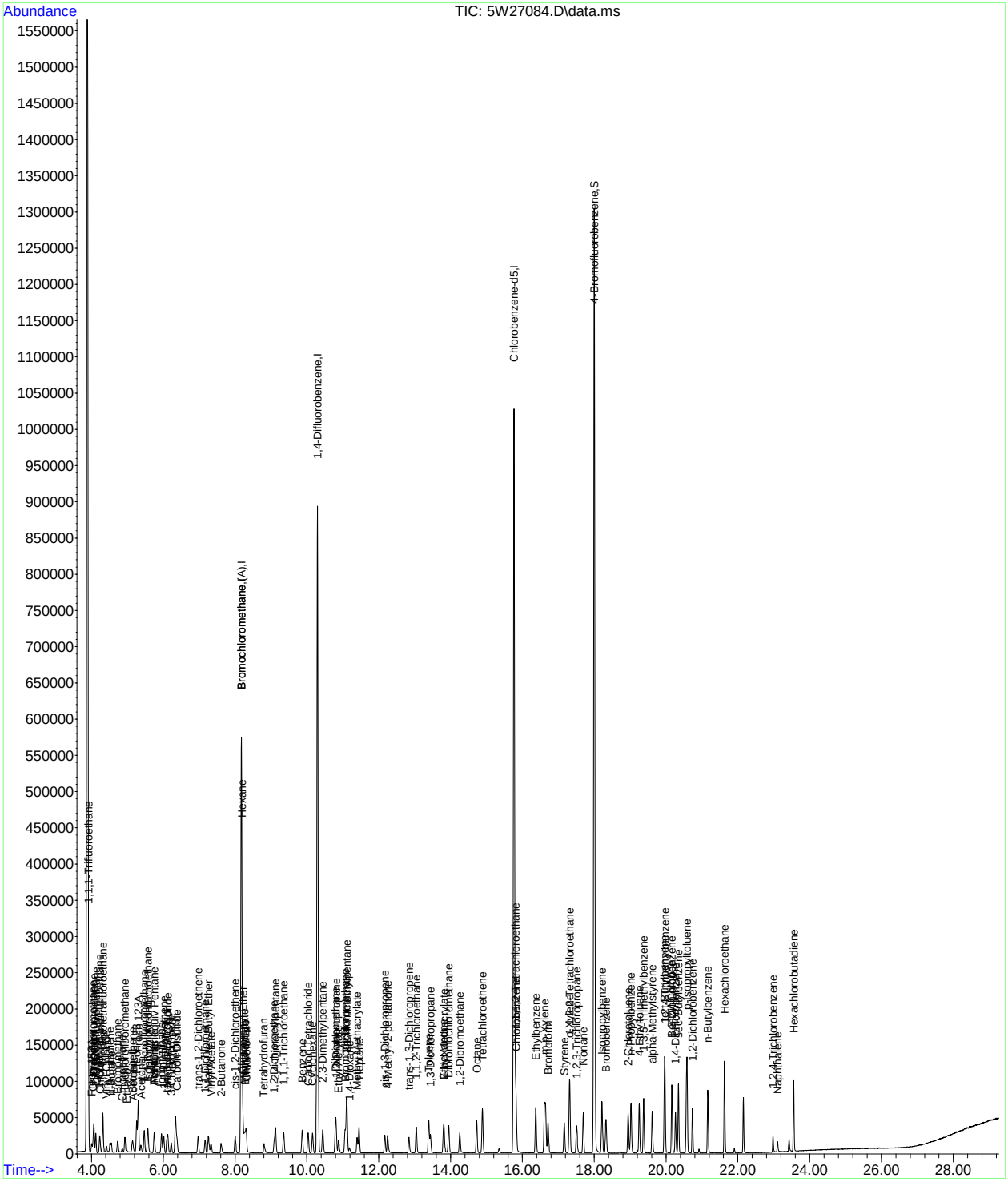
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) 2,2,4-Trimethylpentane	11.112	57	52696	0.47 ppb(v	98
56) Heptane	11.454	71	11163	0.46 ppb(v	93
57) Trichloroethene	11.099	95	17662	0.47 ppb(v	98
58) 1,2-Dichloropropane	10.818	63	13668	0.48 ppb(v	93
59) Dibromomethane	10.800	174	18331	0.49 ppb(v	97
60) Ethyl Acrylate	10.879	55	24080	0.45 ppb(v	97
61) Methyl Methacrylate	11.399	69	12652	0.47 ppb(v	94
62) 1,4-Dioxane	11.185	88	7246	0.48 ppb(v#	84
63) Bromodichloromethane	11.063	83	27449	0.48 ppb(v	97
64) cis-1,3-Dichloropropene	12.170	75	21000	0.47 ppb(v	98
65) 4-Methyl-2-pentanone	12.249	58	9967	0.46 ppb(v	92
66) trans-1,3-Dichloropropene	12.843	75	18732	0.47 ppb(v	97
67) Toluene	13.394	91	46894	0.49 ppb(v	100
68) 1,1,2-Trichloroethane	13.045	97	16895	0.50 ppb(v	97
69) 1,3-Dichloropropane	13.436	76	21901	0.50 ppb(v	97
70) 2-Hexanone	13.803	58	13277	0.46 ppb(v	94
71) Ethyl Methacrylate	13.822	69	20154	0.47 ppb(v	99
72) Dibromochloromethane	13.944	129	29374	0.47 ppb(v	99
73) Tetrachloroethene	14.886	166	25771	0.48 ppb(v	97
74) 1,2-Dibromoethane	14.256	107	27563	0.49 ppb(v	99
75) Octane	14.727	43	24184	0.48 ppb(v	98
76) 1,1,1,2-Tetrachloroethane	15.810	131	22145	0.50 ppb(v#	55
78) Chlorobenzene	15.828	112	40078	0.53 ppb(v	97
79) Ethylbenzene	16.373	91	67088	0.59 ppb(v	100
80) m,p-Xylene	16.624	91	102864	1.21 ppb(v	98
81) Styrene	17.168	104	33045	0.51 ppb(v	98
82) Nonane	17.694	43	25560	0.57 ppb(v	100
83) o-Xylene	17.309	91	52141	0.59 ppb(v	98
84) Bromoform	16.715	173	29784	0.50 ppb(v	98
85) 1,1,2,2-Tetrachloroethane	17.321	83	36098	0.58 ppb(v	98
86) 1,2,3-Trichloropropane	17.511	75	25551	0.58 ppb(v	97
87) Isopropylbenzene	18.220	105	72094	0.62 ppb(v	98
88) Bromobenzene	18.324	156	22972	0.54 ppb(v	94
89) 2-Chlorotoluene	18.948	126	17003	0.55 ppb(v	96
90) n-Propylbenzene	19.022	120	18183	0.56 ppb(v	96
92) 4-Ethyltoluene	19.254	105	62880	0.58 ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	57391	0.62 ppb(v	100
94) alpha-Methylstyrene	19.615	118	25018	0.54 ppb(v	98
95) tert-Butylbenzene	19.952	134	13099	0.62 ppb(v	97
96) 1,2,4-Trimethylbenzene	19.970	105	53833	0.61 ppb(v	99
97) 1,3-Dichlorobenzene	20.160	146	34469	0.58 ppb(v	98
98) Benzyl Chloride	20.160	91	29378	0.50 ppb(v	98
99) 1,4-Dichlorobenzene	20.264	146	33339	0.59 ppb(v	99
100) sec-Butylbenzene	20.343	134	15836	0.64 ppb(v	94
101) p-Isopropyltoluene	20.582	134	19255	0.68 ppb(v	87
102) 1,2-Dichlorobenzene	20.735	146	33242	0.61 ppb(v	100
103) n-Butylbenzene	21.163	134	14613	0.65 ppb(v	86
104) Hexachloroethane	21.628	201	23875	0.68 ppb(v	97
105) 1,2,4-Trichlorobenzene	22.980	180	9405	0.57 ppb(v	96
106) Naphthalene	23.108	128	16912	0.55 ppb(v	98
107) Hexachlorobutadiene	23.555	225	20981	0.84 ppb(v	98
109) TVHC as equiv Pentane	5.753	TIC	62937m	0.47 ppb(v	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27084.D
Acq On : 6 Oct 2017 4:10 pm
Operator : [redacted]
Sample : 1c1065-0.5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 06 17:41:10 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:38:49 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Manual Integration Approval Summary

Sample Number:	V5W1065-IC1065	**Method:**	TO-15
Lab FileID:	5W27084.D	**Analyst approved:**	10/07/17 09:23 [redacted]
Injection Time:	10/06/17 16:10	**Supervisor approved:**	10/08/17 11:18

Parameter	CAS	Sig#	R.T. (min.)	Reason
TVHC As Equiv Pentane			5.75	Missed peak

SGS ACCUTEST
JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27085.D
Acq On : 6 Oct 2017 5:00 pm
Operator : [redacted]
Sample : ic1065-5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 06 17:37:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Oct 05 09:07:36 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	293092	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	1004061	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	463849	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	293092	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	666382	9.86	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 98.60%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	347166	6.28	ppb(v#	92
3) Freon 152A	4.009	65	73340	6.55	ppb(v	87
4) Chlorodifluoromethane	4.046	67	29089	4.78	ppb(v	100
5) Propene	4.064	41	75066	5.32	ppb(v	99
6) Chlorotrifluoroethene	4.070	116	197688	5.31	ppb(v#	89
7) Dichlorodifluoromethane	4.125	85	321836	5.10	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	209295	4.67	ppb(v	99
9) Chloromethane	4.248	50	98366	4.86	ppb(v	98
10) Dichlorotetrafluoroethane	4.321	85	318624	4.67	ppb(v	97
11) Vinyl Chloride	4.413	62	108936	4.38	ppb(v	99
12) 1,3-Butadiene	4.517	54	72662	4.50	ppb(v	98
13) n-Butane	4.554	58	15884	4.49	ppb(v	98
14) Bromomethane	4.731	94	132833	4.82	ppb(v	100
15) Chloroethane	4.859	64	53542	4.78	ppb(v	99
16) Dichlorofluoromethane	4.933	67	247938	4.91	ppb(v	99
17) Acetonitrile	5.153	41	65981	5.15	ppb(v	99
18) Freon 123	5.257	83	314452	5.08	ppb(v	100
19) Freon 123A	5.300	117	364775	10.04	ppb(v	95
20) Bromoethene	5.141	106	132431	4.80	ppb(v	99
21) Trichlorofluoromethane	5.471	101	318278	5.06	ppb(v	100
22) Acetone	5.361	58	43980	4.80	ppb(v	93
23) Pentane	5.753	57	28942	5.33	ppb(v	94
24) 1,1-Dichloro-1-fluoroe...	5.569	81	276677	5.16	ppb(v	98
25) Iodomethane	5.948	142	402394	5.37	ppb(v	96
26) Isopropyl Alcohol	5.563	43	31905	5.90	ppb(v	90
27) 1,1-Dichloroethene	6.010	61	194005	5.34	ppb(v	98
28) Freon 113	6.340	101	292761	5.34	ppb(v	98
29) Methylene Chloride	6.126	84	117710	5.68	ppb(v	99
30) Carbon Disulfide	6.383	76	394792	5.92	ppb(v	99
31) Ethanol	4.976	45	28185	5.04	ppb(v	98
32) Acrylonitrile	5.740	53	87662	5.89	ppb(v	97
33) 3-Chloropropene	6.224	76	53470	5.81	ppb(v	89
34) trans-1,2-Dichloroethene	6.970	61	176322	5.46	ppb(v	98
35) tert-Butyl Alcohol	6.077	59	231378	4.28	ppb(v	99
36) Methyl tert-Butyl Ether	7.239	73	331748	4.88	ppb(v	99
37) Vinyl Acetate	7.325	43	251301	5.27	ppb(v	98
38) 1,1-Dichloroethane	7.166	63	225820	5.61	ppb(v	100
39) 2-Butanone	7.588	72	60579	5.56	ppb(v	97
40) Hexane	8.187	57	180320	5.12	ppb(v	100
41) cis-1,2-Dichloroethene	8.004	61	166638	5.42	ppb(v	97
42) Di-isopropyl Ether	8.212	87	106546	5.10	ppb(v	98
43) Ethyl Acetate	8.261	61	40725	5.43	ppb(v	96
44) Methyl Acrylate	8.242	55	200950	5.27	ppb(v	99
45) Chloroform	8.310	83	275358	5.24	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	206590	5.33	ppb(v	98
47) Tetrahydrofuran	8.769	72	56943	5.59	ppb(v	96
48) 1,1,1-Trichloroethane	9.356	97	254260	4.99	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	155790	4.84	ppb(v	98
50) Benzene	9.870	78	394755	5.51	ppb(v	98
51) Carbon Tetrachloride	10.035	117	257836	5.00	ppb(v	98
52) Cyclohexane	10.157	56	173753	5.64	ppb(v	99
53) 2,3-Dimethylpentane	10.439	71	82328	5.50	ppb(v	99

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27085.D
Acq On : 6 Oct 2017 5:00 pm
Operator : [redacted]
Sample : ic1065-5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 06 17:37:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Oct 05 09:07:36 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.112	57	569089	4.88	ppb(v	97
56)	Heptane	11.454	71	122516	4.95	ppb(v	98
57)	Trichloroethene	11.099	95	187951	4.85	ppb(v	99
58)	1,2-Dichloropropane	10.812	63	143738	5.20	ppb(v	96
59)	Dibromomethane	10.794	174	187520	4.85	ppb(v	94
60)	Ethyl Acrylate	10.867	55	269100	4.90	ppb(v	100
61)	Methyl Methacrylate	11.387	69	136602	5.04	ppb(v	94
62)	1,4-Dioxane	11.155	88	75822	5.35	ppb(v	91
63)	Bromodichloromethane	11.063	83	288399	4.94	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	223868	5.26	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	108903	4.83	ppb(v	98
66)	trans-1,3-Dichloropropene	12.837	75	200313	5.29	ppb(v	99
67)	Toluene	13.387	91	478186	5.27	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	171930	5.58	ppb(v	97
69)	1,3-Dichloropropane	13.436	76	222380	5.60	ppb(v	95
70)	2-Hexanone	13.779	58	146737	4.60	ppb(v	93
71)	Ethyl Methacrylate	13.810	69	218450	4.71	ppb(v	99
72)	Dibromochloromethane	13.944	129	315957	5.68	ppb(v	100
73)	Tetrachloroethene	14.886	166	269340	5.23	ppb(v	100
74)	1,2-Dibromoethane	14.250	107	282588	5.76	ppb(v	99
75)	Octane	14.721	43	251719	4.96	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.810	131	224626	5.67	ppb(v	98
78)	Chlorobenzene	15.828	112	399536	5.60	ppb(v	100
79)	Ethylbenzene	16.367	91	601183	5.17	ppb(v	99
80)	m,p-Xylene	16.618	91	905185	9.75	ppb(v	99
81)	Styrene	17.162	104	346619	4.87	ppb(v	99
82)	Nonane	17.694	43	239476	4.47	ppb(v	100
83)	o-Xylene	17.309	91	468013	4.98	ppb(v	99
84)	Bromoform	16.716	173	316782	5.64	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.315	83	331162	4.75	ppb(v	99
86)	1,2,3-Trichloropropane	17.505	75	235967	4.86	ppb(v	98
87)	Isopropylbenzene	18.214	105	622865	4.85	ppb(v	100
88)	Bromobenzene	18.324	156	224838	5.13	ppb(v	99
89)	2-Chlorotoluene	18.942	126	164612	5.01	ppb(v	96
90)	n-Propylbenzene	19.022	120	174387	4.66	ppb(v	98
92)	4-Ethyltoluene	19.248	105	578337	4.48	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	496140	4.49	ppb(v	99
94)	alpha-Methylstyrene	19.609	118	245223	4.33	ppb(v	99
95)	tert-Butylbenzene	19.952	134	113473	4.26	ppb(v	97
96)	1,2,4-Trimethylbenzene	19.970	105	467249	4.23	ppb(v	97
97)	1,3-Dichlorobenzene	20.160	146	316181	4.31	ppb(v	98
98)	Benzyl Chloride	20.154	91	310668	3.91	ppb(v	100
99)	1,4-Dichlorobenzene	20.264	146	303155	4.31	ppb(v	99
100)	sec-Butylbenzene	20.349	134	131271	4.35	ppb(v	98
101)	p-Isopropyltoluene	20.582	134	151076	4.26	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	289672	4.35	ppb(v	97
103)	n-Butylbenzene	21.163	134	119719	4.13	ppb(v	99
104)	Hexachloroethane	21.628	201	187282	4.60	ppb(v	98
105)	1,2,4-Trichlorobenzene	22.974	180	88323	3.75	ppb(v	98
106)	Naphthalene	23.096	128	162503	3.68	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	132631	4.26	ppb(v	99
109)	TVHC as equiv Pentane	5.753	TIC	679790	5.31	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.16

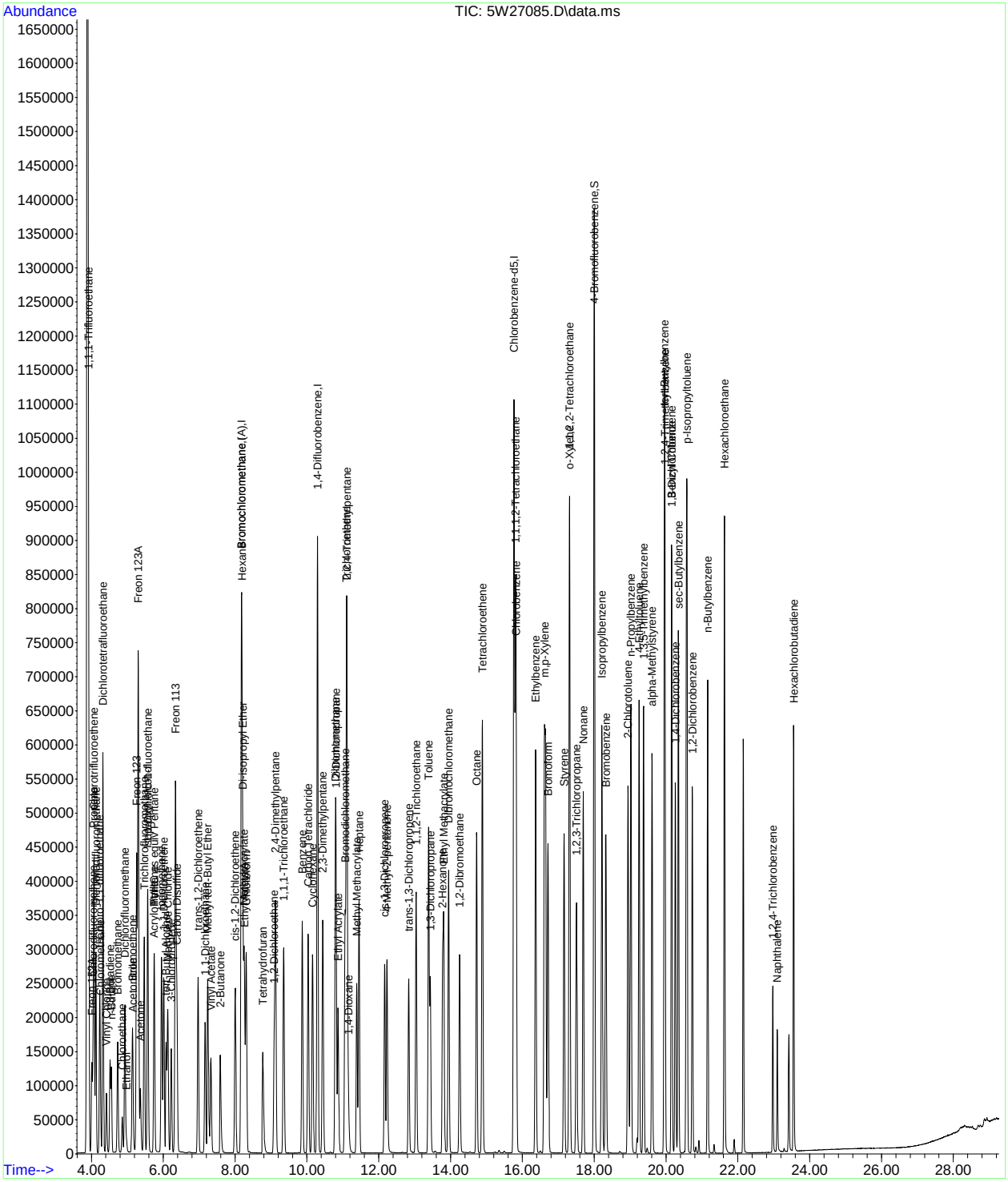
7

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27085.D
Acq On : 6 Oct 2017 5:00 pm
Operator : [redacted]
Sample : 1c1065-5
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 06 17:37:22 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Thu Oct 05 09:07:36 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27086.D
Acq On : 6 Oct 2017 5:45 pm
Operator : [redacted]
Sample : icc1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:38:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	291386	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	996968	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	450995	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	291386	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	670043	10.43	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 104.30%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	676894	10.96	ppb(v#	91
3) Freon 152A	4.009	65	141677	8.42	ppb(v	86
4) Chlorodifluoromethane	4.046	67	56601	10.42	ppb(v	97
5) Propene	4.064	41	144922	9.00	ppb(v	98
6) Chlorotrifluoroethene	4.070	116	387076	9.92	ppb(v	100
7) Dichlorodifluoromethane	4.125	85	619731	9.55	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	404854	9.30	ppb(v	99
9) Chloromethane	4.247	50	189575	9.32	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	619718	9.58	ppb(v	98
11) Vinyl Chloride	4.413	62	217178	9.83	ppb(v	99
12) 1,3-Butadiene	4.517	54	140593	9.17	ppb(v	98
13) n-Butane	4.553	58	30225	9.83	ppb(v	98
14) Bromomethane	4.731	94	254861	7.97	ppb(v	100
15) Chloroethane	4.859	64	103484	9.68	ppb(v	99
16) Dichlorofluoromethane	4.933	67	471839	9.09	ppb(v	100
17) Acetonitrile	5.153	41	122415	9.54	ppb(v	99
18) Freon 123	5.257	83	597125	9.08	ppb(v	99
19) Freon 123A	5.300	117	692252	18.23	ppb(v	97
20) Bromoethene	5.141	106	255559	9.62	ppb(v	99
21) Trichlorofluoromethane	5.471	101	603032	9.34	ppb(v	99
22) Acetone	5.361	58	85461	8.11	ppb(v	100
23) Pentane	5.752	57	56093	8.95	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	509488	8.73	ppb(v	99
25) Iodomethane	5.948	142	780312	9.48	ppb(v	96
26) Isopropyl Alcohol	5.569	43	51529	6.81	ppb(v	96
27) 1,1-Dichloroethene	6.009	61	374337	9.84	ppb(v	98
28) Freon 113	6.340	101	565596	9.67	ppb(v	98
29) Methylene Chloride	6.126	84	226328	7.83	ppb(v	98
30) Carbon Disulfide	6.383	76	765134	9.80	ppb(v	99
31) Ethanol	4.975	45	53122	7.71	ppb(v	98
32) Acrylonitrile	5.746	53	168169	10.16	ppb(v	98
33) 3-Chloropropene	6.223	76	102747	10.01	ppb(v	90
34) trans-1,2-Dichloroethene	6.970	61	344667	9.97	ppb(v	98
35) tert-Butyl Alcohol	6.077	59	449678	8.13	ppb(v	98
36) Methyl tert-Butyl Ether	7.239	73	642715	9.73	ppb(v	99
37) Vinyl Acetate	7.325	43	493222	8.86	ppb(v	99
38) 1,1-Dichloroethane	7.166	63	437394	9.47	ppb(v	100
39) 2-Butanone	7.582	72	119375	10.44	ppb(v	95
40) Hexane	8.187	57	346482	9.78	ppb(v	98
41) cis-1,2-Dichloroethene	8.004	61	325785	9.77	ppb(v	97
42) Di-isopropyl Ether	8.212	87	204024	10.02	ppb(v	100
43) Ethyl Acetate	8.261	61	79046	10.64	ppb(v	93
44) Methyl Acrylate	8.242	55	393420	9.67	ppb(v	99
45) Chloroform	8.310	83	533535	9.15	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	403101	9.93	ppb(v	99
47) Tetrahydrofuran	8.762	72	111958	10.87	ppb(v	93
48) 1,1,1-Trichloroethane	9.356	97	490132	9.44	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	303406	9.60	ppb(v	98
50) Benzene	9.870	78	763016	9.13	ppb(v	98
51) Carbon Tetrachloride	10.035	117	508304	9.95	ppb(v	99
52) Cyclohexane	10.157	56	339814	9.76	ppb(v	100
53) 2,3-Dimethylpentane	10.439	71	158920	9.96	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27086.D
Acq On : 6 Oct 2017 5:45 pm
Operator : [redacted]
Sample : icc1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:38:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

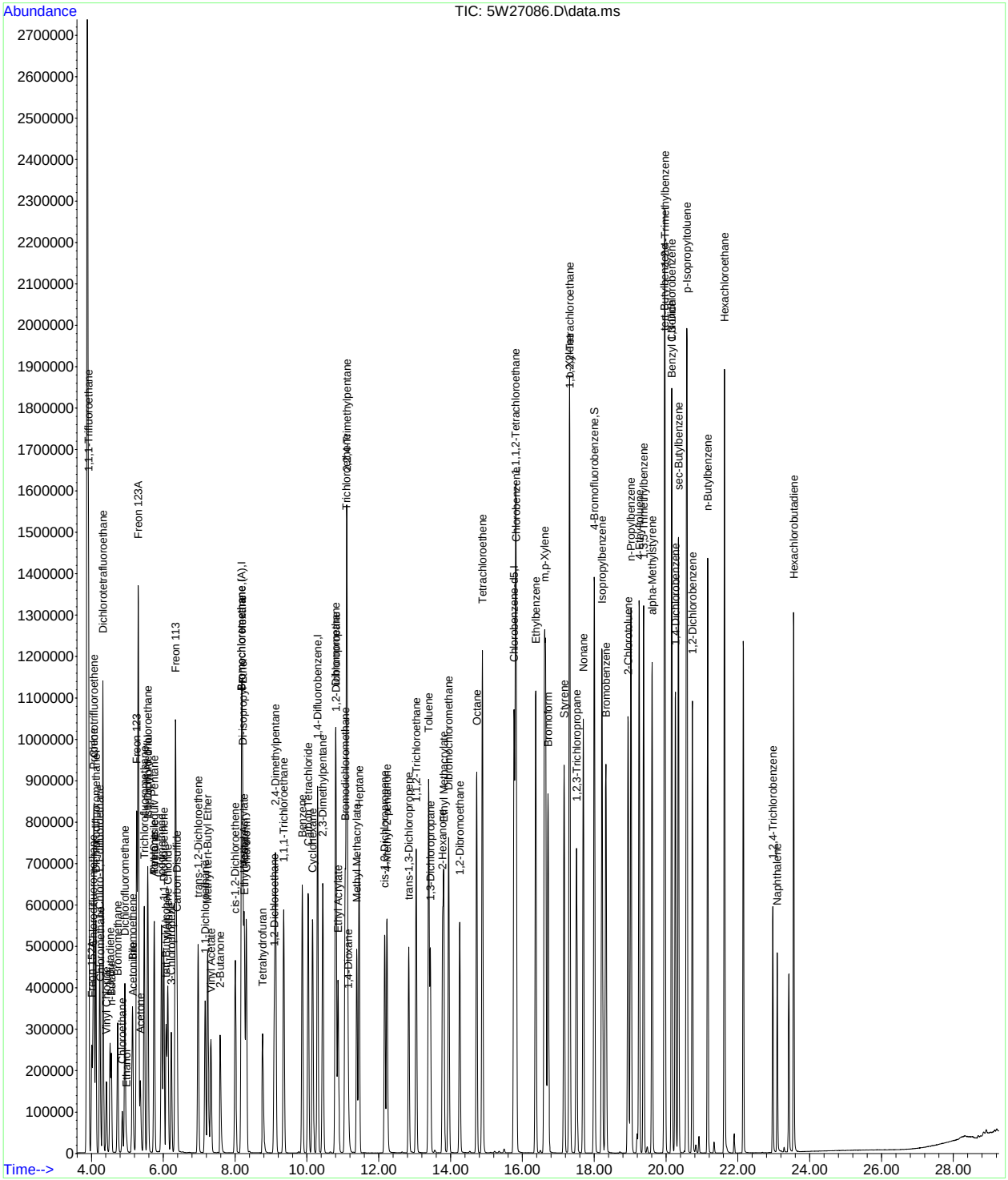
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.111	57	1100294	9.87	ppb(v	97
56)	Heptane	11.454	71	237271	10.16	ppb(v	98
57)	Trichloroethene	11.099	95	361699	9.36	ppb(v	98
58)	1,2-Dichloropropane	10.812	63	279660	9.62	ppb(v	96
59)	Dibromomethane	10.799	174	366144	8.62	ppb(v	97
60)	Ethyl Acrylate	10.867	55	531135	10.76	ppb(v	100
61)	Methyl Methacrylate	11.387	69	269407	10.49	ppb(v	92
62)	1,4-Dioxane	11.148	88	149241	10.28	ppb(v	96
63)	Bromodichloromethane	11.063	83	551779	9.36	ppb(v	98
64)	cis-1,3-Dichloropropene	12.164	75	433325	9.95	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	217461	11.48	ppb(v	96
66)	trans-1,3-Dichloropropene	12.837	75	384010	10.10	ppb(v	99
67)	Toluene	13.387	91	905096	9.37	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	329318	9.41	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	422469	9.56	ppb(v	94
70)	2-Hexanone	13.779	58	291940	12.56	ppb(v	91
71)	Ethyl Methacrylate	13.809	69	433238	10.75	ppb(v	99
72)	Dibromochloromethane	13.944	129	587676	9.16	ppb(v	100
73)	Tetrachloroethene	14.886	166	511273	8.73	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	534359	9.17	ppb(v	99
75)	Octane	14.727	43	488576	9.39	ppb(v	96
76)	1,1,1,2-Tetrachloroethane	15.810	131	431367	9.29	ppb(v	99
78)	Chlorobenzene	15.828	112	762999	8.53	ppb(v	100
79)	Ethylbenzene	16.373	91	1159785	8.66	ppb(v	99
80)	m,p-Xylene	16.624	91	1795720	17.47	ppb(v	99
81)	Styrene	17.162	104	699322	9.76	ppb(v	99
82)	Nonane	17.694	43	476325	8.29	ppb(v	97
83)	o-Xylene	17.309	91	909888	8.74	ppb(v	99
84)	Bromoform	16.715	173	613032	9.56	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.321	83	648204	8.52	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	468406	8.70	ppb(v	99
87)	Isopropylbenzene	18.220	105	1233659	8.64	ppb(v	99
88)	Bromobenzene	18.324	156	447096	8.83	ppb(v	99
89)	2-Chlorotoluene	18.948	126	330500	9.02	ppb(v	95
90)	n-Propylbenzene	19.022	120	348438	9.22	ppb(v	98
92)	4-Ethyltoluene	19.254	105	1179946	8.66	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	990265	8.21	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	498039	9.55	ppb(v	99
95)	tert-Butylbenzene	19.952	134	224088	8.14	ppb(v	96
96)	1,2,4-Trimethylbenzene	19.970	105	928732	8.33	ppb(v	97
97)	1,3-Dichlorobenzene	20.160	146	639385	8.67	ppb(v	99
98)	Benzyl Chloride	20.153	91	657098	10.56	ppb(v	99
99)	1,4-Dichlorobenzene	20.264	146	624620	8.54	ppb(v	99
100)	sec-Butylbenzene	20.349	134	261909	8.28	ppb(v	99
101)	p-Isopropyltoluene	20.582	134	301300	7.87	ppb(v	98
102)	1,2-Dichlorobenzene	20.735	146	586794	8.41	ppb(v	98
103)	n-Butylbenzene	21.163	134	247141	8.81	ppb(v	99
104)	Hexachloroethane	21.628	201	385036	8.17	ppb(v	98
105)	1,2,4-Trichlorobenzene	22.974	180	215641	12.93	ppb(v	97
106)	Naphthalene	23.096	128	413129	13.41	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	283127	6.59	ppb(v	99
109)	TVHC as equiv Pentane	5.752	TIC	1302322	9.75	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27086.D
Acq On : 6 Oct 2017 5:45 pm
Operator : [redacted]
Sample : icc1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:38:06 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27087.D
Acq On : 6 Oct 2017 6:33 pm
Operator : [redacted]
Sample : ic1065-20
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:39:17 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	293152	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.298	114	994053	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	418627	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	293152	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	606995	10.18	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 101.80%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	1245966	20.04	ppb(v	93
3) Freon 152A	4.009	65	281627	16.64	ppb(v	86
4) Chlorodifluoromethane	4.046	67	110757	20.27	ppb(v	98
5) Propene	4.064	41	280977	17.34	ppb(v	98
6) Chlorotrifluoroethene	4.076	116	773439	19.69	ppb(v#	90
7) Dichlorodifluoromethane	4.125	85	1199901	18.37	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.235	65	788541	18.00	ppb(v	99
9) Chloromethane	4.254	50	368476	18.00	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	1199794	18.43	ppb(v	98
11) Vinyl Chloride	4.419	62	423109	19.04	ppb(v	100
12) 1,3-Butadiene	4.517	54	272447	17.67	ppb(v	98
13) n-Butane	4.554	58	57818	18.68	ppb(v	97
14) Bromomethane	4.731	94	495476	15.40	ppb(v	99
15) Chloroethane	4.859	64	198702	18.47	ppb(v	99
16) Dichlorofluoromethane	4.933	67	904782	17.32	ppb(v	99
17) Acetonitrile	5.153	41	230449	17.84	ppb(v	98
18) Freon 123	5.257	83	1115595	16.87	ppb(v	100
19) Freon 123A	5.306	117	1301674	34.08	ppb(v	97
20) Bromoethene	5.141	106	492028	18.40	ppb(v	99
21) Trichlorofluoromethane	5.471	101	1163451	17.90	ppb(v	100
22) Acetone	5.361	58	161866	15.27	ppb(v	96
23) Pentane	5.753	57	107705	17.08	ppb(v	91
24) 1,1-Dichloro-1-fluoroe...	5.569	81	1044359	17.80	ppb(v	99
25) Iodomethane	5.954	142	1554029	18.77	ppb(v	96
26) Isopropyl Alcohol	5.569	43	113367	14.89	ppb(v	96
27) 1,1-Dichloroethene	6.016	61	726794	18.98	ppb(v	95
28) Freon 113	6.340	101	1110122	18.86	ppb(v	99
29) Methylene Chloride	6.126	84	442757	15.22	ppb(v	97
30) Carbon Disulfide	6.383	76	1498884	19.09	ppb(v	100
31) Ethanol	4.982	45	103360	14.91	ppb(v	98
32) Acrylonitrile	5.746	53	324211	19.46	ppb(v	98
33) 3-Chloropropene	6.224	76	204864	19.84	ppb(v	86
34) trans-1,2-Dichloroethene	6.970	61	673944	19.38	ppb(v	98
35) tert-Butyl Alcohol	6.083	59	886728	15.94	ppb(v	97
36) Methyl tert-Butyl Ether	7.239	73	1269752	19.11	ppb(v	98
37) Vinyl Acetate	7.325	43	973490	17.39	ppb(v	98
38) 1,1-Dichloroethane	7.172	63	858626	18.48	ppb(v	99
39) 2-Butanone	7.582	72	234911	20.42	ppb(v	93
40) Hexane	8.187	57	676742	18.99	ppb(v	97
41) cis-1,2-Dichloroethene	8.010	61	637448	19.00	ppb(v	96
42) Di-isopropyl Ether	8.212	87	407183	19.87	ppb(v	96
43) Ethyl Acetate	8.261	61	154170	20.63	ppb(v	92
44) Methyl Acrylate	8.249	55	759945	18.57	ppb(v	99
45) Chloroform	8.316	83	1035272	17.64	ppb(v	98
46) 2,4-Dimethylpentane	9.130	57	789724	19.34	ppb(v	99
47) Tetrahydrofuran	8.762	72	222747	21.49	ppb(v	91
48) 1,1,1-Trichloroethane	9.356	97	972197	18.62	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	586123	18.43	ppb(v	97
50) Benzene	9.876	78	1494098	17.78	ppb(v	98
51) Carbon Tetrachloride	10.041	117	1024043	19.92	ppb(v	99
52) Cyclohexane	10.163	56	674082	19.25	ppb(v	99
53) 2,3-Dimethylpentane	10.445	71	316018	19.68	ppb(v	96

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27087.D
Acq On : 6 Oct 2017 6:33 pm
Operator : [redacted]
Sample : ic1065-20
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:39:17 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.118	57	2108432	18.97	ppb(v	97
56)	Heptane	11.454	71	463801	19.93	ppb(v	98
57)	Trichloroethene	11.106	95	711179	18.45	ppb(v	99
58)	1,2-Dichloropropane	10.818	63	536786	18.51	ppb(v	97
59)	Dibromomethane	10.800	174	726503	17.15	ppb(v	96
60)	Ethyl Acrylate	10.873	55	1045718	21.24	ppb(v	99
61)	Methyl Methacrylate	11.393	69	528250	20.63	ppb(v	89
62)	1,4-Dioxane	11.148	88	289472	20.00	ppb(v	98
63)	Bromodichloromethane	11.069	83	1093724	18.60	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	848838	19.54	ppb(v	100
65)	4-Methyl-2-pentanone	12.231	58	433459	22.95	ppb(v	95
66)	trans-1,3-Dichloropropene	12.837	75	722566	19.06	ppb(v	99
67)	Toluene	13.394	91	1734252	18.01	ppb(v	99
68)	1,1,2-Trichloroethane	13.045	97	629411	18.04	ppb(v	98
69)	1,3-Dichloropropane	13.436	76	792839	17.98	ppb(v	94
70)	2-Hexanone	13.785	58	580718	25.05	ppb(v	90
71)	Ethyl Methacrylate	13.816	69	852320	21.22	ppb(v	99
72)	Dibromochloromethane	13.950	129	1095749	17.13	ppb(v	99
73)	Tetrachloroethene	14.886	166	1016020	17.39	ppb(v	99
74)	1,2-Dibromoethane	14.256	107	979570	16.86	ppb(v	99
75)	Octane	14.727	43	922930	17.79	ppb(v	94
76)	1,1,1,2-Tetrachloroethane	15.810	131	756736	16.34	ppb(v	100
78)	Chlorobenzene	15.828	112	1336677	16.09	ppb(v	100
79)	Ethylbenzene	16.373	91	2031115	16.33	ppb(v	99
80)	m,p-Xylene	16.648	91	3124054	32.74	ppb(v	99
81)	Styrene	17.162	104	1347758	20.26	ppb(v	99
82)	Nonane	17.694	43	924922	17.35	ppb(v	97
83)	o-Xylene	17.315	91	1577767	16.32	ppb(v	98
84)	Bromoform	16.722	173	1020834	17.14	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.321	83	1262913	17.88	ppb(v	100
86)	1,2,3-Trichloropropane	17.511	75	910734	18.22	ppb(v	99
87)	Isopropylbenzene	18.220	105	2307618	17.40	ppb(v	99
88)	Bromobenzene	18.324	156	808222	17.19	ppb(v	99
89)	2-Chlorotoluene	18.948	126	616865	18.14	ppb(v	94
90)	n-Propylbenzene	19.022	120	687263	19.60	ppb(v	99
92)	4-Ethyltoluene	19.254	105	2325499	18.39	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	1956211	17.48	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	1016151	20.98	ppb(v	100
95)	tert-Butylbenzene	19.958	134	452934	17.73	ppb(v	95
96)	1,2,4-Trimethylbenzene	19.976	105	1845433	17.83	ppb(v	94
97)	1,3-Dichlorobenzene	20.166	146	1294135	18.90	ppb(v	98
98)	Benzyl Chloride	20.160	91	1352373	23.41	ppb(v	98
99)	1,4-Dichlorobenzene	20.264	146	1268464	18.68	ppb(v	99
100)	sec-Butylbenzene	20.349	134	527881	17.97	ppb(v	99
101)	p-Isopropyltoluene	20.588	134	601244	16.91	ppb(v	91
102)	1,2-Dichlorobenzene	20.735	146	1193264	18.41	ppb(v	98
103)	n-Butylbenzene	21.163	134	508315	19.51	ppb(v	97
104)	Hexachloroethane	21.628	201	769893	17.60	ppb(v	99
105)	1,2,4-Trichlorobenzene	22.974	180	481502	31.10	ppb(v	98
106)	Naphthalene	23.096	128	956925	33.46	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	574185	14.40	ppb(v	97
109)	TVHC as equiv Pentane	5.753	TIC	2493615	18.56	ppb(v	100

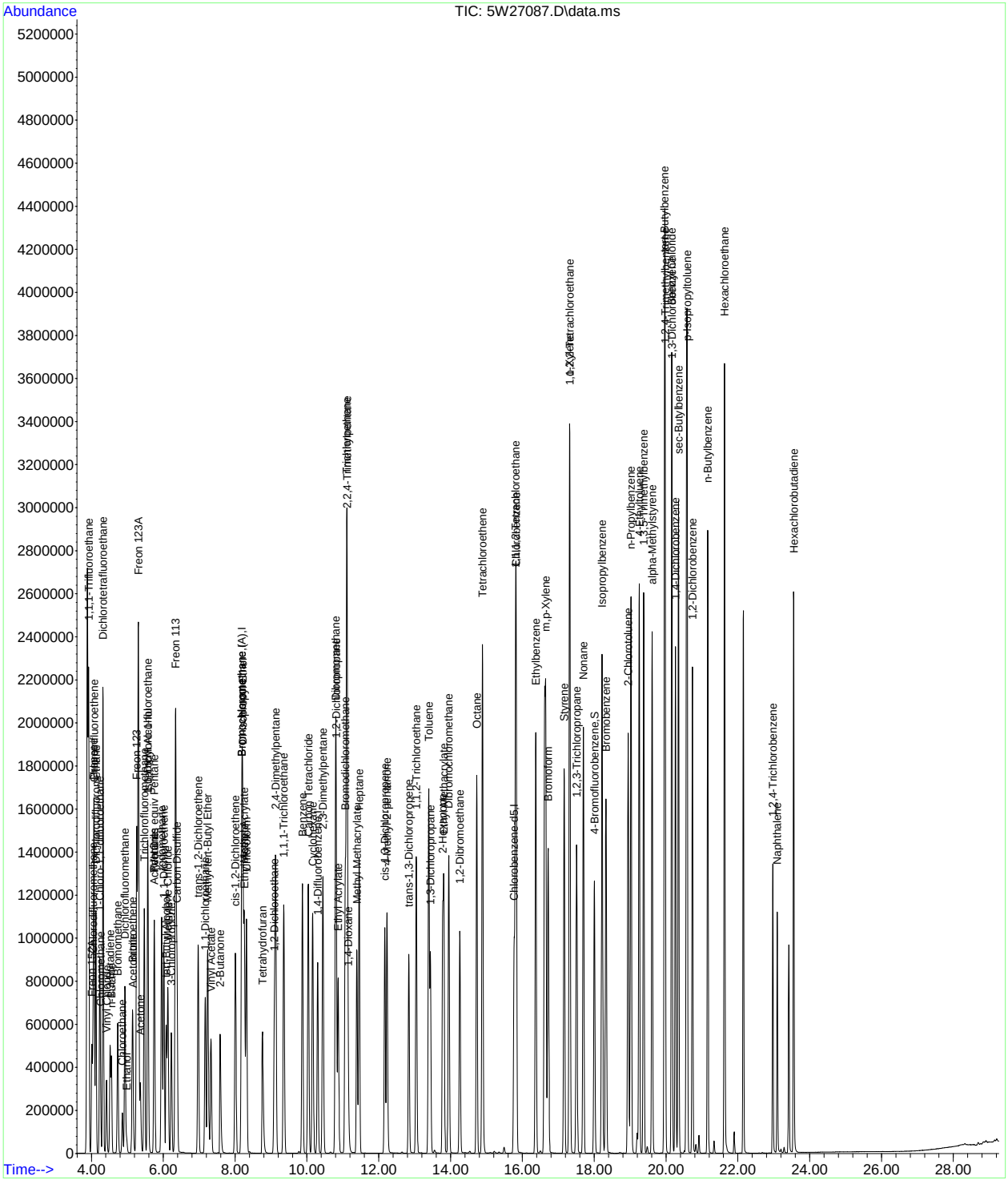
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27087.D
Acq On : 6 Oct 2017 6:33 pm
Operator : [redacted]
Sample : 1c1065-20
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 07:39:17 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27088.D
Acq On : 6 Oct 2017 7:23 pm
Operator : [redacted]
Sample : 1c1065-40
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 09:20:08 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.181	130	298904	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.298	114	1009982	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.773	82	428032	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.181	130	298904	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.006	95	510141	8.36	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 83.60%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	1829170	28.86	ppb(v	97
3) Freon 152A	4.015	65	561477	32.54	ppb(v	85
4) Chlorodifluoromethane	4.046	67	216000	38.78	ppb(v	99
5) Propene	4.064	41	531504	32.16	ppb(v	98
6) Chlorotrifluoroethene	4.076	116	1529952	38.21	ppb(v	99
7) Dichlorodifluoromethane	4.125	85	2353196	35.33	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.235	65	1498936	33.56	ppb(v	98
9) Chloromethane	4.254	50	694879	33.29	ppb(v	98
10) Dichlorotetrafluoroethane	4.321	85	2219115	33.43	ppb(v	100
11) Vinyl Chloride	4.419	62	789031	34.83	ppb(v	99
12) 1,3-Butadiene	4.517	54	509087	32.39	ppb(v	98
13) n-Butane	4.553	58	108537	34.40	ppb(v	98
14) Bromomethane	4.731	94	938215	28.60	ppb(v	100
15) Chloroethane	4.865	64	377597	34.43	ppb(v	99
16) Dichlorofluoromethane	4.933	67	1711487	32.13	ppb(v	100
17) Acetonitrile	5.159	41	436273	33.13	ppb(v	100
18) Freon 123	5.263	83	2007616	29.77	ppb(v	99
19) Freon 123A	5.306	117	2345429	60.22	ppb(v	93
20) Bromoethene	5.141	106	945794	34.70	ppb(v	99
21) Trichlorofluoromethane	5.471	101	2173168	32.80	ppb(v	99
22) Acetone	5.361	58	309883	28.68	ppb(v	97
23) Pentane	5.752	57	210441	32.73	ppb(v	85
24) 1,1-Dichloro-1-fluoroe...	5.569	81	2014056	33.66	ppb(v	99
25) Iodomethane	5.954	142	3082889	36.52	ppb(v	97
26) Isopropyl Alcohol	5.569	43	208608	26.86	ppb(v	90
27) 1,1-Dichloroethene	6.016	61	1400235	35.87	ppb(v	93
28) Freon 113	6.340	101	2165140	36.08	ppb(v	100
29) Methylene Chloride	6.132	84	870128	29.34	ppb(v	94
30) Carbon Disulfide	6.383	76	2939221	36.72	ppb(v	100
31) Ethanol	4.982	45	198391	28.07	ppb(v	98
32) Acrylonitrile	5.746	53	633402	37.29	ppb(v	98
33) 3-Chloropropene	6.230	76	407182	38.68	ppb(v	82
34) trans-1,2-Dichloroethene	6.970	61	1337341	37.71	ppb(v	97
35) tert-Butyl Alcohol	6.083	59	1731561	30.53	ppb(v	96
36) Methyl tert-Butyl Ether	7.239	73	2518739	37.18	ppb(v	98
37) Vinyl Acetate	7.325	43	1919323	33.63	ppb(v	97
38) 1,1-Dichloroethane	7.172	63	1686213	35.60	ppb(v	99
39) 2-Butanone	7.582	72	464082	39.57	ppb(v	90
40) Hexane	8.187	57	1311019	36.08	ppb(v	95
41) cis-1,2-Dichloroethene	8.010	61	1262431	36.90	ppb(v	95
42) Di-isopropyl Ether	8.218	87	809079	38.72	ppb(v	87
43) Ethyl Acetate	8.267	61	301569	39.58	ppb(v	84
44) Methyl Acrylate	8.249	55	1467258	35.16	ppb(v	99
45) Chloroform	8.322	83	2014679	33.67	ppb(v	98
46) 2,4-Dimethylpentane	9.129	57	1536699	36.90	ppb(v	99
47) Tetrahydrofuran	8.756	72	440890	41.71	ppb(v	91
48) 1,1,1-Trichloroethane	9.356	97	1940408	36.45	ppb(v	99
49) 1,2-Dichloroethane	9.093	62	1142243	35.23	ppb(v	97
50) Benzene	9.876	78	2958582	34.53	ppb(v	98
51) Carbon Tetrachloride	10.041	117	2102344	40.10	ppb(v	99
52) Cyclohexane	10.163	56	1323500	37.06	ppb(v	98
53) 2,3-Dimethylpentane	10.445	71	626113	38.25	ppb(v	93

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27088.D
Acq On : 6 Oct 2017 7:23 pm
Operator : [redacted]
Sample : ic1065-40
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 09:20:08 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration

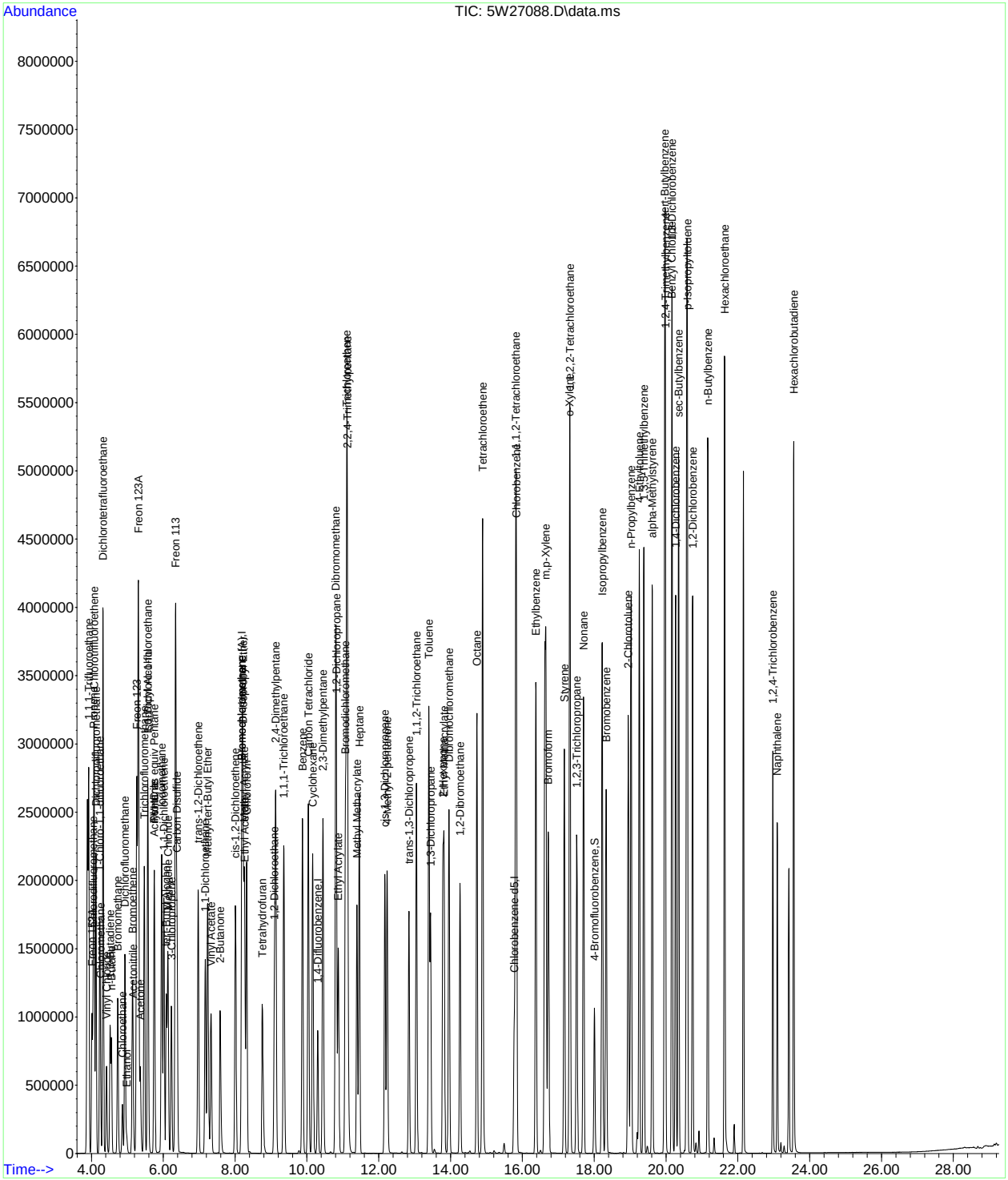
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.124	57	3833288	33.94	ppb(v	97
56)	Heptane	11.460	71	904805	38.26	ppb(v	98
57)	Trichloroethene	11.105	95	1352894	34.55	ppb(v	98
58)	1,2-Dichloropropane	10.824	63	1030654	34.98	ppb(v	97
59)	Dibromomethane	10.806	174	1469991	34.15	ppb(v	97
60)	Ethyl Acrylate	10.873	55	2002253	40.03	ppb(v	98
61)	Methyl Methacrylate	11.393	69	1021380	39.26	ppb(v	87
63)	Bromodichloromethane	11.069	83	2126815	35.60	ppb(v	99
64)	cis-1,3-Dichloropropene	12.170	75	1688448	38.25	ppb(v	99
65)	4-Methyl-2-pentanone	12.237	58	827835	43.14	ppb(v	92
66)	trans-1,3-Dichloropropene	12.843	75	1402041	36.39	ppb(v	98
67)	Toluene	13.394	91	3374206	34.48	ppb(v	100
68)	1,1,2-Trichloroethane	13.051	97	1238650	34.95	ppb(v	99
69)	1,3-Dichloropropane	13.442	76	1521785	33.98	ppb(v	93
70)	2-Hexanone	13.791	58	1100599	46.72	ppb(v	89
71)	Ethyl Methacrylate	13.822	69	1591637	39.00	ppb(v	98
72)	Dibromochloromethane	13.956	129	2116185	32.56	ppb(v	99
73)	Tetrachloroethene	14.892	166	2046003	34.47	ppb(v	99
74)	1,2-Dibromoethane	14.262	107	1874493	31.75	ppb(v	100
75)	Octane	14.733	43	1705143	32.35	ppb(v	90
76)	1,1,1,2-Tetrachloroethane	15.816	131	1417122	30.13	ppb(v	98
78)	Chlorobenzene	15.834	112	2453898	28.90	ppb(v	100
79)	Ethylbenzene	16.373	91	3665508	28.83	ppb(v	98
80)	m,p-Xylene	16.654	91	5457831	55.94	ppb(v	98
81)	Styrene	17.168	104	2279444	33.52	ppb(v	99
82)	Nonane	17.700	43	1562220	28.66	ppb(v	94
83)	o-Xylene	17.315	91	2603179	26.34	ppb(v	98
84)	Bromoform	16.722	173	1747523	28.70	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.327	83	2093223	28.99	ppb(v	99
86)	1,2,3-Trichloropropane	17.511	75	1507916	29.50	ppb(v	99
87)	Isopropylbenzene	18.226	105	3813634	28.13	ppb(v	99
88)	Bromobenzene	18.330	156	1322883	27.51	ppb(v	97
89)	2-Chlorotoluene	18.948	126	1008325	28.99	ppb(v	94
90)	n-Propylbenzene	19.028	120	1144106	31.92	ppb(v	95
92)	4-Ethyltoluene	19.254	105	3899961	30.16	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.383	105	3379495	29.53	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	1810673	36.57	ppb(v	100
95)	tert-Butylbenzene	19.964	134	784861	30.05	ppb(v	94
96)	1,2,4-Trimethylbenzene	19.982	105	3110209	29.39	ppb(v	91
97)	1,3-Dichlorobenzene	20.166	146	2248649	32.11	ppb(v	99
98)	Benzyl Chloride	20.160	91	2435295	41.24	ppb(v	98
99)	1,4-Dichlorobenzene	20.270	146	2280025	32.83	ppb(v	99
100)	sec-Butylbenzene	20.355	134	953776	31.76	ppb(v	93
101)	p-Isopropyltoluene	20.594	134	1090091	29.98	ppb(v	89
102)	1,2-Dichlorobenzene	20.741	146	2213525	33.41	ppb(v	97
103)	n-Butylbenzene	21.169	134	987414	37.07	ppb(v	88
104)	Hexachloroethane	21.634	201	1334941	29.85	ppb(v	91
105)	1,2,4-Trichlorobenzene	22.974	180	1043557	65.91	ppb(v	98
106)	Naphthalene	23.096	128	2074286	70.94	ppb(v	100
107)	Hexachlorobutadiene	23.555	225	1160534	28.47	ppb(v	98
109)	TVHC as equiv Pentane	5.752	TIC	4799365	35.04	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27088.D
Acq On : 6 Oct 2017 7:23 pm
Operator : [redacted]
Sample : 1c1065-40
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 09:20:08 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Fri Oct 06 17:49:17 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	289109	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	974395	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	407225	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	289109	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	692917	12.10	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 121.00%			
Target Compounds						Qvalue
3) Freon 152A	4.009	65	149384	9.66	ppb(v	87
4) Chlorodifluoromethane	4.046	67	58953	10.91	ppb(v	96
5) Propene	4.064	41	150532	9.95	ppb(v	99
6) Chlorotrifluoroethene	4.070	116	399350	10.40	ppb(v#	89
7) Dichlorodifluoromethane	4.125	85	647883	10.37	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	409323	9.88	ppb(v	99
9) Chloromethane	4.247	50	193959	10.03	ppb(v	99
10) Dichlorotetrafluoroethane	4.321	85	657864	10.62	ppb(v	95
11) Vinyl Chloride	4.413	62	218615	10.22	ppb(v	99
12) 1,3-Butadiene	4.517	54	140834	9.74	ppb(v	97
13) n-Butane	4.553	58	31767	10.75	ppb(v	99
14) Bromomethane	4.731	94	266061	9.21	ppb(v	100
15) Chloroethane	4.859	64	105174	10.23	ppb(v	98
16) Dichlorofluoromethane	4.933	67	506259	10.37	ppb(v	99
17) Acetonitrile	5.153	41	130290	10.82	ppb(v	100
18) Freon 123	5.257	83	623109	10.19	ppb(v	99
19) Freon 123A	5.300	117	695334	19.65	ppb(v	97
20) Bromoethene	5.135	106	257520	10.08	ppb(v	100
21) Trichlorofluoromethane	5.471	101	639247	10.43	ppb(v	100
22) Acetone	5.355	58	91798	9.77	ppb(v	98
23) Pentane	5.752	57	61854	10.52	ppb(v	93
25) Iodomethane	5.948	142	798726	10.03	ppb(v	97
26) Isopropyl Alcohol	5.569	43	69405	10.88	ppb(v	52
27) 1,1-Dichloroethene	6.009	61	374009	10.12	ppb(v	98
28) Freon 113	6.340	101	558621	9.86	ppb(v	99
29) Methylene Chloride	6.126	84	226563	8.68	ppb(v	99
30) Carbon Disulfide	6.383	76	752681	9.90	ppb(v	99
31) Ethanol	4.975	45	71812	12.08	ppb(v	97
32) Acrylonitrile	5.740	53	187511	11.53	ppb(v	97
33) 3-Chloropropene	6.223	76	115290	11.38	ppb(v	90
34) trans-1,2-Dichloroethene	6.970	61	361196	10.65	ppb(v	99
35) tert-Butyl Alcohol	6.077	59	449703	8.89	ppb(v	98
36) Methyl tert-Butyl Ether	7.233	73	688023	10.75	ppb(v	99
37) Vinyl Acetate	7.325	43	587781	11.21	ppb(v	98
38) 1,1-Dichloroethane	7.166	63	452286	10.18	ppb(v	100
39) 2-Butanone	7.582	72	122686	10.74	ppb(v	97
40) Hexane	8.187	57	364980	10.61	ppb(v	97
41) cis-1,2-Dichloroethene	8.004	61	334114	10.29	ppb(v	98
42) Di-isopropyl Ether	8.212	87	218064	10.84	ppb(v	98
43) Ethyl Acetate	8.261	61	83456	11.19	ppb(v	94
44) Methyl Acrylate	8.242	55	417752	10.65	ppb(v	99
45) Chloroform	8.310	83	541292	9.80	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	433157	10.91	ppb(v	99
47) Tetrahydrofuran	8.762	72	123367	11.77	ppb(v	95
48) 1,1,1-Trichloroethane	9.356	97	532664	10.63	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	311141	10.23	ppb(v	99
50) Benzene	9.870	78	758847	9.56	ppb(v	98
51) Carbon Tetrachloride	10.035	117	524261	10.35	ppb(v	98
52) Cyclohexane	10.157	56	357735	10.54	ppb(v	99
53) 2,3-Dimethylpentane	10.439	71	167019	10.63	ppb(v	95
55) 2,2,4-Trimethylpentane	11.112	57	1177648	11.11	ppb(v	97
56) Heptane	11.454	71	244598	10.76	ppb(v	98

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) Trichloroethene	11.099	95	364857	10.01	ppb(v	99
58) 1,2-Dichloropropane	10.812	63	272087	9.87	ppb(v	96
59) Dibromomethane	10.793	174	359823	9.15	ppb(v	93
60) Ethyl Acrylate	10.867	55	561337	11.43	ppb(v	100
61) Methyl Methacrylate	11.387	69	282807	11.18	ppb(v	92
62) 1,4-Dioxane	11.148	88	187712	12.90	ppb(v	95
63) Bromodichloromethane	11.063	83	547199	9.79	ppb(v	99
64) cis-1,3-Dichloropropene	12.164	75	453827	10.75	ppb(v	100
65) 4-Methyl-2-pentanone	12.225	58	228315	11.78	ppb(v	97
66) trans-1,3-Dichloropropene	12.837	75	385409	10.54	ppb(v	99
67) Toluene	13.387	91	841959	9.39	ppb(v	100
68) 1,1,2-Trichloroethane	13.045	97	309481	9.38	ppb(v	98
69) 1,3-Dichloropropane	13.436	76	396747	9.53	ppb(v	94
70) 2-Hexanone	13.779	58	317013	12.86	ppb(v	92
71) Ethyl Methacrylate	13.809	69	461951	11.57	ppb(v	99
72) Dibromochloromethane	13.944	129	540248	9.09	ppb(v	100
73) Tetrachloroethene	14.886	166	465021	8.54	ppb(v	99
74) 1,2-Dibromoethane	14.256	107	507912	9.44	ppb(v	99
75) Octane	14.721	43	503745	10.38	ppb(v	98
76) 1,1,1,2-Tetrachloroethane	15.810	131	395174	9.29	ppb(v	99
78) Chlorobenzene	15.828	112	703794	9.44	ppb(v	100
79) Ethylbenzene	16.367	91	1138044	10.45	ppb(v	99
80) m,p-Xylene	16.642	91	1768026	21.20	ppb(v	99
81) Styrene	17.162	104	740350	11.70	ppb(v	99
82) Nonane	17.694	43	499306	10.39	ppb(v	97
83) o-Xylene	17.309	91	898573	10.72	ppb(v	99
84) Bromoform	16.715	173	591449	10.85	ppb(v	99
85) 1,1,2,2-Tetrachloroethane	17.315	83	665218	10.37	ppb(v	100
86) 1,2,3-Trichloropropane	17.505	75	493017	10.79	ppb(v	99
87) Isopropylbenzene	18.214	105	1354025	11.58	ppb(v	99
88) Bromobenzene	18.324	156	456671	10.75	ppb(v	99
89) 2-Chlorotoluene	18.942	126	342001	10.98	ppb(v	98
90) n-Propylbenzene	19.022	120	355818	10.84	ppb(v	98
92) 4-Ethyltoluene	19.248	105	1236500	10.67	ppb(v	99
93) 1,3,5-Trimethylbenzene	19.377	105	1012803	10.01	ppb(v	99
94) alpha-Methylstyrene	19.615	118	515366	11.05	ppb(v	99
95) tert-Butylbenzene	19.958	134	232755	10.06	ppb(v	97
96) 1,2,4-Trimethylbenzene	19.970	105	959245	10.22	ppb(v	98
97) 1,3-Dichlorobenzene	20.160	146	678087	10.69	ppb(v	98
98) Benzyl Chloride	20.154	91	688154	11.87	ppb(v	99
99) 1,4-Dichlorobenzene	20.264	146	667182	10.62	ppb(v	99
100) sec-Butylbenzene	20.349	134	281328	10.48	ppb(v	97
101) p-Isopropyltoluene	20.582	134	303455	9.51	ppb(v	98
102) 1,2-Dichlorobenzene	20.735	146	604540	10.10	ppb(v	97
103) n-Butylbenzene	21.163	134	253817	10.30	ppb(v	98
104) Hexachloroethane	21.628	201	383323	9.68	ppb(v	96
105) 1,2,4-Trichlorobenzene	22.974	180	207350	11.60	ppb(v	98
106) Naphthalene	23.096	128	395466	11.62	ppb(v	100
107) Hexachlorobutadiene	23.549	225	262485	7.64	ppb(v	99
109) TVHC as equiv Pentane	5.746	TIC	1449168	11.36	ppb(v	100

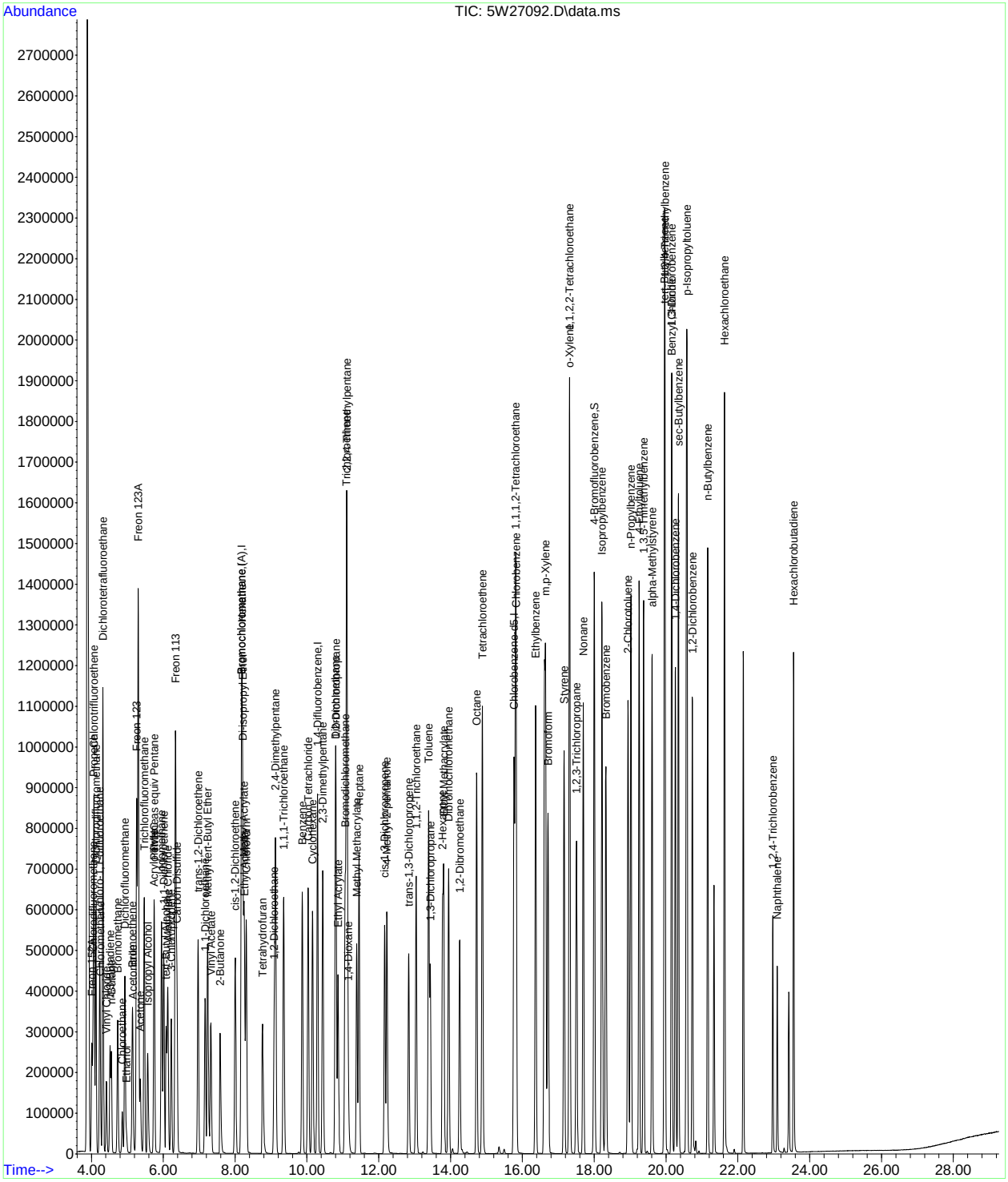
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27092.D
Acq On : 7 Oct 2017 8:32 am
Operator : [redacted]
Sample : icv1065-10
Misc : MS20430,v5w1065,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:17:57 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27161.D
Acq On : 10 Oct 2017 8:02 am
Operator : [redacted]
Sample : CC1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:33 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	283553	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	934223	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	412225	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	283553	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	698260	12.04	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 120.40%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.923	69	666099	11.33	ppb(v	92
3) Freon 152A	4.009	65	137080	9.04	ppb(v	89
4) Chlorodifluoromethane	4.046	67	57121	10.78	ppb(v	96
5) Propene	4.070	41	146929	9.90	ppb(v	98
6) Chlorotrifluoroethene	4.076	116	367976	9.77	ppb(v	98
7) Dichlorodifluoromethane	4.125	85	608565	9.93	ppb(v	99
8) 1-Chloro-1,1-difluoroe...	4.235	65	405752	9.99	ppb(v	100
9) Chloromethane	4.254	50	185589	9.78	ppb(v	100
10) Dichlorotetrafluoroethane	4.321	85	600881	9.89	ppb(v	95
11) Vinyl Chloride	4.419	62	207350	9.89	ppb(v#	99
12) 1,3-Butadiene	4.517	54	128412	9.05	ppb(v	96
13) n-Butane	4.553	58	28534	9.85	ppb(v	100
14) Bromomethane	4.731	94	242629	8.56	ppb(v	99
15) Chloroethane	4.865	64	96672	9.59	ppb(v	99
16) Dichlorofluoromethane	4.939	67	456856	9.54	ppb(v	99
17) Acetonitrile	5.153	41	114512	9.69	ppb(v	99
18) Freon 123	5.263	83	559461	9.33	ppb(v	99
19) Freon 123A	5.306	117	645368	18.59	ppb(v	100
20) Bromoethene	5.141	106	234182	9.35	ppb(v	98
21) Trichlorofluoromethane	5.471	101	593487	9.88	ppb(v	100
22) Acetone	5.361	58	78945	8.57	ppb(v	90
23) Pentane	5.752	57	54727	9.49	ppb(v	94
24) 1,1-Dichloro-1-fluoroe...	5.569	81	503660	9.33	ppb(v	99
25) Iodomethane	5.954	142	706096	9.04	ppb(v	99
26) Isopropyl Alcohol	5.569	43	53325	8.52	ppb(v	80
27) 1,1-Dichloroethene	6.015	61	366332	10.11	ppb(v	99
28) Freon 113	6.340	101	548893	9.87	ppb(v	96
29) Methylene Chloride	6.132	84	220983	8.64	ppb(v	100
30) Carbon Disulfide	6.383	76	742943	9.97	ppb(v	100
31) Ethanol	4.982	45	49331	8.46	ppb(v	99
32) Acrylonitrile	5.746	53	164626	10.32	ppb(v	97
33) 3-Chloropropene	6.223	76	97051	9.77	ppb(v	92
34) trans-1,2-Dichloroethene	6.970	61	325112	9.78	ppb(v	99
35) tert-Butyl Alcohol	6.077	59	426115	8.59	ppb(v	97
36) Methyl tert-Butyl Ether	7.239	73	600444	9.57	ppb(v	98
37) Vinyl Acetate	7.325	43	463434	9.01	ppb(v	100
38) 1,1-Dichloroethane	7.172	63	426008	9.77	ppb(v	99
39) 2-Butanone	7.582	72	111403	9.95	ppb(v	98
40) Hexane	8.187	57	339812	10.07	ppb(v	99
41) cis-1,2-Dichloroethene	8.010	61	309788	9.73	ppb(v	99
42) Di-isopropyl Ether	8.212	87	199789	10.13	ppb(v	98
43) Ethyl Acetate	8.261	61	77381	10.58	ppb(v	93
44) Methyl Acrylate	8.248	55	382532	9.94	ppb(v	100
45) Chloroform	8.310	83	523885	9.67	ppb(v	98
46) 2,4-Dimethylpentane	9.123	57	393912	10.12	ppb(v	97
47) Tetrahydrofuran	8.762	72	105003	10.21	ppb(v	99
48) 1,1,1-Trichloroethane	9.356	97	476893	9.70	ppb(v	99
49) 1,2-Dichloroethane	9.087	62	297651	9.97	ppb(v	99
50) Benzene	9.870	78	710639	9.12	ppb(v	99
51) Carbon Tetrachloride	10.035	117	499172	10.05	ppb(v	100
52) Cyclohexane	10.157	56	322408	9.68	ppb(v	98
53) 2,3-Dimethylpentane	10.439	71	154262	10.01	ppb(v	100

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27161.D
Acq On : 10 Oct 2017 8:02 am
Operator : [redacted]
Sample : CC1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:33 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

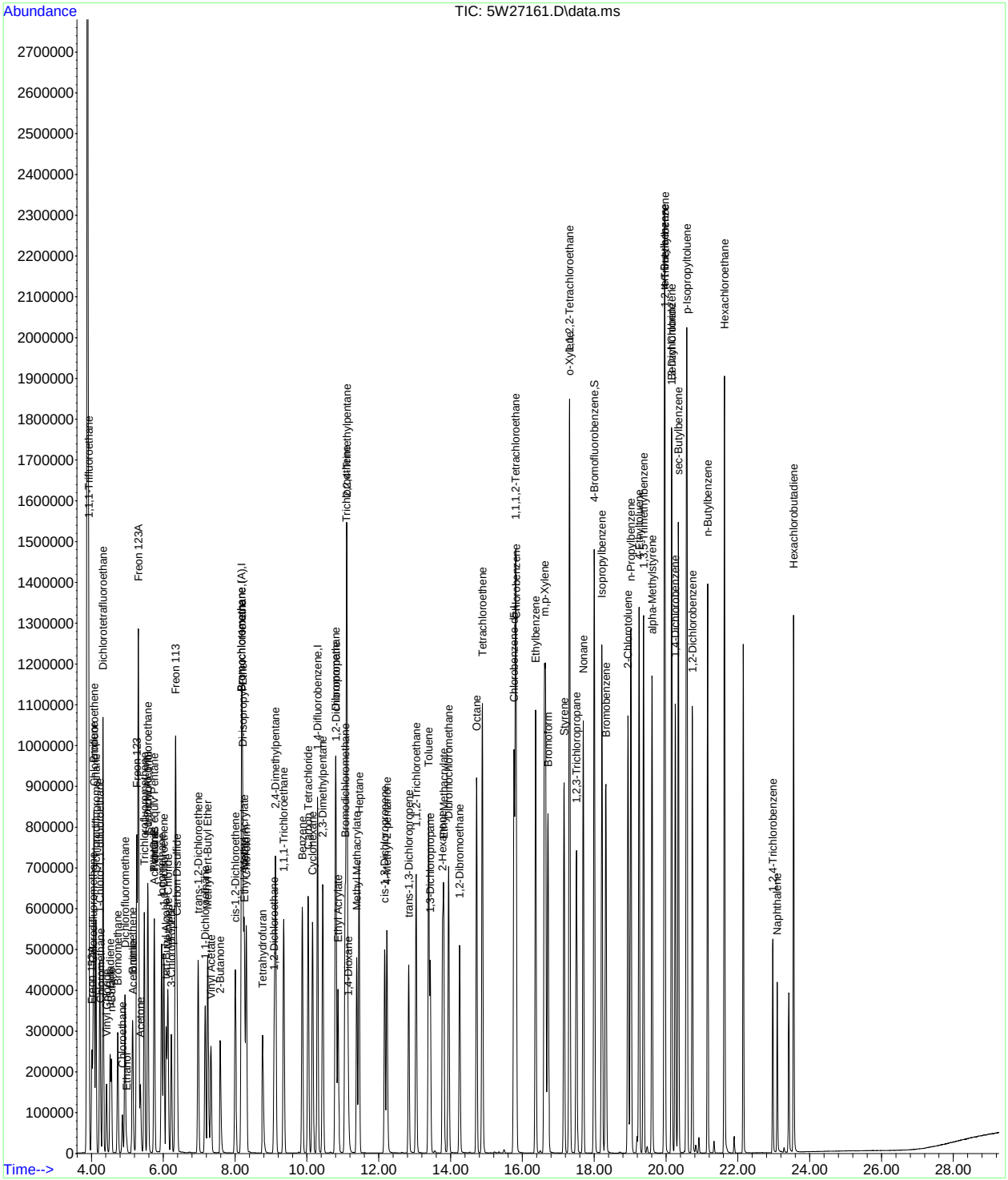
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.111	57	1080134	10.63	ppb(v	97
56)	Heptane	11.454	71	231935	10.64	ppb(v	98
57)	Trichloroethene	11.099	95	347690	9.94	ppb(v	98
58)	1,2-Dichloropropane	10.812	63	265223	10.03	ppb(v	96
59)	Dibromomethane	10.800	174	334465	8.87	ppb(v	94
60)	Ethyl Acrylate	10.867	55	502455	10.68	ppb(v	100
61)	Methyl Methacrylate	11.387	69	255596	10.54	ppb(v	93
62)	1,4-Dioxane	11.148	88	142212	10.19	ppb(v	97
63)	Bromodichloromethane	11.063	83	531215	9.92	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	392965	9.71	ppb(v	99
65)	4-Methyl-2-pentanone	12.231	58	207723	11.18	ppb(v	95
66)	trans-1,3-Dichloropropene	12.837	75	349065	9.95	ppb(v	99
67)	Toluene	13.387	91	817063	9.50	ppb(v	100
68)	1,1,2-Trichloroethane	13.045	97	306555	9.69	ppb(v	98
69)	1,3-Dichloropropane	13.430	76	395903	9.92	ppb(v	95
70)	2-Hexanone	13.779	58	278055	11.77	ppb(v	94
71)	Ethyl Methacrylate	13.809	69	416236	10.88	ppb(v	99
72)	Dibromochloromethane	13.944	129	538824	9.45	ppb(v	99
73)	Tetrachloroethene	14.886	166	461151	8.84	ppb(v	99
74)	1,2-Dibromoethane	14.250	107	477952	9.27	ppb(v	99
75)	Octane	14.721	43	476581	10.24	ppb(v	99
76)	1,1,1,2-Tetrachloroethane	15.810	131	395001	9.68	ppb(v	99
78)	Chlorobenzene	15.828	112	685276	9.08	ppb(v	99
79)	Ethylbenzene	16.367	91	1093574	9.92	ppb(v	99
80)	m,p-Xylene	16.617	91	1700158	20.14	ppb(v	99
81)	Styrene	17.162	104	661800	10.33	ppb(v	99
82)	Nonane	17.694	43	477685	9.82	ppb(v	98
83)	o-Xylene	17.309	91	883644	10.41	ppb(v	100
84)	Bromoform	16.715	173	579929	10.51	ppb(v	100
85)	1,1,2,2-Tetrachloroethane	17.315	83	650356	10.01	ppb(v	100
86)	1,2,3-Trichloropropane	17.505	75	472142	10.21	ppb(v	99
87)	Isopropylbenzene	18.214	105	1220900	10.32	ppb(v	100
88)	Bromobenzene	18.324	156	433611	10.08	ppb(v	100
89)	2-Chlorotoluene	18.942	126	319490	10.13	ppb(v	98
90)	n-Propylbenzene	19.022	120	339677	10.22	ppb(v	97
92)	4-Ethyltoluene	19.248	105	1162750	9.91	ppb(v	99
93)	1,3,5-Trimethylbenzene	19.377	105	987917	9.65	ppb(v	99
94)	alpha-Methylstyrene	19.615	118	484331	10.26	ppb(v	100
95)	tert-Butylbenzene	19.952	134	225634	9.63	ppb(v	98
96)	1,2,4-Trimethylbenzene	19.970	105	937838	9.87	ppb(v	98
97)	1,3-Dichlorobenzene	20.160	146	630811	9.83	ppb(v	98
98)	Benzyl Chloride	20.153	91	629929	10.73	ppb(v	99
99)	1,4-Dichlorobenzene	20.257	146	606216	9.53	ppb(v	99
100)	sec-Butylbenzene	20.343	134	262397	9.65	ppb(v	94
101)	p-Isopropyltoluene	20.582	134	303182	9.38	ppb(v	96
102)	1,2-Dichlorobenzene	20.735	146	581160	9.59	ppb(v	98
103)	n-Butylbenzene	21.163	134	238834	9.57	ppb(v	99
104)	Hexachloroethane	21.628	201	387732	9.68	ppb(v	97
105)	1,2,4-Trichlorobenzene	22.974	180	185869	10.27	ppb(v	99
106)	Naphthalene	23.096	128	352110	10.22	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	273877	7.87	ppb(v	99
109)	TVHC as equiv Pentane	5.752	TIC	1313592	10.50	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27161.D
Acq On : 10 Oct 2017 8:02 am
Operator : [redacted]
Sample : CC1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 10 10:19:33 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27183.D
Acq On : 11 Oct 2017 2:34 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 08:24:58 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	8.175	130	277071	10.00	ppb(v	0.00
54) 1,4-Difluorobenzene	10.292	114	915344	10.00	ppb(v	0.00
77) Chlorobenzene-d5	15.767	82	403687	10.00	ppb(v	0.00
108) Bromochloromethane (A)	8.175	130	277071	10.00	ppb(v	0.00
System Monitoring Compounds						
91) 4-Bromofluorobenzene	18.000	95	700624	12.34	ppb(v	0.00
Spiked Amount 10.000	Range 65 - 128		Recovery = 123.40%			
Target Compounds						Qvalue
2) 1,1,1-Trifluoroethane	3.917	69	673381	11.73	ppb(v	92
3) Freon 152A	4.009	65	137235	9.26	ppb(v	89
4) Chlorodifluoromethane	4.046	67	57717	11.14	ppb(v	96
5) Propene	4.064	41	148747	10.26	ppb(v	99
6) Chlorotrifluoroethene	4.070	116	358013	9.73	ppb(v	99
7) Dichlorodifluoromethane	4.119	85	610956	10.21	ppb(v	100
8) 1-Chloro-1,1-difluoroe...	4.229	65	419941	10.58	ppb(v	99
9) Chloromethane	4.247	50	198045	10.68	ppb(v	99
10) Dichlorotetrafluoroethane	4.321	85	622683	10.49	ppb(v	97
11) Vinyl Chloride	4.413	62	212022	10.35	ppb(v#	99
12) 1,3-Butadiene	4.517	54	138329	9.98	ppb(v	98
13) n-Butane	4.553	58	30344	10.72	ppb(v	99
14) Bromomethane	4.731	94	253788	9.17	ppb(v	100
15) Chloroethane	4.859	64	102454	10.40	ppb(v	98
16) Dichlorofluoromethane	4.933	67	480080	10.26	ppb(v	99
17) Acetonitrile	5.153	41	122363	10.60	ppb(v	99
18) Freon 123	5.257	83	593405	10.13	ppb(v	99
19) Freon 123A	5.300	117	680164	20.05	ppb(v	96
20) Bromoethene	5.134	106	244938	10.01	ppb(v	98
21) Trichlorofluoromethane	5.471	101	614905	10.47	ppb(v	100
22) Acetone	5.361	58	84205	9.35	ppb(v	95
23) Pentane	5.752	57	54744	9.71	ppb(v	93
24) 1,1-Dichloro-1-fluoroe...	5.569	81	516570	9.80	ppb(v	99
25) Iodomethane	5.948	142	694428	9.10	ppb(v	100
26) Isopropyl Alcohol	5.563	43	55668	9.10	ppb(v	86
27) 1,1-Dichloroethene	6.009	61	370441	10.46	ppb(v	99
28) Freon 113	6.340	101	545444	10.04	ppb(v	95
29) Methylene Chloride	6.126	84	218787	8.75	ppb(v	97
30) Carbon Disulfide	6.383	76	738839	10.14	ppb(v	100
31) Ethanol	4.975	45	53386	9.37	ppb(v	99
32) Acrylonitrile	5.740	53	164053	10.52	ppb(v	98
33) 3-Chloropropene	6.223	76	96155	9.90	ppb(v	94
34) trans-1,2-Dichloroethene	6.970	61	328777	10.12	ppb(v	99
35) tert-Butyl Alcohol	6.077	59	431798	8.91	ppb(v	96
36) Methyl tert-Butyl Ether	7.233	73	604666	9.86	ppb(v	97
37) Vinyl Acetate	7.325	43	474436	9.44	ppb(v	100
38) 1,1-Dichloroethane	7.166	63	429192	10.08	ppb(v	100
39) 2-Butanone	7.582	72	113285	10.35	ppb(v	97
40) Hexane	8.181	57	347005	10.53	ppb(v	95
41) cis-1,2-Dichloroethene	8.004	61	311950	10.02	ppb(v	99
42) Di-isopropyl Ether	8.212	87	197367	10.24	ppb(v	89
43) Ethyl Acetate	8.261	61	79056	11.06	ppb(v	98
44) Methyl Acrylate	8.242	55	394568	10.50	ppb(v	98
45) Chloroform	8.310	83	522737	9.87	ppb(v	99
46) 2,4-Dimethylpentane	9.123	57	399336	10.50	ppb(v	98
47) Tetrahydrofuran	8.762	72	105645	10.52	ppb(v	99
48) 1,1,1-Trichloroethane	9.350	97	473216	9.85	ppb(v	100
49) 1,2-Dichloroethane	9.087	62	299687	10.28	ppb(v	98
50) Benzene	9.870	78	697659	9.17	ppb(v	100
51) Carbon Tetrachloride	10.035	117	479720	9.88	ppb(v	99
52) Cyclohexane	10.157	56	325738	10.01	ppb(v	98
53) 2,3-Dimethylpentane	10.439	71	155067	10.30	ppb(v	99

7.7.22
7
SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27183.D
Acq On : 11 Oct 2017 2:34 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 08:24:58 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	2,2,4-Trimethylpentane	11.111	57	1118313	11.23	ppb(v	98
56)	Heptane	11.454	71	235515	11.03	ppb(v	97
57)	Trichloroethene	11.099	95	344602	10.06	ppb(v	97
58)	1,2-Dichloropropane	10.812	63	263896	10.19	ppb(v	96
59)	Dibromomethane	10.793	174	315833	8.55	ppb(v	86
60)	Ethyl Acrylate	10.867	55	522692	11.33	ppb(v	99
61)	Methyl Methacrylate	11.387	69	263896	11.11	ppb(v	96
62)	1,4-Dioxane	11.148	88	142730	10.44	ppb(v	96
63)	Bromodichloromethane	11.056	83	522814	9.96	ppb(v	99
64)	cis-1,3-Dichloropropene	12.164	75	382788	9.66	ppb(v	99
65)	4-Methyl-2-pentanone	12.225	58	217683	11.96	ppb(v	97
66)	trans-1,3-Dichloropropene	12.831	75	345721	10.06	ppb(v	98
67)	Toluene	13.387	91	779737	9.26	ppb(v	100
68)	1,1,2-Trichloroethane	13.045	97	290070	9.36	ppb(v	97
69)	1,3-Dichloropropane	13.430	76	382018	9.77	ppb(v	97
70)	2-Hexanone	13.779	58	293978	12.70	ppb(v	96
71)	Ethyl Methacrylate	13.809	69	439241	11.71	ppb(v	98
72)	Dibromochloromethane	13.944	129	495578	8.87	ppb(v	99
73)	Tetrachloroethene	14.886	166	424757	8.31	ppb(v	99
74)	1,2-Dibromoethane	14.250	107	452280	8.95	ppb(v	100
75)	Octane	14.721	43	498636	10.93	ppb(v	98
76)	1,1,1,2-Tetrachloroethane	15.804	131	368881	9.23	ppb(v	96
78)	Chlorobenzene	15.828	112	643053	8.70	ppb(v	98
79)	Ethylbenzene	16.367	91	1064797	9.86	ppb(v	100
80)	m,p-Xylene	16.642	91	1727202	20.89	ppb(v	100
81)	Styrene	17.162	104	670953	10.69	ppb(v	99
82)	Nonane	17.694	43	514639	10.80	ppb(v	99
83)	o-Xylene	17.309	91	906439	10.91	ppb(v	99
84)	Bromoform	16.715	173	548956	10.16	ppb(v	99
85)	1,1,2,2-Tetrachloroethane	17.315	83	683981	10.75	ppb(v	99
86)	1,2,3-Trichloropropane	17.504	75	491262	10.84	ppb(v	98
87)	Isopropylbenzene	18.214	105	1241592	10.72	ppb(v	99
88)	Bromobenzene	18.324	156	424157	10.07	ppb(v	97
89)	2-Chlorotoluene	18.942	126	317854	10.29	ppb(v	97
90)	n-Propylbenzene	19.022	120	350302	10.76	ppb(v	94
92)	4-Ethyltoluene	19.248	105	1196677	10.41	ppb(v	100
93)	1,3,5-Trimethylbenzene	19.377	105	1016431	10.14	ppb(v	100
94)	alpha-Methylstyrene	19.609	118	495152	10.71	ppb(v	98
95)	tert-Butylbenzene	19.952	134	228721	9.97	ppb(v	99
96)	1,2,4-Trimethylbenzene	19.970	105	970499	10.43	ppb(v	98
97)	1,3-Dichlorobenzene	20.160	146	636717	10.13	ppb(v	99
98)	Benzyl Chloride	20.153	91	659840	11.48	ppb(v	100
99)	1,4-Dichlorobenzene	20.257	146	605356	9.72	ppb(v	98
100)	sec-Butylbenzene	20.343	134	265858	9.99	ppb(v	90
101)	p-Isopropyltoluene	20.582	134	309926	9.80	ppb(v	99
102)	1,2-Dichlorobenzene	20.729	146	592737	9.99	ppb(v	99
103)	n-Butylbenzene	21.163	134	244689	10.01	ppb(v	95
104)	Hexachloroethane	21.628	201	378458	9.64	ppb(v	95
105)	1,2,4-Trichlorobenzene	22.974	180	183999	10.38	ppb(v	98
106)	Naphthalene	23.096	128	357521	10.60	ppb(v	100
107)	Hexachlorobutadiene	23.549	225	271659	7.97	ppb(v	99
109)	TVHC as equiv Pentane	5.746	TIC	1323717	10.82	ppb(v	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.22

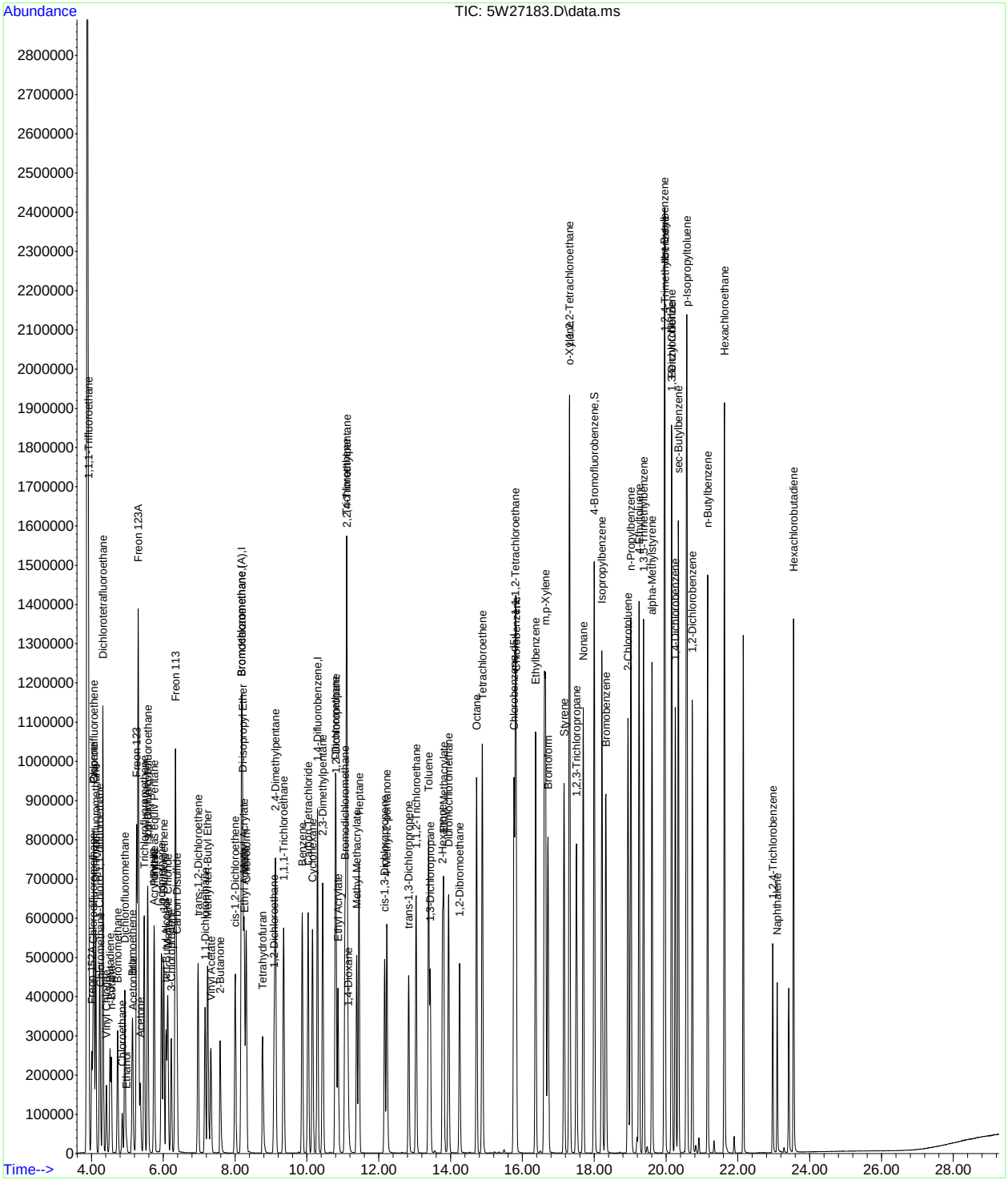
7

SGS ACCUTEST JC52679

Quantitation Report (QT Reviewed)

Data Path : [redacted]1\data\
Data File : 5W27183.D
Acq On : 11 Oct 2017 2:34 am
Operator : [redacted]
Sample : ecc1065-10
Misc : MS20561,v5w1069,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 11 08:24:58 2017
Quant Method : [redacted]1\methods\m5w1065.M
Quant Title : TO-15 Full Scan Mode
QLast Update : Sat Oct 07 09:10:30 2017
Response via : Initial Calibration



SGS

TO-14/TO-15

Batch ID: m V3W2293

Date: 6/21/17

Analyst Signature: [redacted]

Columns: RTX-1 - 60mx0.32mmx1.0µm

Method: TO15 3W.m

Seq. File: 3W20170621

Initial Cal. Method: M3W2293.m

AS Data

Method: TO15.MPT

Standard Data

Lot #	Description	Conc.
AS7636	Int Std/Surr	100 ppbv

Standard Data

Lot #	Description	Conc.
AS7688	TO15 Std (A967) exp 7/14/17	40 ppbv
AS7689	TO15 Std (A971) exp 5/14/17	2.0 ppbv
AS7690	TO15 Std (A970) exp 5/14/17	0.4 ppbv
AS7687	TO15 LCS (A978) exp 5/14/17	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 6/22/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	3W60361	BFB		A970	40					OK	Time 1CLS
1	3W60362	IC2293-0.04		A970	40			✓	✓	OK	
2	3W60363	IC2293-0.1		A971	~~80~~ 40 6/21/17			✓	✓	OK	
2	3W60364	IC2293-0.2		A971	80			✓	✓	OK	
2	3W60365	IC2293-0.5		A971	200			✓	✓	OK	
3	3W60366	IC2293-5		A967	50			✓	✓	OK	
3	3W60367	IC2293-10		A967	100			✓	✓	OK	
3	3W60368	IC2293-20		A967	200			✓	✓	PR	MeCl2+
4	3W60369	IB		A963	100						
3	3W60370	IC2293-40		A967	400			✓	✓	OK	
4	3W60371	IB		A963	100						
3	3W60372	~~IB~~ IC2293-20 06/21/17		A967	200			✓	✓	OK	
4	3W60373	~~ICV2293-10~~ IB 06/21/17		A963	100			✓	✓		
5	3W60374	~~IB~~ ICV2293-40 06/21/17		A978	100			✓	✓	OK	

[redacted]

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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7.8.1

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SGS

TO-14/TO-15

Batch ID: V3W 2298

Date: 6/27/17

Analyst Signature: [redacted]

Columns: RTX-1 60m x .32mm x 1.0um

Method: TO15 3W. M

Seq. File: 3W20170627. S

Initial Cal. Method: M3W2293

AS Data

Method: TO15 MPT

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
AS7630	int/surr	100 ppbv
AS7688	TO15 STD. (A961)	40 ppbv
AS7689	TO15 LCS (A978)	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 6/27/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	3W60485	BFB		6PSIA.m	400					OK	
2	3W60486	CC2293-10		A967	100			✓	✓	RR	c/o IPA ↑
2	3W60487	CC2293-10		A967	100			✓	✓	OK	
3	3W60488	BS		A978	100			✓	✓	RR	c/o IPA↑
3	3W60489	BSD TH 6/27/17		A978	100			✓	✓	OK	vinyl acetate ↑
3	3W60490	BSD		A978	100			✓	✓	OK	vinyl acetate ↑
5	3W60491	IB		A963	400			✓	✓	—	
5	3W60492	MB		A963	400			✓	✓	RR	1,4-Dioxane low
4	3W60493	MB		A959	400			✓	✓	RR	1,4-Dioxane low
4	3W60494	MB		A962	400			✓	✓	OK	
5	3W60495	SCC CP9235		A533	400			✓	✓	OK	
6	3W60496	JC45555-1	STD MS17329	A876, M458	100	60		✓	✓	OK	
7	3W60497	JC44565-2	STD MS16797	A1030	10	1		✓	✓	RR	does not match
8	3W60498	JC44473-1	STD MS16797	A279	400	1		✓	✓	OK	
8	3W60499	JC44473-1DUP	✓	A279	400	1		✓	✓	OK	
9	3W60500	JC44824-1	STD MS16930	A762	100	1		✓	✓	OK/RL	over cal RR-20ml
10	3W60501	SCC CP9233		M854	400			✓	✓	OK	
11	3W60502	JC45112-1	STD MS17008	M215	680	1.70		✓	✓	OK	
12	3W60503	JC45112-2	✓	A850	620	1.55		✓	✓	OK/DL	over cal RR-20ml
13	3W60504	JC45112-3	✓	A1053	640	1.60		✓	✓	OK	
14	3W60505	JC45112-4	✓	A985	660	1.65		✓	✓	OK	
15	3W60506	JC44773-1	STD MS16930	A640	592	1.48		✓	✓	OK	
16	3W60507	JC44773-2	✓	A211	400	1		✓	✓	OK	
1	3W60508	SCC CP9220		A556	400			✓	✓	RR	carry over
2	3W60509	JC44920-1	STD MS17009	A841	400	1		✓	✓	OK	
3	3W60510	JC44920-2	✓	A630	400	1		✓	✓	OK	
4	3W60511	JC44920-3	✓	A024	400	1		✓	✓	OK	
5	3W60512	JC44920-4	✓	A071	400	1		✓	✓	RR	Trip blank possible carry over
6	3W60513	SCC CP9236		A236	400			✓	✓	OK	
										TH 6/28/17	

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

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Form: AT008-05
Rev. Date: 10/20/09

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SGS ACCUTEST JC52679

SGS

Canister Secondary Dilution Log

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						Final Canister Dilution
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Factor
6/27/17	TH	K45555-1	A876	3.0	1.2	1.20	M458	1000	40	14.7	2000	50	60

Definition: Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example: Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

All strikeouts must be initial, dated and reason code applied as follows: # 1 = Reviewer Correction Error; # 2 = Transcription Error; # 3 = Computer Miscalclulation, # 4 = Analyst's Correction Error

Form: AT003-04

Rev. Date: 04/15/13

SGS

TO-14/TO-15

Batch ID: V3W2299

Date: 6/28/17

Analyst Signature: [redacted]

Columns: MTX-1 60m x 0.32 mm x 1.0 µm
Method: TO15 3W. M
Seq. File: 3W20170628.S
Initial Cal. Method: M3W2293

AS Data

Method: TO15.MPT

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
AS7700	Int / surr.	100 ppbv
AS7688	TO15 STD. (A967)	40 ppbv
AS7687	TO15 LCS (A978)	40 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted] Date: 6/29/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	3W60514	BFB		open Position	400					OK	
2	3W60515	CC2293-10		A967	100			✓	✓	RR	1-4 Dioxane ↓
2	3W60516	CC2293-10		A967	100			✓	✓	OK	
3	3W60517	BS		A972	100			✓	✓	OK	
3	3W60518	BSD		A978	100			✓	✓	OK	vinyl acetate ↑
4	3W60519	IB		A958	400			✓	✓	—	
4	3W60520	MB		A958	400			✓	✓	RR	1,4-Dioxane ↑
TH 6/28/17 ~~5~~ 4	3W60521	~~SCC CP9238~~ MB TH 6/28/17		~~A307~~ A958 TH 6/28/17	400			✓	✓	OK	
~~6~~ 5	3W60522	SCC CP~~9220~~ 9230		~~A556~~ A309	400			✓	✓	OK	
6	3W60523	SCC CP9220		A556	400			✓	✓	OK	
7	3W60524	JC44920-4	STD MS17009	A071	400	1		✓	✓		
8	3W60525	JC44585-2	STD MS16797	A1030, A603	400	60		✓	✓	OK/DL	
9	3W60526	JC45112-2	STD MS17008	A850	200	1.55		✓	✓	OK/DL	
10	3W60527	JC44824-1	STD MS16930	A262	20	1		✓	✓	OK/DL	
11	3W60528	JC45033-1	STD MS17009	A1046	400	1		✓	✓	OK/DL	overcal RR 20 mL
11	3W60529	JC45033-1DUP	✓	A1046	400	1		✓	✓	OK	
12	3W60530	JC45033-2	✓	A347	620	1.5~~2~~5	TH 6/28/17	✓	✓	OK/DL	overcal RR 40 mL
13	3W60531	JC45033-3	✓	A283	608	1.52		✓	✓	OK	
14	3W60532	JC45033-4	✓	A598, M039	50	650		✓	✓	RR	too dilute RR 200 mL
15	3W60533	JC44921-1	✓	A569	100	1		✓	✓	OK	
16	3W60534	JC44921-2	✓	A396	100	1		✓	✓	OK	
1	3W60535	JC45032-1	✓	M182	100	1		✓	✓	OK	
2	3W60536	JC45032-2	✓	A513	100	1		✓	✓	OK	
3	3W60537	~~FA45044-1~~ TH 6/28/17	STD MS17228	A1208	20	1		✓	✓	OK	FA44960-1
4	3W60538	~~FA45044-2~~ TH 6/28/17	✓	A718	100	1		✓	✓	OK/DL	FA44960-2 overcal RR 20 mL
5	3W60539	~~FA45044-3~~ TH 6/28/17	✓	A554, A1121	100	113		✓	✓	RR	FA44960-3 too dilute RR 200 mL
6	3W60540	FA45044-1	STD MS17329	A1067	20	1		✓	✓	OK	
7	3W60541	FA45044-2	✓	A219	100	1		✓	✓	RR	too dilute RR 400 mL
8	3W60542	SCC CP9239		A237	400			✓	✓	RR	possible carry over
9	3W60543	SCC CP9230		A1109	400			✓	✓	OK	

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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SGS

Canister Secondary Dilution Log

Test Gauge ID : TG- 2

			Original Canister Dilution				Secondary Canister Dilution						Final Canister Dilution
Date	Initials	Accutest Sample ID	Canister ID	Vacuum in "Hg at time of Dilution	Final Pressure psig	Dilution Factor	Canister ID	Canister Volume CC	Sample Volume Added CC	Final Pressure psig	Equiv Total Volume CC	Dilution Factor	Factor
6/28/17	TH	JC44585-2	A1030	3.0	1.2	1.20	A653	1000	40	14.7	2000	50	60
6/28/17	TH	JC44960-3	A554	1.5	1.0	1.13	A1121	1000	20	14.7	2000	100	113
6/28/17	TH	JC45033-4	A598	5.0	1.2	1.30	M039	6000	20	9.8	10000	500	650

Definition:

Final DF = (Original Canister DF) x (Secondary Canister DF)

Dilution Factor at Instrument = (Final Canister Dilution Factor) x (Normal Sampling Volume in cc) / (Sample Volume in cc Injected)

Example:

Original Canister is diluted 2x for manual sample draw. 75cc from this canister is added to a 375cc minican and brought to 14.7 psig or 750cc equiv volume. This results in an additional dilution of 750/75 or 10. The final canister dilution factor is 2 x 10 = 20. From the dilution canister 20cc is injected at the instrument where normal volume is 400cc. This is an additional instrument dilution factor of 20. The final dilution multiplier is 20(from canister dilution) x 20(from instrument dilution) = 400

Notes:

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Form: AT003-04
Rev. Date: 04/15/13

SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1065

Date: 10/6/17

Analyst Signature: [redacted]

Columns: RTX1-60mX0.32mmX1.0µm

Method: 5WT015

Seq. File: 171006

Initial Cal. Method: MSW1065

AS Data

Method: T015.CTO

Standard Data

Lot #	Description	Conc.
AS7821	T015 LCS (A977)	40 ppbv
AS7849	T015 LCS (A978)	40 ppbv

Standard Data

Lot #	Description	Conc.
AS7636	Int/Surr	100 ppbv
AS7846	T015 Std (A965)	40 ppbv
AS7847	T015 Std (A971)	1.6 ppbv
AS7848	T015 Std (A981)	0.4 ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [redacted]

Date: 10/10/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	5W27079	BFB		A981	40			✓	✓	OK	time 1205
1	5W27080	IC1065-0.04		A971	40			✓	✓	OK	
2	5W27081	IC1065-0.1		A971	40			✓	✓	OK	
2	5W27082	IC1065-0.2		A981	200			✓	✓	OK	
2	5W27083	IC1065-0.5		A971	200			✓	✓	RR	
2	5W27084	IC1065-0.5		A981	500			✓	✓	OK	
3	5W27085	IC1065-5		A965	50			✓	✓	OK	
3	5W27086	ICC1065-10		A965	100			✓	✓	OK	
3	5W27087	IC1065-20		A965	200			✓	✓	OK	
3	5W27088	IC1065-40		A965	400			✓	✓	OK	
4	5W27089	IB		A962	400						
5	5W27090	ICV1065-10		~~A965~~ A977	100			✓	✓	RR	positron leaking/ standard diluted w/ room air
4	5W27091	IB		A962	400						
6	5W27092	ICV1065-10		A978	100			✓	✓	OK	

[redacted] 10/7/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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7.8.4

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SGS ACCUTEST

TO-14/TO-15

Batch ID: V5W1069

Date: 10/10/17

Analyst Signature: [redacted]

Columns: RTX-1 60m x 0.32mm x 1.0um

Method: SW7015

Seq. File: 171010

Initial Cal. Method: M5W1065

AS Data

Method: 7015.CFG

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
A97636	Int/Surr.	100ppbv
A97846	7015 STD (A965)	40ppbv

(M) Manually integrated chromatographic peaks in the following reportable file have been reviewed and verified to comply with the criteria of Accutest SOP EQA044

Supervisor Signature: [redacted] Date: 10/11/17

AS #	Data File	Sample ID	TEST	Canister Serial #	Vol Sample	Dil Fact	TICS	Int. STD Areas	Surr	Status Data	Comments
1	SW27160	BFB		open position	400					OK	time - 7:17 AM
2	SW27161	CC1065-10		A965	100			✓	✓	OK	
2	SW27162	BS		A965	100			✓	✓	OK	
2	SW27163	BSD		A965	100			✓	✓	OK	
3	SW27164	IB		A962	400						
3	SW27165	MB		A962	400			✓	✓	OK	
4	SW27166	JC52047-1	STD MS20561	A1154	152	1.52		✓	✓	OK	
TH 6	SW27167	JC52203-1	STDMR MS20561	A239	400	1		✓	↑	OK/DL	VC, CL2-DCE ↑ RR 20ml
TH 6	SW27168	JC52203-1MP	✓	A239	400	1		✓	✓	OK	
7	SW27169	JC52048-11	STD MS20561	A522	10	TH 4		✓	✓	OK/DL	
8	SW27170	JC52048-12	✓	A1135	10	TH 4		✓	✓	RR	TCE ↑ RR 320x
9	SW27171	JC52048-13	✓	A1128	10	TH 4		✓	✓	OK/DL	
10	SW27172	SCC CP9379		M128	400			✓	✓	RR	TCE WF Possible c/e ethanol ↑ RR 20x TH 4 of 1/17 too large toluene ↑ RR 40x
11	SW27173	JC52051-TH 10	SL MS20562	A1098	640	1.60		✓	✓	OK	
12	SW27174	JC52460-1	STD MS20885	A1152	10	1		✓	✓	OK/DL	
13	SW27175	JC52188-1	SL MS20561	M028	130	1.30		✓	✓	OK	
14	SW27176	JC52188-2	✓	A1043	130	1.30		✓	✓	OK	
15	SW27177	JC52188-3	✓	A1168	145	1.45		✓	✓	OK	
16	SW27178	JC52188-4	✓	A865	135	1.35		✓	✓	OK	
1	SW27179	JC52188-5	✓	A737	138	1.38		✓	✓	OK	
2	SW27180	JC52679-1	STD MS20985	A458	400	1		✓	✓	OK	
3	SW27181	JC52203-1	STD MS20561	A239	20	1		✓	✓	RR	CL2-DCE ↑ RR 10ml
4	SW27182	SCC CP9408		A184	400			✓	✓	OK	
6	SW27183	CC1065-10		A965	100			✓	✓	OK	
											10/11/17

All strikeouts must be initial and dated. Comment is require for anything other than a transcription error.

Form: AT008-05
Rev. Date: 10/20/09

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Attachment B
Thermal Oxidizer Influent Quality

eurofins | Air Toxics

Client Sample ID: Combined Influent-050317

Lab ID#: 1705110A-03A

EPA METHOD TO-15 GC/MS

File Name:	**14051712**	**Date of Collection:**	**5/3/17 1:48:00 PM**
Dil. Factor:	**75.0**	**Date of Analysis:**	**5/17/17 03:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	380	Not Detected	1800	Not Detected
Freon 114	380	Not Detected	2600	Not Detected
Chloromethane	1500	Not Detected	3100	Not Detected
Vinyl Chloride	380	Not Detected	960	Not Detected
1,3-Butadiene	380	Not Detected	830	Not Detected
Bromomethane	1500	Not Detected	5800	Not Detected
Chloroethane	1500	Not Detected	4000	Not Detected
Freon 11	380	Not Detected	2100	Not Detected
Ethanol	1500	Not Detected	2800	Not Detected
Freon 113	380	Not Detected	2900	Not Detected
1,1-Dichloroethene	380	Not Detected	1500	Not Detected
Acetone	1500	Not Detected	3600	Not Detected
2-Propanol	1500	Not Detected	3700	Not Detected
Carbon Disulfide	1500	Not Detected	4700	Not Detected
3-Chloropropene	1500	Not Detected	4700	Not Detected
Methylene Chloride	1500	Not Detected	5200	Not Detected
Methyl tert-butyl ether	380	Not Detected	1400	Not Detected
trans-1,2-Dichloroethene	380	Not Detected	1500	Not Detected
Hexane	380	150000	1300	520000
1,1-Dichloroethane	380	Not Detected	1500	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1500	Not Detected	4400	Not Detected
cis-1,2-Dichloroethene	380	Not Detected	1500	Not Detected
Tetrahydrofuran	380	Not Detected	1100	Not Detected
Chloroform	380	Not Detected	1800	Not Detected
1,1,1-Trichloroethane	380	Not Detected	2000	Not Detected
Cyclohexane	380	110000	1300	380000
Carbon Tetrachloride	380	Not Detected	2400	Not Detected
2,2,4-Trimethylpentane	380	23000	1800	110000
Benzene	380	17000	1200	54000
1,2-Dichloroethane	380	Not Detected	1500	Not Detected
Heptane	380	59000	1500	240000
Trichloroethene	380	Not Detected	2000	Not Detected
1,2-Dichloropropane	380	Not Detected	1700	Not Detected
1,4-Dioxane	1500	Not Detected	5400	Not Detected
Bromodichloromethane	380	Not Detected	2500	Not Detected
cis-1,3-Dichloropropene	380	Not Detected	1700	Not Detected
4-Methyl-2-pentanone	380	Not Detected	1500	Not Detected
Toluene	380	Not Detected	1400	Not Detected
trans-1,3-Dichloropropene	380	Not Detected	1700	Not Detected
1,1,2-Trichloroethane	380	Not Detected	2000	Not Detected
Tetrachloroethene	380	Not Detected	2500	Not Detected
2-Hexanone	1500	Not Detected	6100	Not Detected

eurofins | Air Toxics

Client Sample ID: Combined Influent-050317

Lab ID#: 1705110A-03A

EPA METHOD TO-15 GC/MS

File Name:	**14051712**	**Date of Collection: 5/3/17 1:48:00 PM**	
Dil. Factor:	**75.0**	**Date of Analysis: 5/17/17 03:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	380	Not Detected	3200	Not Detected
1,2-Dibromoethane (EDB)	380	Not Detected	2900	Not Detected
Chlorobenzene	380	Not Detected	1700	Not Detected
Ethyl Benzene	380	1300	1600	5800
m,p-Xylene	380	1600	1600	7000
o-Xylene	380	Not Detected	1600	Not Detected
Styrene	380	Not Detected	1600	Not Detected
Bromoform	380	Not Detected	3900	Not Detected
Cumene	380	Not Detected	1800	Not Detected
1,1,2,2-Tetrachloroethane	380	Not Detected	2600	Not Detected
Propylbenzene	380	Not Detected	1800	Not Detected
4-Ethyltoluene	380	Not Detected	1800	Not Detected
1,3,5-Trimethylbenzene	380	Not Detected	1800	Not Detected
1,2,4-Trimethylbenzene	380	Not Detected	1800	Not Detected
1,3-Dichlorobenzene	380	Not Detected	2200	Not Detected
1,4-Dichlorobenzene	380	Not Detected	2200	Not Detected
alpha-Chlorotoluene	380	Not Detected	1900	Not Detected
1,2-Dichlorobenzene	380	Not Detected	2200	Not Detected
1,2,4-Trichlorobenzene	1500	Not Detected	11000	Not Detected
Hexachlorobutadiene	1500	Not Detected	16000	Not Detected
Naphthalene	1500	Not Detected	7900	Not Detected
TVOC ref. to Heptane	7500	2200000	31000	9000000

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: Combined Influent-060617

Lab ID#: 1706148A-03A

EPA METHOD TO-15 GC/MS

File Name:	**j061411**	**Date of Collection:**	**6/6/17 12:04:00 PM**
Dil. Factor:	**75.8**	**Date of Analysis:**	**6/14/17 04:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	380	Not Detected	1900	Not Detected
Freon 114	380	Not Detected	2600	Not Detected
Chloromethane	1500	Not Detected	3100	Not Detected
Vinyl Chloride	380	Not Detected	970	Not Detected
1,3-Butadiene	380	Not Detected	840	Not Detected
Bromomethane	1500	Not Detected	5900	Not Detected
Chloroethane	1500	Not Detected	4000	Not Detected
Freon 11	380	Not Detected	2100	Not Detected
Ethanol	1500	Not Detected	2800	Not Detected
Freon 113	380	Not Detected	2900	Not Detected
1,1-Dichloroethene	380	Not Detected	1500	Not Detected
Acetone	1500	Not Detected	3600	Not Detected
2-Propanol	1500	Not Detected	3700	Not Detected
Carbon Disulfide	1500	Not Detected	4700	Not Detected
3-Chloropropene	1500	Not Detected	4700	Not Detected
Methylene Chloride	1500	Not Detected	5300	Not Detected
Methyl tert-butyl ether	380	Not Detected	1400	Not Detected
trans-1,2-Dichloroethene	380	Not Detected	1500	Not Detected
Hexane	380	200000	1300	700000
1,1-Dichloroethane	380	Not Detected	1500	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1500	Not Detected	4500	Not Detected
cis-1,2-Dichloroethene	380	Not Detected	1500	Not Detected
Tetrahydrofuran	380	Not Detected	1100	Not Detected
Chloroform	380	Not Detected	1800	Not Detected
1,1,1-Trichloroethane	380	Not Detected	2100	Not Detected
Cyclohexane	380	130000	1300	440000
Carbon Tetrachloride	380	Not Detected	2400	Not Detected
2,2,4-Trimethylpentane	380	34000	1800	160000
Benzene	380	23000	1200	74000
1,2-Dichloroethane	380	Not Detected	1500	Not Detected
Heptane	380	67000	1600	280000
Trichloroethene	380	Not Detected	2000	Not Detected
1,2-Dichloropropane	380	Not Detected	1800	Not Detected
1,4-Dioxane	1500	Not Detected	5500	Not Detected
Bromodichloromethane	380	Not Detected	2500	Not Detected
cis-1,3-Dichloropropene	380	Not Detected	1700	Not Detected
4-Methyl-2-pentanone	380	Not Detected	1600	Not Detected
Toluene	380	430	1400	1600
trans-1,3-Dichloropropene	380	Not Detected	1700	Not Detected
1,1,2-Trichloroethane	380	Not Detected	2100	Not Detected
Tetrachloroethene	380	Not Detected	2600	Not Detected
2-Hexanone	1500	Not Detected	6200	Not Detected

eurofins | Air Toxics

Client Sample ID: Combined Influent-060617

Lab ID#: 1706148A-03A

EPA METHOD TO-15 GC/MS

File Name:	**j061411**	**Date of Collection: 6/6/17 12:04:00 PM**	
Dil. Factor:	**75.8**	**Date of Analysis: 6/14/17 04:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	380	Not Detected	3200	Not Detected
1,2-Dibromoethane (EDB)	380	Not Detected	2900	Not Detected
Chlorobenzene	380	Not Detected	1700	Not Detected
Ethyl Benzene	380	1400	1600	5900
m,p-Xylene	380	2100	1600	9000
o-Xylene	380	Not Detected	1600	Not Detected
Styrene	380	Not Detected	1600	Not Detected
Bromoform	380	Not Detected	3900	Not Detected
Cumene	380	Not Detected	1900	Not Detected
1,1,2,2-Tetrachloroethane	380	Not Detected	2600	Not Detected
Propylbenzene	380	Not Detected	1900	Not Detected
4-Ethyltoluene	380	Not Detected	1900	Not Detected
1,3,5-Trimethylbenzene	380	Not Detected	1900	Not Detected
1,2,4-Trimethylbenzene	380	Not Detected	1900	Not Detected
1,3-Dichlorobenzene	380	Not Detected	2300	Not Detected
1,4-Dichlorobenzene	380	Not Detected	2300	Not Detected
alpha-Chlorotoluene	380	Not Detected	2000	Not Detected
1,2-Dichlorobenzene	380	Not Detected	2300	Not Detected
1,2,4-Trichlorobenzene	1500	Not Detected	11000	Not Detected
Hexachlorobutadiene	1500	Not Detected	16000	Not Detected
Naphthalene	1500	Not Detected	7900	Not Detected
TVOC ref. to Heptane	7600	2900000	31000	12000000

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	114	70-130
4-Bromofluorobenzene	98	70-130

Attachment C
Field sampling data collection forms

ENVIRONMENTAL RESPONSE TEAM
SUMMA AIR SAMPLING WORK SHEET

Site: DSCP Sky Management
Samplers: [redacted]
Date: 09-26-2017

WA#:
EPA/ERT WAM:
REAC Task Leader:

Sample #	1	2	3	4	5
Location	Counter terrorism	Counter terrorism	PA Police Hallway	PA Police Men's Room	PA Police Mechanical
SUMMA ID	A1054	A1151	M168	A751	A906
Orifice Used	FC245	MC069	FC317	FC594	FC679
Analysis/Method	TO-15				
Time (Start)	0719	0744	0659	0700	0657
Time (Stop)	1507	0749	1456	1454	1453
Total Time	7:48	0:05	7:57	7:54	7:56
SUMMA WENT TO AMBIENT	(YES)/NO	(YES)/NO	(YES)/NO	(YES)/NO	(YES)/NO
Pressure Gauge Reading	30.0+	30.0	30.0	30.0	29.2
Pressure Gauge Reading	8.5	3.0	12.5	11.0	14.2
Flow Rate (Pre)					
Flow Rate (Post)					
Flow Rate (Average)					

MET Station On-site? Y (N)

General Comments: Weather conditions from NOAA station at PHL airport

	Start	Stop	Min	Max
Temp (F)	69	85	69	85
Atm. Pressure (in Hg)	30.04	29.96	29.96	30.05

ENVIRONMENTAL RESPONSE TEAM
SUMMA AIR SAMPLING WORK SHEET

Site: DSCP - Sky Mgmt
Samplers: [redacted]
Date: 09-26-2014

WA#:
EPA/ERT WAM:
REAC Task Leader:

Sample #	6	7	8	9	
Location	PA Police Mechanical	Trip blank	Loading Dock	Background Sample	
SUMMA ID	A806	A[redacted]636	A300	A321	
Orifice Used	MC127	~~[redacted]~~ N/A	FC615	MC149	
Analysis/Method	TO-15				
Time (Start)	0731	N/A	0711	0705	
Time (Stop)	0736	N/A	1508	1500	
Total Time	5 min	N/A	7:57	7:55	
SUMMA WENT TO AMBIENT	(YES)/NO	(YES)/NO	(YES)/NO	(YES)/NO	YES/NO
Pressure Gauge Reading	27.0		29.5	29.0	
Pressure Gauge Reading	6.0		9.0	10.2	
Flow Rate (Pre)					
Flow Rate (Post)					
Flow Rate (Average)					

MET Station On-site? Y / (N)

General Comments:

ENVIRONMENTAL RESPONSE TEAM
SUMMA AIR SAMPLING WORK SHEET

Roy F. Weston, Inc.
REAC Project, Edison, NJ
EPA Contract No. 68-C4-0022

Site: DSCP Sky Management
Samplers: [redacted]
Date: 10-05-2017

WA#:
EPA/ERT WAM:
REAC Task Leader:

Sample #	10				
Location	Counter Terrorism				
SUMMA ID	A455				
Orifice Used	FC287				
Analysis/Method	TO-15				
Time (Start)	0810				
Time (Stop)	1445				
Total Time	6:35				
SUMMA WENT TO AMBIENT	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
Pressure Gauge Reading	25				
Pressure Gauge Reading	8				
Flow Rate (Pre)					
Flow Rate (Post)					
Flow Rate (Average)					

MET Station On-site? Y / N

General Comments: Weather Conditions from NOAA station at PHL airport

	Start	Stop	Min	Max
Temp (F)	69	85	69	85
Atm. Pressure (in Hg)	30.04	30.07	30.04	30.07

Appendix Q

Subsection Two:

Vapor Intrusion Assessment Report

ARCADIS Design & Consultancy for natural and built assets

USACE - Philadelphia

VAPOR INTRUSION ASSESSMENT REPORT

Former Defense Supply Center Philadelphia

March 2020

[redacted]

[redacted] PG, PE
Project Manager

[redacted]

[redacted] PG
Project Geologist

VAPOR INTRUSION ASSESSMENT REPORT

Former Defense Supply Center Philadelphia

Prepared for:

Pennsylvania Department of Environmental Protection

Southeast Regional Office

2 East Main Street

Norristown, PA 19401

Prepared by:

Arcadis U.S., Inc.

[redacted]

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Figure 5B. Proposed Sampling Locations - View 3

APPENDICES

Appendix A Documentation of PHA Gym Comminucation

Appendix B Jim’s Enterprises Trip Report

Appendix C Documentation of Septa Communication

Appendix D Scanned Document Repository

Appendix E Building Survey Forms

ACRONYMS AND ABBREVIATIONS

AO	Administrative Order
COC	Constituents of Concern
CP	Cleanup Plan
CSM	Conceptual Site Model
DLA	Defense Logistics Agency
DSCP	Defense Supply Center Philadelphia
IA	Indoor Air
LNAPL	Light Non-Aqueous Phase Liquid
PADEP	Pennsylvania Department of Environmental Protection
PID	Photoionization Detector
PP	Preferential Pathway
RIR	Remedial Investigation Report
SS	Sub-Slab
USACE	United States Army Corps of Engineers
VES	Vacuum-Enhanced Skimming
VI	Vapor Intrusion
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This Vapor Intrusion (VI) Assessment Report has been prepared for the Former Defense Supply Center Philadelphia (DSCP) (the Site) per the guidelines of the Pennsylvania Department of Environmental Protection (PADEP) Land Recycling Program (Act 2). It provides the results of VI assessment activities performed on accessible buildings at the Former DSCP facility as well as surrounding buildings which collectively comprise the Act 2 Site as defined in the Notice of Intent to Remediate (NIR) dated April 14, 2017. The activities described herein support ongoing remediation of petroleum hydrocarbon light non-aqueous phase liquid (LNAPL) at the Site, and specifically a VI pathway elimination-based closure strategy under the PADEP Act 2 program as required under the Administrative Order (AO) dated December 10, 1999 between the PADEP and the Defense Logistics Agency (DLA).

The objectives of the VI assessment were to investigate and document potential VI exposure pathways in Site buildings and develop building-specific VI sampling plans to support future Site building-specific VI exposure pathway mitigation activities. These objectives were pursued in accordance with the procedures established by the Site-Specific Standards of the *Land Recycling Program Technical Guidance Manual*. Data collected will be used to update the existing Conceptual Site Model (CSM) and determine future steps necessary to evaluate and mitigate the VI exposure pathway.

This report provides a summary of the data collection activities that occurred prior to the performance of building entry surveys, such as reviews of current Site building access agreements, available “as-built” and construction drawings, historical Site plans, and utility diagrams, followed by observations made during the surveys of each building, and recommendations for future Site building-specific VI sampling activities to comply with the PADEP VI guidance. All information will be included in the Remedial Investigation Report/Cleanup Plan (RIR/CP). Recommendations may include exclusion of certain Site buildings from further VI assessment activities or the development of sub-slab soil gas and/or indoor air sampling plans for the collection of building-specific quantitative data. Quantitative data collected in the future will help determine the potential risks from exposure to vapors as a result of subsurface vapor intrusion to indoor air and will be used to select appropriate mitigations, as needed.

1 INTRODUCTION

The Former DSCP Site sits atop a large quantity of LNAPL that resides in the shallow (i.e., water table) aquifer in South Philadelphia. The DSCP "Site" is generally defined by the land area bordered by Oregon Avenue, 20th Street, Penrose Avenue and South 26th Street. A full-scale vacuum-enhanced skimming system (VES) was installed to remove the petroleum LNAPL from the shallow aquifer and has been in operation for approximately twelve years. An undetermined amount of LNAPL remains and as a result, Site remediation will continue until conditions of the Administrative Order (AO) have been met. The AO issued on December 10, 1999 by the PADEP, directed the DLA to clean up the LNAPL to the "Maximum Extent Practicable" under the rules and guidance of Act 2. In addition, the 1999 AO requires that DLA undertake all measures necessary to ensure that the health and safety of workers, residents and visitors within the Affected Area is protected from any unacceptable risk associated with or contributed to by the contamination. For the purpose of this VI Assessment only, the Site also includes ACME Markets (ACME) and the Southeast Pennsylvania Transportation Authority (SEPTA) properties.

The DLA has requested that the USACE Philadelphia District (USACE) perform a vapor intrusion (VI) assessment described below, to maintain compliance with the AO and meet the closure requirements of Act 2. USACE contracted PARS Environmental, Inc. (PARS) as part of Delivery Order W912BU18F0068 (Task Order 2) under contract W912BU-17-D-0012 to complete this work. This VI Assessment supports ongoing LNAPL remediation activities at the Site and ensures that human health and safety are considered under the PADEP Act 2 program as required under the AO between DLA and the PADEP.

This VI Assessment Report constitutes a preliminary sampling plan and has been prepared to address the vapor intrusion pathway by identifying potential and preferential pathways for existing non-residential buildings. The objectives were to investigate and document potential VI exposure pathways in Site buildings and develop building-specific VI sampling plans to support future Site building-specific risk assessment and mitigation activities as necessary. These objectives were pursued in accordance with the procedures established by the Site-Specific Standards of the *Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil Under Act 2* (PADEP, 2017). Data collected will be used to update the existing Conceptual Site Model (CSM) and determine future steps necessary to evaluate and mitigate the VI exposure pathway.

Buildings were divided into three groups depending on their proximity to current and/or historical LNAPL extent, as well as dissolved-phase COC concentrations measured in nearby groundwater monitoring wells. Based on the building assessment findings, a method of sampling is recommended for each building and/or group of buildings. Details of the building assessments and recommended sampling are discussed in in Section 2.4.

2 VI ASSESSMENT

2.1 Access Agreements

The existing access agreements and quit claim deeds (as applicable) for each property under consideration were reviewed prior to accessing any of the 48 buildings planned for assessments. For

those properties with valid access agreements, notification letters and fact sheets were sent to all property owners and tenants at least 72 hours prior to the planned building entries, and VI assessment building entries were subsequently scheduled with the owner/tenant.

At the commencement of this work, six properties on the Site did not have valid access agreements in place. These properties were Philadelphia Housing Authority (PHA), PHA Gym, SEPTA, ACME, Steen, and Jim's Enterprises, which includes the businesses of Liberty Camera Company, and Leone's Computer. Over the duration of the field portion of the assessment, PHA access was granted through the PHA easement that grants DLA access under the supervision of PADEP for operation of the VES system and monitoring well network. At the time of the review of access agreements, access to the PHA Gym was undetermined despite documented efforts to reach building owners and occupants. PHA Gym does fall under the PHA easement; however, it is leased by the DePaul Group to South 23rd Associates. As of February 2019, it was determined that PHA easement rights include the PHA Gym. Discussions are currently underway to coordinate access for the VI assessment (**Appendix A**).

Project team members met with Jim McGinty of Jim's Enterprises to explain the project scope. Access was denied at this junction, but a request to stay informed was made. A trip report documenting this meeting is included in **Appendix B**.

SEPTA did not respond to access requests throughout the duration of the field activities and beyond. Documentation of attempts to reach and gain access with SEPTA are included in **Appendix C**.

ACME access was secured in December 2018; however, field activities were completed by this time. Access will be used if it is determined that a VI assessment is warranted at that property.

2.2 Document Review

Site documents, including available "as-built" and construction drawings, historical Site plans, and utility diagrams were acquired to identify and prioritize buildings that are potentially linked to preferential pathways (natural or man-made features that may enhance vapor migration from a potential VI source to or into an inhabited building). Not all preferential pathways necessarily penetrate a building foundation or represent a "complete" pathway. Therefore, the focus was on areas where site conditions (i.e. extents of historical LNAPL presence, current soil and groundwater contamination, hydrogeologic characteristics of the subsurface, property construction details and site infrastructure) may facilitate the migration of vapors into a given property.

Document repositories searched included but were not limited to: Defense Logistics Agency (DLA) Troop Support Philadelphia, Thomas F. Donatucci Sr. Library, and the Philadelphia Fire Department and City Hall. Underground utility drawings were also obtained from the Philadelphia Water Department. All documents obtained and used for the VI Assessment are included in **Appendix D**.

The key elements derived from all the reviewed sources were combined to create "building entry plans" that were specific to each building. These building entry plans illustrated all potential preferential pathways identified during the reviews and provided a process (detailed in Section 2.3 below) by which the VI assessments were to be completed. Ultimately these documents were combined to create one master base map showing known current and historical potential preferential pathways. A legend of the known utilities is included as **Figure 1** and Site Layout figures showing the Site with and without historical

utilities are included as **Figures 2A** and **2B**. The combined drawings of potential preferential pathways with sampling locations are presented in **Figures 3A through 5B**.

2.3 Assessment

Building entry activities included observation, measurement, and recording of each building's design, construction, and subsurface utility features relevant to the objective of the VI assessments and consistent with the CSM and current PADEP VI guidance.

The building entry teams began the field phase of the VI assessments utilizing the building-specific entry plans. Objectives of the building entries included: discussing current use of the building with the building management/conducting a short interview; assessing the current condition of the lowest level of each building; identifying any preferential pathways noted; documenting potential background sources of VOCs and identifying candidate locations for future sampling (if any). Field staff utilized a camera and tablet computer during site visits to aid in data handling. The entry teams supplemented survey results with sketch maps and photographs, measurements, and completion of the building survey form (**Attachment E**), as necessary, and as permitted by the building owner/manager. The entry teams also documented the time that site staff utilize specific areas on the lowest level of each building.

The building entry teams used a ppb-RAE photoionization detector (PID) to screen for the presence of volatile organic compounds (VOCs) in the building. The project methane meter was also deployed during building entries. The PID and methane meter were calibrated each day prior to use. Items within the lowest level of the building that could serve as potential VOC sources (paint cans, solvents, fuel containers, etc.); occupant activities in the building (painting, smoking, etc.); and exterior characteristics and items or occupant activities outside the building that could serve as potential VOC sources (mowing, paving, etc.) were documented using photographs and the building survey form. Specific product inventories were not completed during the site visits. The surveys noted any building-specific factors that could influence VOC concentrations in indoor air including building construction characteristics; building features, such as the condition of the floor slab, floor penetrations, and floor cracks; and the heating and ventilation systems. The Building Survey Forms were incorporated with tablet software and are provided in **Attachment E**.

2.4 Building Assessment Results and Sampling Rationale

PADEP VI Guidance (PADEP Land Recycling Program Technical Guidance Manual [TGM], Section IV – Vapor Intrusion, January 2019) defines two types of preferential pathways: 1) an external preferential pathway that does not penetrate the building foundation (e.g., permeable bedding material around a utility line) and 2) external preferential pathway that enters the building (e.g., utility conduits). The underground utilities with the most likelihood of possibly conveying vapors are the storm sewers as there have been recent installations which cut through the silt layer, fairly large lines cross through the extent of LNAPL, and mitigation of sewer vapors currently takes place on the Pollock Street/Packer Avenue sewer. Sampling for vapors within utility lines is not proposed at this time as ongoing monitoring of the sewer vapor mitigation system provides evidence to evaluate the potential for external preferential pathways that enter buildings. Therefore, the Phase 1 proposed sampling focuses on preferential pathways that do not penetrate the building foundation (i.e., bedding material). Phase 1 sampling will be conducted and

evaluated before determining if additional information is warranted (Phase 2). In situations where buildings have concentrations in preferential pathway samples above screening levels, the Phase 2 approach will consist of investigating indoor air.

Following the building entries, the detailed information recorded on the Building Survey Forms and all other observations made during the field effort were summarized in a comprehensive Quick Guide (**Table 1**) and Building Assessment Matrix (**Table 2**) for all buildings included in the assessment. The matrix organizes the information into categories of criteria that are indexed to the PADEP VI regulations. Data collected includes; 1) groundwater characteristics in the immediate area beneath each building, 2) proximity to current and historic LNAPL extent, 3) building construction (slab or basement), 4) preferential pathways and significant foundation openings, 5) the presence of any existing VI mitigation systems, and 6) any sources of indoor air contaminants.

These criteria were used to develop building-specific sampling plans that will support completion of appropriate risk assessments (**Table 2**). The buildings were also divided into three priority groups that are defined by 1) proximity distances of the building to the current and/or historical LNAPL extent, and 2) the dissolved-phase COC concentrations measured in nearby groundwater monitoring wells:

- Group 1 buildings are located furthest away from the current and historic extent of the LNAPL plume and also have groundwater monitoring wells adjacent to the buildings that typically contain dissolved-phase COC concentrations below 1/10th the PADEP SHS Groundwater Vapor Intrusion Screening Values (SVgw).
- Group 2 buildings are located adjacent to or near the current and historic extent of the LNAPL plume. The buildings were then grouped based on proximity to the current and historic extent of the LNAPL plume but have monitoring wells nearby which have LNAPL or limited data.
- Group 3 buildings are located, or partially located within the current/historic extent of the LNAPL plume or are within 30-feet of the current/historic extent of the LNAPL plume.

Each group of buildings will be sampled in two phases to fully evaluate potential preferential pathways. The two sampling phases within each group of buildings (1, 2, and 3) are slightly different from one another honoring the different criteria that apply to each group. Phase 1 sampling will be performed first; depending upon the outcome of Phase 1 (i.e., whether or not the Group-specific Phase 1 tripwires are tripped), Phase 2 sampling will be completed as described in the individual groupings. A description of the two-phase sampling approach is detailed for each building group below.

2.4.1 Group 1 Buildings

There were 21 buildings assigned to the Group 1 category. Recognizing that these buildings are located outside of the historic and current LNAPL plume and that COC concentrations in groundwater are less than 1/10th the VI Screening Groundwater for Protection of Vapor Intrusion, the goal of the proposed sampling approach is to verify if preferential pathways (utility trenches) exist and affect indoor air quality. Once sampled, a preferential pathway will either be eliminated from further study or included for further evaluation. Group 1 buildings situated closest to the LNAPL plume will be evaluated first (Phase 1).

Three of the Group 1 buildings have passive mitigation systems in place (Buildings J, N, and P) and both phases of sampling are recommended. For these buildings, Phase 1 sampling will involve the collection of air samples from inside the passive mitigation system riser piping to determine vapor concentrations in

the piping network which are being exhausted. Indoor and ambient air samples will also be collected, concurrently. If Phase 1 results exhibit vapor concentrations in the riser piping but not indoors, then no additional sampling will be recommended. Conversely, if Phase 1 indoor air results exhibit vapor concentrations above the PADEP SHS Sub-Slab Soil Gas Screening Values (SVss), soil vapor samples will be proposed around the building (Phase 2).

For the 18 buildings that do not have mitigation systems, the presence/absence of preferential pathways will be the determining factor for the sampling phases. Preferential pathway sampling will focus on specific utilities that originate inside the current or historic LNAPL plume. For those buildings with preferential pathways, non-native utility bedding material will be evaluated for the presence of vapors at those buildings closest to the extent of LNAPL (i.e., Buildings E, I, H, and the southern end of F) first. If bedding material for utilities around these buildings are found to have vapors less than 1/10th the SVss, the building will be excluded from further (Phase 2) sampling citing a multiple lines of evidence exclusion approach. Group 1 buildings situated further from the LNAPL plume tied to the same or similar utilities will not be investigated.

Phase 1 preferential pathway (pipe bedding) sampling for other Group 1 buildings would only be necessary if vapors in the pipe bedding materials closest to the LNAPL contain exceedances of screening values. Should COC concentrations of vapors measured in utility trenches exceed SVss, the building will undergo Phase 2 sampling. Phase 2 sampling will consist of sub-slab and indoor/ambient air sampling.

Preferential pathway sampling will be performed while concentrating on specific utilities that originate inside or pass through the current or historic LNAPL plume. Proposed preferential pathway sample locations shown on **Figures 3A** through **5B**, have also been biased towards sewer lines due to their installation depths and bedding materials that are more conducive to vapor migration.

2.4.2 Group 2 Buildings

Exterior-only building assessments were performed for 8 of 11 buildings in Group 2 due to access restraints. All but two buildings (Building 15 and vacant lot 2) are located to the south of Interstate 76 or east of 20th Street. Utility information to the south of Interstate 76 is limited. As such, it should be noted that preferential pathway sample locations have been placed in areas of known utilities or utilities that were identified during the interior and/or exterior building assessments.

Group 2 buildings without preferential pathways, but which are in close proximity to monitoring wells with concentrations greater than SVgw values, will include near source sampling (Hotel and P. Agnes buildings). Therefore, the Phase 1 proposed sampling focuses on preferential pathways that do not penetrate the building foundation (i.e., bedding material). Phase 1 sampling will be conducted and evaluated before determining if additional information is warranted (Phase 2). In situations where buildings have concentrations in preferential pathway samples above screening levels, the Phase 2 approach will consist of investigating indoor air.

2.4.3 Group 3 Buildings

As is the case with Groups 1 and 2, Group 3 buildings will also require confirmation of preferential pathways (if present) but will also have a combination of sub-slab and indoor air sampling, near source and indoor air sampling, or all three sample types. If there is a passive mitigation system in place,

preferential pathway samples will not be conducted and a sample from the mitigation system will be collected as described below.

Three Group 3 buildings (Home Depot, BJ's, and PHA) have existing vapor mitigation systems which were implemented during building construction due to their proximity to the LNAPL plume. Since these vapor mitigation systems are known to be passive, pressure tests will not be possible to confirm the systems are working properly. Instead, proposed sampling is recommended from sample ports which are present for PHA at various locations around the perimeter of the building and perhaps roof sample ports that are available at BJ's and Home Depot. Samples collected from these sample ports and indoor/ambient air samples are proposed as the Phase 1 approach for these buildings. If concentrations are found to be below SVss, no additional sampling will be performed. Indoor air samples will be compared to the sample results from the sample ports and a decision will be made for further investigation, if necessary.

Building 8 is the only Group 3 building which is not within the current or historic extent of LNAPL; however, it is in close proximity and has exceedances of groundwater screening values within the 30-foot horizontal proximity distance. In addition to sampling for preferential pathways, indoor air sampling is proposed without sub-slab sampling since the basement may be submerged below the water table.

Preferential pathway sampling is also proposed for Buildings 6, 9, 12, 13, 14, and 30. It should be noted that elevated PID readings were measured in Building 9 during the building assessment at several significant openings in the basement slabs of bays A and B. As a result, indoor air samples are recommended for this building in addition to numerous preferential pathway and near source sample locations. Near source sampling is proposed for Buildings 6, 9, 12, 13, 14, and 30, and indoor air sampling is also proposed for Buildings 6, 9, 12, 13, and 30. Near source samples will be compared to the SVss where LNAPL is present, where preferential pathways are present, and/or where the thickness of the slab (e.g., 5 feet at Building 9) and in close proximity to the water table.

The field building assessment, combined with the information used to separate buildings into the above Groups, was used to propose recommended VI sampling. For buildings with current mitigation systems (BJ's, Home Depot, PHA), regardless of the Group, a phased approach is proposed:

- Phase 1 – Collect air samples from inside the passive mitigation system riser piping to determine vapor concentrations in the piping network which are being exhausted. Indoor and ambient air samples will also be collected, concurrently.
    - If Phase 1 results exhibit vapor concentrations in the riser piping but not indoors, then no additional sampling will be recommended.
- Phase 2 – If Phase 1 indoor air results exhibit vapor concentrations above the SVss, soil vapor samples will be proposed around the building.

To the extent practical, vacant lots were evaluated based on the results of nearby parcels with existing buildings. Buildings with preferential pathways to subsurface vapor flow or significant foundation openings result in conditions that could convey subsurface vapors close to or directly into a building. In such cases the use of PADEP Vapor Intrusion Screening Values may be restricted and the use of proximity distances may be precluded.

2.4.4 Sampling Rationale

Based on the building groupings (Group 1, 2 and 3) and the field building assessment, the following VI sampling rationale was derived:

- Group 1
  - If mitigation system is present (Buildings J, N, and P),
  - If preferential pathway exists, then preferential pathway sampling is proposed
  - If preferential pathway does not exist, then no sampling is proposed

- Group 2
  - If preferential pathway exists, then preferential pathway sampling is proposed
  - If preferential pathway does not exist, and groundwater conditions are above 1/10th the PADEP SHS Groundwater Vapor Intrusion Screening Values (SVgw) at adjacent wells, then near-source sampling is proposed
  - If preferential pathway does not exist, then no preferential pathway sampling is proposed

There are no known mitigation systems within Group 2 buildings. Preferential pathway samples will be collected first for Buildings E, 15, and P. Agnes (Penrose). Preferential pathways for the Acme and SEPTA buildings will only be sampled if exceedances of screening values are discovered in the Phase 1 samples. Near source sampling is proposed for the Hotel and P. Agnes (Moyamensing).

- Group 3
  - If in current LNAPL source area (Buildings 6, 9, 30, and VES), then (assumes preferential pathway present):
    - If slab is accessible (and no vapor barrier), then sub-slab sampling + near-source sampling + preferential pathway + indoor air (Phase 2) if warranted
    - If slab is not accessible (or vapor barrier), then near source sampling + preferential pathway sampling + indoor air (Phase 2) if warranted
  - If in historic LNAPL source area (Buildings 11, 12, 13, PHA Gym, Steen, 14) then:
    - If slab accessible (and no vapor barrier), then sub-slab sampling + if preferential pathway exists, then preferential pathway samples (Phase 2 indoor air if warranted)
    - If slab not accessible (or vapor barrier), then near-source + if preferential pathway exists, then preferential pathway samples (Phase 2 indoor air if warranted)

Group 3 Buildings, including BJs, Home Depot, and PHA, have mitigation systems in place. Phase 1 sampling will consist of collecting air samples from inside the passive mitigation system riser piping to determine vapor concentrations in the piping network which are being exhausted. Indoor and ambient air samples will also be collected, concurrently. If Phase 1 results exhibit vapor concentrations in the riser piping but not indoors, then no additional sampling will be recommended. Conversely, if Phase 1 indoor air results exhibit vapor concentrations above the SVss, soil vapor samples will be proposed around the building. Although there are basement fans in Buildings 13 and 9, it is unknown if these were installed as part of a designed vapor mitigation system. Therefore, Phase 1 and 2 sampling mentioned above will not take place in Buildings 13 and 9.

Buildings 8, 11, 13, 6 (Bay C), 9, and 14 have features that may be considered significant foundation openings (elevator shafts, sumps, large cracks). Vapor samples will be collected near these features as preferential pathway samples. Indoor air samples will be collected in occupied spaces further from significant foundation openings on the same floor or first occupied floor.

Vapor samples from potential preferential pathways (utility bedding material) will also be collected for Buildings 12, 6, 9, and 30. PHA Gym and Steen are the only buildings with unknown preferential pathways, therefore no preferential pathway samples are currently recommended.

Sub-slab vapor and indoor air samples are proposed at Buildings 11, 12, 13, 14 (sub-slab only due to indoor sources), 6 (IA in Bay A only), 30, and PHA Gym.

Near source samples will also be collected for Buildings or partially within the current extent of LNAPL. Near source samples are proposed at Buildings 6 (Bay A), 9 (since slab is too thick for sub-slab), 30, and VES.

The sampling rationale, as described above, was then prepared to provide details from each building assessment and to show the process that was used to determine the recommended sampling, if necessary. A helpful “quick-start” guide was also prepared to explain column headers and to provide an explanation of the process that was used to determine the recommended sampling. The “quick-start” guide and building assessment matrix and sampling rationale tables are presented in **Tables 1 and 2**, respectively.

The current sampling rationale may be adjusted when and if additional information becomes available (e.g., as-built drawings) or based on accessibility once in the field. Efficiencies in sampling may also be realized once the field investigation begins. These will be further evaluated during work plan preparation.

2.5 Sampling Methods

As noted in **Tables 1** and **2**, there are two Phases of sampling (Phase 1 and Phase 2) proposed. Buildings in Phase 1 will be sampled first and based on the results, buildings in Phase 2 will be sampled. Sampling methods are described in the following sections and sampling locations and the number of samples at each location are shown in **Table 2** and corresponding **Figures 3A** – **5B**.

2.5.1 Preferential Pathway

Preferential Pathway sampling is proposed to determine if any utilities with permeable, non-native soil, bedding material may be acting as a vapor preferential pathway from the source area to a building. Soil gas or vapor samples are planned to be collected in the potential preferential pathways. Soil gas samples will be collected from within the utility bedding material if the bedding material is determined to be permeable and not native soil. If the area is unpaved, samples will be collected from at least five feet below ground surface. If the area is paved, surface asphalt/concrete will be saw cut and the samples will be collected at least one foot below the asphalt or concrete layer via hand auger.

The Phase 1 sampling locations are located along potential preferential pathways closest to the LNAPL plume and will be evaluated first. If it is determined there are no vapor concerns at the first building along a preferential pathway then additional buildings along the same preferential pathway farther from the

LNAPL plume will not be evaluated. If there are vapor concerns at the first building along a preferential pathway, additional buildings farther from the source will be sampled as part of Phase 2.

In buildings where it is unknown where the utilities are located or there is a potential preferential pathway coupled with a significant opening (i.e., building sump with PID readings), a vapor indoor air sample (via summa canister) is proposed within the building adjacent to the potential preferential pathway and/or significant opening. Phase 1 buildings with a possible preferential pathway will be sampled and if it is determined not to be a potential source, then Phase 2 buildings (i.e., further away from the source) will not be sampled. Soil gas and vapor samples will be submitted for laboratory analysis and will be analyzed for methane and oxygen (selected samples) and the PADEP *Short List of Petroleum Products for Leaded Gasoline, Aviation Gasoline and Jet Fuel* and Methyl tertiary butyl ether (MTBE).

2.5.2 Near-Source

Near-source sampling This sampling was selected for locations that were inaccessible for sub-slab sampling and/or to supplement other sampling methodologies. Depending on the expected sampling depth, hand auger or direct push will be used to advance the soil vapor probes. The soil gas probes will be installed within the vadose zone, no less than five feet below ground surface and within one foot of the top of capillary fringe. The capillary fringe is expected to vary and may be between 0.5 feet (for porous fill like sand) and 2 – 5 feet (for silt loam) above the water table. After installation, the near-source soil gas sampling point will be allowed to equilibrate for a minimum of 24 hours before sample collection.

2.5.3 Sub-Slab

Sub-slab sampling is proposed for buildings where the slab is accessible and a vapor barrier is not present. Sub-slab sampling is not recommended if the water table is expected to be encountered immediately below the slab. The building survey data was used to preliminary evaluate the accessibility of the slab, however, if during sampling the slab is not accessible, too thick to obtain a sample, or if water is encountered immediately below the slab, sub-slab sampling and another sampling methodology will be recommended.

Sub-slab samples will be collected from immediately below the floor of the slab of the building. This will be either at grade (slab on grade) or below grade (basement). The sample locations are biased towards the current and historical LNAPL plumes, where possible.

Permanent sub-slab soil gas sampling points will be installed using a hammer drill and manual placement of the Vapor Pin™ probe. The Vapor Pin™ probe is equipped with a rubber protective cap that is used to close the sampling port when not in use. After installation, the sub-slab soil gas sampling point will be allowed to equilibrate for a minimum of 24 hours before sample collection. Once all sampling is completed, the Vapor Pin™ will be removed and the void will be filled with hydraulic cement.

2.5.4 Indoor Air and Outdoor Ambient

Indoor and ambient (outdoor) air sampling is proposed based on the findings of the building surveys. If PID readings were noted during the building survey that do not have a known source, and if other types of sampling are unable to eliminate the pathway, indoor and ambient air sampling is recommended. Prior to sample collection a pre-sampling survey will be conducted to document conditions in the building that

may have changed from the previous building assessment. This survey will include an interview with the owner or occupant of the building and a visual inspection of the lowest inhabited floor. The interior of the building will be scanned using a PID with a detection limit of approximately 1 part per billion (ppb), for the presence of items or materials that may potentially produce or emit constituents of concern and interfere with analytical laboratory analysis of the collected samples. Relevant information will be recorded on the survey form and documented with photographs. Date, time, location, and other relevant notes will be recorded. Items or materials that contain constituents of concern and/or exhibit elevated PID readings shall be considered probable sources of VOCs. Identified items should be removed at least 48 hours prior to sampling if possible. The samples will be collected in 6-liter SUMMA® passivated stainless-steel canisters. An evacuated SUMMA® canister (<28 inches of mercury [Hg]) will provide a recoverable whole-gas sample of approximately 5 liters when allowed to fill to a vacuum of 6 inches of Hg.

Care must be taken to minimize the potential for introducing interferences during the sampling event. As such, ambient air canisters will be kept away from heavy pedestrian traffic areas (e.g., main entranceways, walkways) if possible. If the canisters are not to be overseen for the entire sample duration, precautions will be taken to maintain the security of the sample. Sampling personnel should not handle substances containing VOCs (such as gasoline), permanent marking pens (Sharpies), wear/apply fragrances, or smoke cigarettes before and/or during the sampling event.

The flow controller will be pre-calibrated (by the laboratory) to the proper sample collection duration. Sample integrity can be compromised if sample collection is extended to the point that the canister reaches atmospheric pressure. Sample integrity is maintained if sample collection is terminated prior to the target duration and a measurable vacuum (e.g., 6–inches Hg) remains in the canister when sample collection is terminated.

For breathing zone samples, the canister will be placed on a ladder, tripod, box, or other similar stand to locate the canister orifice 3 to 5 feet above ground or floor surface. The SUMMA® canister serial number, flow controller number and sample identification will be recorded on the sampling log and COC form. The flow controller with in-line particulate filter and vacuum gauge will be attached to the SUMMA® canister. The SUMMA® canister valve will be opened to initiate sample collection. The date and local time (24-hour basis) of valve opening will be recorded on the sample collection log and COC form. Collection of duplicate samples will include collecting two samples side by side at the same time. Initial vacuum pressure of the SUMMA® canister will be recorded on the sample log and COC form. If the initial vacuum pressure registers less than -25 inches of Hg, then the SUMMA® canister is not appropriate for use and another canister will be used. The SUMMA® canister will be checked approximately half-way through the sample duration if possible.

Ideally, sample collection will be terminated when the canister vacuum reaches approximately 6 inches of Hg at which time the valve on the flow controller will be closed. Flow controllers will be pre-set by the laboratory to collect a sample over a period of approximately 12 hours. Samples will be collected during hours when business operations are closed so that potential interferences can be mitigated. Final vacuum, date, and local time (24-hour basis) will be recorded on the sample collection log (Appendix B), and COC form. The flow controller will be removed from the SUMMA® canister, and the brass cap reinstalled on the canister fitting, and tightened with a wrench. Canisters and flow controllers will be packed in the shipping container supplied by the laboratory for return shipment to the laboratory. The SUMMA® canister does not require preservation with ice or refrigeration during shipment. Appropriate

forms and sample labels will be completed as directed by the laboratory. The COC form will be placed in the laboratory-supplied shipping container and returned to the laboratory via overnight carrier (e.g., Federal Express) for analysis. Indoor air and ambient air samples will be submitted for laboratory analysis. Samples will be analyzed for USEPA Method TO-15 and possibly USEPA Method TO-13A.

2.6 Geophysical Investigation

Prior to any intrusive work, an extensive geophysical investigation will be performed at each preferential pathway, near source, and sub-slab sample location to identify underground utilities in each area. The investigation will include ground penetrating radar (GPR), electromagnetic wand, and any other methods necessary.

3 HEALTH AND SAFETY CONSIDERATIONS

During the field VI Assessment, field team members identified health and safety concerns for future intrusive work (i.e., vapor intrusion sampling), specifically, exposure to silica dust, asbestos containing materials (ACM) and lead containing paint. When drilling through floor slabs in support of vapor intrusion evaluations, exposure to silica dust, ACM, and/or lead containing paint (if concrete floor slab is painted) must be considered. OSHA standards for silica dust (29 CFR 1926.1153), ACM (29 CFR 1926.1101), and lead paint (29 CFR 1926.62) exposure should be considered during project planning stages to ensure compliance. All materials other than bare concrete (e.g. all types of floor coverings including tiles, Linoleum, glues, mastics, adhesives, etc.) should be considered as ACM unless testing proves otherwise. When potential ACM material is present, the first step should be avoiding disturbing this material altogether (i.e., move to another location nearby that has bare concrete). Precautions should be taken to mitigate exposure risks and ensure proper disposal of any cuttings/spoils and waste from our work. All drilling through concrete requires compliance with applicable OSHA standards. The exposure controls discussed below will ensure compliance with the OSHA silica, asbestos, and lead occupational exposure regulations.

3.1 No ACM is Present

Where no ACM is present, i.e., where there is bare or painted concrete, the following steps should be taken:

- A dust extractor and HEPA vacuum meeting RRP requirements should be used to maintain compliance with OSHA silica dust exposure requirements of 29 CFR 1926.1153.
- If the concrete is painted, the use of the dust extractor and HEPA vacuum meeting RRP requirements will maintain compliance with the OSHA lead dust exposure requirements of 29 CFR 1926.62.
- If the concrete is painted, the use of the dust extractor and HEPA vacuum meeting RRP requirements will maintain compliance with the OSHA lead dust exposure requirements of 29 CFR 1926.62.
- Use of wet methods to control generating airborne dust should be used at all times, especially when collecting and cleaning up drilling cuttings.

3.2 ACM may be Present

Where ACM may be present (any type of floor covering or mastic/adhesive/leveling compound), the following steps should be taken:

- Notification to building owner(s) and occupant(s) will be coordinated.
- A dust extractor and HEPA vacuum meeting RRP requirements will be used to maintain compliance with both 29 CFR 1926.1153 for respirable silica dust and with 29 CFR 1926.1101 asbestos in construction.
- Wetted drilling methods should be employed for the first 1-inch of drilling to further limit potential ACM exposure. Wetted methods include a spray bottle with soapy water or use of foaming shaving cream.
    - After drilling the first 1-inch, stop vacuum and wipe up all visible drilling cuttings, water/shaving cream and place in a sealed container (e.g. zip lock baggie).
    - Proceed with drilling using dust extractor and HEPA vacuum.
- Take potential ACM and concrete cuttings/spoils to office in sealed container (e.g. zip lock baggie) when vacuum is full and dispose of vacuum contents and collected cuttings containers in a sealed container (e.g. large plastic bag, twist-tied and goose-necked) via an asbestos abatement contractor.

4 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations regarding the VI assessment activities are described below:

- This report constitutes a preliminary sampling plan. It presents the elements required under Act 2 and has been developed based on document reviews and the data collected during building surveys. Based on the information gathered in the context of the CSM and current Act 2 regulations, the collection of as many as 157 VI samples is recommended. **Tables 1 and 2** describe the specific sampling methods detailed in Section 2.5 and indexes these methods to each Site building.

- The current sampling rationale should be adjusted when and if additional VI-relevant information becomes available (e.g., as-built drawings) or based on accessibility once in the field (e.g., PHA Gym, Jim's Enterprises, Acme, and Septa). Efficiencies in sampling may also be realized once the field investigation begins. For example, building slabs are currently assumed based on building survey observations and are not conclusive which may change the methods for which samples can be collected (GeoProbe® vs. Hammer Drill). These will be further evaluated during VI Work Plan preparation.

- Health and safety concerns were identified during building surveys. As such, a detailed VI Work Plan, one inclusive of a Site accident prevention plan (APP) update should be prepared prior to

field implementation. The APP should specifically address potential exposure to silica dust, ACM, lead containing paint, and mold. Exposure controls including but not limited to sampling (e.g. dust control shroud for sample point installation), will be necessary to ensure compliance with the OSHA silica, asbestos, lead, and mold occupational exposure regulations.

TABLES

Table 1
Quick-Start Guide

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Suggested Sampling	Number of Samples (refer to Figure X for sample locations)	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach

Buildings grouped (1 - 3) based on proximity to current/historic NAPL and adjacent wells with > 1/10th the VI Screening Groundwater for Protection of VI (GWVI).

Buildings are identified by associated letter (Quartermaster Plaza), number (former DLA), and/or name of current occupant.

Groundwater characteristics are pertinent to the VI Conceptual Site Model.

Current extent of NAPL estimated based on data from 3rd quarter 2017.

Historic extent of NAPL estimated based on data from October 2012.

Building construction is pertinent to the VI Conceptual Site Model.

Preferential pathways and foundation openings dictate what data are collected and how they are evaluated. See Section D of VI Guidance.

Important to consider for VI CSM and to plan VI sampling. Buildings with existing vapor barriers will be sampled to confirm effectiveness.

Important to consider particularly when conducting indoor air sampling.

The proposed sampling approach is based on the preceding information making up the CSM. The basis for sampling or not sampling is provided. Generally, for Group 1 and Group 2 buildings, preferential pathways need to be excluded. For Group 1, those closest to the NAPL will be evaluated first and if utilities around these buildings are not acting as preferential pathways, then Group 1 buildings further from the NAPL with the same/similar utilities, will not be evaluated. Group 2 buildings without apparent preferential pathways but which are near wells with >GWVI data will include near source sampling. Additionally, one Group 2 building with indoor PID readings during the assessment will also have indoor air sampling. Generally, Group 3 buildings also require confirmation of preferential pathways, but also have some combination of subslab and indoor air sampling, near source and indoor air sampling, or all three sample types, depending on the unique conditions of each building.

Per VI Guidance, use of screening levels depends on presence of NAPL and preferential pathways.

Group 1 furthest from NAPL and no > GWVI.

Group 2 outside NAPL, but adjacent well > GWVI.

Group 3 within extent of NAPL and/or within 30-feet of >GWVI.

Defined in VI Guidance as: A natural or man-made feature that enhances vapor migration from a potential VI source to or into an inhabited building. An *external preferential pathway* is a channel or conduit that allows for a greater vapor flux than ordinary diffusion through vadose zone soil. A *significant foundation opening* is a breach in a building foundation or basement wall that may amplify the entry of subsurface vapors.

Group 1 and Group 2 buildings where preferential pathways are confirmed and data greater than SVSS will require further VI investigation (SS and IA). Group 1 buildings without confirmed preferential pathways will have multiple lines of evidence documented and be recommended for NFA.
Group 2 buildings without preferential

An external preferential pathway that does not penetrate the building foundation. External preferential pathways can impact buildings through VI even if they do not penetrate the building foundation. If the external preferential pathway is not fully enclosed, vapors can migrate into a building via typical cracks and gaps in building foundations. An example is permeable backfill material (e.g., gravel or sand) around a utility line close to a building slab or a basement wall. The vapors can travel through the backfill material and then migrate through soil into the building via typical cracks and gaps in the building foundation. If a utility trench is backfilled with native soil, then it is unlikely to act as a preferential pathway.

A conduit (external preferential pathway) that enters the building. This is when a utility line itself, not the backfill material, acts as a conduit for vapors. For example, liquid- and vapor-phase contamination can enter breaks in sewer and drain lines, permitting vapors to pass into buildings through failed plumbing components (Jarvela et al., 2003; Pennell et al., 2013).

A significant foundation opening without an external preferential pathway. In this case, vapors migrate by diffusion through soil from the source to the building. All building foundations have minor cracks and gaps, but if there is a large opening—such as a dirt basement floor—then that opening will amplify the flux of vapors into indoor air. Sealing the opening(s) (e.g., pouring a concrete slab over the dirt floor) can eliminate the preferential pathway.

Table 2
Building Assessment Matrix and Sampling Rationale

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach
1	Outside of the historic and current LNAPL plume and also adjacent wells are below 1/10th the VI Screening Groundwater for Protection of Vapor Intrusion	Building J - Pet Smart	10/31/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	Passive VI Mitigation system	1) Floor drain in bathroom and laundry room 2) Trench drain at salon kennel 3) Floor drain (tub) in janitor's room 4) Electrical lines going through ceiling in receiving	No	0	0	0	0	This building was constructed with a passive mitigation system. The riser vent pipe will be sampled to verify the system is operating as designed.	NA	Confirm effectiveness of mitigation system. Document lines of evidence. NFA if no risk, IA, or mitigation if risk.
		Building N - Spirit Halloween (vacant)	10/31/2018	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No		1) Floor drains in bathrooms 2) Assumed floor drains in janitors closet	No							
		Building P - Planet Fitness (contains Novacare and H&R Block)	10/31/2018	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No		1) Floor drains in showers of locker rooms 2) Water line penetrates slab at west wall 3) Water line and fire suppression main penetrate slab at rear (west) wall	No							
		Building E - Staples	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Floor drains in bathrooms and janitor closet 2) Water line penetrates slab in NE corner of building 3) Roof drains penetrate asphalt at exterior of building.	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building I1 - Dress Barn	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Floor drains in bathrooms and janitor closet 2) Roof drain penetrates asphalt at exterior of building 3) Water lines through floor	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building I2 - Kicks USA	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Floor drain in bathroom 2) Roof drain and gas line penetrate asphalt at exterior of building	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building H1 - Verizon	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Water line penetrates slab on East wall 2) Electric conduit and roof drain penetrate asphalt at rear exterior of building	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building H2 - The Children's Place	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Water line penetrates slab at East wall 2) Probable floor drain in former bathroom (not visible due to clutter) 3) Floor drain in active bathroom 4) Roof drain penetrates asphalt at rear and exterior of building	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building H3 - Payless	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Floor drain in bathroom 2) Water line penetrates slab in utility enclosure 2) Roof drain and gas line penetrate asphalt at exterior of building	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.

Table 2
Building Assessment Matrix and Sampling Rationale

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach
1	Outside of the historic and current LNAPL plume and also adjacent wells are below 1/10th the VI Screening Groundwater for Protection of Vapor Intrusion	Building H4 - MadRag	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Water line penetrates slab at East wall 2) probable floor drain in bathroom (unable to observe due to clutter).	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building H5 - Vacant	10/30/2018	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Communications conduit penetrates slab 2) Floor drain in men/women's bathrooms 3) Water main penetrates slab on east wall	No	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building F2 - [redacted] Firm	11/2/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Bathroom drains 2)Air ducts in bathrooms 3) Drain in utility room 4)pipes penetrating slabs in utility room	Strong cleaner odor in utility closet	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Buildings F3 - Casual Male XL	11/2/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Drains in bathroom	No	0	0	2 (Phase 1)	0			If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building R - Game Stop	10/31/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1)Drains in bathroom	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building R - Edible Arrangements	10/31/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Large drain in kitchen 2)Drain in janitors closet 3)Drain in hallway 4)Drain in freezer	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building R - Domino Pizza	10/31/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1)Gas line through roof at exhaust fan 2)Floor drain at rear 3)Drain at rear sink 4)Water main through slab in electrical room 5)Sprinkler through slab in electrical room	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building R - Foot Locker	10/31/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Drain in bathroom	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building B - Bank of America	10/31/2018	DSCP-MW-20-DTW 19.89' DSCP-MW-45A-DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Drain in janitors closet 2)Drain in bathroom 3)Electrical utilities entering through roof	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building C - Chilis	10/31/2018	DSCP-MW-20 DTW 19.89' DSCP-MW-45A DTW 19.04' DSCP-MW-21A DTW 17.34'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1)Numerous Kitchen floor drains 2)Bathroom drains 3)Water and sprinkler lines through slab in utility closet	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building D - Walgreens	11/2/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-21A DTW 17.34' DSCP-MW-45A DTW 19.04'.	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Sprinkler system through slab 2)Conduit and other utilities through floor 3)drains in bathrooms, janitor closets, and storage rooms	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
		Building A - Wendy's	10/31/2018	DSCP-MW-20 DTW 19.89' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1)Numerous drains in kitchen, below counter, bathroom. 2)Water entry through floor in janitors closet 3)Gas utility through ceiling 4) Large manholes outside building	No	0	0	2 (Phase 2)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence NFA.
2	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	Building E - Jim Enterprises	11/8/18 (due to access restraints, only an exterior assessment was performed)	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, Model IA from GW based on adjacent well data and document multiple lines of evidence. NFA if no risk, SS and IA or mitigate if risk.
		Building E - Liberty Camera Company	11/8/18 (due to access restraints, only an exterior assessment was performed)	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	
		Building E - Leones Comp	11/8/18 (due to access restraints, only an exterior assessment was performed)	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	0	2 (Phase 1)	0	Preferential Pathway	SVss	

Table 2
Building Assessment Matrix and Sampling Rationale

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach
2	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	Hotel	10/22/2018	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MW-48 DTW 11.86' EPH-MW-49 DTW 14.41' EPH-MW-50 DTW 14.06' EPH-MWS-10 DTW 12.80' EPH-MWS-5 DTW 12.26'	No	No	Slab	Yes, numerous utilities entering the building	No	Unknown	1) Electric room - south wall and SE corner has conduits penetrating slab (0 ppb) 2) Generator in electric room (0 ppb) 3) Floor drain in workshop (1 ppb) 4) Floor drain in sprinkler room (4 ppb) and water pipe penetrates slab 5) Two drain pipes possibly penetrate slab in wondown room, but not confirmed. 6) elevator shaft (out of order) no cracks or penetrations (0 ppb) 7) Laundry room floor drains (0 ppb)	No	0	2	0	2 (Phase 2)	Not in current or historic plume nearby wells with GW exceedances (Near Source), Indoor Air (PID readings)	SVNs (near source) and SVIA (indoor air)	If near source > SVNS, then collect SS and IA. Model based on NS and evaluate IA. Document multiple lines of evidence. NFA if no risk, SS and IA and re-evaluate or mitigate if risk.
		P. Agnes (Moyamensing)	11/12/18 (due to access restraints, only an exterior assessment was performed)	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MWS-5 DTW 12.26'	No	Yes	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	Unknown	1) Storm drains outside the building 2) Gas line appears to enter building wall	Unknown	0	2	2	0	Not in current or historic plume nearby wells with GW exceedances (Near Source) and pref. pathway	SVNs (near source and pref pathway)	Model based on NS. If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, document multiple lines of evidence. NFA if no risk, SS and IA if risk.
		P. Agnes (Penrose)	11/12/18 (due to access restraints, only an exterior assessment was performed)	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MWS-5 DTW 12.26'	No	No	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	Unknown	1) Storm drains outside the building 2) Gas line appears to enter building wall	Unknown	0	2	0	0	Not in current or historic plume nearby wells with GW exceedances (Near Source)	SVss (near source)	Model based on NS. Document multiple lines of evidence. NFA if no risk, SS and IA if risk.
		Building 15	Unable to access due to ongoing asbestos abatement	DSCP-MW-54 DTW 15.65'	No	No	Unknown						0	0	2 (Phase 1)	0	Preferential Pathway	SVss	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, Model IA from GW based on adjacent well data and document multiple lines of evidence. NFA if no risk, SS and IA if risk.
		Vacant Lot S	11/8/2018	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	NA	Yes, numerous utilities crossing the vacant lot	No	No	NA	NA	0	0	0	0	None	NA	Will be evaluated based on data for the nearest building.
		Vacant Lot 2	11/8/2018	DSCP-MW-1 DTW 19.83' DSCP-MW-44A DTW 18.06'	No	No	NA	Yes, numerous utilities crossing the vacant lot	No	No	1) Storm drains 2) Unidentified monitoring well 3) Manhole and electrical vault along fenceline	NA	0	0	0	0	None	NA	Will be evaluated based on data for the nearest building.
		ACME	11/5/18 (due to access restraints, only an exterior assessment was performed)	DSCP-MW-53 DTW 14.64' DSCP-MW-12 DTW 15.29'	No	No	Unknown	Unknown	Unknown	Unknown	1) Sewer 60' from SW Corner outside building 2)Assume drains in bathrooms and janitors closet. 3)Gas line observed approximately 10' from building in sidewalk	Unknown	0	0	2 (Phase 2)	0	Preferential Pathway (based on adjacent building data from 11, 12, 13)	SV_{NS}	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, Model IA from GW based on adjacent well data and document multiple lines of evidence. NFA if no risk, SS and IA if risk.
		SEPTA	11/5/18 (due to access restraints, only an exterior assessment was performed)	Ssepta-PH-8 DTW 14.30' DSCP-MW-12 DTW 15.29' DSCP-MW-59 DTW 12.60 (DTP 12.57')	No	No	Yes	Unknown	Unknown	Unknown	1)Floor drains at bay door 2)Cracks at base of wall 3)Air vents leading to inside of building 4) Probable storm sewers, gas lines and electrical lines penetrating slab	Vehicle exhaust	0	0	2 (Phase 2)	0	Preferential Pathway (based on adjacent building data from 11, 12, 13)	SV_{NS}	If PP confirmed (>SVSS), Phase 3 SS and IA. If PP not confirmed, Model IA from GW based on adjacent well data and document multiple lines of evidence. NFA if no risk, SS and IA if risk.
3	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Building 8	11/9/2018	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	No	No	Partial Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	Unknown	1)Broken drains 2)sprinkler pumps going through slab 3)trench 7.5' below slab with piping 4) Workshop with gas powered vehicles (150 ppb & 2,500 ppb) 5)drains in bathroom. 6) Various spots where pipe goes through slab. 7)Elevator shafts	1)Chemical pails 2)large drums of tar in the building 3)Gas cans, and paint. 4)Gas powered vehicles	0	0	2	2	Multiple utility penetrations into slab and foundation walls (preferential pathway samples), elevated PID readings at workshop (150 and 2,500 ppm)- one in workshop and one in pump room (near sump room). No SS - because basement appears submerged.	SVss (preferential pathway samples) & SVIA Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 11	11/9/2018	DSCP-MW-53 DTW 14.64'	No	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No (?) - need to confirm basement has no dirt floors Partially finished basement	Unknown	1) Drains in bathroom 2) 4" diameter open pipe penetrating wall in generator room 3) Numerous pipes penetrating slab 3) Drains in basement 4) Sump (PID 11 ppb)and floor drains in sump room	No	2	0	2	2	Building is situated within the historical extent of LNAPL (two subslab samples), multiple utility penetrations into slab and foundation walls (preferential pathway), elevated PID reading at sump (indoor air).	SVss (preferential pathway samples) & SVIA Indoor Air (sub-slab, indoor air samples)	Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 12	10/16/2018	DSCP-MW-12 - DTW 15.29' DSCP-MW-13 - DTW 16.01 DSCP-MW-54 - DTW 15.65' DSCP-MW-59 - DTW 12.60' (product 12.57')	No	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	1) Numerous pipes/drains penetrating slab and foundation walls 2) Numerous cracks in slab 3) One notable crack (1/4" at NW wall of wing NE1, PID 134 ppb) 4) Two drain pipes penetrate west wall of wing NE1, PID 102 ppb)	Yes	4	0	3	4	Building is situated on historical extent of LNAPL (sub-slab samples), LNAPL is observed in one nearby monitoring well (DSCP-MW-59), multiple utility penetrations into slab and foundation walls (preferential pathway samples), elevated PID reading at two drain pipes that penetrate foundation wall (indoor air).	SVss (preferential pathway samples) & SVIA Indoor Air (sub-slab, indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.

Table 2
Building Assessment Matrix and Sampling Rationale

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach
3	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Building 13	11/7/2018	DSCP-IW-13 DTW 17.28' DSCP-MW-11 DTW NM DSCP-MW-34 DTW-6.78' DSCP-MW-59 DTW 12.60' (DTP 12.57') SEPTA-SEPTAMW-4 DTW NM	No	Yes	Full Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	Basement Fans	1)Floor drains at stair well (5.5ppm) 2)S Hall corner has a gap between boiling 9 and 13 (21.25 ppm) 3) Floor drains of SWMR (0ppb) 4)multiple floor drains in building 5)Drain in shower in locker-room (max 3.4ppm) 6)floor drain in locker room (12ppb) 7)Hatch in stair 9 lobby (max 25 ppm) 8)Shop 31 drain (18.5ppm)	Yes	6	0	3	4	Building is situated on historical extent of LNAPL (sub-slab samples), LNAPL is observed in one nearby monitoring well (DSCP-MW-59), multiple utility penetrations into slab and foundation walls (preferential pathway samples), elevated PID readings at gap between buildings, one floor drain and hatch (indoor air).	SVss (preferential pathway samples) & SVIA Indoor Air (sub slab, indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		PHA Gym	11/12/18 (due to access restraints, only an exterior assessment was performed)	EPH-MW-50 DTW 14.06' EPH-MWS-11 DTW 13.22' PH-MW-40 DTW 12.24' PH-MW-41 DTW NM PH-MW-51 DTW 13.91' PH-PH-24 DTW NM	No	Yes	Slab	Unknown	Unknown	No	All details here are assumed 1)Bathroom drains 2)Utility closet drains 3)Floor Crack in the warehouse	Unknown	0	2	0	0	Building is situated on historical extent of LNAPL (near source due to no building access)and has utility penetrations	SVss	Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS, or mitigation if risk.
		Steen	No Access	STEEN-IW-08 DTW 19.99' STEEN-IW-09 DTW 19.84' STEEN-MW-61 DTW 23.33' STEEN-MW-63 DTW NM STEEN-MW-64 DTW 21.47' STEEN-PH-11 DTW 20.18'	No	Yes													
		Vacant Lot M	11/2/2018	DSCP-MW-1 DTW 19.83' DSCP-MW-44A DTW 18.06'	No	Yes	NA	Yes, numerous utilities crossing the vacant lot	NA	NA	1)Drums. Most likely filled with soil	NA	0	0	0	0	None	NA	Will be evaluated based on data for the nearest building.
		Building 6 (Bay A)	11/13/2018	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	None	1)Crack in DMARK room bay A 2)Drains in mechanical room, bathrooms, locker rooms, janitor's room 3)Hole in sprinkler room through slab 4)Utility going through slabs 5)0.5" inch crack in slab	None identified	2	2	0	2	Proximity to current and historical plume (near source), accessibility to slab (sub-slab), Multiple utility penetrations into slab and foundation walls (indoor air)	SV_{SS} (near-source), SV_{IA} (subslab and indoor air)	If PP confirmed (>SVSS), further IA and/or mitigation. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 6 (Bay B)	11/9/2018	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	None	1)Large pipes penetrating through slab 2)Other various pipes in the bay penetrating through slab 3)Drains in the bathroom, and would assume in janitor's area	None identified	4	0	1	3	Accessibility to slab (sub-slab), Multiple utility penetrations into slab and foundation walls (preferential pathway, indoor air)	SV_{SS} (preferential pathway), SV_{IA} (subslab and indoor air)	If PP confirmed (>SVSS), further IA and/or mitigation. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 6 (Bay C)	11/9/2018	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab. Some dirt floors	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	None	1)Refrigerant storage in old bathroom. Assume drains 2)Dirt floor in parts of building (0ppb) 3)Drains in boiler room 4)Pipes penetrating through slab where present 5)Large below grade vault. (0ppb) 6)Large floor drains with water at base. (0ppb) 7)Few cracks in the slab	1) 55-gallon drums. All marked but have caution stickers	2	0	0	0	Accessibility to slab (sub-slab)	SV_{IA} (subslab)	Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 6 (Bay D&E)	11/8/2018	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	None	1)Pipes going through floor 2)Floor drains in bathroom, and other parts of the building 3)Floor trench in mechanical room 4)Large manhole to mechanical room	None identified	4	0	1	0	Accessibility to slab (sub-slab), Multiple utility penetrations into slab and foundation walls (preferential pathway)	SV_{IA} (subslab and indoor air)	Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 9 Basement (Bay A)	10/23/2018	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14') DSCP-RW-6 DTW 15.44' (DTP 14.58') DSCP-RW-7 DTW 14.76' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	Basement fans	1) Elevated PID readings around column 49K (north end of bldg). PID readings are different on opposing sides and can be correlated to cracks.(60 ppm) 2) Elevator shaft filled with water. Shaft goes deeper than foundation (59" deep). 3) Potential steam piping on north end 4) Gaps where pillars meet foundation 5) Fans operating in building. Background PID readings slowly increased when traveling further from fans. 6) When rollup doors are open, odors are less. When rollup doors are closed, PID measures 40-60ppb background. 7) Gap between buildings 9 and 13 at NE corner. 8) wooden holes at SE wall 9)Floor separation 310ppb	Yes	0	2	2	2	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too thick for pins and too close to water table for sub slab	SV_{SS} (near source samples, pref. pathway) & SV_{IA} Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.

Table 2
Building Assessment Matrix and Sampling Rationale

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach
3	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Building 9 Basement (Bay B)	10/23/2018	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14') DSCP-RW-6 DTW 15.44' (DTP 14.58') DSCP-RW-7 DTW 14.76' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	Basement fans	1) Gaps where pillars meet foundation 2) Fans operating in building. Background PID readings slowly increased when traveling further from fans. 3) When rollup doors are open, odors are less. When rollup doors are closed, PID measures 40-60ppb background.	Yes	0	2	2	2	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too thick for pins and too close to water table for sub slab	SV_{SS} (near source samples, pref. pathway) & SV_{IA} Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 9 Bay C	10/23/2018	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14') DSCP-RW-6 DTW 15.44' (DTP 14.58') DSCP-RW-7 DTW 14.76' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	Fans	1) Numerous pipes in walls, likely penetrate slab 2) Separation of floor from wall at several locations but appear to have been resealed (0 ppb) 3) SE corner at B41, drain pipe penetrates slab (17ppb) 4) D38, two sprinkler penetrate slab, 38 ppb 5) Cracks in slab near D/E 40/41, 230 ppb (air), 670 ppb (ground) 6) At E39, floor drain at base of South ramp, 400 ppb	Yes	0	2	2	2	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too thick for pins and too close to water table for sub slab	SV_{SS} (near source samples, pref. pathway) & SV_{IA} Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 9 Bay D	10/12/2018	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14') DSCP-RW-6 DTW 15.44' (DTP 14.58') DSCP-RW-7 DTW 14.76' DSCP-RW-9 DTW 14.53' (DTP 13.86') STEEN-SEPTAMW-4 DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	Fans	1) Numerous pipes/drains penetrating slab 2) Numerous cracks in slab	Yes	0	2	2	2 (Phase 2)	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too thick for pins and too close to water table for sub slab	SV_{SS} (near source samples, pref. pathway) & SV_{IA} Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 9 Bay E	10/12/2018	"DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14') DSCP-RW-6 DTW 15.44' (DTP 14.58') DSCP-RW-7 DTW 14.76' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	Fans	1) Numerous pipes/drains penetrating slab 2) Numerous cracks in slab	Yes	0	2	2	2 (Phase 2)	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too thick for pins and too close to water table for sub slab	SV_{SS} (near source samples, pref. pathway) & SV_{IA} Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Building 9 Bay F	10/11/2018	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14') DSCP-RW-6 DTW 15.44' (DTP 14.58') DSCP-RW-7 DTW 14.76' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	Fans	1) Slab is measured at 43.25" thick 2) Water and gas line penetration of slab at NW corner 3) Numerous drains through slab 4) Mold in some rooms	Yes	0	2	2	2 (Phase 2)	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too thick for pins and too close to water table for sub slab	SV_{SS} (near source samples, pref. pathway) & SV_{IA} Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Confirm effectiveness of mitigation system. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.

Table 2
Building Assessment Matrix and Sampling Rationale

Group	Rationale	Buildings	Building Assessment Date	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	VI Mitigation System Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples	Number of Near Source Samples	Number of Preferential Pathway Samples	Number of Indoor Air Samples	Basis for Sampling/ Not Sampling	Standards Used to Compare Results	Risk Assessment Approach
		Building 14	11/6/2018	DSCP-IW-13 DTW 17.28' DSCP-MW-11 DTW NM DSCP-MW-13 DTW 16.01' DSCP-RW-9 DTW 14.53' (DTP 13.86')	No	Yes	Basement Full	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, sump	No	1)Multiple Floor drains-kitchen, bathroom, basement 2)Pipes going through floor 3)Pipes going through wall 4) Sump filled with water 5) Floor cracks in air handler room (center of bldg 14) 6) Water penetrating northwest building wall	Yes	4	0	2	2 (Phase 2)	Building is situated very close to current extent of LNAPL (Sub-slab samples), multiple utility penetrations into slab and foundation walls (preferential pathway samples).	SV_{SS} (preferential pathway) & SV_{IA} Indoor Air (sub slab samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
3	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Building 30	11/5/2018	DSCP-MW-30 DTW 17.84' (DTP 17.81') DSCP-MW-31 DTW 16.99' DSCP-MW 32 DTW 17.9' (DTP 16.1') DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-5 DTW 14.81' DSCP-MW-65 DTW 18.86' (DTP 18.20') DSCP-RW-8 DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	Unknown	1)floor crack. 8' long 2)Drain pipe through slab 3)many floor cracks throughout the building 4)Holes in floor 5)small manhole with cracks along the seal 6)capped pipe that goes through slab 7)concrete trench 8)Floor drains. Bathroom, janitors closet,	None identified	4	2	2	2 (Phase 2)	Building is situated on current extent of LNAPL (near source samples within current LNAPL plume), multiple utility penetrations into slab and foundation walls (Sub-slab samples away from preferential pathways to determine if preferential pathways are affecting subslab, preferential pathway).	SVss (near source samples, preferential pathway) & SVIA (Sub-Slab) & SVIA Indoor Air (indoor air samples)	If PP confirmed (>SVSS), further IA and/or mitigation. Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		BJ's	11/2/2018	DSCP-MW-15 DTW 19.24' DSCP-MW-3A DTW 19.44' (DTP 18.99') DSCP-MW-4A DTW 20.43' DSCP-RW-2 DTW 17.95' (DTP 17.02')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	Passive VI Mitigation system installed November 2004	1)Janitor drains, bathroom drains 2)Large cooler. would assume floor drain. 3)Utility pipes going through slab 4)roof drains through slab	Yes- Cleaning products/solvents, Haz Waste	0	0	0	0	This building was constructed with a passive mitigation system. The riser vent pipe will be sampled to verify the system is operating as designed.	NA	Confirm effectiveness of mitigation system. Document lines of evidence. NFA if no risk, IA, or mitigation if risk.
		Home Depot	11/5/2018	DSCP-MW-14 DTW 15.57' DSCP-MW-2B DTW 18.20' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-RW-8DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	Passive VI Mitigation system installed November 2004	1)Drains in sprinkler room and utilities going through slab 2)Bathroom drains, janitor drains 3)Trench drains in retail space. 46' long 4)Few cracks in the slab. Some large ones in retail space 5)large floor drain in tool rental	Yes	0	0	0	0	This building was constructed with a passive mitigation system. The riser vent pipe will be sampled to verify the system is operating as designed.	NA	Confirm effectiveness of mitigation system. Document lines of evidence. NFA if no risk, IA, or mitigation if risk.
		PHA (and easement)	11/13/2018	PH-PH-16 DTW 16.68' PH-PH-17 DTW 15.75' (DTP 15.27') PH-PH-18 DTW 17.02' (DTP 16.05') PH-PH-19 DTW 17.03' PH-PH-20 DTW 18.29' (DTP 17.9') PH-PH-3 DTW 18.36' PH-RW-C DTW 18.95' (DTP 18.30') PH-RW-CA DTW 18.54' (DTP 17.46') PH-RW-D DTW 17.03' PH-RW-E-DTW 16.47' PH-RW-T DTW 17.00' PH-RW-U DTW 16.20'	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	Passive VI Mitigation system	1)Bathroom drains 2)Utility closet drains 3)Floor Crack in the warehouse	Yes	0	0	0	0	This building was constructed with a passive mitigation system. The riser vent pipe will be sampled to verify the system is operating as designed.	NA	Confirm effectiveness of mitigation system. Document lines of evidence. NFA if no risk, IA, or mitigation if risk.
		VES	11/12/2018	DSCP-MW-65 DTW 18.86 (DTP 18.2') DSCP-RW-1A 15.98' (DTP 15.94')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	No	NA	Yes	0	2	0	0	Within current extent of LNAPL, no preferential pathways	SVss	Conduct site-specific risk assessment using data collected. Document lines of evidence. NFA if no risk, SS and IA, or mitigation if risk.
		Vacant Lot 3	11/8/2018	DSCP-MW-14 DTW 15.57' DSCP-MW-1A NM DSCP-MW-27A DTW 21.29' DSCP-RW-10 DTW 14.02'	Yes	Yes	NA	Yes, numerous utilities running along the perimeter and crossing the vacant lot	NA	NA	1)Storm drains 2)electrical vault 3)storm cover 4)multiple manholes	NA	0	0	0	0	None	NA	Will be evaluated based on data for the nearest building.

Notes

1 Sampling is broken into 2 Phases. Phase 1 is the first round of sampling to be completed. Phase 2 will be completed as necessary, based on the results of Phase 1. Further rationale is provided in Section XX. Phase 1 sampling locations are annotated below. Phase 2 sampling locations are annotated below followed by a (Phase 2).

2 The building assessment for Vacant Lot O was included with Planet Fitness

FIGURES

Legend

UtilityPoints_Site2013FigureC130_20170306

- Existing Manhole
- Proposed Manhole

UtilityLines_Site2013FigureC130_20170306

- Existing Electric
- Existing Gas
- Existing Storm
- Existing Water
- Proposed Interior Storm
- Proposed Storm

UtilityLines_DSCP_Figure6_1958

- 24” Comb. St. Sewer & U'drain
- 3’-6” sewer
- 8’-10” sewer

UtilityPoint_GeneralGasMap_1986

- Gas Meter
- Manhole
- Valve

UtilityLines_GeneralGasMap_1986

- Gas
- Oil

UtilityPoints_GeneralElectricalMap_1986

- Manhole
- Handhole
- Transformer
- Light Pole
- Luminaire
- Steel Standard
- Flood Light
- Sub Station

UtilityLines_GeneralElectricalMap_1986

- AER
- U G

UtilityPoints_GeneralSewerandStormMap_1986

- Catch Basin
- Manhole

UtilityLines_GeneralSewerandStormMap_1986

- Sewer

UtilityPoints_GeneralWaterMap_1986

- Fire Hydrant
- Post Indicator
- Tower
- Valve
- Water Meter

UtilityLines_GeneralWaterMap_1986

- Fire Protection
- Water

UtilityPoints_GeneralHeatingAndProcessSteammap_1986

- Boiler Plant
- Manhole

UtilityLines_GeneralHeatingAndProcessSteammap_1986

- Steam Return
- Steam Supply
- Steam Supply & Return

UtilityLines_SetA_Figure3_1993

- Fuel Oil Tunnel

UtilityLines_Figure10_1918

- 2200 Volt Lines
- City’s water main
- Drainage
- High Pressure Water Fire Protection Lines
- Steam Heating Mains
- Water Supply

UtilityPoints_SetA_Figure5_2003

- Vault

UtilityLines_SetA_Figure5_2003

- Fuel Tunnel
- Steam Tunnel

UtilityLines_SetA_Figure7_2003

- Drainage
- Fire
- Gas
- Proposed Utilities Below 7'
- Water

UtilityPoints_SetA_figure9_1950

- Catch Basin
- Manhole

UtilityLineS_SetA_Figure9_1950

- Sewer

Buildings_Figure10_1918

- Building

UtilityPoints_SetA_Figure11_1952

- Catch Basin
- Manhole

UtilityLines_SetA_Figure11_1952

- Drainage

Utilities_SetA_Figure12_1984

- UST_Tank
- Preferential Pathway Phase1
- Preferential Pathway Phase2
- In-Door Air
- Near Source
- Sub-slab
- Mitigation System

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HISTORICAL UTILITIES MAP LEGEND

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

PATH: Z:\GISProjects_ENV\DLA\VIA\MXD\Fig1_Utility_Legend.mxd 1/13/2020 3:50:40 PM Last saved by: mesilfanos

Pump House?
Wendy's (A)
Chili's (C)
Bank of America (B)
Edible Arrangements (R)
Game Stop (R) Domino Pizza (R) Foot Locker (R)
Kicks USA(I2) Dress barn(I1)
Vacant(H5) MadBag(H4)
Payless(H3) The Children's Place(H2)
Verizon(H1) Shoe Carnival(G)
Walgreen's (D)
Vacant Lot 2
Building 6
Casual Male XL (F3)
[redacted] Firm (F2)
Acme Markets
Building 15
Planet Fitness (P)
Vacant (O) Spirit Halloween (Temp) (N)
Pet Smart (J)
Vacant Lot S
Building 11
Building 12
Building 8
Lot M
Vacant Lot 3
Home Depot (K1)
Building 14
Building 13
BJ's Wholesale (L)
SEPTA Property
Building 30
Building 9
STEEN Property
P Agnes
PHA Property
Hotel
PHA Gym
P Agnes
Jim's Ice Liberty
Camera Company
Leones Computer
PASSYUNK AVE
DOVER ST
VARE AVE
24TH ST
22ND ST
21ST ST
LAMBERT ST
OPAL ST
GARNET ST
ROSEBERRY ST
RITNER ST
SHUNK ST
19TH ST
CLEVELAND ST
18TH ST
COLORADO ST
17TH ST
PORTER ST
BOUVIER ST
16TH ST
CHADWICK ST
BANCROFT ST
MOLE ST
HICKS ST
15TH ST
CARLISLE ST
OREGON AVE
JOHNSTON ST
20TH ST
STOCKER ST
SMEDLEY ST
MOYAMENSING AVE
BIGLER ST
SYDENHAM ST
POLLOCK ST
BIGLER TER
TAYLOR TER
23RD TER
HEMBERGER TER
CROSKEY TER
PACKER AVE
BONSALL TER
BUCKNELL TER
CURTIN TER
24TH ST
HOMESTEAD TER
GEARY TER
23RD ST
HOMESTEAD ST
HARTRANFT ST
MOYAMENSING RD
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
SCHLEY ST
LANVALE PL
UBER ST
CROATAN PL
FORRESTAL ST
BOISE PL
DENFIELD PL
DAVINCI DR
CURTIN ST
GEARY ST
HULSEMAN TER
BASTIAN TER
HOYT TER
RAMBO TER
PATTISON TER
JARDEN TER
PENROSE FERRY RD
PENROSE AVE
BONSALL TER
26TH ST
SHEAFF LN
HULSEMAN ST
LEYTE PL
CHAUCER ST
BROAD ST
PATTISON AVE

Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)

0 145 290 580 Feet

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DEFENSE PERSONNEL SUPPORT CENTER
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SITE LAYOUT

ARCADIS Design & Consultancy for natural and built assets

FIGURE **2A**

PATH: Z:\GIS\Projects_ENV\DLA\VA\MXD\FIG2A_DSCP_sitelayout.mxd 1/13/2020 4:10:20 PM Last saved by: mestifanos

Wendy's (A)
Chili's (C)
Edible Arrangements (R)
Game Stop (R) Domino
Pizza (R) Foot Locker (R)
Kicks USA(I2) Dress barn(I1)
Vacant(H5) MadBag(H4)
Payless(H3) The Children's Place(H2)
Verizon(H1) Shoe Carnival(G)
Bank of America (B)
Walgreen's (D)
Vacant Lot 2
Building 6
Casual Male XL (F3)
[redacted] Firm (F2)
Building 15
Acme Markets
Planet Fitness (P)
Vacant (O) Spirit
Halloween (Temp) (N)
Pet Smart (J)
Vacant Lot S
Building 11
Building 12
Building 8
Lot M
Vacant Lot 3
Home Depot (K1)
Building 14
Building 13
BJ's Wholesale (L)
SEPTA Property
Building 30
Building 9
STEEN Property
P Agnes
PHA Property
Hotel
PHA Gym
P Agnes
Jim's Ice Liberty
Camera Company
Leones Computer

SHUNK ST
COLORADO ST
17TH ST
18TH ST
BOUVIER ST
BANCROFT ST
CHADWICK ST
MOLE ST
HICKS ST
OREGON AVE
SMEDLEY ST
CLEVELAND ST
19TH ST
20TH ST
JOHNSTON ST
STOCKER ST
16TH ST
SYDENHAM ST
15TH ST
MOYAMENSING AVE
BIGLER ST
POLLOCK ST
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
PACKER AVE
SCHLEY ST
CROATAN PL
CURTIN ST
FORRESTAL ST
GEARY ST
HULSEMAN ST
HARTRANFT ST
PATTISON AVE
BROAD ST
26TH ST
24TH ST
23RD ST
22ND ST
TAYLOR TER
BIGLER TER
23RD TER
HEMBERGER TER
POLLOCK TER
MOYAMENSING RD
CURTIN TER
HOMESTEAD TER
GEARY TER
BUCKNELL TER
BONSALL TER
PENROSE FERRY RD
HULSEMAN TER
BASTIAN TER
HOYT TER
RAMBO TER
PATTISON TER
JARDEN TER
PENROSE AVE
UBER ST
OLYMPIA PL
LANVALE PL
BOISE PL
HALSEY PL
DENFIELD PL
DAVINCI DR
JUSTINIAN CIR
LEYTE PL
CHAUCER ST

Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)

0 125 250 500 Feet

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SITE LAYOUT AND HISTORICAL UTILITIES MAP

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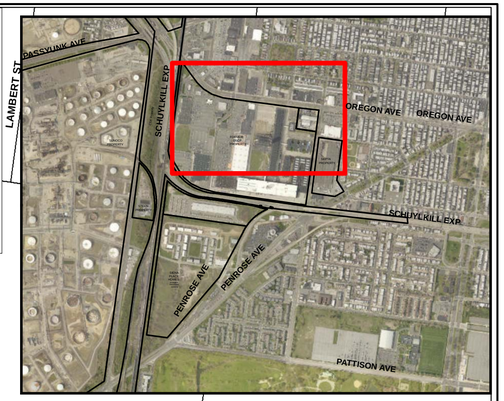
FIGURE **2B**

PATH: Z:\GIS\Projects_ENVDLA\AAMXD\Fig08_DSCP_sitelayout_utility_features.mxd 1/13/2020 4:59:07 PM Last saved by: mestifanos

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Preferential Pathway, Phase2
- In-Door Air, Phase 1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Air Sample From Existing Passive Mitigation System



VARE AVE
24TH ST
Pump House?
Wendy's (A)
Bank of America (B)
Chili's (C)
Walgreen's (D)
OREGON AVE
Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)
21ST ST
Vacant Lot 2
OREGON AVE
Acme Markets
Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)
Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)
Casual Male XL (F3)
Firm (F2)
Building 15
Building 6
Building 11
Lot M
Vacant Lot S
Building 8
JOHNSTON ST
SEPTA Property
Building 12
Home Depot (K1)
Building 14
BJ's Wholesale (L)
Building 13
0 90 180 270 360
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

VAPOR INTRUSION ASSESSMENT

HISTORICAL UTILITIES MAP
View 1

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3A

PATH: Z:\GISProjects_ENV\DLA\VA\MXD\Fig3A_DSCP_UtilityMap_View1.mxd 1/13/2020 4:23:55 PM Last save by: mesifanos

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Preferential Pathway, Phase2
- Near Source, Phase 1
- Sub-slab, Phase 1
- In-Door Air
- Air Sample From Existing Passive Mitigation System

VARE AVE
24TH ST
Pump House?
Wendy's (A)
Bank of America (B)
Chili's (C)
Walgreen's (D)
OREGON AVE
Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)
21ST ST
Vacant Lot 2
OREGON AVE
Acme Markets
Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)
Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)
Casual Male XL (F3)
Firm (F2)
Lot M
Vacant Lot S
Building 8
Building 6
Building 15
Building 11
JOHNSTON ST
SEPTA Property
Building 12
Home Depot (K1)
Building 14
BJ's Wholesale (L)
Building 13
Vacant Lot 3
0 90 180 270 360
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

VAPOR INTRUSION ASSESSMENT

PROPOSED SAMPLING LOCATIONS VIEW 1

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3B

PATH: Z:\GISProjects_ENV\DLA\VIA\MXD\Fig3B_DSCP_ProposedSamplingLocs_View1.mxd 3/5/2020 12:51:06 PM Last save by: mestifanos

Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)

Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)

Vacant Lot 2

Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)

Casual Male XL (F3)
Firm (F2)

Building 15

Building 6

Lot M

Vacant Lot S

Building 11

Building 8

JOHNSTON ST

Acme Markets

Building 12

Home Depot (K1)

20TH ST

SEPTA Property

Building 14

Building 13

Vacant Lot 3

BJ's Wholesale (L)

Building 30

BIGLER ST

TAYLOR TER

BIGLER TER

SCHUYLKILL EXP

Building 9
Partial Basement

PHA Property

SCHUYLKILL EXP

SCHUYLKILL EXP RMP

P Agnes

23RD TER

HEMBERGER TER

CROSKEY TER

BIGLER TER

POLLOCK TER

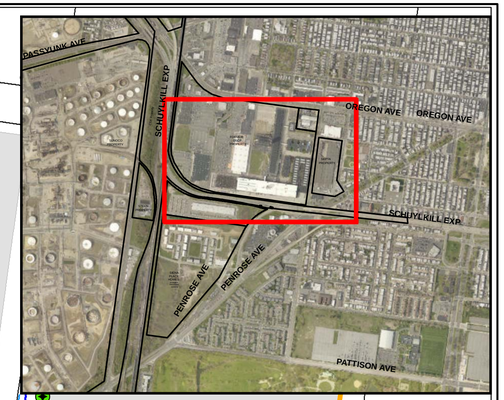
MOYAMENSING RD

PENROSE AVE

PACKER AVE

POLLOCK ST

0 100 200 300 400
SCALE IN FEET



Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Preferential Pathway, Phase2
- In-Door Air, Phase 1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Air Sample From Existing Passive Mitigation System

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

VAPOR INTRUSION ASSESSMENT

HISTORICAL UTILITIES MAP
View 2

ARCADIS Design & Consultancy for natural and built assets

FIGURE
4A

PATH: Z:\GISProjects_ENV\DLA\VIAIMXD\Fig4A_DSCP_UtilityMap_View2.mxd 1/13/2020 4:34:50 PM Last save by: mestifanos

Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)

Chili's (C)

Walgreen's (D)

Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)

Casual Male XL (F3)
Firm (F2)

Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)

Vacant Lot 2

Lot M

Vacant Lot S

Building 8

Building 6

Building 15

Building 11

Home Depot (K1)

Building 12

Building 14

Vacant Lot 3

Acme Markets

SEPTA Property

Building 13

BJ's Wholesale (L)

Building 30

PHA Property

Building 9
Partial Basement

P Agnes

SCHUYLKILL EXP

OREGON AVE

21ST ST

JOHNSTON ST

20TH ST

BIGLER ST

POLLOCK ST

TAYLOR TER

BIGLER TER

23RD TER

HEMBERGER TER

CROSKEY TER

POLLOCK TER

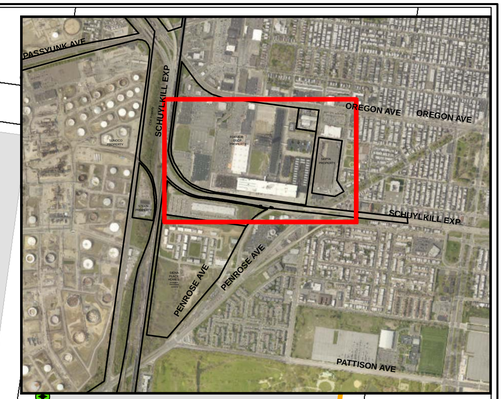
SCHUYLKILL EXP RMP

MOYAMENSING RD

PENROSE AVE

PACKER AVE

PATTISON AVE



0 100 200 300 400
SCALE IN FEET

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Preferential Pathway, Phase2
- Near Source, Phase 1
- Sub-slab, Phase 1
- In-Door Air
- Air Sample From Existing Passive Mitigation System

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

VAPOR INTRUSION ASSESSMENT

PROPOSED SAMPLING LOCATIONS VIEW 2

ARCADIS Design & Consultancy for natural and built assets

FIGURE
4B

PATH: Z:\GIS\Projects_ENV\DLA\IA\MXD\Fig4B_DSCP_ProposedSamplingLocs_View2.mxd 3/5/2020 12:56:00 PM Last save by: mestifanos

STEEN Property

PHA Property

Building 9
Partial Basement

P Agnes

P Agnes

Hotel

PHA Gym

Jim's Ice
Liberty Camera Company
Leones Computer

26TH ST

TAYLOR TER

BIGLER TER

POLLOCK TER

PHA DRIVEWAY

PACKER TER

PACKER AVE

BUCKNELL TER

BONSALL TER

23RD TER

HEMBERGER TER

CROSKEY TER

CURTIN TER

HOMESTEAD TER

23RD ST

24TH ST

GEARY TER

HARTRANFT ST

HULSEMAN TER

22ND ST

SCHUYLKILL EXP

SCHUYLKILL EXP RMP

PENROSE FERRY RD

PENROSE AVE

MOYAMENSING RD

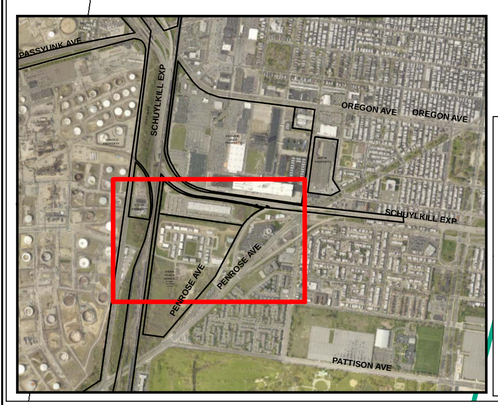
HOMESTEAD ST

20TH ST

JUSTINIAN CIR

DAVINCI DR

GEARY ST



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- In-Door Air, Phase 1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Air Sample From Existing Passive Mitigation System

0 100 200 300 400
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

VAPOR INTRUSION ASSESSMENT

HISTORICAL UTILITIES MAP
View 3

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5A

PATH: Z:\GISProjects_ENV\DLA\VIA\MXD\Fig5A_DSCP_UtilityMap_View3.mxd 1/13/2020 4:42:48 PM Last save by: mesiflanos

STEEN Property

PHA Property

Building 9
Partial Basement

P Agnes

P Agnes

Hotel

PHA Gym

Jim's Ice
Liberty Camera Company
Leones Computer

26TH ST

TAYLOR TER

BIGLER TER

POLLOCK TER

PHA DRIVEWAY

PACKER TER

PACKER AVE

BUCKNELL TER

BONSALL TER

23RD TER

HEMBERGER TER

CROSKEY TER

CURTIN TER

HOMESTEAD TER

23RD ST

GEARY TER

24TH ST

HULSEMAN TER

HARTRANFT ST

SCHUYLKILL EXP

SCHUYLKILL EXP RMP

PENROSE FERRY RD

PENROSE AVE

MOYAMENSING RD

HOMESTEAD ST

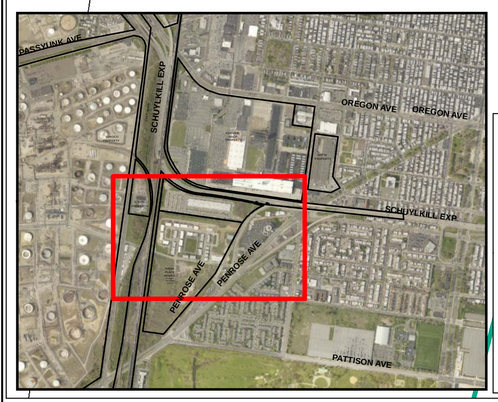
22ND ST

20TH ST

JUSTINIAN CIR

DAVINCI DR

GEARY ST



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- In-Door Air
- Air Sample From Existing Passive Mitigation System

0 100 200 300 400
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

VAPOR INTRUSION ASSESSMENT

PROPOSED SAMPLING LOCATIONS VIEW 3

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5B

PATH: Z:\GISProjects_ENV\DLA\VIA\MXD\Fig5B_DSCP_ProposedSamplingLocs_View3.mxd 3/5/2020 12:53:50 PM Last save by: mesilfanos

APPENDIX A

[redacted]

From: [redacted]
Sent: Monday, February 4, 2019 11:34 AM
To: [redacted]
Subject: PHA Gym Access
Attachments: PHA Gym Deed of Conveyance.pdf; PHA Gym Corrective Deed.pdf; PHA Gym Tax Assess Boundaries.pdf

All,

The Philadelphia Housing authority conveyed multiple properties to S. 23rd Street Associate by deed dated 20 September 1997. The recorded deed for the conveyance contains provisions granting the United States perpetual easement rights for ongoing monitoring/mitigation of groundwater contamination per PADEP order. My intention was to have our cartographer plot the legal description contained in the deed to visually confirm that the properties conveyed in the deed include the PHA gym site located at 3200 Penrose Ferry Road. Unfortunately, the mapping clearly shows that the PHA gym site is not included in the properties conveyed by the subject deed.

I did some more digging and found that the exclusion of the PHA gym site from the 20 September 1997 deed was in error. A corrective deed was executed in April of 2008 and recorded on 23 April 2008 as instrument #51893073. The corrective deed clearly articulates that the United States maintains easement rights to the PHA gym property. Once again, the deed does not contain mapping of the property described in the legal description. However, I was able to pull images off of the tax assessor's website that display the parcel with survey measurements of the boundary lines. The measurements on the tax assessor's survey lines match the measurements exactly contained in the legal description of the corrective deed. The attached corrective deed is the smoking gun asserting our access rights to the PHA Gym property. We do not need to obtain a Right of Entry to access the site. We have the right to access the site.

Attached for reference are the original deed of conveyance dated 20 September 1997, the corrective deed dated April 2008, and a pdf file containing the tax assessors survey lines. Please let me know if you have any questions. I'm happy to provide clarification.

[redacted]

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]

Prepared By:

[redacted]

51893073
Page: 1 of 58
04/23/2008 05:40PM

This Document Recorded 04/23/2008 05:40PM
State RTT: 0.00
Local RTT: 0.00
Doc Id: 51893073
Receipt #: 700961
Rec Fee: 156.50
Doc Code: D Commissioner of Records, City of Philadelphia
Recorded Electronically by Simplifile

Return To:
Commonwealth Land Title Insurance Company
Two Logan Square
Suite 500
Philadelphia, PA 19103
(215) 241-6384 PH148263TK-G
10659536

BRT NO. 782427420

CORRECTIVE DEED

THIS CORRECTIVE INDENTURE made this 11th day of April, 2008, between **S. 23RD STREET ASSOCIATES, LP**, a Pennsylvania limited partnership (hereinafter called the "**Grantor**"), of the one part,

AND

S. 23RD STREET ASSOCIATES, LP, a Pennsylvania limited partnership (hereinafter called the "**Grantee**"), of the other part.

WITNESSETH, that the said Grantor, for and in consideration of the sum of One Dollar ($1.00) lawful money of the United States of America and other good and valuable consideration, unto it well and truly paid by the said Grantee, at or before the sealing and delivery, hereof, and for other good and valuable consideration, the receipt whereof is hereby acknowledged, has granted, bargained and sold, released and confirmed, and by these presents does grant, bargain and sell, release and confirm unto the said Grantee, its successors and assigns,

ALL THAT CERTAIN PARCEL OF LAND as described on **Exhibit "A"** and shown on **Exhibit "A-1"** ("**Property**") attached hereto,

ACKNOWLEDGEMENT RESPECTING PROPERTY ENVIRONMENTAL CONDITION. GRANTOR hereby acknowledges the presence below certain portions of the Property of a plume of hydrocarbon liquid which is comprised of various hazardous substance constituents, including naphthalene and benzene, present as both a light, non-aqueous phase liquid ("LNAPL") in the vicinity of the water table surface (the "LNAPL Plume") and in a dissolved phase in groundwater (the "Groundwater Impact"). The LNAPL Plume originates from off of the Property but over a period of years migrated to the Property; the presence of

LNAPL below the Property was not caused by any release originating from on the Property. The Groundwater Impacts occurred as a result of contact between the LNAPL Plume and area groundwater, both on and off of the Property; the Groundwater Impact was not caused by any release originating from on the Property. The precise dimensions of the LNAPL Plume, and the extent of the Groundwater Impact associated therewith, remain under investigation by agencies of the Defense Department of the government of the United States (collectively, the Defense Logistics Agency or "DLA"), which was ordered in 1999 by the Pennsylvania Department of Environmental Protection ("PaDEP") to investigate and remediate them. A copy of PaDEP's 1999 Order, which is final and not subject to appeal, is attached as **Exhibit "B"** hereto. A diagram depicting the estimated location of the LNAPL Plume on the Property as of 2006 is attached as **Exhibit "C"**. Although the United States' investigation of the LNAPL Plume and Groundwater Impact has not been completed, DLA has installed a hydrocarbon recovery system to contain and remediate the LNAPL Plume, components of which are located on the Property. DLA also maintains a groundwater monitoring well network as depicted on **Exhibit "C"** hereto, components of which are located on the Property. PaDEP continues to actively oversee DLA's investigation and remediation efforts. On September 8, 2006, pursuant to provisions of the Pennsylvania Land Recycling & Environmental Remediation Standards Act, GRANTEE, in cooperation with GRANTOR, completed a study of the Groundwater Impact and, pursuant to 35 P.S. § 6020.302, presented the results thereof to PaDEP, seeking to demonstrate attainment of the "Background" remediation standard for the Groundwater Impact. On November 14, 2006, PaDEP approved GRANTEE's Background standard attainment demonstration. A copy of the PaDEP letter approving the Background standard attainment demonstration is attached as **Exhibit "D"**. GRANTEE's attainment demonstration report is on file with the PaDEP, Southeast Regional Office, as are numerous investigative and remedial action reports developed on behalf of DLA in respect of the LNAPL Plume and Groundwater Impact.

UNDER AND SUBJECT, only to those matters as described on **Exhibits "B-E"** attached hereto.

TOGETHER with all and singular the structures, improvements, ways, streets, alleys, passages, waters, water-courses, mineral rights and timber rights, if any, liberties, privileges, hereditaments and appurtenances, whatsoever thereunto belonging, or in any wise appertaining, and the reversions and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, property, claim and demand whatsoever of it the said Grantor in law as in equity, or otherwise howsoever, of, in, and to the same and every part thereof.

TO HAVE AND TO HOLD the Property, with the improvements and structures thereon erected and the hereditaments and premises hereby granted, or mentioned and intended so to be, with the appurtenances, unto the said Grantee, its successors and assigns, to and for the only proper use and behoof of the said Grantee, its successors and assigns forever.

UNDER AND SUBJECT to the matters as set forth on **Exhibits "B-E"**, as aforesaid.

AND the said Grantor, for itself and its successors, does by these presents, covenant, grant and agree, to and with the said Grantee, its successors and assigns, that it, the said Grantor and its successors, all and singular the hereditaments and premises herein above described and granted, or mentioned and intended so to be, with appurtenances, unto the said Grantee, its

successors and assigns, against the said Grantor and its successors, and against all and every person or persons whomsoever lawfully claiming or to claim the same or any part thereof, by, from or under Grantor, or any of them, shall and will, subject as aforesaid, WARRANT and forever DEFEND.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be executed and dated the day and year first above written.

S. 23RD STREET ASSOCIATES, L.P.
By: S. 23rd Street GP, Inc., its General Partner

By: [redacted]
Title: President

COMMONWEALTH OF PENNSYLVANIA :

: SS

COUNTY OF PHILADELPHIA :

ON THIS, the 17 day of [illegible], 2008, before me, the undersigned officer, a Notary Public, personally appeared Peter DePaul, who acknowledged himself to be the President of S. 23rd Street GP, Inc., the general partner of S. 23rd Street Associates, L.P., a Pennsylvania limited partnership, and further acknowledged that he, as such officer and being authorized to do so, executed the foregoing instrument as the act and deed of the corporation for the purposes therein contained by signing the name of the corporation by himself as such officer.

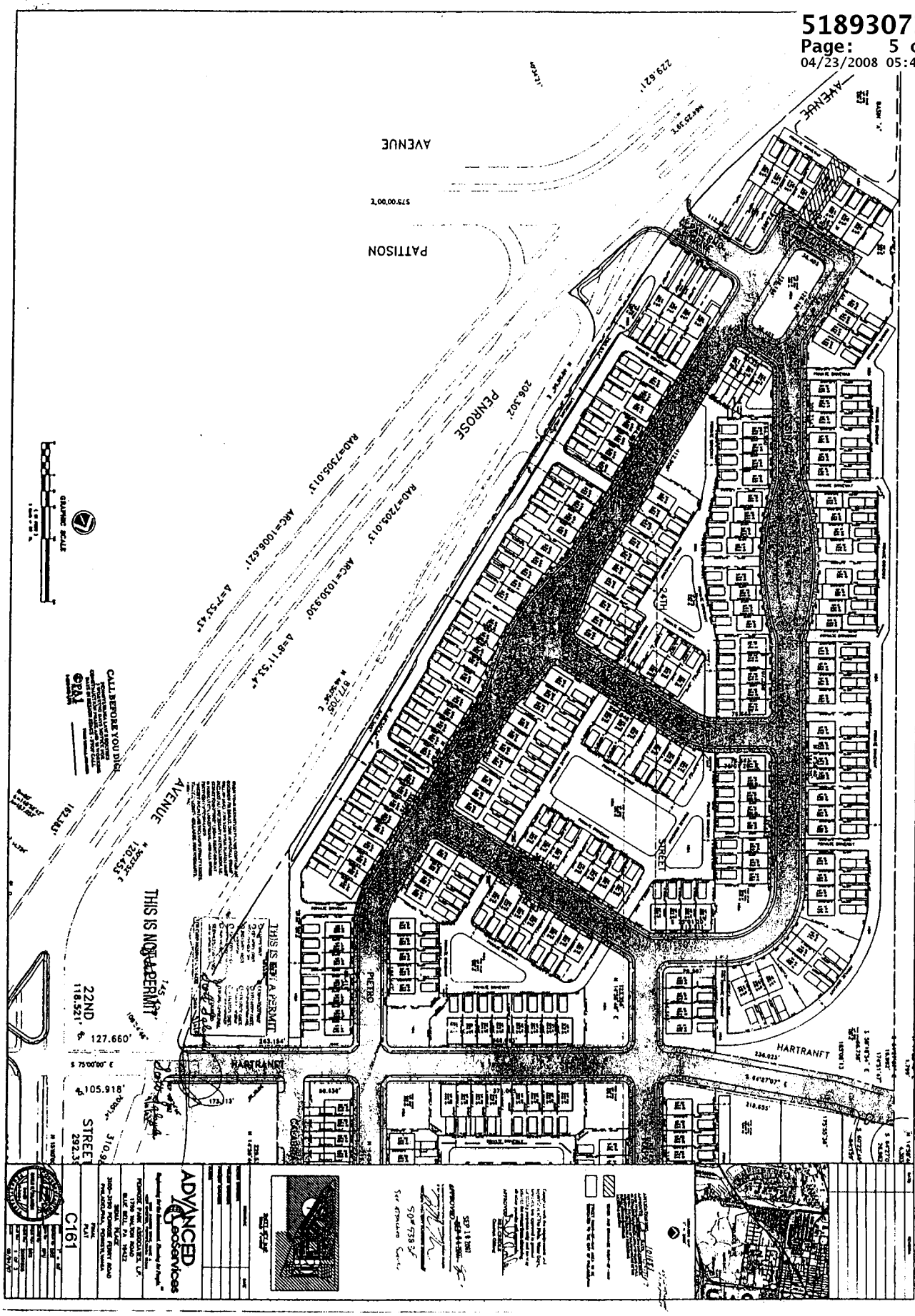
IN WITNESS WHEREOF, I hereunto set my hand and official seal.

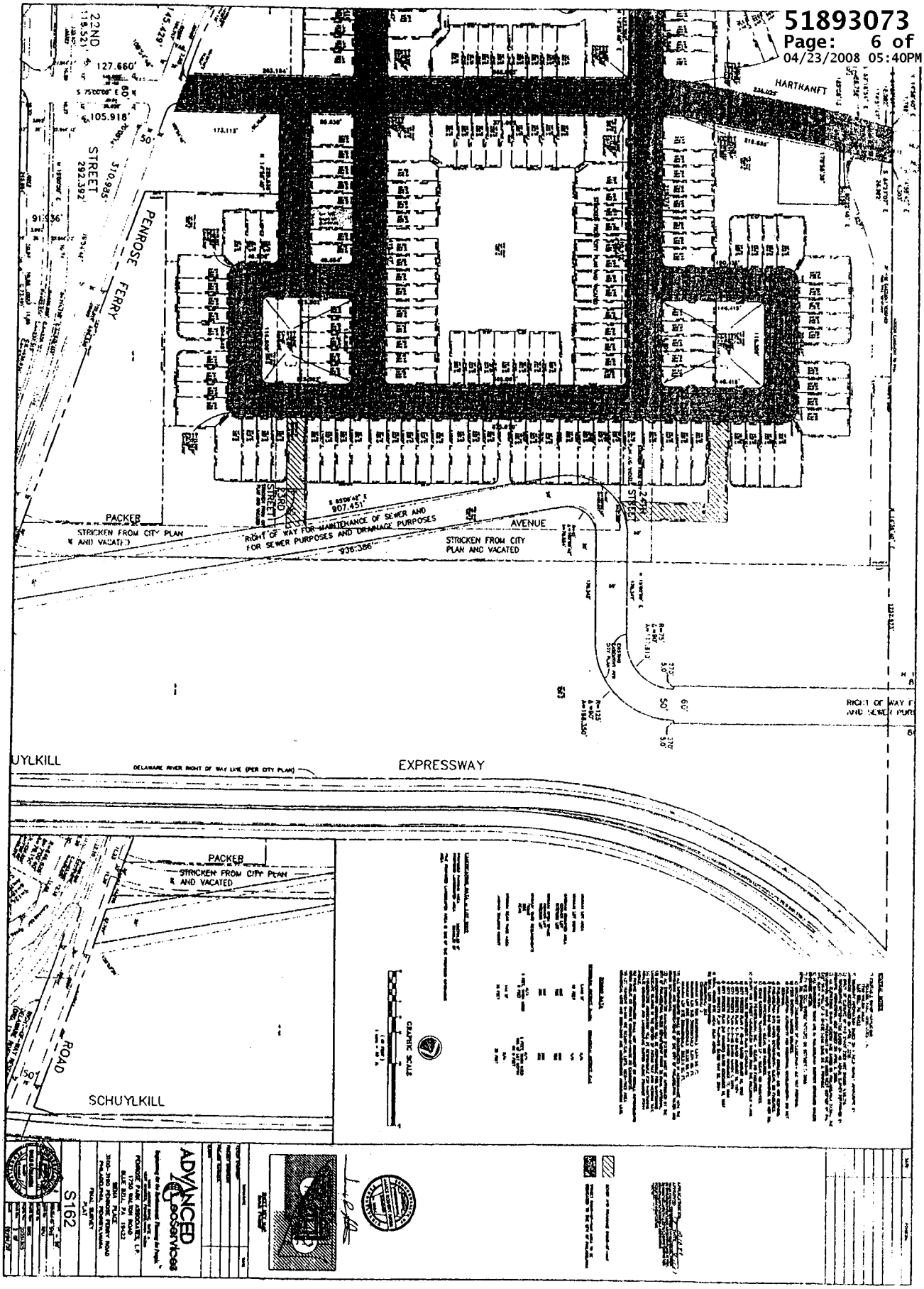
[redacted]
Notary
COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
[redacted] Notary Public
City Of Philadelphia, Philadelphia County
My Commission Expires Sept. 18, 2011
Member, Pennsylvania Association of Notaries

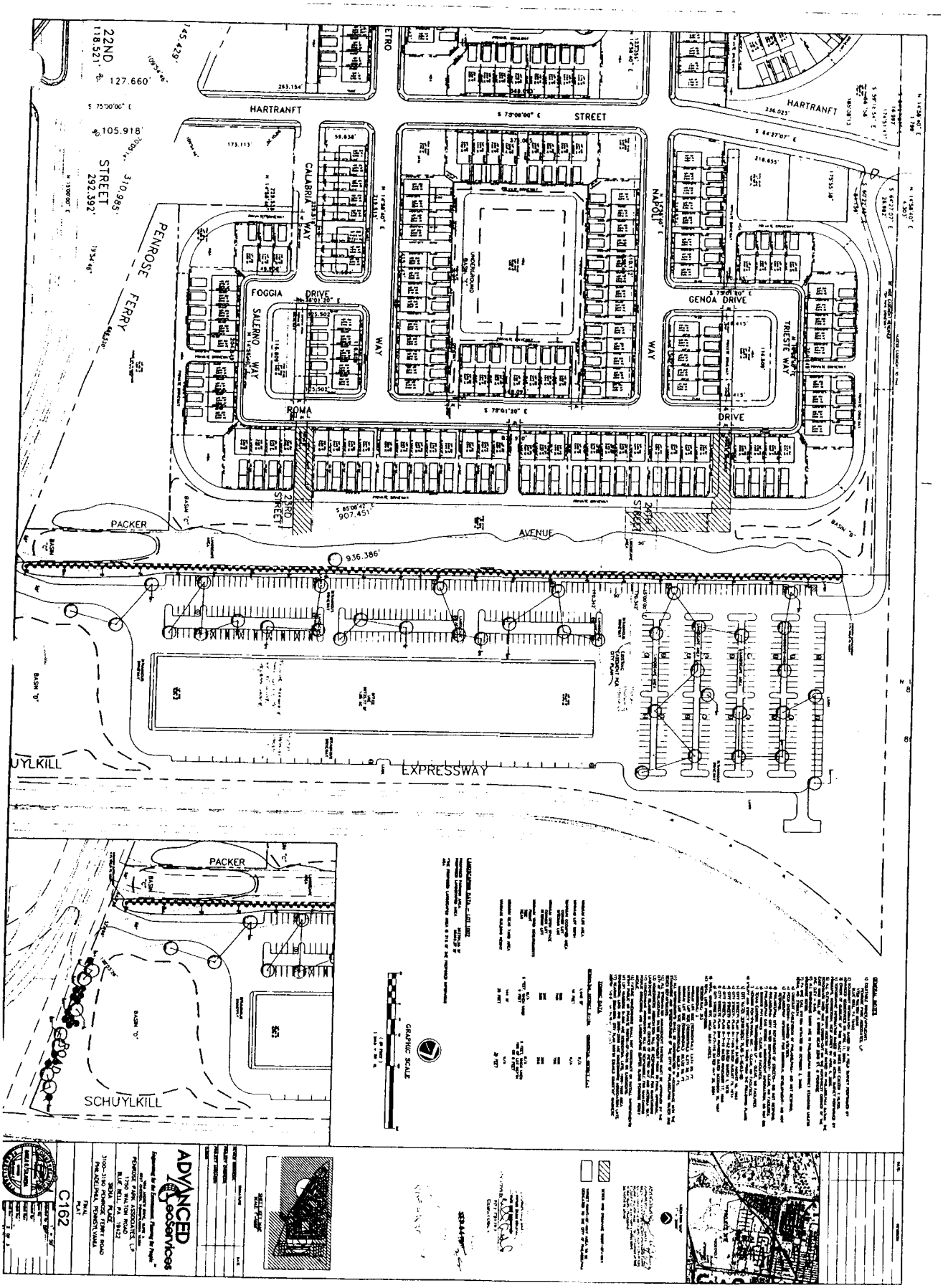
The address of the within-named Grantee is:

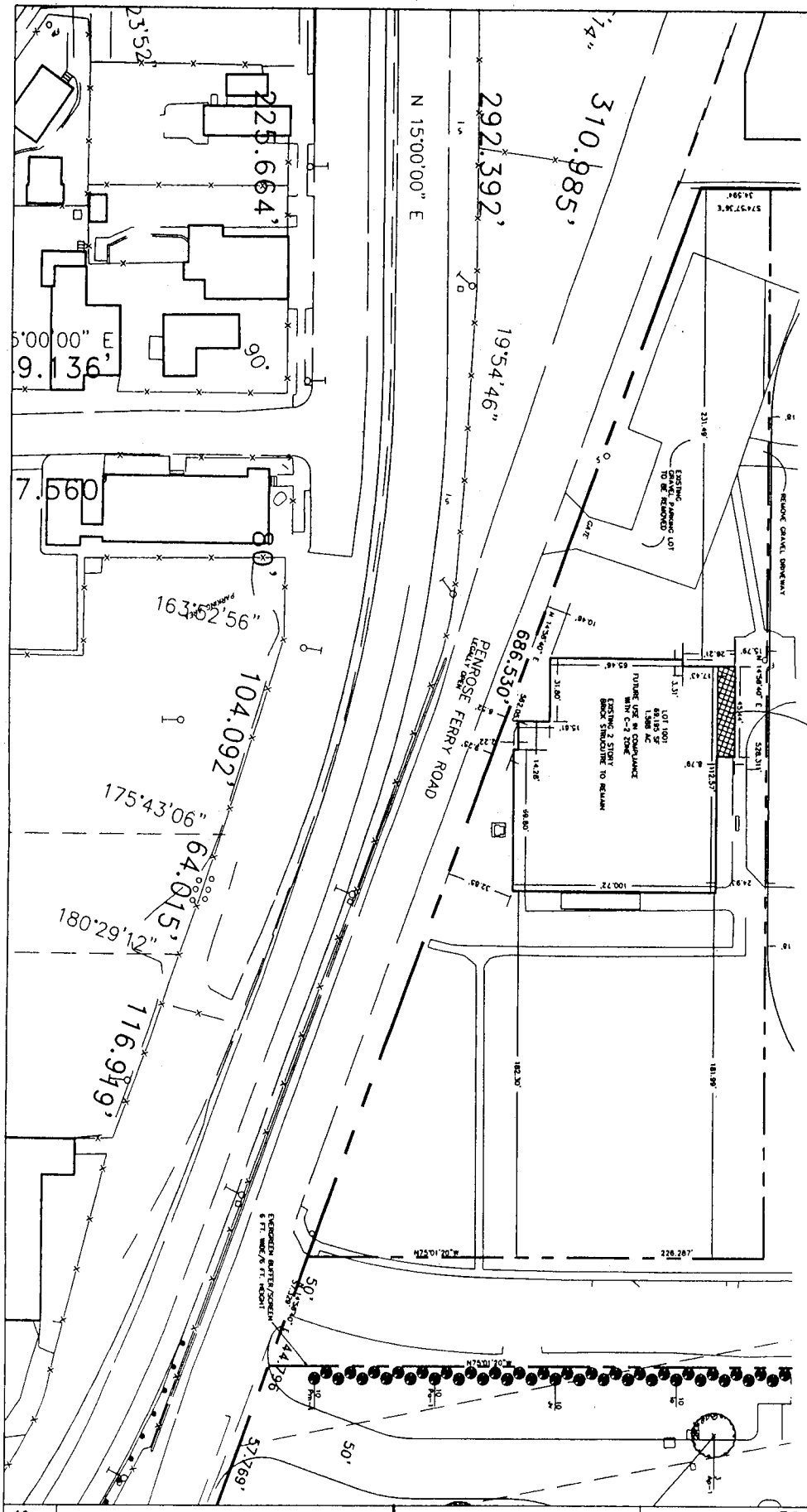
1750 Walton Road
Blue Bell, PA 19422

[redacted]


AVENUE
PATTISON
PENROSE
AVENUE
STREET
HARTRANFT
HARTRANFT
PIETRO
24TH
22ND
STREET
THIS IS NOT A PERMIT
THIS IS NOT A PERMIT
CALL BEFORE YOU DIG!
GRAPHIC SCALE
ADVANCED Geoservices
C161


22ND STREET
PENROSE FERRY
HARTRANFT
PACKER
STRICKEN FROM CITY PLAN AND VACATED
RIGHT OF WAY FOR MAINTENANCE OF SEWER AND FOR SEWER PURPOSES AND DRAINAGE PURPOSES
AVENUE
STRICKEN FROM CITY PLAN AND VACATED
SCHUYLKILL
EXPRESSWAY
DELAWARE RIVER RIGHT OF WAY LINE (PER CITY PLAN)
PACKER
STRICKEN FROM CITY PLAN AND VACATED
ROAD
SCHUYLKILL
GRAPHIC SCALE
ADVANCED
S162


22ND STREET
118.521'
127.660'
105.918'
310.985'
292.392'
HARTRANFT
STREET
PENROSE FERRY
CALABRIA WAY
FOGGIA DRIVE
SALERNO WAY
ROMA
GENOA DRIVE
TRIESTE WAY
DRIVE
PACKER
AVENUE
936.386'
907.451'
EXPRESSWAY
SCHUYLKILL
GRAPHIC SCALE
ADVANCED GeoServices
C162



SK091007-C

SIENA PLACE
COMMERCIAL LOT 1001

3100-3190 Penrose Ferry Road
PHILADELPHIA, PA

ADVANCED GeoServices
Engineering for the Environment. Planning for People.™
1055 ANDREW DRIVE, SUITE A, WEST CHESTER PA, 19380
tel 610.840.9100 fax 610.840.9199 www.advancedgeoservices.com

ZONING PLAN

PROJECT MANAGER:	DRS	SCALE:	1=50'
CHECKED BY:	DRS	PROJECT NUMBER:	20051505
DRAWN BY:	DRS	DATE:	09/10/07

EXHIBIT "B"

PADEP'S 1999 ORDER

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of

Defense Logistics Agency,
Department of the Army and
Defense Supply Center Philadelphia
Philadelphia, PA

Subsurface Hydrocarbon Contamination

ORDER

FINDINGS OF FACT

The Commonwealth of Pennsylvania, Department of Environmental Protection ("DEP" or "Department") has found and determined the following Findings of Fact.

A. The Department is the agency with the duty and authority to administer and enforce the Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"); The Land Recycling and Environmental Remediation Standards Act, Act of May 19, 1996, 35 P.S. § 6026.101 et seq. ("Land Recycling Act"); The Solid Waste Management Act, Act of July 7, 1980 (P.L. 380, No. 97), as amended, 35 P.S. § 6018.101 et seq.; The Storage Tank and Spill Prevention Act, Act of August 7, 1989, P.L. 1989, No. 32, as amended, 35 P.S.§ 6021.101 et seq. ("Tank Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17 ("Administrative Code") and the rules and regulations promulgated pursuant to these Acts.

B. The Defense Logistics Agency ("DLA") is an agency of the United States Government within the Department of Defense and is the parent agency of the Defense Supply Center Philadelphia ("DSCP"). DSCP was previously known as Defense Personnel Support Center and before that as the Philadelphia Quartermaster's Depot. DSCP was formerly located at a facility with an address of 2800 South 20th Street, Philadelphia, PA, 19145-5099. The former DSCP facility (referred to herein as "DSCP facility") is owned by the Department of the Army ("Army"), which previously operated the DSCP facility. For purposes of these Findings, Conclusions of Law and Order, actions taken by DLA, the Army and DSCP will be attributed to DLA.

C. The DSCP facility is located to the east of the south yard of the Point Breeze Processing Area of the Sunoco, Inc. Philadelphia Refinery ("Point Breeze") and to the north and east of the Schuylkill Expressway. The DSCP facility is separated from Point Breeze by 26th Street, Conrail tracks and the Schuylkill Expressway, each of which runs north to south between DSCP and Point Breeze, with a combined width of approximately 550 feet. The DSCP facility encompasses approximately 86.5 acres.

D. The DSCP facility has been an active military logistics, repair and manufacturing facility from the time of the First World War until recently. During this time period, incident to normal operations, it has stored and consumed petroleum products, including diesel fuels, gasoline and heating oils. Since the 1920's, petroleum products have been stored in underground and above ground tanks located in various places on the DSCP facility. Releases of hydrocarbons have occurred on the DSCP facility property. Underground storage tanks associated with the "28th Street Gas Station" and the "Bash Street Gas Station", both located on the DSCP facility, were reportedly removed and/or replaced due to leakage at some time in the past.

E. The Steen property is located to the north of Hartranft Street, between the southwest corner of DSCP and the east side of Point Breeze. The Steen property is sandwiched between 26th Street to the west and Conrail to the east. Hydrogeological investigation has been performed on the Steen property as part of the effort to locate and characterize the subsurface contamination in the area. There is no significant source of hydrocarbon contamination presently located on the Steen property.

F. The Passyunk Homes complex lies to the south of the DSCP facility. Passyunk Homes consists of World War II-era military housing now owned by the Philadelphia Housing Authority and operated as low-income residential apartments. The existing buildings at Passyunk Homes are cinder block structures with no basements. The residents of Passyunk Homes are largely African Americans with incomes at or below poverty level. There is no significant source of hydrocarbon contamination presently located on the Passyunk Homes property.

G. At present, there is a large quantity, estimated by some to be on the order of one million gallons, of non-aqueous phase liquid (NAPL) hydrocarbon ("the NAPL plume") located 15 to 20 feet below ground surface under the southern portion of the DSCP facility property. The NAPL plume extends across the southern boundary of the DSCP facility, under the Schuylkill Expressway and beneath the northern portion of Passyunk Homes. Apparent plume thickness ranges up to several feet. Additional dissolved phase and soil contamination extends southward to approximately Hartranft Street, across the Steen property and westward to the vicinity of Point Breeze. The northern and eastern extent of the dissolved phase and soil contamination which may be associated with the NAPL plume appears not to extend eastward of Penrose Avenue and 19th Street. In many of the areas noted above, significant hydrocarbon soil contamination is found below the current water table elevation and beneath the NAPL Plume. The NAPL plume and associated subsurface hydrocarbon contamination constitutes "industrial waste" and a "substance ... resulting in pollution" as those terms are used in Sections 301, 307 and 401 of the Clean Streams Law, 35 P.S. §§ 691.301, 691.307 and 691.401.

H. Extensive subsurface investigations performed on behalf of DLA and Sunoco, Inc. and provided to DEP have largely delineated the areal extent of the NAPL plume and hydrocarbon contamination in the vicinity of the DSCP facility and Passyunk Homes.

I. The Packer Avenue sewer, a major combined (storm water and sanitary) sewer, crosses the northern portion of Passyunk Homes, running generally from east to west. The invert level of the Packer Avenue Sewer sits below the groundwater elevation in Passyunk Homes. The Packer Avenue sewer continues westward under Point Breeze, where it becomes known as the Pollock Street sewer, and discharges into the Schuylkill River. Dry weather flows in the Packer

Avenue sewer are intercepted at 26th Street and enter the Schuylkill East Side Intercepting Sewer ("26th Street Interceptor"), which conveys this flow to the Philadelphia Southwest Sewage Treatment Plant. Wet weather flows that exceed the capacity of the 26th Street Interceptor are discharged into the Schuylkill River.

J. The NAPL plume is in contact with the Packer Avenue sewer, and petroleum liquid infiltration into the sewer at various locations under Passyunk Homes has been reported on the both occasions since 1997 when personnel conducted investigations of the interior of the sewer. Tributary sewers, particularly the sewer system draining the southeast portion of DSCP, are in close proximity to the NAPL, and may be subject to additional petroleum vapor infiltration.

K. DEP personnel and others have sensed olfactory evidence and obtained Photo Ionization Detector ("PID") readings confirming the presence of petroleum vapors in the Packer Avenue Sewer and its tributary sewers. Petroleum odors have been detected at sewer structures such as storm drains and manhole covers where vapors from the sewer were not blocked from flowing freely to the atmosphere. A number of homeowners in dwellings served by the Packer Avenue Sewer and its tributary lateral sewers have had sporadic episodes of petroleum odors in their homes.

L. Sunoco installed an air collection and filtration system on the Packer Avenue Sewer in 1997, which has significantly reduced the number of petroleum odor complaints in the area served by the Packer Avenue Sewer. This odor abatement system also serves the 26th Street interceptor sewer and the Shunk Street combined sewer, both of which are in contact with or adjacent to other zones of hydrocarbon contamination located on or near Point Breeze. DLA declined to participate in this abatement effort despite a DEP request that it do so.

M. Sunoco and DLA entered into a Consent Order and Agreement with DEP on September 24, 1996(1996 CO&A), that required them to collectively perform a series of specific tasks. These obligations could be modified, not only by formal amendment to the 1996 CO&A, but through joint decisions that were ratified through 1996 CO&A oversight procedures. All actions taken by Sunoco or DLA under the 1996 CO&A were expressly without prejudice to their rights to seek recovery of the costs thereof from the other.

N. The 1996 CO&A tasks included delineation of the NAPL plume and the area affected by the NAPL plume ("Affected Area"), design of a remedial system for NAPL removal and the performance of a risk assessment intended to determine the residual risk following the removal of free product. Pursuant to the oversight process established by the 1996 CO&A, the scope of the risk assessment was expanded to include an assessment of the existing health risk.

O. The NAPL plume is located on the DSCP facility and properties contiguous to the DSCP facility. The Affected Area is a "site" as that term is defined by 35 P.S. § 6026.101 (Definitions). The Affected Area includes properties which are at risk for exposure to petroleum vapors as a consequence of vapor transport from the NAPL through the Packer Avenue Sewer and its tributary sewer system, as well as properties underlain by NAPL and by dissolved phase petroleum derived from the NAPL.

P. Pursuant to the 1996 CO&A, Sunoco submitted a design for a "Phase I" free product removal system, described in "Engineering Report, Free Product Hydrocarbon Recovery

Operations, Defense Supply Center Philadelphia (DSCP) and the Passyunk Homes Area, Philadelphia, PA, April 24, 1998, prepared by Flour Daniel GTI", which DEP approved. This Phase I system was intended to begin the process of free product removal. It was not submitted as, nor was it approved as anything more than the first step towards removing the existing NAPL. Additional remedial work, including modifications to the Phase I system and/or subsequent phases of design and construction, is likely to be required in order to meet the 1996 CO&A goal of removing as much NAPL as is practicable.

Q. On October 16, 1998, the CO&A was amended to require DLA and Sunoco to jointly fund the construction and operation of a Phase I NAPL plume remediation system. Pursuant to this amendment, Sunoco managed the construction and operation of the Phase I remedial system, with financial contributions from DLA. The October 1998 amendment expired on August 31, 1999.

R. The CO&A was amended for a second time on August 31, 1999. This amendment extended the remediation obligations of the 1998 amendment until October 31, 1999, and assigned the management role for the ongoing risk assessment to Sunoco. DLA and Sun agreed to contribute equally to these efforts, without prejudice to future claims against each other.

S. Interim removal efforts performed by Sunoco and DLA recovered approximately 150,000 gallons of NAPL from beneath the DSCP facility between 1997 and October 1998. The Phase 1 remedial system began operations in March 1999 and to date has recovered in excess of 100,000 gallons of NAPL from beneath the DSCP facility and from beneath Passyunk Homes.

T. The DSCP facility has been selected for closure under the Defense Base Realignment and Closure ("BRAC") process, which was prescribed by the United States Congress in the Defense Authorizations and Base Closure and Realignment Act. 10 U.S.C. § 2687. The facility is presently scheduled for closure in April 2000. At the present time, military operations have ceased at the DSCP facility, except for caretaker functions.

U. The Philadelphia Office of Defense Conversion ("ODC"), a division of the City of Philadelphia Commerce Department, has developed a reuse plan for the DSCP facility. The reuse plan calls for retail and light industrial uses. A portion of the DSCP facility consisting of Building 13, part of Building 9 and surrounding parking areas has been conveyed or is in the process of being conveyed, through a combination of lease and air rights deed, to Brite Star, a manufacturing, warehouse and retail operation.

V. Through the BRAC process, DLA has been conducting investigations and producing decision documents that evaluate the environmental conditions at the base. To date, the DEP's oversight of the NAPL plume remedial project has been parallel to but separate from the BRAC environmental assessment and remediation process.

W. In February 1999, Philadelphia Housing Authority announced its intention to close Passyunk Homes and to relocate the residents elsewhere in Philadelphia. Numerous residents have moved out of Passyunk Homes during 1999 and the vacated apartments have been boarded up.

X. Investigations conducted in the past on behalf of Sunoco and Arco concerning the geology and hydrogeology of the Philadelphia Refinery have revealed the presence of two water-bearing geologic structures contained within unconsolidated sedimentary layers. The deeper water-bearing structure is part of the Potomac-Raritan-Magothy ("PRM") aquifer, which is a source of drinking water in Gloucester County, New Jersey. The uppermost, or shallow aquifer, is a surficial unconfined aquifer, largely consisting of the Cape May Formation and of recent alluvium. The lower, deep aquifer is located in the lower sand unit of the PRM aquifer. A clay unit of the PRM system lies between the shallow and deep aquifers. The bedrock beneath the unconsolidated sediment layers consists of Wissahickon Shist.

Y. Investigations performed on behalf of DLA and Sunoco have shown that the geological structures underlying the DPSC facility and Passyunk Homes are generally similar to those underlying Point Breeze. However, the confining unit between the upper and lower aquifers in this area was only nine feet thick in the northwest corner and the subsurface of the southwestern portion of the DPSC facility contains no such confining clay layer. Where the confining layer is thin or absent, there is the potential for groundwater exchange between the surficial aquifer and the deep aquifer.

Z. The direction and rate of groundwater flow in the area of the DSCP facility and Point Breeze has been largely determined by human activities since the 1920's. Although the current direction of groundwater flow is generally from north to south, major pumping centers at surrounding industrial and military facilities have significantly altered the natural groundwater flow patterns at various times in this century. Two such major pumping centers, one located at the former Publicker Industries site near the Walt Whitman Bridge and the other located at the Philadelphia Naval Ship Yard and Naval Station exerted significant influence over the ground water levels and flow directions during the period between 1920 and 1975. During this time frame, groundwater elevations in the DSCP - Point Breeze area were significantly lowered. Regional groundwater flow directions were sometimes predominately from north to south and at other times were from west to east. Groundwater withdrawals at Point Breeze and elsewhere may have caused local variations in groundwater flow direction during this time frame.

AA. Investigations performed by both DLA and Sunoco in support of a risk assessment have revealed the presence of a silt layer of varying thickness and depth between the petroleum plume and the ground surface throughout most of the Affected Area. This silt layer is breached by the Packer Avenue sewer and by the basement of Building 13 on the DSCP facility.

BB. Soil, groundwater and NAPL samples taken by DLA and Sunoco have revealed the presence of benzene and other materials in the Affected Area. These materials are potentially hazardous to human health.

CC. The NAPL plume consists of a petroleum material, with characteristics of a light naphtha. It contains significant quantities of benzene and has a low flash point. Attempts to characterize the precise nature of the product or products which produced the plume have been inconclusive. The NAPL appears to have similar physical and chemical characteristics across most of its extent, although benzene concentrations within the plume do vary somewhat. Other hydrocarbon contamination by material with lower benzene content exists at some locations within the area of the NAPL plume below the current water table elevation.

DD. The entire NAPL plume, soil contamination and dissolved phase petroleum is located within 2500 feet of the boundaries of the DSCP facility. Only the portion of the Affected Area defined by the Packer Avenue Sewer and its tributary sewers may lie partially beyond 2500 feet from the boundaries of the DSCP facility.

DETERMINATIONS OF LAW

The Department has made the following Determinations of Law:

EE. The ground water beneath the DSCP facility and the surrounding areas of South Philadelphia is a water of the Commonwealth as defined by Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

FF. The Packer Avenue sewer and the Schuylkill River are waters of the Commonwealth as defined by Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

GG. The Schuylkill River is a navigable water of the United States as that term is used by the Clean Water Act, 33 U.S.C.A. §§ 1251 to 1387 and the Oil Pollution Act of 1990, 33 U.S.C.A. §§ 2701 to 2761.

HH. At various times in the past, industrial wastes and polluting substances in the form of petroleum hydrocarbons were released into the subsurface of the DSCP facility, Passyunk Homes and adjacent properties in violation of Sections 301, 307 and 401 of the Clean Streams Law, 35 P.S. §§ 691.301, 691.307 and 691.401.

II. Petroleum that was released into the subsurface of the DSCP facility and Passyunk Homes enters navigable waters of the United States via the Packer Avenue sewer, in violation of Section 1002 of the Oil Pollution Act of 1990 and Section 311 of the Clean Water Act, 33 USCA § 2702 and 33 USCA § 1321.

JJ. Sections 301 and 307(a) of the Clean Streams Law, 35 P.S. §§ 691.301 and 691.307(a) state that no person shall discharge industrial wastes into waters of the Commonwealth unless such discharge is authorized by the rules and regulations of the Department or unless the person has obtained a permit from the Department.

KK. The existing conditions in the area affected by the NAPL plume, by dissolved phase hydrocarbon and by contaminated soil, create a danger of pollution to waters of the Commonwealth within the meaning of Section 402 of the Clean Streams Law, 35 P.S. § 691.402.

LL. Pursuant to Section 316 of the Clean Streams Law, 35 P.S. § 691.316, whenever the Department finds that pollution or a danger of pollution is resulting from a condition which exists on land in the Commonwealth, the Department may order the land owner or occupier to correct the condition in a manner satisfactory to the Department.

MM. DLA operates and/or operated aboveground and underground storage tanks that are regulated by the Department pursuant to the Tank Act. 35 P.S. § 6021.101 *et seq.* The US

Army operated aboveground and underground storage tanks when it operated the former DSCP installation.

NN. Pursuant to Sections 1302 and 1309 of the Tank Act, 35 P.S. §§ 6021.1302 and 6021.1302, whenever the Department finds that pollution or a danger of pollution is resulting from a release from a regulated storage tank, the Department may order the land owner or occupier, or the tank owner or operator, to correct the condition in a manner satisfactory to the Department.

OO. Pursuant to Section 120(a) of CERCLA, 42 U.S.C.A. § 9620(a), owners of federal facilities are subject to state laws governing the remediation of hazardous substances.

PP. Section 9007 of the Solid Waste Disposal Act, 42 U.S.C.A. § 6991f, provides that any department, agency and instrumentality of the Federal Government is subject to all Federal and State laws applicable to underground storage tanks.

QQ. Section 313 of the Clean Water Act, 33 U.S.C.A. § 1323, requires that all Federal facilities comply with applicable state water pollution control laws.

RR. Federal law governing the transfer of former military installations requires that the Department of Defense indemnify and hold harmless the transferees of such installations from liabilities resulting from the release or threatened release of hazardous substances or pollutants or contaminants or petroleum derivatives resulting from Department of Defense activities on the installation. Pub. L. 102-484, Div. A, Title III, § 330, Oct. 23, 1992, 106 Stat. 2371, as amended.

SS. The standards for remediation of the Affected Area are set forth in Chapter 3 of the Land Recycling Act, 35 P.S. §§ 6026.301 - 6026.308.

Order

Pursuant to the authority granted by sections 5, 316 and 610 of the Clean Streams Law, 35 P.S. §§ 691.5, 691.316 and 691.610, Sections 1302 and 1309 of The Storage Tank and Spill Prevention Act, 35 P.S. §§ 6021.1302 and 6021.1309; and by Section 1917-A of the Administrative Code of 1929, 71 P.S. § 510-17 and the rules and regulations promulgated pursuant to these Acts, the Commonwealth of Pennsylvania, Department of Environmental Protection **Orders** DLA, the Department of the Army and DSCP (collectively "DLA") to take the following steps:

1. DLA shall immediately maintain and operate the NAPL removal system currently in place on the Passyunk Homes property and the DSCP facility, and shall design, construct, maintain and operate any additional remedial systems necessary to remove as much of the petroleum NAPL contamination from the Affected Area as is practicable.

2. DLA shall immediately take all steps necessary to demonstrate that the Affected Area is brought into compliance with the substantive, procedural and notice requirements and shall meet

one or a combination of the remedial standards set forth in the Land Recycling Act and the regulations found in 25 Pa. Code Chapter 250.

3. DLA shall immediately undertake all measures necessary to ensure that the health and safety of workers, residents and visitors within the Affected Area is protected from any unacceptable risks associated with or contributed to by the petroleum contamination described in Paragraphs G through O and BB through DD.

4. DLA shall immediately assume responsibility for the operation of that portion of the sewer air collection and filtration system described in Paragraph L which collects and treats petroleum vapors that enter the sewer system from within the Affected Area.

5. DLA shall perform risk assessments as necessary to monitor the risk to residents, workers and visitors within the Affected Area during the remedial phase. DLA shall continue to fund and otherwise support a Technical Advisory Group ("TAG") which shall advise and inform the residents and workers in the Affected Area and provide input to DEP. DLA shall submit all risk assessment work plans and work product to both DEP and to the TAG for review.

6. DLA shall, on the 15th day of each month following the end of each calendar quarter, submit reports to the Southeast Regional Office of DEP detailing all measures taken in conformance with this Order, and shall attach the results of all quantitative measurements taken during the previous three months. The quarterly report submitted following the end of each calendar year shall also contain an overview of the past year's activities and recommendations for future action. All data that refers to specific locations, such as monitoring wells and sampling points, shall be submitted in both written and in digital form suitable for use in an ArcView-based GIS system.

7. DLA shall provide DEP, its agents, employees and contractors free and unrestricted access to all portions of the DSCP facility to enable DEP to conduct investigations and inspections and to monitor and oversee all activities performed pursuant to this Order.

8. All groundwater, hydrocarbon and soil samples collected pursuant to this Order shall be analyzed at a qualified laboratory using EPA-approved methodology, where such a proven method exists. Alternate analytical methods may be employed if approved in advance by the DEP.

9. DLA shall reimburse DEP for all expenses incurred in the course of overseeing compliance with this Order. Reimbursement shall be made within 60 days of the submission of each DEP statement of expenses.

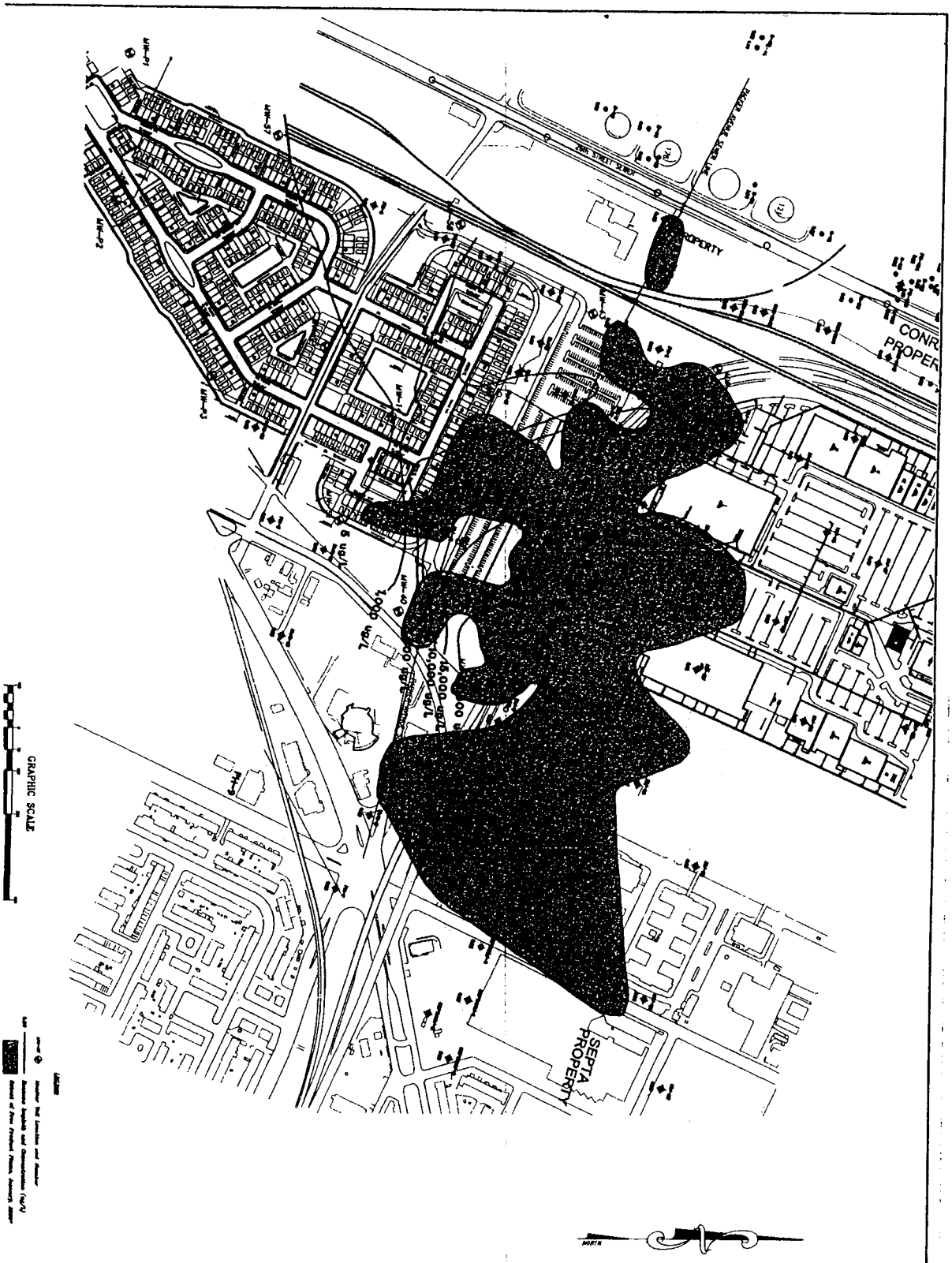
This action of the Department may be appealable, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 PA C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17101-8457, (717) 787-3483. TDD users may contact the Board through the Pennsylvania Relay Service at 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audio tape from the Secretary to the Board at (717) 787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statute and decisional law.

[redacted]
Regional Director

Date: Dec. 10, 1999

EXHIBIT "C"

LNAPL PLUME DIAGRAM



Pennoni Associates Inc. One Drexel Plaza, 3001 Market Street Philadelphia, PA 19104 Engineers • Surveyors • Planners • Landscape Architects

Former Passyunk Homes
24th Street and Penrose Avenue
Philadelphia, Pennsylvania 19145
Free Product Plume and Dissolved Benzene Isopleth Plan

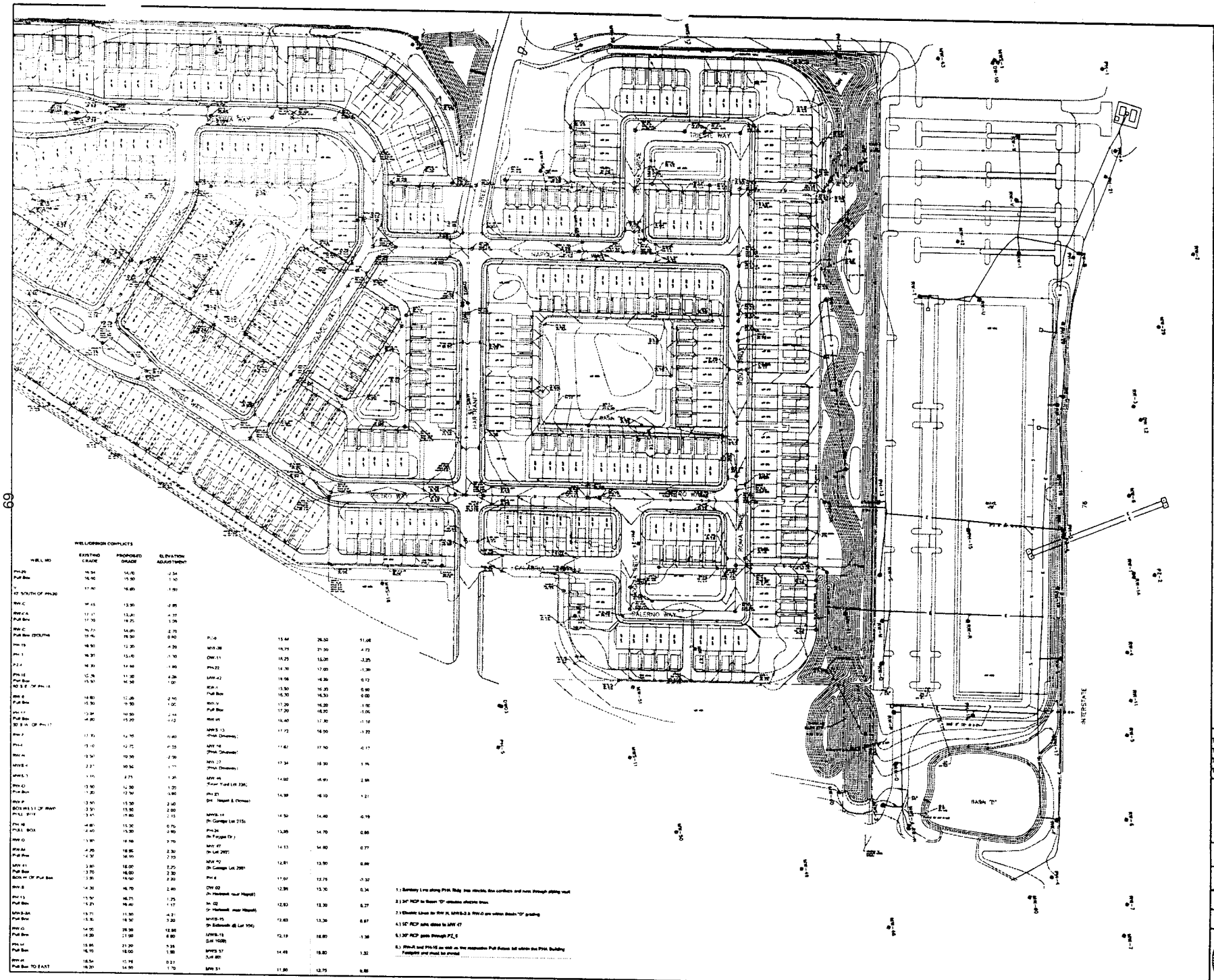


EXHIBIT C

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EXHIBIT "D"

PADEP ACT 2 LETTER

Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401
November 14, 2006

Southeast Regional Office

484-250-5900
Fax 484-250-5761

[redacted]

Re: ECP – Act 2 Program
Final Report Approval – Background
Village Penrose Park Philadelphia Development
a.k.a. Former Passyunk Homes Property
e-FACTS Site # 669524
24th Street & Penrose Avenue
City of Philadelphia
Philadelphia County

Dear Mr. [redacted]:

The Pennsylvania Department of Environmental Protection (DEP), has received and reviewed the Final Report For Groundwater, dated September 8, 2006, for the site referenced above. Pennoni Associates, Inc. (Pennoni), Environmental Consultant for Penrose Park Associates, L.P. (Penrose), submitted this Site Report to the DEP on September 11, 2006. The Philadelphia Housing Authority (PHA) is a cooperating remediator with respect to this submission. Missing appendices to this Final Report were received at our Norristown Office on October 4, 2006.

DEP has had numerous meetings with Pennoni Associates, Penrose Park Associates, PHA, DLA, and their legal counsel to discuss the conditions across this site. Based on the absence of any known historical source on the PHA property and on the historical data characterizing the plume of free product centered on the southern portion of the former DSCP, it is assumed that the subsurface dissolved and free phase petroleum contamination observed on the former Passyunk Homes property has likely migrated south and possibly east from other locations. This pattern of contamination strongly supports the use of the Background Standard for the PHA property. However, it also has implications for the reuse of the PHA property, which will be touched on in this letter.

As you are no doubt aware, the Defense Logistics Agency ("DLA") is under DEP order to remediate the contamination that is currently centered on the southern portion of the former DSCP site.

DLA has, in compliance with this order, constructed a vacuum-enhanced single-phase product recovery system, part of which extends into the northern portion of the PHA property. In addition, numerous monitoring wells are in place across the Sunoco, DSCP, PHA and other nearby properties. These recovery efforts in place, and currently operating, have captured slightly less than 1,000,000 gallons of free product and will likely recover more in the future. For purposes of the DLA remediation efforts, their "site" includes at least a portion of the PHA property. DEP expects that DLA will eventually demonstrate attainment of an Act 2 Standard for its site, including the portion of their site which includes the PHA property that is the subject of this submission. Because much of the DLA site extends onto the PHA property, DEP anticipates that DLA will continue to require the cooperation of PHA and its successors in ownership of the PHA site in order to complete attainment of an Act 2 standard that is protective of human health and the environment.

Penrose Park Associates have submitted an NIR for the intended development of the former PHA property and have chosen to demonstrate attainment of the Act 2 Background Standard. The assumed groundwater flow direction from numerous investigations appears to be South-Southeast but exhibits an extremely shallow gradient. In this report Pennoni has presented dissolved phase data from 12 wells collected from 12/7/2005 through 7/1/2006. Background wells at this site will be MW-55, MW-43, and MW-60. DEP will accept Pennoni's demonstration of the Act 2 Background Standard and suggest that the dissolved phase groundwater concentrations referenced below represent that standard.

Contaminant	Background Std.	Location
Benzene	25,000.0 ppb	in MW-60
Toluene	1,000.0 ppb	Act 2 SHS
Ethylbenzene	700.0 ppb	Act 2 SHS
Xylenes	10,000.0 ppb	Act 2 SHS
Naphthalene	280.0 ppb	in MW-60

In addition, as noted above, Background conditions at the PHA site also include a plume of free phase product extending onto the property from the north. This free product contains significant levels of benzene. Although practical difficulties have prevented sampling of groundwater beneath the free product, DEP must presume that dissolved phase contamination at or near the saturation limits is present throughout the area covered by the NAPL plume.

The Benzene concentration referenced above is in excess of the screening standards for Benzene (3,500.0 ppb) as described in the Department's Vapor Intrusion Policy. Exposure to petroleum vapor was evaluated in an extensive risk assessment prepared by DLA and accepted by DEP in 1998. The Risk Assessment suggested that exposure to the subsurface petroleum (specifically Benzene) in a home above the plume with a standard basement design (15.0' below grade) would result in an unacceptable risk.

Certainly any future development plans for this property for residential use, to the extent they include basements or other subsurface components (e.g., crawl spaces, utility chases, etc.), should consider measures such as vapor barrier technologies that reduce or eliminate potential exposure pathways associated with soil vapor generated by the plume. DEP remains willing to discuss practical measures to eliminate risks from petroleum vapors on the PHA property.

DEP also notes that DLA is conducting an ongoing investigation into conditions in the deeper groundwater aquifer across the PHA property. We anticipate receiving additional information about the results of this investigation when it becomes available. This should supplement the information provided by the Final Report.

With this letter, DEP approves the Act 2 Demonstration of Attainment for the Background Standard at this property as described above. DEP approves this report for the substances identified within the site(s) specified. Chapter 5, Section 501 of Act 2, provides the liability protection where attainment of Act 2 cleanup standards is demonstrated. Cleanup liability protection provided by this chapter applies to the current and future owner or any other person who participated in the remediation; a person who develops or occupies the site; successor or assign of any person to whom liability protection applies; and public utility to the extent the public utility performs activities on the identified site.

Thank you for your cooperation in working with the Department in the remediation of this site. Your efforts are helping to return land to productive use and prevent the needless loss of greenspace across the Commonwealth. If you have any questions or need further information regarding this matter, please contact the Environmental Cleanup Program.

Sincerely,

[redacted]

Stephen S. Sinding
Program Manager
Environmental Cleanup Program
DEP Southeast Regional Office

cc: [redacted]
City of Philadelphia
Regional File

RECEIVED
NOV 17 2006
[illegible]

EXHIBIT "E"

PERMITTED EXCEPTIONS

1. Easement in favor of Defense Energy Support Center, Defense Logistics Agency and Department of Defense.

PHILADELPHIA REAL ESTATE TRANSFER TAX CERTIFICATION

BOOK NO. PAGE NO.

DATE RECORDED

CITY TAX PAID

Complete each section and file in duplicate with Recorder of Deeds when (1) the full consideration/value is/is not set forth in the deed, (2) when the deed is with consideration, or by gift, or (3) a tax exemption is claimed. If more space is needed, attach additional sheet(s).

A. CORRESPONDENT — All inquiries may be directed to the following person:

NAME	TELEPHONE NUMBER: AREA CODE (215) 575-7198
[redacted]	

STREET ADDRESS	CITY	STATE	ZIP CODE
1735 MARKET STREET	PHILADELPHIA	PA	19103

B. TRANSFER DATA

DATE OF ACCEPTANCE OF DOCUMENT:

GRANTOR(S)/LESSOR(S)	GRANTEE(S)/LESSEE(S)
S. 23RD STREET ASSOCIATES, L.P.	[redacted]
STREET ADDRESS: [redacted]	STREET ADDRESS: [redacted]
CITY: BLUE BELL STATE: PA ZIP CODE: 19422	CITY: BLUE BELL STATE: PA ZIP CODE: 19422

C. PROPERTY LOCATION

STREET ADDRESS	CITY, TOWNSHIP, BOROUGH
	PHILADELPHIA

COUNTY	SCHOOL DISTRICT	TAX PARCEL NUMBER
PHILADELPHIA	PHILADELPHIA	BRT #782427420

D. VALUATION DATA

1. ACTUAL CASH CONSIDERATION	2. OTHER CONSIDERATION	3. TOTAL CONSIDERATION
[redacted]	+ $0.00	= $1.00
4. COUNTY ASSESSED VALUE	**5. COMMON LEVEL RATIO FACTOR**	**6. FAIR MARKET VALUE**
[redacted]	x 3.52	= ~~$0.00~~ [redacted]

E. EXEMPTION DATA

1A. AMOUNT OF EXEMPTION	1B. PERCENTAGE OF INTEREST CONVEYED
100%	100%

2. Check Appropriate Box Below for Exemption Claimed

- ☐ Will or intestate succession _____ (NAME OF DECEDENT) _____ (ESTATE FILE NUMBER)
- ☐ Transfer to Industrial Development Agency.
- ☐ Transfer to agent or straw party. (Attach copy of agency/straw party agreement).
- ☐ Transfer between principal and agent. (Attach copy of agency/straw trust agreement). Tax paid prior deed $ _____
- ☐ Transfers to the Commonwealth, the United States, and Instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (Attach copy of resolution).
- ☐ Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____ Mortgagee (grantor) sold property to Mortgagor (grantee) (Attach copy of prior deed).
- ☒ Corrective deed (Attach copy of the prior deed).
- ☑ Other (Please explain exemption claimed, if other than listed above.) Correct Legal Desc.

Under penalties of law or ordinance, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

SIGNATURE OF CORRESPONDENT OR RESPONSIBLE PARTY	DATE
[redacted]	4-15-08

82-127 (Rev. 6/93)

(SEE REVERSE)

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Page: 29 of 58
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Page: 1 of 30
09/24/2007 04:43PM

This Document Recorded
09/24/2007 State RTT: 2,500.00
04:43PM Local RTT: 7,500.00
Doc Id: 51778197
Receipt #: 640845
Rec Fee: 156.50
Commissioner of Records, City of Philadelphia
Recorded Electronically by Simplifile

Prepared By:

[redacted]

Return To:
Commonwealth Land Title Insurance Company
Two Logan Square
Suite 500
Philadelphia, PA 19103
(215) 241-6384

BRT NO._____

Commonwealth Land Title Insurance Co.
1700 Market Street - Suite 2110
Philadelphia, PA 19103
PH148263TK/10659536

DEED

THIS INDENTURE made this 20 day of September, 2007, between **PHILADELPHIA HOUSING AUTHORITY**, a corporate body politic organized under the laws of the Commonwealth of Pennsylvania (hereinafter called the "**Grantor**"), of the one part,

AND

S. 23RD STREET ASSOCIATES, LP, a Pennsylvania limited partnership (hereinafter called the "**Grantee**"), of the other part, as straw party pursuant to a certain Straw Party Agreement dated even date herewith and intended to be recorded contemporaneously herewith.

WITNESSETH, that the said Grantor, for and in consideration of the sum of One Dollar ($1.00) lawful money of the United States of America and other good and valuable consideration, unto it well and truly paid by the said Grantee, at or before the sealing and delivery, hereof, and for other good and valuable consideration, the receipt whereof is hereby acknowledged, has granted, bargained and sold, released and confirmed, and by these presents does grant, bargain and sell, release and confirm unto the said Grantee, its successors and assigns,

ALL THAT CERTAIN PARCEL OF LAND as described on **Exhibit "A"** and shown on **Exhibit "A-1"** ("**Property**") attached hereto,

ACKNOWLEDGEMENT RESPECTING PROPERTY ENVIRONMENTAL CONDITION. GRANTOR hereby acknowledges the presence below certain portions of the Property of a plume of hydrocarbon liquid which is comprised of various hazardous substance constituents, including naphthalene and benzene, present as both a light, non-aqueous phase liquid ("LNAPL") in the vicinity of the water table surface (the "LNAPL Plume") and in a dissolved phase in groundwater (the "Groundwater Impact"). The LNAPL Plume originates

from off of the Property but over a period of years migrated to the Property; the presence of LNAPL below the Property was not caused by any release originating from on the Property. The Groundwater Impacts occurred as a result of contact between the LNAPL Plume and area groundwater, both on and off of the Property; the Groundwater Impact was not caused by any release originating from on the Property. The precise dimensions of the LNAPL Plume, and the extent of the Groundwater Impact associated therewith, remain under investigation by agencies of the Defense Department of the government of the United States (collectively, the Defense Logistics Agency or "DLA"), which was ordered in 1999 by the Pennsylvania Department of Environmental Protection ("PaDEP") to investigate and remediate them. A copy of PaDEP's 1999 Order, which is final and not subject to appeal, is attached as **Exhibit "B"** hereto. A diagram depicting the estimated location of the LNAPL Plume on the Property as of 2006 is attached as **Exhibit "C"**. Although the United States' investigation of the LNAPL Plume and Groundwater Impact has not been completed, DLA has installed a hydrocarbon recovery system to contain and remediate the LNAPL Plume, components of which are located on the Property. DLA also maintains a groundwater monitoring well network as depicted on **Exhibit "C"** hereto, components of which are located on the Property. PaDEP continues to actively oversee DLA's investigation and remediation efforts. On September 8, 2006, pursuant to provisions of the Pennsylvania Land Recycling & Environmental Remediation Standards Act, GRANTEE, in cooperation with GRANTOR, completed a study of the Groundwater Impact and, pursuant to 35 P.S. § 6020.302, presented the results thereof to PaDEP, seeking to demonstrate attainment of the "Background" remediation standard for the Groundwater Impact. On November 14, 2006, PaDEP approved GRANTEE's Background standard attainment demonstration. A copy of the PaDEP letter approving the Background standard attainment demonstration is attached as **Exhibit "D"**. GRANTEE's attainment demonstration report is on file with the PaDEP, Southeast Regional Office, as are numerous investigative and remedial action reports developed on behalf of DLA in respect of the LNAPL Plume and Groundwater Impact.

UNDER AND SUBJECT, only to those matters as described on **Exhibit "B-E"** attached hereto.

TOGETHER with all and singular the structures, improvements, ways, streets, alleys, passages, waters, water-courses, mineral rights and timber rights, if any, liberties, privileges, hereditaments and appurtenances, whatsoever thereunto belonging, or in any wise appertaining, and the reversions and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, property, claim and demand whatsoever of it the said Grantor in law as in equity, or otherwise howsoever, of, in, and to the same and every part thereof.

TO HAVE AND TO HOLD the Property, with the improvements and structures thereon erected and the hereditaments and premises hereby granted, or mentioned and intended so to be, with the appurtenances, unto the said Grantee, its successors and assigns, to and for the only proper use and behoof of the said Grantee, its successors and assigns forever.

UNDER AND SUBJECT to the matters as set forth on **Exhibit "B-E"**, as aforesaid.

AND the said Grantor, for itself and its successors, does by these presents, covenant, grant and agree, to and with the said Grantee, its successors and assigns, that it, the said Grantor and its successors, all and singular the hereditaments and premises herein above described and

granted, or mentioned and intended so to be, with appurtenances, unto the said Grantee, its successors and assigns, against the said Grantor and its successors, and against all and every person or persons whomsoever lawfully claiming or to claim the same or any part thereof, by, from or under Grantor, or any of them, shall and will, subject as aforesaid, WARRANT and forever DEFEND.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be executed and dated the day and year first above written.

THE PHILADELPHIA HOUSING AUTHORITY

By: [redacted]
Name: [redacted]
Title: Executive Director

COMMONWEALTH OF PENNSYLVANIA :

: SS

COUNTY OF PHILADELPHIA :

ON THIS, the 20 day of September, 2007, before me, the undersigned officer, a Notary Public, personally appeared Carl Greene, who acknowledged himself to be the Executive Director of PHILADELPHIA HOUSING AUTHORITY, a Pennsylvania corporate body politic organized under the laws of the Commonwealth of Pennsylvania, and further acknowledged that he, as such officer and being authorized to do so, executed the foregoing instrument as the act and deed of the corporation for the purposes therein contained by signing the name of the corporation by himself as such officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

[redacted]

Notary

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
TRACY T. HEARST, Notary Public
City of Philadelphia, Phila County
My Commission Expires September 28, 2008

The address of the within-named Grantee is:

1750 Walton Road
Blue Bell, PA 19422

[redacted]

On Behalf of the Grantee

EXHIBIT "A"

LEGAL DESCRIPTION FOR EXISTING PHA BUILDING

ALL THAT CERTAIN parcel or tract of land now or formerly Pennsylvania Housing Authority, being Bound by Penrose Avenue, Penrose Ferry Road, the Schuylkill Expressway and a railroad right of way, situate in the City of Philadelphia, Commonwealth of Pennsylvania, as shown on Drawing Nos. S161 and S162, dated September 04, 2007, as prepared by Advanced GeoServices, West Chester, PA, and being more particularly bounded and described as follows to wit:

BEGINNING at the point on the westerly right-of-way line of Penrose Ferry Road said point being at the distance of 416.325 feet measured South 34 degrees 54 minutes 46 seconds West from the point of intersection of the westerly right-of-way line of Penrose Ferry Road (50 Feet Wide) with the southerly right-of-way line of Schuylkill Expressway;

THENCE 1) Along said right-of-way line of Penrose Ferry Road, South 34 degrees 54 minutes 46 seconds West a distance of 562.053 to a point;

THENCE 2) Leaving same, North 74 degrees 57 minutes 36 seconds West, a distance of 34.594 feet to a point;

THENCE 3) North 14 degrees 58 minutes 40 seconds East, a distance of 528.311 feet to a point;

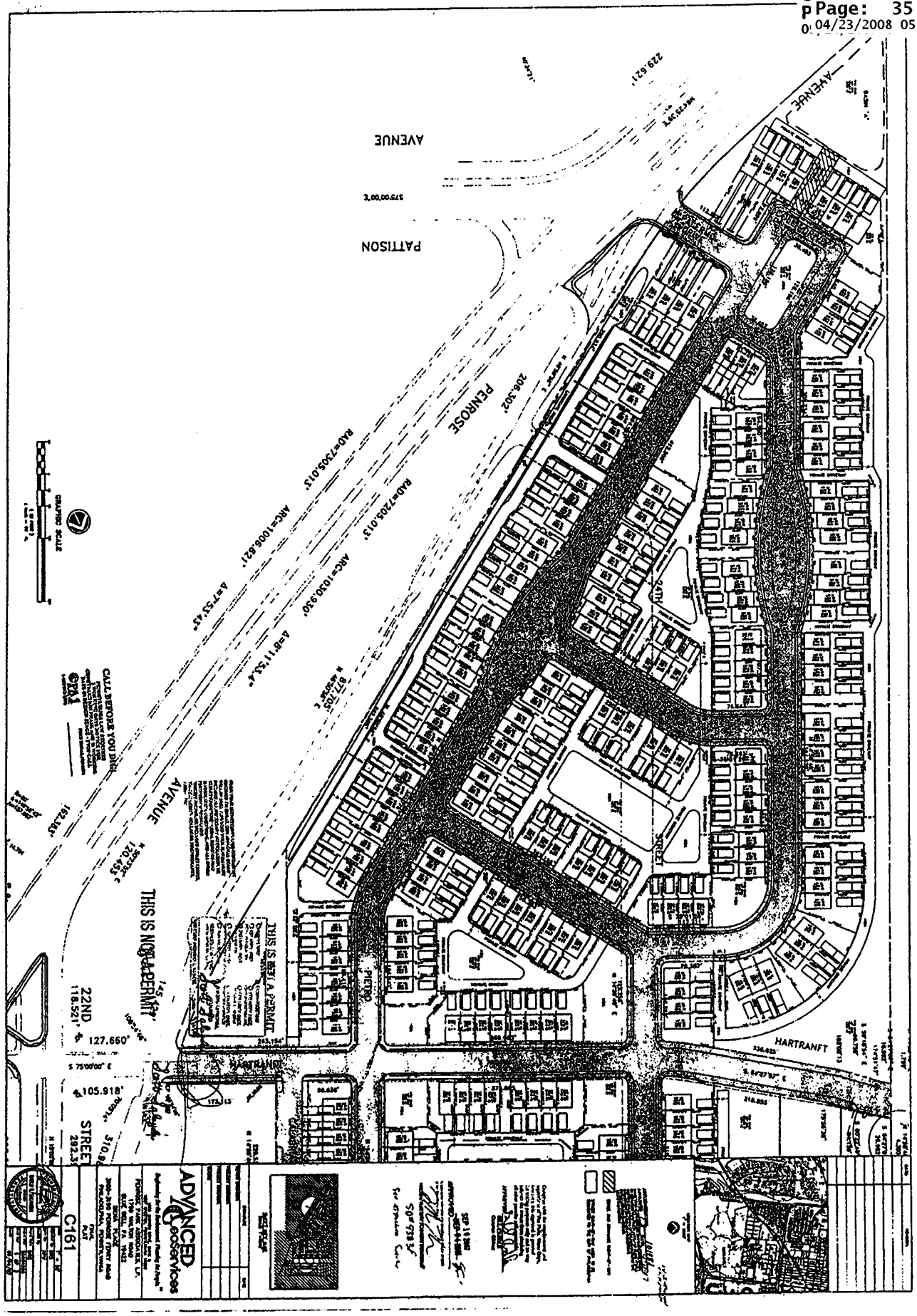
THENCE 4) South 75 degrees 01 minutes 20 seconds East, a distance of 226.287 feet to a point and place of beginning;

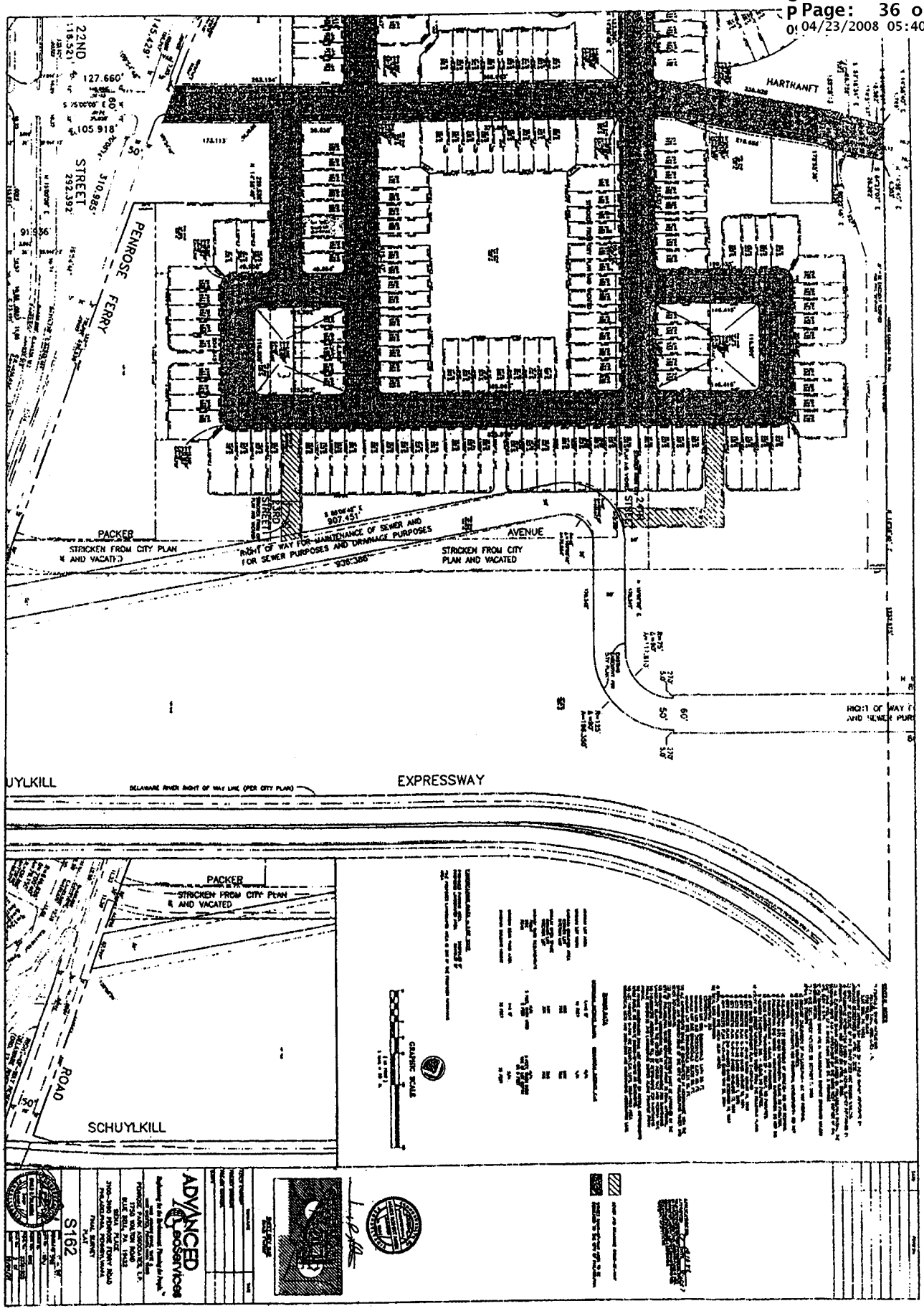
Containing in Area: 69,195 square feet or 1.588± Acres.

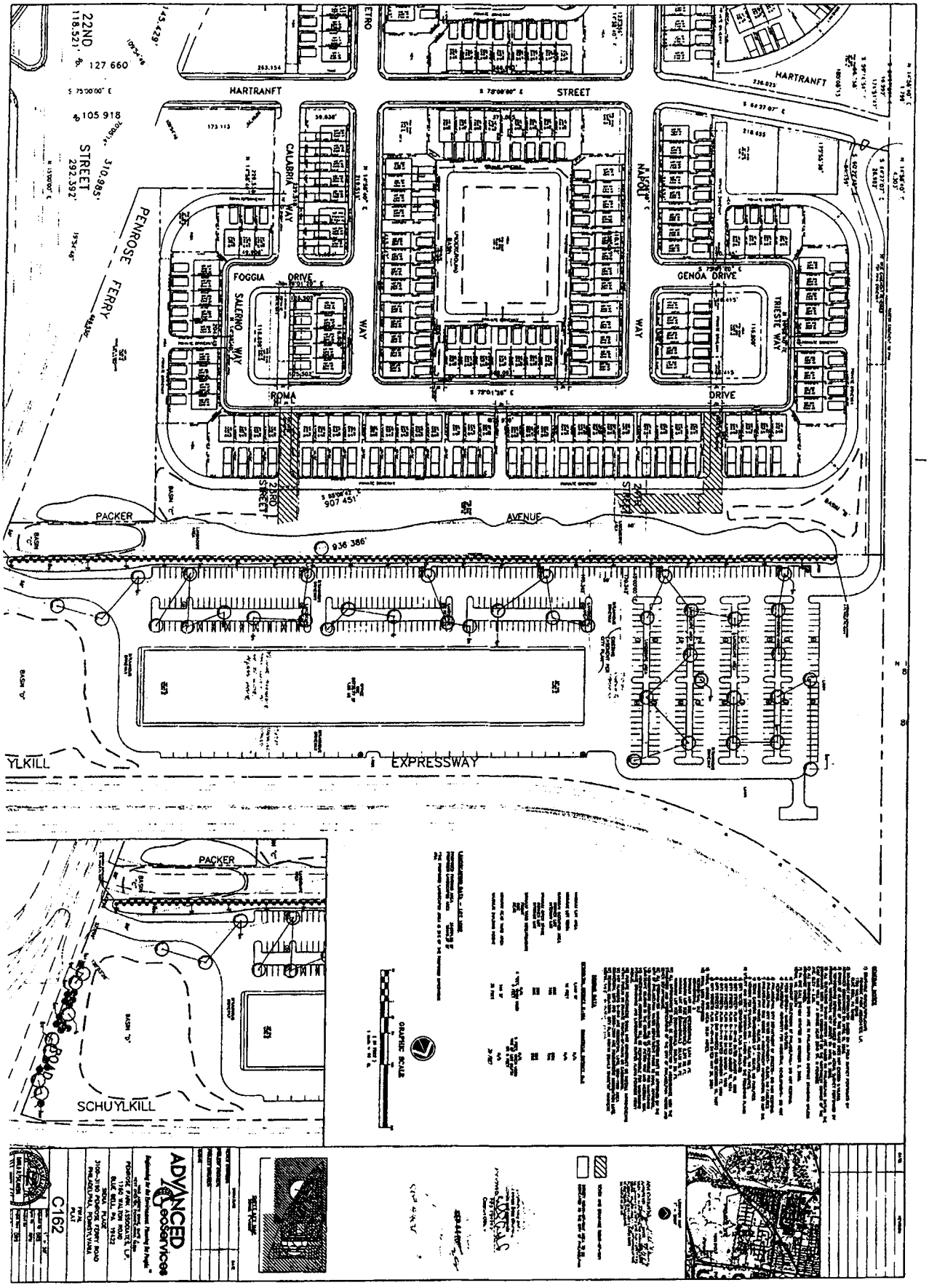
BEING part of the same premises which The United States of America, acting by and through the Public Housing Administration by Quitclaim Deed dated 1/24/1957 and recorded 1/30/1957 in Philadelphia County in Deed Book CAB 487 Page 1 conveyed unto Philadelphia Housing Authority, in fee.

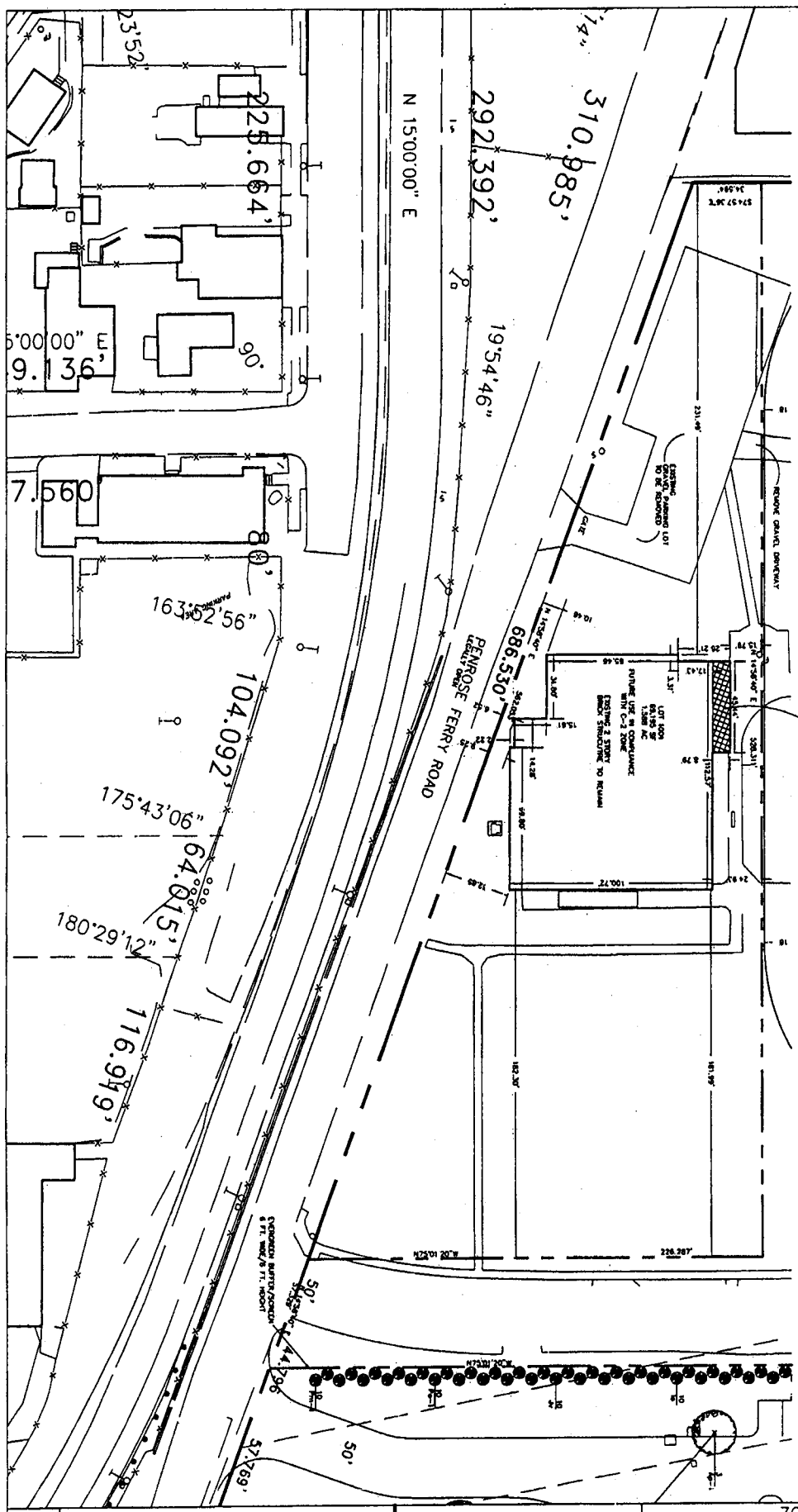
EXHIBIT "A-1"

SUBDIVISION PLAN


AVENUE
PATTISON
PENROSE
AVENUE
AVENUE
STREET
HARTRANFT
HARTRANFT
PIETRO
24TH
22ND
STREET
THIS IS NOT A PERMIT
THIS IS NOT A PERMIT
CALL BEFORE YOU DIG!
GRAPHIC SCALE
ADVANCED Geoservices
C161


22ND
STREET
PENROSE FERRY
HARTRANFT
PACKER
AVENUE
STRICKEN FROM CITY PLAN AND VACATED
RIGHT OF WAY FOR MAINTENANCE OF SEWER AND FOR SEWER PURPOSES AND DRAINAGE PURPOSES
907.451'
936.386'
UYLKILL
EXPRESSWAY
DELAWARE RIVER RIGHT OF WAY LINE (PER CITY PLAN)
PACKER
STRICKEN FROM CITY PLAN AND VACATED
ROAD
SCHUYLKILL
GRAPHIC SCALE
ADVANCED Geoservices
S162


22ND STREET
HARTRANFT
STREET
PENROSE FERRY
FOGGIA
DRIVE
SALERNO WAY
CALABRIA WAY
NAPOLI
GENOA DRIVE
TRIESTE WAY
ROMA
DRIVE
2ND STREET
PACKER
AVENUE
EXPRESSWAY
SCHUYLKILL
ADVANCED
GeoServices
C162



SK091007-C

SIENA PLACE
COMMERCIAL LOT 1001

3100-3190 Penrose Ferry Road
PHILADELPHIA, PA

ADVANCED GeoServices
Engineering for the Environment. Planning for People.™

ZONING PLAN

PROJECT MANAGER:	DRS	SCALE:	1=50'
CHECKED BY:	DRS	PROJECT NUMBER:	20051505
DRAWN BY:	DRS	DATE:	09/10/07

EXHIBIT "B"

PADEP'S 1999 ORDER

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of

Defense Logistics Agency,
Department of the Army and
Defense Supply Center Philadelphia
Philadelphia, PA

Subsurface Hydrocarbon
Contamination

ORDER

FINDINGS OF FACT

The Commonwealth of Pennsylvania, Department of Environmental Protection ("DEP" or "Department") has found and determined the following Findings of Fact.

A. The Department is the agency with the duty and authority to administer and enforce the Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"); The Land Recycling and Environmental Remediation Standards Act, Act of May 19, 1996, 35 P.S. § 6026.101 et seq. ("Land Recycling Act"); The Solid Waste Management Act, Act of July 7, 1980 (P.L. 380, No. 97), as amended, 35 P.S. § 6018.101 et seq.; The Storage Tank and Spill Prevention Act, Act of August 7, 1989, P.L. 1989, No. 32, as amended, 35 P.S.§ 6021.101 et seq. ("Tank Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17 ("Administrative Code") and the rules and regulations promulgated pursuant to these Acts.

B. The Defense Logistics Agency ("DLA") is an agency of the United States Government within the Department of Defense and is the parent agency of the Defense Supply Center Philadelphia ("DSCP"). DSCP was previously known as Defense Personnel Support Center and before that as the Philadelphia Quartermaster's Depot. DSCP was formerly located at a facility with an address of 2800 South 20th Street, Philadelphia, PA, 19145-5099. The former DSCP facility (referred to herein as "DSCP facility") is owned by the Department of the Army ("Army"), which previously operated the DSCP facility. For purposes of these Findings, Conclusions of Law and Order, actions taken by DLA, the Army and DSCP will be attributed to DLA.

C. The DSCP facility is located to the east of the south yard of the Point Breeze Processing Area of the Sunoco, Inc. Philadelphia Refinery ("Point Breeze") and to the north and east of the Schuylkill Expressway. The DSCP facility is separated from Point Breeze by 26th Street, Conrail tracks and the Schuylkill Expressway, each of which runs north to south between DSCP and Point Breeze, with a combined width of approximately 550 feet. The DSCP facility encompasses approximately 86.5 acres.

D. The DSCP facility has been an active military logistics, repair and manufacturing facility from the time of the First World War until recently. During this time period, incident to normal operations, it has stored and consumed petroleum products, including diesel fuels, gasoline and heating oils. Since the 1920's, petroleum products have been stored in underground and above ground tanks located in various places on the DSCP facility. Releases of hydrocarbons have occurred on the DSCP facility property. Underground storage tanks associated with the "28th Street Gas Station" and the "Bash Street Gas Station", both located on the DSCP facility, were reportedly removed and/or replaced due to leakage at some time in the past.

E. The Steen property is located to the north of Hartranft Street, between the southwest corner of DSCP and the east side of Point Breeze. The Steen property is sandwiched between 26th Street to the west and Conrail to the east. Hydrogeological investigation has been performed on the Steen property as part of the effort to locate and characterize the subsurface contamination in the area. There is no significant source of hydrocarbon contamination presently located on the Steen property.

F. The Passyunk Homes complex lies to the south of the DSCP facility. Passyunk Homes consists of World War II-era military housing now owned by the Philadelphia Housing Authority and operated as low-income residential apartments. The existing buildings at Passyunk Homes are cinder block structures with no basements. The residents of Passyunk Homes are largely African Americans with incomes at or below poverty level. There is no significant source of hydrocarbon contamination presently located on the Passyunk Homes property.

G. At present, there is a large quantity, estimated by some to be on the order of one million gallons, of non-aqueous phase liquid (NAPL) hydrocarbon ("the NAPL plume") located 15 to 20 feet below ground surface under the southern portion of the DSCP facility property. The NAPL plume extends across the southern boundary of the DSCP facility, under the Schuylkill Expressway and beneath the northern portion of Passyunk Homes. Apparent plume thickness ranges up to several feet. Additional dissolved phase and soil contamination extends southward to approximately Hartranft Street, across the Steen property and westward to the vicinity of Point Breeze. The northern and eastern extent of the dissolved phase and soil contamination which may be associated with the NAPL plume appears not to extend eastward of Penrose Avenue and 19th Street. In many of the areas noted above, significant hydrocarbon soil contamination is found below the current water table elevation and beneath the NAPL Plume. The NAPL plume and associated subsurface hydrocarbon contamination constitutes "industrial waste" and a "substance ... resulting in pollution" as those terms are used in Sections 301, 307 and 401 of the Clean Streams Law, 35 P.S. §§ 691.301, 691.307 and 691.401.

H. Extensive subsurface investigations performed on behalf of DLA and Sunoco, Inc. and provided to DEP have largely delineated the areal extent of the NAPL plume and hydrocarbon contamination in the vicinity of the DSCP facility and Passyunk Homes.

I. The Packer Avenue sewer, a major combined (storm water and sanitary) sewer, crosses the northern portion of Passyunk Homes, running generally from east to west. The invert level of the Packer Avenue Sewer sits below the groundwater elevation in Passyunk Homes. The Packer Avenue sewer continues westward under Point Breeze, where it becomes known as the Pollock Street sewer, and discharges into the Schuylkill River. Dry weather flows in the Packer

Avenue sewer are intercepted at 26th Street and enter the Schuylkill East Side Intercepting Sewer ("26th Street Interceptor"), which conveys this flow to the Philadelphia Southwest Sewage Treatment Plant. Wet weather flows that exceed the capacity of the 26th Street Interceptor are discharged into the Schuylkill River.

J. The NAPL plume is in contact with the Packer Avenue sewer, and petroleum liquid infiltration into the sewer at various locations under Passyunk Homes has been reported on the both occasions since 1997 when personnel conducted investigations of the interior of the sewer. Tributary sewers, particularly the sewer system draining the southeast portion of DSCP, are in close proximity to the NAPL, and may be subject to additional petroleum vapor infiltration.

K. DEP personnel and others have sensed olfactory evidence and obtained Photo Ionization Detector ("PID") readings confirming the presence of petroleum vapors in the Packer Avenue Sewer and its tributary sewers. Petroleum odors have been detected at sewer structures such as storm drains and manhole covers where vapors from the sewer were not blocked from flowing freely to the atmosphere. A number of homeowners in dwellings served by the Packer Avenue Sewer and its tributary lateral sewers have had sporadic episodes of petroleum odors in their homes.

L. Sunoco installed an air collection and filtration system on the Packer Avenue Sewer in 1997, which has significantly reduced the number of petroleum odor complaints in the area served by the Packer Avenue Sewer. This odor abatement system also serves the 26th Street interceptor sewer and the Shunk Street combined sewer, both of which are in contact with or adjacent to other zones of hydrocarbon contamination located on or near Point Breeze. DLA declined to participate in this abatement effort despite a DEP request that it do so.

M. Sunoco and DLA entered into a Consent Order and Agreement with DEP on September 24, 1996(1996 CO&A), that required them to collectively perform a series of specific tasks. These obligations could be modified, not only by formal amendment to the 1996 CO&A, but through joint decisions that were ratified through 1996 CO&A oversight procedures. All actions taken by Sunoco or DLA under the 1996 CO&A were expressly without prejudice to their rights to seek recovery of the costs thereof from the other.

N. The 1996 CO&A tasks included delineation of the NAPL plume and the area affected by the NAPL plume ("Affected Area"), design of a remedial system for NAPL removal and the performance of a risk assessment intended to determine the residual risk following the removal of free product. Pursuant to the oversight process established by the 1996 CO&A, the scope of the risk assessment was expanded to include an assessment of the existing health risk.

O. The NAPL plume is located on the DSCP facility and properties contiguous to the DSCP facility. The Affected Area is a "site" as that term is defined by 35 P.S. § 6026.101 (Definitions). The Affected Area includes properties which are at risk for exposure to petroleum vapors as a consequence of vapor transport from the NAPL through the Packer Avenue Sewer and its tributary sewer system, as well as properties underlain by NAPL and by dissolved phase petroleum derived from the NAPL.

P. Pursuant to the 1996 CO&A, Sunoco submitted a design for a "Phase I" free product removal system, described in "Engineering Report, Free Product Hydrocarbon Recovery

Operations, Defense Supply Center Philadelphia (DSCP) and the Passyunk Homes Area, Philadelphia, PA, April 24, 1998, prepared by Flour Daniel GTI", which DEP approved. This Phase I system was intended to begin the process of free product removal. It was not submitted as, nor was it approved as anything more than the first step towards removing the existing NAPL. Additional remedial work, including modifications to the Phase I system and/or subsequent phases of design and construction, is likely to be required in order to meet the 1996 CO&A goal of removing as much NAPL as is practicable.

Q. On October 16, 1998, the CO&A was amended to require DLA and Sunoco to jointly fund the construction and operation of a Phase I NAPL plume remediation system. Pursuant to this amendment, Sunoco managed the construction and operation of the Phase I remedial system, with financial contributions from DLA. The October 1998 amendment expired on August 31, 1999.

R. The CO&A was amended for a second time on August 31, 1999. This amendment extended the remediation obligations of the 1998 amendment until October 31, 1999, and assigned the management role for the ongoing risk assessment to Sunoco. DLA and Sun agreed to contribute equally to these efforts, without prejudice to future claims against each other.

S. Interim removal efforts performed by Sunoco and DLA recovered approximately 150,000 gallons of NAPL from beneath the DSCP facility between 1997 and October 1998. The Phase 1 remedial system began operations in March 1999 and to date has recovered in excess of 100,000 gallons of NAPL from beneath the DSCP facility and from beneath Passyunk Homes.

T. The DSCP facility has been selected for closure under the Defense Base Realignment and Closure ("BRAC") process, which was prescribed by the United States Congress in the Defense Authorizations and Base Closure and Realignment Act. 10 U.S.C. § 2687. The facility is presently scheduled for closure in April 2000. At the present time, military operations have ceased at the DSCP facility, except for caretaker functions.

U. The Philadelphia Office of Defense Conversion ("ODC"), a division of the City of Philadelphia Commerce Department, has developed a reuse plan for the DSCP facility. The reuse plan calls for retail and light industrial uses. A portion of the DSCP facility consisting of Building 13, part of Building 9 and surrounding parking areas has been conveyed or is in the process of being conveyed, through a combination of lease and air rights deed, to Brite Star, a manufacturing, warehouse and retail operation.

V. Through the BRAC process, DLA has been conducting investigations and producing decision documents that evaluate the environmental conditions at the base. To date, the DEP's oversight of the NAPL plume remedial project has been parallel to but separate from the BRAC environmental assessment and remediation process.

W. In February 1999, Philadelphia Housing Authority announced its intention to close Passyunk Homes and to relocate the residents elsewhere in Philadelphia. Numerous residents have moved out of Passyunk Homes during 1999 and the vacated apartments have been boarded up.

X. Investigations conducted in the past on behalf of Sunoco and Arco concerning the geology and hydrogeology of the Philadelphia Refinery have revealed the presence of two water-bearing geologic structures contained within unconsolidated sedimentary layers. The deeper water-bearing structure is part of the Potomac-Raritan-Magothy ("PRM") aquifer, which is a source of drinking water in Gloucester County, New Jersey. The uppermost, or shallow aquifer, is a surficial unconfined aquifer, largely consisting of the Cape May Formation and of recent alluvium. The lower, deep aquifer is located in the lower sand unit of the PRM aquifer. A clay unit of the PRM system lies between the shallow and deep aquifers. The bedrock beneath the unconsolidated sediment layers consists of Wissahickon Shist.

Y. Investigations performed on behalf of DLA and Sunoco have shown that the geological structures underlying the DPSC facility and Passyunk Homes are generally similar to those underlying Point Breeze. However, the confining unit between the upper and lower aquifers in this area was only nine feet thick in the northwest corner and the subsurface of the southwestern portion of the DPSC facility contains no such confining clay layer. Where the confining layer is thin or absent, there is the potential for groundwater exchange between the surficial aquifer and the deep aquifer.

Z. The direction and rate of groundwater flow in the area of the DSCP facility and Point Breeze has been largely determined by human activities since the 1920's. Although the current direction of groundwater flow is generally from north to south, major pumping centers at surrounding industrial and military facilities have significantly altered the natural groundwater flow patterns at various times in this century. Two such major pumping centers, one located at the former Publicker Industries site near the Walt Whitman Bridge and the other located at the Philadelphia Naval Ship Yard and Naval Station exerted significant influence over the ground water levels and flow directions during the period between 1920 and 1975. During this time frame, groundwater elevations in the DSCP - Point Breeze area were significantly lowered. Regional groundwater flow directions were sometimes predominately from north to south and at other times were from west to east. Groundwater withdrawals at Point Breeze and elsewhere may have caused local variations in groundwater flow direction during this time frame.

AA. Investigations performed by both DLA and Sunoco in support of a risk assessment have revealed the presence of a silt layer of varying thickness and depth between the petroleum plume and the ground surface throughout most of the Affected Area. This silt layer is breached by the Packer Avenue sewer and by the basement of Building 13 on the DSCP facility.

BB. Soil, groundwater and NAPL samples taken by DLA and Sunoco have revealed the presence of benzene and other materials in the Affected Area. These materials are potentially hazardous to human health.

CC. The NAPL plume consists of a petroleum material, with characteristics of a light naphtha. It contains significant quantities of benzene and has a low flash point. Attempts to characterize the precise nature of the product or products which produced the plume have been inconclusive. The NAPL appears to have similar physical and chemical characteristics across most of its extent, although benzene concentrations within the plume do vary somewhat. Other hydrocarbon contamination by material with lower benzene content exists at some locations within the area of the NAPL plume below the current water table elevation.

DD. The entire NAPL plume, soil contamination and dissolved phase petroleum is located within 2500 feet of the boundaries of the DSCP facility. Only the portion of the Affected Area defined by the Packer Avenue Sewer and its tributary sewers may lie partially beyond 2500 feet from the boundaries of the DSCP facility.

DETERMINATIONS OF LAW

The Department has made the following Determinations of Law:

EE. The ground water beneath the DSCP facility and the surrounding areas of South Philadelphia is a water of the Commonwealth as defined by Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

FF. The Packer Avenue sewer and the Schuylkill River are waters of the Commonwealth as defined by Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

GG. The Schuylkill River is a navigable water of the United States as that term is used by the Clean Water Act, 33 U.S.C.A. §§ 1251 to 1387 and the Oil Pollution Act of 1990, 33 U.S.C.A. §§ 2701 to 2761.

HH. At various times in the past, industrial wastes and polluting substances in the form of petroleum hydrocarbons were released into the subsurface of the DSCP facility, Passyunk Homes and adjacent properties in violation of Sections 301, 307 and 401 of the Clean Streams Law, 35 P.S. §§ 691.301, 691.307 and 691.401.

II. Petroleum that was released into the subsurface of the DSCP facility and Passyunk Homes enters navigable waters of the United States via the Packer Avenue sewer, in violation of Section 1002 of the Oil Pollution Act of 1990 and Section 311 of the Clean Water Act, 33 USCA § 2702 and 33 USCA § 1321.

JJ. Sections 301 and 307(a) of the Clean Streams Law, 35 P.S. §§ 691.301 and 691.307(a) state that no person shall discharge industrial wastes into waters of the Commonwealth unless such discharge is authorized by the rules and regulations of the Department or unless the person has obtained a permit from the Department.

KK. The existing conditions in the area affected by the NAPL plume, by dissolved phase hydrocarbon and by contaminated soil, create a danger of pollution to waters of the Commonwealth within the meaning of Section 402 of the Clean Streams Law, 35 P.S. § 691.402.

LL. Pursuant to Section 316 of the Clean Streams Law, 35 P.S. § 691.316, whenever the Department finds that pollution or a danger of pollution is resulting from a condition which exists on land in the Commonwealth, the Department may order the land owner or occupier to correct the condition in a manner satisfactory to the Department.

MM. DLA operates and/or operated aboveground and underground storage tanks that are regulated by the Department pursuant to the Tank Act. 35 P.S. § 6021.101 *et seq.* The US

Army operated aboveground and underground storage tanks when it operated the former DSCP installation.

NN. Pursuant to Sections 1302 and 1309 of the Tank Act, 35 P.S. §§ 6021.1302 and 6021.1302, whenever the Department finds that pollution or a danger of pollution is resulting from a release from a regulated storage tank, the Department may order the land owner or occupier, or the tank owner or operator, to correct the condition in a manner satisfactory to the Department.

OO. Pursuant to Section 120(a) of CERCLA, 42 U.S.C.A. § 9620(a), owners of federal facilities are subject to state laws governing the remediation of hazardous substances.

PP. Section 9007 of the Solid Waste Disposal Act, 42 U.S.C.A. § 6991f, provides that any department, agency and instrumentality of the Federal Government is subject to all Federal and State laws applicable to underground storage tanks.

QQ. Section 313 of the Clean Water Act, 33 U.S.C.A. § 1323, requires that all Federal facilities comply with applicable state water pollution control laws.

RR. Federal law governing the transfer of former military installations requires that the Department of Defense indemnify and hold harmless the transferees of such installations from liabilities resulting from the release or threatened release of hazardous substances or pollutants or contaminants or petroleum derivatives resulting from Department of Defense activities on the installation. Pub. L. 102-484, Div. A, Title III, § 330, Oct. 23, 1992, 106 Stat. 2371, as amended.

SS. The standards for remediation of the Affected Area are set forth in Chapter 3 of the Land Recycling Act, 35 P.S. §§ 6026.301 - 6026.308.

Order

Pursuant to the authority granted by sections 5, 316 and 610 of the Clean Streams Law, 35 P.S. §§ 691.5, 691.316 and 691.610, Sections 1302 and 1309 of The Storage Tank and Spill Prevention Act, 35 P.S. §§ 6021.1302 and 6021.1309; and by Section 1917-A of the Administrative Code of 1929, 71 P.S. § 510-17 and the rules and regulations promulgated pursuant to these Acts, the Commonwealth of Pennsylvania, Department of Environmental Protection Orders DLA, the Department of the Army and DSCP (collectively "DLA") to take the following steps:

1. DLA shall immediately maintain and operate the NAPL removal system currently in place on the Passyunk Homes property and the DSCP facility, and shall design, construct, maintain and operate any additional remedial systems necessary to remove as much of the petroleum NAPL contamination from the Affected Area as is practicable.

2. DLA shall immediately take all steps necessary to demonstrate that the Affected Area is brought into compliance with the substantive, procedural and notice requirements and shall meet

one or a combination of the remedial standards set forth in the Land Recycling Act and the regulations found in 25 Pa. Code Chapter 250.

3. DLA shall immediately undertake all measures necessary to ensure that the health and safety of workers, residents and visitors within the Affected Area is protected from any unacceptable risks associated with or contributed to by the petroleum contamination described in Paragraphs G through O and BB through DD.

4. DLA shall immediately assume responsibility for the operation of that portion of the sewer air collection and filtration system described in Paragraph L which collects and treats petroleum vapors that enter the sewer system from within the Affected Area.

5. DLA shall perform risk assessments as necessary to monitor the risk to residents, workers and visitors within the Affected Area during the remedial phase. DLA shall continue to fund and otherwise support a Technical Advisory Group ("TAG") which shall advise and inform the residents and workers in the Affected Area and provide input to DEP. DLA shall submit all risk assessment work plans and work product to both DEP and to the TAG for review.

6. DLA shall, on the 15th day of each month following the end of each calendar quarter, submit reports to the Southeast Regional Office of DEP detailing all measures taken in conformance with this Order, and shall attach the results of all quantitative measurements taken during the previous three months. The quarterly report submitted following the end of each calendar year shall also contain an overview of the past year's activities and recommendations for future action. All data that refers to specific locations, such as monitoring wells and sampling points, shall be submitted in both written and in digital form suitable for use in an ArcView-based GIS system.

7. DLA shall provide DEP, its agents, employees and contractors free and unrestricted access to all portions of the DSCP facility to enable DEP to conduct investigations and inspections and to monitor and oversee all activities performed pursuant to this Order.

8. All groundwater, hydrocarbon and soil samples collected pursuant to this Order shall be analyzed at a qualified laboratory using EPA-approved methodology, where such a proven method exists. Alternate analytical methods may be employed if approved in advance by the DEP.

9. DLA shall reimburse DEP for all expenses incurred in the course of overseeing compliance with this Order. Reimbursement shall be made within 60 days of the submission of each DEP statement of expenses.

This action of the Department may be appealable, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 PA C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17101-8457, (717) 787-3483. TDD users may contact the Board through the Pennsylvania Relay Service at 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audio tape from the Secretary to the Board at (717) 787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statute and decisional law.

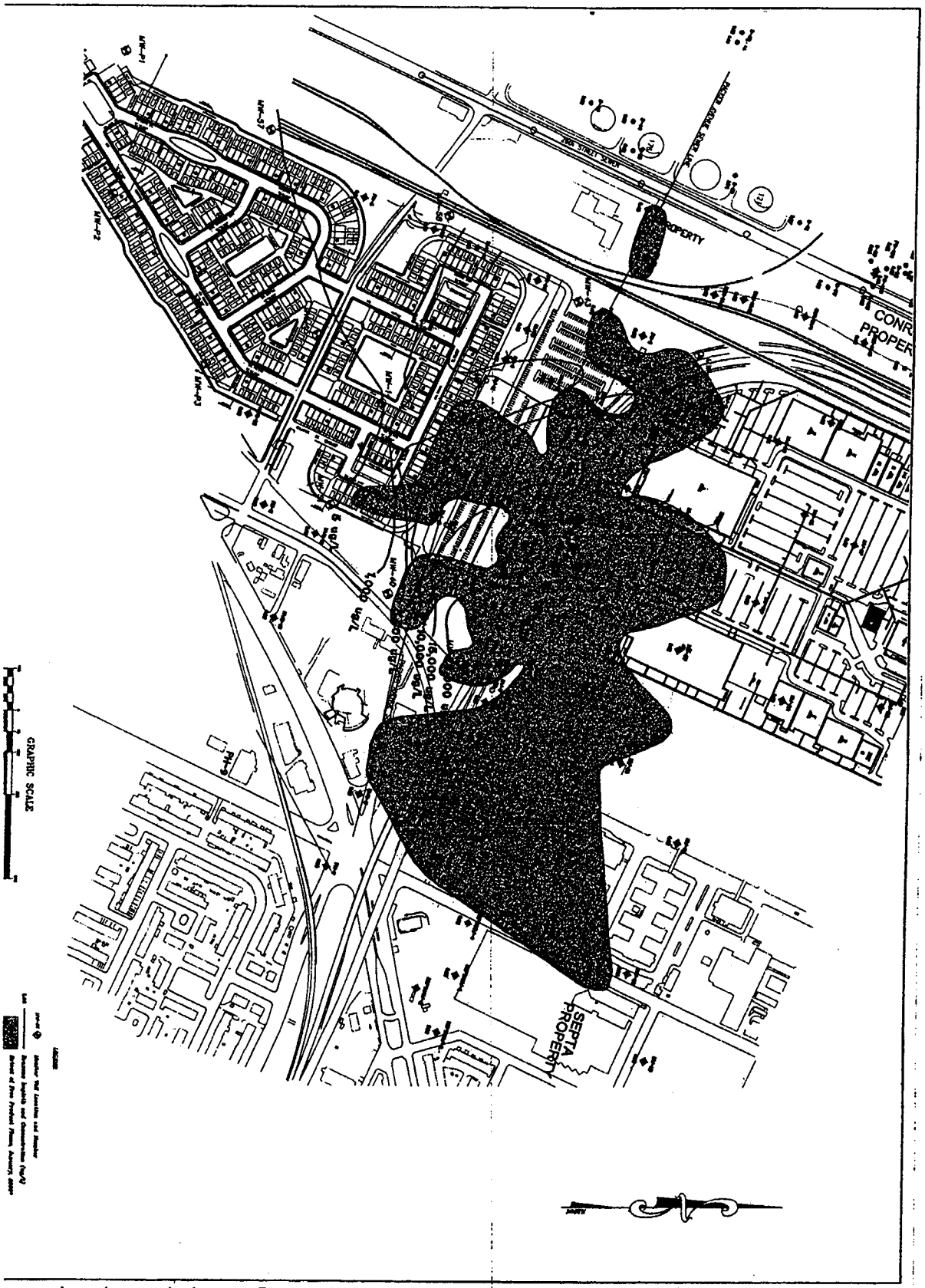
[redacted]

Regional Director

Date: Dec. 10, 1999

EXHIBIT "C"

LNAPL PLUME DIAGRAM

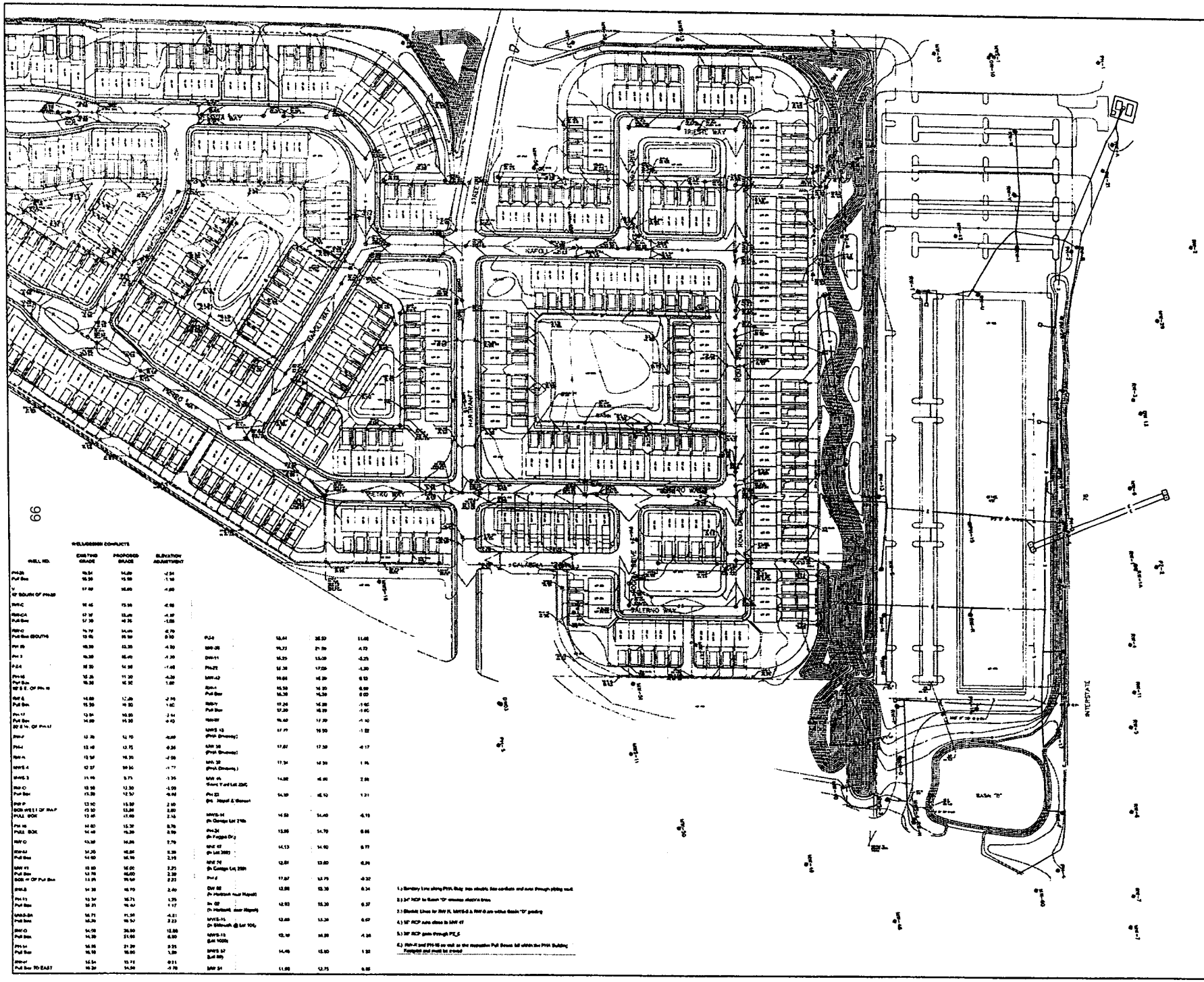


nnoni Associates Inc. One Drexel Plaza 3001 Market Street Philadelphia, PA 19104 Engineers • Surveyors • Planners • Landscape Architects

Former Passyunk Homes
24th Street and Pattison Avenue
Philadelphia, Pennsylvania 19145
Free Product Plume and Dissolved Benzene Isopleth Plan

Pennoni

551893073
Page: 51 of 58
01/04/23/2008 05:40PM



WELL/DESIGN CONFLICTS

WELL NO.	EXISTING GRADE	PROPOSED GRADE	ELEVATION ADJUSTMENT
PH-2B	16.54	14.00	-2.54
Pull Box	16.50	15.50	-1.10
V	17.40	16.00	-1.00
10' SOUTH OF PH-2B			
RW-C	16.46	15.50	-0.96
RW-CA	17.37	15.00	-4.37
Pull Box	17.30	16.25	-1.05
RW-D	16.79	14.00	-2.79
Pull Box (SOUTH)	15.00	15.50	0.50
PH-3B	16.30	15.30	-1.00
PH-3	16.30	15.00	-1.30
PZ-4	16.30	14.50	-1.40
PH-1B	15.35	11.30	-4.30
Pull Box	16.30	16.50	1.00
10' S.E. OF PH-1B			
RW-E	14.00	12.00	-2.00
Pull Box	15.50	16.50	1.00
PH-1F	13.54	10.50	-3.54
Pull Box	14.00	15.50	-0.50
20' S.W. OF PH-1F			
RW-F	13.30	12.70	-0.60
PH-4	13.40	12.75	-0.35
RW-H	13.50	10.50	-2.00
MWS-4	12.27	10.50	-1.77
MWS-3	11.40	9.75	-1.35
RW-O	13.50	12.50	-1.00
Pull Box	13.50	12.50	-0.00
RW-P	13.50	15.50	2.00
BOX WEST OF RW-P	13.50	13.50	0.00
PULL BOX	13.40	15.00	2.15
PH-1B	14.00	15.30	0.70
PULL BOX	14.40	16.30	0.90
RW-Q	13.30	16.00	2.70
RW-M	14.30	16.00	0.30
Pull Box	14.00	16.50	2.10
MW-11	13.00	16.00	3.25
Pull Box	13.70	16.00	2.30
BOX W OF Pull Box	13.95	16.50	2.22
RW-S	14.30	16.70	2.40
PH-1C	13.30	16.75	1.75
Pull Box	15.31	16.40	1.17
MWS-5A	16.71	11.50	-4.21
Pull Box	16.30	16.50	2.23
RW-O	14.00	26.50	12.50
Pull Box	14.30	21.00	6.50
PH-1A	16.95	21.30	3.25
Pull Box	16.10	16.00	1.30
RW-H	16.54	15.75	0.21
Pull Box TO EAST	16.30	14.50	-1.70
PJ-2	18.44	26.50	11.06
MW-20	16.73	21.50	4.73
DW-11	16.25	15.00	-3.25
PH-2E	16.30	17.00	-1.30
MW-12	16.66	16.30	0.53
RW-I	16.30	16.30	0.00
Pull Box	16.30	16.30	0.00
RW-Y	17.20	16.20	-1.00
Pull Box	17.30	16.20	-1.00
RW-W	16.40	17.30	-1.10
MWS-13 (PHA Driveway)	17.77	16.50	-1.22
MW-10 (PHA Driveway)	17.67	17.50	-0.17
MW-10 (PHA Driveway)	17.34	16.50	1.16
MW-14 (Lot 1 and Lot 2(A))	14.00	16.00	2.00
PH-2B (Mt. Napoli & Garvan)	14.10	16.10	1.21
MWS-14 (In Garage Lot 2 Tile)	14.50	14.40	-0.10
PH-2A (In Foggia Dr.)	13.85	14.70	0.85
MW-17 (In Lot 2(B))	14.13	14.90	0.77
MW-16 (In Garage Lot 2(B))	12.81	13.80	0.99
PH-2	17.87	13.75	-0.32
DW-02 (In Hartranft near Napoli)	12.98	13.30	0.34
DW-02 (In Hartranft near Napoli)	12.93	13.30	0.37
MWS-15 (In Sidewalk @ Lot 10A)	12.60	13.30	0.67
MWS-15 (Lot 10B)	12.10	14.00	-1.30
MWS-17 (Lot 8B)	14.40	15.50	1.32
MW-21	11.90	12.75	0.85

1.) Sanitary Line along PHA Bldg. has electric line conflicts and runs through piping vault
2.) 24" RCP to Basin "D" crosses electric lines
3.) Electric Lines for RW-R, MWS-5 & RW-O are within Basin "D" grading
4.) 18" RCP runs close to MW-17
5.) 30" RCP runs through PZ-5
6.) RW-R and PH-1B as well as the respective Pull Boxes fall within the PHA Building Footprint and must be moved

DATE	REVISION

SIGNATURE	DATE
REVIEW ENGINEER	
PROJECT ENGINEER	
PROJECT ENGINEER	
CLIENT	

ADVANCED GeoServices
"Engineering for the Environment. Planning for People."
1000 ASHTON DRIVE, SUITE A
WEST CHESTER, PENNSYLVANIA 19380

PENROSE PARK ASSOCIATES, L.P.
1750 WALTON ROAD
BLUE BELL, PA 19422

SIENA PLACE
3100-3190 PENROSE FERRY ROAD
PHILADELPHIA, PENNSYLVANIA

WELL / DESIGN
CONFLICT COMPILATION

SK041007

EXHIBIT C

EXHIBIT "D"

PADEP ACT 2 LETTER

Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401
November 14, 2006

Southeast Regional Office

484-250-5900
Fax 484-250-5761

[redacted]

Re: ECP – Act 2 Program
Final Report Approval – Background
Village Penrose Park Philadelphia Development
a.k.a. Former Passyunk Homes Property
e-FACTS Site # 669524
24th Street & Penrose Avenue
City of Philadelphia
Philadelphia County

Dear [redacted]:

The Pennsylvania Department of Environmental Protection (DEP), has received and reviewed the Final Report For Groundwater, dated September 8, 2006, for the site referenced above. Pennoni Associates, Inc. (Pennoni), Environmental Consultant for Penrose Park Associates, L.P. (Penrose), submitted this Site Report to the DEP on September 11, 2006. The Philadelphia Housing Authority (PHA) is a cooperating remediator with respect to this submission. Missing appendices to this Final Report were received at our Norristown Office on October 4, 2006.

DEP has had numerous meetings with Pennoni Associates, Penrose Park Associates, PHA, DLA, and their legal counsel to discuss the conditions across this site. Based on the absence of any known historical source on the PHA property and on the historical data characterizing the plume of free product centered on the southern portion of the former DSCP, it is assumed that the subsurface dissolved and free phase petroleum contamination observed on the former Passyunk Homes property has likely migrated south and possibly east from other locations. This pattern of contamination strongly supports the use of the Background Standard for the PHA property. However, it also has implications for the reuse of the PHA property, which will be touched on in this letter.

As you are no doubt aware, the Defense Logistics Agency ("DLA") is under DEP order to remediate the contamination that is currently centered on the southern portion of the former DSCP site.

DLA has, in compliance with this order, constructed a vacuum-enhanced single-phase product recovery system, part of which extends into the northern portion of the PHA property. In addition, numerous monitoring wells are in place across the Sunoco, DSCP, PHA and other nearby properties. These recovery efforts in place, and currently operating, have captured slightly less than 1,000,000 gallons of free product and will likely recover more in the future. For purposes of the DLA remediation efforts, their "site" includes at least a portion of the PHA property. DEP expects that DLA will eventually demonstrate attainment of an Act 2 Standard for its site, including the portion of their site which includes the PHA property that is the subject of this submission. Because much of the DLA site extends onto the PHA property, DEP anticipates that DLA will continue to require the cooperation of PHA and its successors in ownership of the PHA site in order to complete attainment of an Act 2 standard that is protective of human health and the environment.

Penrose Park Associates have submitted an NIR for the intended development of the former PHA property and have chosen to demonstrate attainment of the Act 2 Background Standard. The assumed groundwater flow direction from numerous investigations appears to be South-Southeast but exhibits an extremely shallow gradient. In this report Pennoni has presented dissolved phase data from 12 wells collected from 12/7/2005 through 7/1/2006. Background wells at this site will be MW-55, MW-43, and MW-60. DEP will accept Pennoni's demonstration of the Act 2 Background Standard and suggest that the dissolved phase groundwater concentrations referenced below represent that standard.

Contaminant	Background Std.	Location
Benzene	25,000.0 ppb	in MW-60
Toluene	1,000.0 ppb	Act 2 SHS
Ethylbenzene	700.0 ppb	Act 2 SHS
Xylenes	10,000.0 ppb	Act 2 SHS
Naphthalene	280.0 ppb	in MW-60

In addition, as noted above, Background conditions at the PHA site also include a plume of free phase product extending onto the property from the north. This free product contains significant levels of benzene. Although practical difficulties have prevented sampling of groundwater beneath the free product, DEP must presume that dissolved phase contamination at or near the saturation limits is present throughout the area covered by the NAPL plume.

The Benzene concentration referenced above is in excess of the screening standards for Benzene (3,500.0 ppb) as described in the Department's Vapor Intrusion Policy. Exposure to petroleum vapor was evaluated in an extensive risk assessment prepared by DLA and accepted by DEP in 1998. The Risk Assessment suggested that exposure to the subsurface petroleum (specifically Benzene) in a home above the plume with a standard basement design (15.0' below grade) would result in an unacceptable risk.

Certainly any future development plans for this property for residential use, to the extent they include basements or other subsurface components (e.g., crawl spaces, utility chases, etc.), should consider measures such as vapor barrier technologies that reduce or eliminate potential exposure pathways associated with soil vapor generated by the plume. DEP remains willing to discuss practical measures to eliminate risks from petroleum vapors on the PHA property.

DEP also notes that DLA is conducting an ongoing investigation into conditions in the deeper groundwater aquifer across the PHA property. We anticipate receiving additional information about the results of this investigation when it becomes available. This should supplement the information provided by the Final Report.

With this letter, DEP approves the Act 2 Demonstration of Attainment for the Background Standard at this property as described above. DEP approves this report for the substances identified within the site(s) specified. Chapter 5, Section 501 of Act 2, provides the liability protection where attainment of Act 2 cleanup standards is demonstrated. Cleanup liability protection provided by this chapter applies to the current and future owner or any other person who participated in the remediation; a person who develops or occupies the site; successor or assign of any person to whom liability protection applies; and public utility to the extent the public utility performs activities on the identified site.

Mr. [redacted] - 4 - November 14, 2006

Thank you for your cooperation in working with the Department in the remediation of this site. Your efforts are helping to return land to productive use and prevent the needless loss of greenspace across the Commonwealth. If you have any questions or need further information regarding this matter, please contact the Environmental Cleanup Program.

Sincerely,

[redacted]

Stephen S. Sinding
Program Manager
Environmental Cleanup Program
DEP Southeast Regional Office

cc: [redacted]
City of Philadelphia
Regional File

RECEIVED
NOV 17 2006
[illegible]

EXHIBIT "E"

PERMITTED EXCEPTIONS

1. Easement in favor of Defense Energy Support Center, Defense Logistics Agency and Department of Defense.

PHILADELPHIA REAL ESTATE TRANSFER TAX CERTIFICATION

BOOK NO | PAGE NO

DATE RECORDED

CITY TAX PAID

Complete each section and file in duplicate with Recorder of Deeds when (1) the full consideration/value is/is not set forth in the deed, (2) when the deed is with consideration, or by gift, or (3) a tax exemption is claimed. If more space is needed, attach additional sheet(s).

A. CORRESPONDENT — All inquiries may be directed to the following person:

NAME	TELEPHONE NUMBER: AREA CODE
[redacted]	[redacted]

STREET ADDRESS	CITY	STATE	ZIP CODE
[redacted]	Philadelphia	PA	19103

B. TRANSFER DATA

DATE OF ACCEPTANCE OF DOCUMENT:

GRANTOR(S)/LESSOR(S)	GRANTEE(S)/LESSEE(S)
The Philadelphia Housing Authority	[redacted]
STREET ADDRESS: 12 S. 23rd Street	STREET ADDRESS: [redacted]
CITY: Philadelphia STATE: PA ZIP CODE: 19103	CITY: [redacted] STATE: PA ZIP CODE: [redacted]

C. PROPERTY LOCATION

STREET ADDRESS	CITY, TOWNSHIP, BOROUGH
3100-90 Penrose Ferry Rd	Philadelphia

COUNTY	SCHOOL DISTRICT	TAX PARCEL NUMBER
Philadelphia	Philadelphia	78-2-427400 (Part of)

D. VALUATION DATA

1. ACTUAL CASH CONSIDERATION	2. OTHER CONSIDERATION	3. TOTAL CONSIDERATION
[redacted]	+ $0.00	= [redacted]
4. COUNTY ASSESSED VALUE	**5. COMMON LEVEL RATIO FACTOR**	**6. FAIR MARKET VALUE**
[redacted]	x 3.52	= [redacted]

E. EXEMPTION DATA

1A. AMOUNT OF EXEMPTION	1B. PERCENTAGE OF INTEREST CONVEYED
None	100.00%

2. Check Appropriate Box Below for Exemption Claimed

- ☐ Will or intestate succession _____ (NAME OF DECEDENT) _____ (ESTATE FILE NUMBER).
- ☐ Transfer to Industrial Development Agency.
- ☐ Transfer to agent or straw party. (Attach copy of agency/straw party agreement).
- ☐ Transfer between principal and agent. (Attach copy of agency/straw trust agreement). Tax paid prior deed $ _____.
- ☐ Transfers to the Commonwealth, the United States, and Instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (Attach copy of resolution).
- ☐ Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____. Mortgagee (grantor) sold property to Mortgagor (grantee) (Attach copy of prior deed).
- ☐ Corrective deed (Attach copy of the prior deed).
- ☐ Other (Please explain exemption claimed, if other than listed above.)

Under penalties of law or ordinance, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

SIGNATURE OF CORRESPONDENT OR RESPONSIBLE PARTY	DATE
[redacted]	9/20/07

82-127 (Rev. 6/93)

(SEE REVERSE)

This Document Recorded
09/24/2007 State RTT: 2,500.00
04:43PM Local RTT: 7,500.00
Code: D Commissioner of Records, City of Philadelphia
Recorded Electronically by Simplifile

Doc Id: 51778197
Receipt #: 640845
Rec Fee: 156.50

51778197
Page: 1 of 30
09/24/2007 04:43PM

Prepared By:
[redacted]

Return To:
Commonwealth Land Title Insurance Company
Two Logan Square
Suite 500
Philadelphia, PA 19103
(215) 241-6384

BRT NO._____

Commonwealth Land Title Insurance Co.
1700 Market Street - Suite 2110
Philadelphia, PA 19103
PH148263TK/10659536

DEED

THIS INDENTURE made this 20 day of September, 2007, between **PHILADELPHIA HOUSING AUTHORITY**, a corporate body politic organized under the laws of the Commonwealth of Pennsylvania (hereinafter called the "**Grantor**"), of the one part,

AND

S. 23RD STREET ASSOCIATES, LP, a Pennsylvania limited partnership (hereinafter called the "**Grantee**"), of the other part, as straw party pursuant to a certain Straw Party Agreement dated even date herewith and intended to be recorded contemporaneously herewith.

WITNESSETH, that the said Grantor, for and in consideration of the sum of One Dollar ($1.00) lawful money of the United States of America and other good and valuable consideration, unto it well and truly paid by the said Grantee, at or before the sealing and delivery, hereof, and for other good and valuable consideration, the receipt whereof is hereby acknowledged, has granted, bargained and sold, released and confirmed, and by these presents does grant, bargain and sell, release and confirm unto the said Grantee, its successors and assigns,

ALL THAT CERTAIN PARCEL OF LAND as described on **Exhibit "A"** and shown on **Exhibit "A-1"** ("**Property**") attached hereto,

ACKNOWLEDGEMENT RESPECTING PROPERTY ENVIRONMENTAL CONDITION. GRANTOR hereby acknowledges the presence below certain portions of the Property of a plume of hydrocarbon liquid which is comprised of various hazardous substance constituents, including naphthalene and benzene, present as both a light, non-aqueous phase liquid ("LNAPL") in the vicinity of the water table surface (the "LNAPL Plume") and in a dissolved phase in groundwater (the "Groundwater Impact"). The LNAPL Plume originates

from off of the Property but over a period of years migrated to the Property; the presence of LNAPL below the Property was not caused by any release originating from on the Property. The Groundwater Impacts occurred as a result of contact between the LNAPL Plume and area groundwater, both on and off of the Property; the Groundwater Impact was not caused by any release originating from on the Property. The precise dimensions of the LNAPL Plume, and the extent of the Groundwater Impact associated therewith, remain under investigation by agencies of the Defense Department of the government of the United States (collectively, the Defense Logistics Agency or "DLA"), which was ordered in 1999 by the Pennsylvania Department of Environmental Protection ("PaDEP") to investigate and remediate them. A copy of PaDEP's 1999 Order, which is final and not subject to appeal, is attached as **Exhibit "B"** hereto. A diagram depicting the estimated location of the LNAPL Plume on the Property as of 2006 is attached as **Exhibit "C"**. Although the United States' investigation of the LNAPL Plume and Groundwater Impact has not been completed, DLA has installed a hydrocarbon recovery system to contain and remediate the LNAPL Plume, components of which are located on the Property. DLA also maintains a groundwater monitoring well network as depicted on **Exhibit "C"** hereto, components of which are located on the Property. PaDEP continues to actively oversee DLA's investigation and remediation efforts. On September 8, 2006, pursuant to provisions of the Pennsylvania Land Recycling & Environmental Remediation Standards Act, GRANTEE, in cooperation with GRANTOR, completed a study of the Groundwater Impact and, pursuant to 35 P.S. § 6020.302, presented the results thereof to PaDEP, seeking to demonstrate attainment of the "Background" remediation standard for the Groundwater Impact. On November 14, 2006, PaDEP approved GRANTEE's Background standard attainment demonstration. A copy of the PaDEP letter approving the Background standard attainment demonstration is attached as **Exhibit "D"**. GRANTEE's attainment demonstration report is on file with the PaDEP, Southeast Regional Office, as are numerous investigative and remedial action reports developed on behalf of DLA in respect of the LNAPL Plume and Groundwater Impact.

UNDER AND SUBJECT, only to those matters as described on **Exhibit "B-E"** attached hereto.

TOGETHER with all and singular the structures, improvements, ways, streets, alleys, passages, waters, water-courses, mineral rights and timber rights, if any, liberties, privileges, hereditaments and appurtenances, whatsoever thereunto belonging, or in any wise appertaining, and the reversions and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, property, claim and demand whatsoever of it the said Grantor in law as in equity, or otherwise howsoever, of, in, and to the same and every part thereof.

TO HAVE AND TO HOLD the Property, with the improvements and structures thereon erected and the hereditaments and premises hereby granted, or mentioned and intended so to be, with the appurtenances, unto the said Grantee, its successors and assigns, to and for the only proper use and behoof of the said Grantee, its successors and assigns forever.

UNDER AND SUBJECT to the matters as set forth on **Exhibit "B-E"**, as aforesaid.

AND the said Grantor, for itself and its successors, does by these presents, covenant, grant and agree, to and with the said Grantee, its successors and assigns, that it, the said Grantor and its successors, all and singular the hereditaments and premises herein above described and

granted, or mentioned and intended so to be, with appurtenances, unto the said Grantee, its successors and assigns, against the said Grantor and its successors, and against all and every person or persons whomsoever lawfully claiming or to claim the same or any part thereof, by, from or under Grantor, or any of them, shall and will, subject as aforesaid, WARRANT and forever DEFEND.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be executed and dated the day and year first above written.

THE PHILADELPHIA HOUSING AUTHORITY

By: [redacted]

Name: Carl Greene
Title: Executive Director

COMMONWEALTH OF PENNSYLVANIA :

: SS

COUNTY OF PHILADELPHIA :

ON THIS, the 20 day of September, 2007, before me, the undersigned officer, a Notary Public, personally appeared Carl Greene, who acknowledged himself to be the Executive Director of PHILADELPHIA HOUSING AUTHORITY, a Pennsylvania corporate body politic organized under the laws of the Commonwealth of Pennsylvania, and further acknowledged that he, as such officer and being authorized to do so, executed the foregoing instrument as the act and deed of the corporation for the purposes therein contained by signing the name of the corporation by himself as such officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

[redacted]

Notary

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
[redacted] Notary Public
City of Philadelphia, Phila County
My Commission Expires September 28, 2008

The address of the within-named Grantee is:

[redacted]

On Behalf of the Grantee

EXHIBIT "A"

LEGAL DESCRIPTION FOR EXISTING PHA BUILDING

ALL THAT CERTAIN parcel or tract of land now or formerly Pennsylvania Housing Authority, being Bound by Penrose Avenue, Penrose Ferry Road, the Schuylkill Expressway and a railroad right of way, situate in the City of Philadelphia, Commonwealth of Pennsylvania, as shown on Drawing Nos. S161 and S162, dated September 04, 2007, as prepared by Advanced GeoServices, West Chester, PA, and being more particularly bounded and described as follows to wit:

BEGINNING at the point on the westerly right-of-way line of Penrose Ferry Road said point being at the distance of 416.325 feet measured South 34 degrees 54 minutes 46 seconds West from the point of intersection of the westerly right-of-way line of Penrose Ferry Road (50 Feet Wide) with the southerly right-of-way line of Schuylkill Expressway;

THENCE 1) Along said right-of-way line of Penrose Ferry Road, South 34 degrees 54 minutes 46 seconds West a distance of 562.053 to a point;

THENCE 2) Leaving same, North 74 degrees 57 minutes 36 seconds West, a distance of 34.594 feet to a point;

THENCE 3) North 14 degrees 58 minutes 40 seconds East, a distance of 528.311 feet to a point;

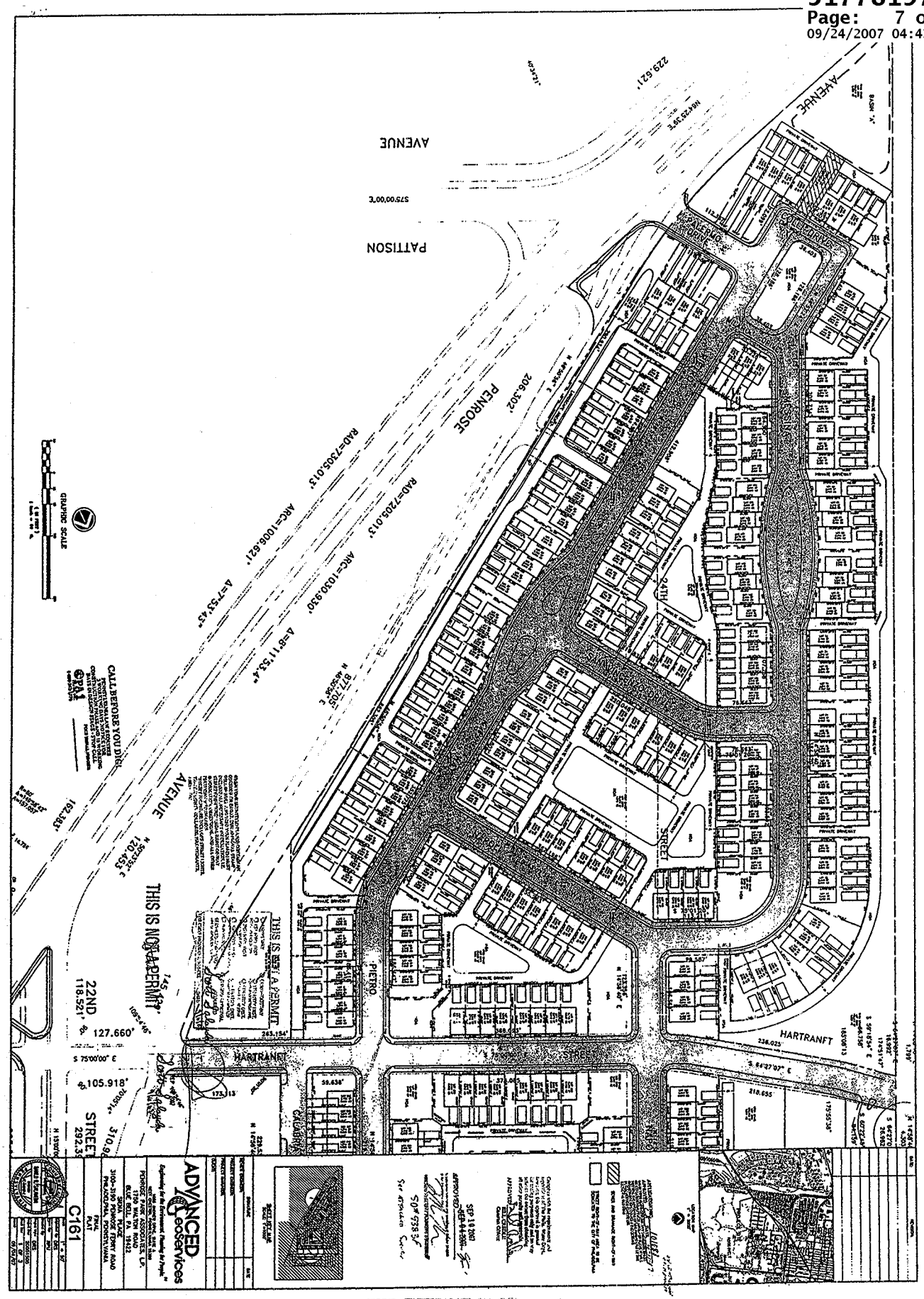
THENCE 4) South 75 degrees 01 minutes 20 seconds East, a distance of 226.287 feet to a point and place of beginning;

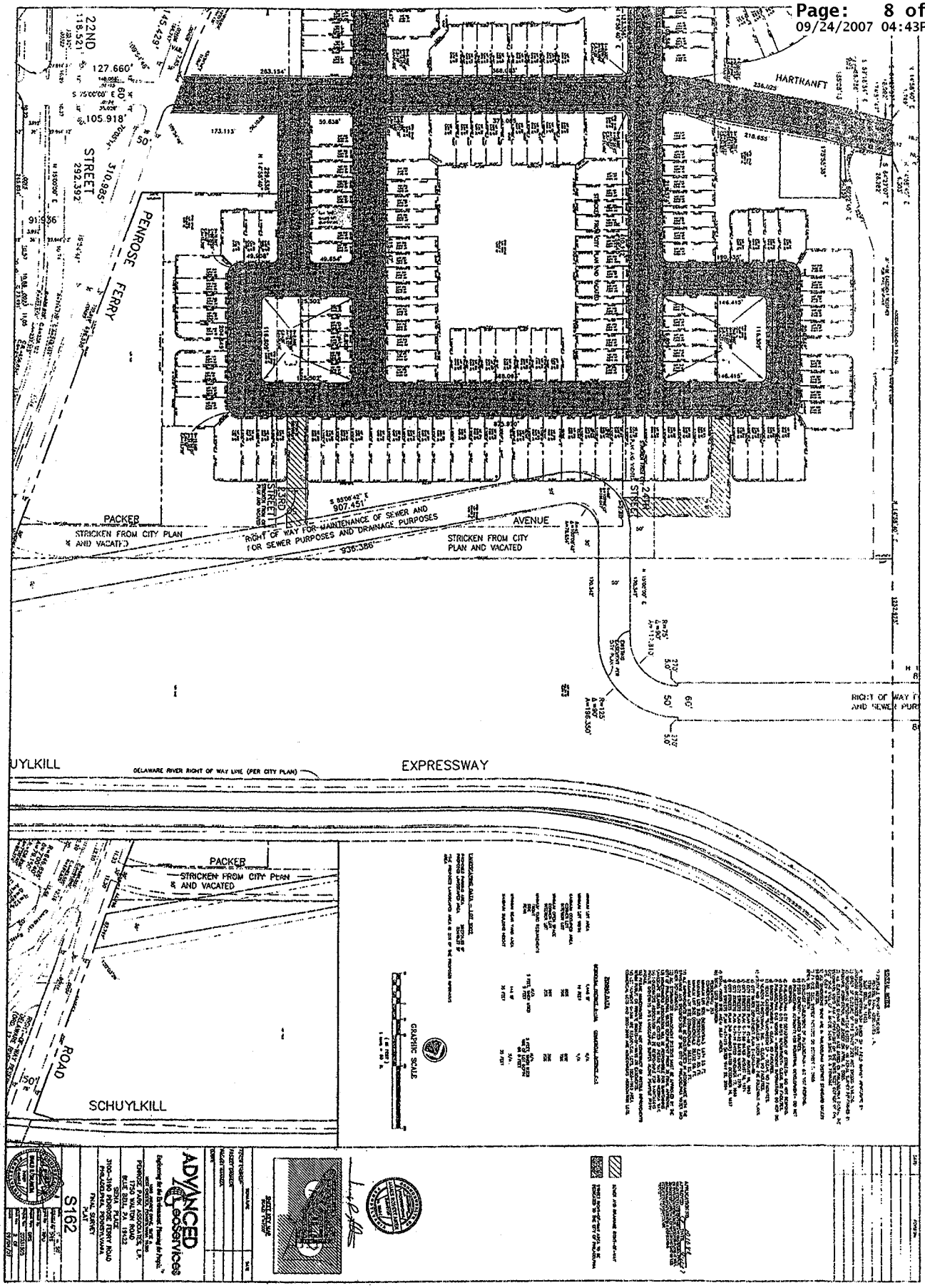
Containing in Area: 69,195 square feet or 1.588± Acres.

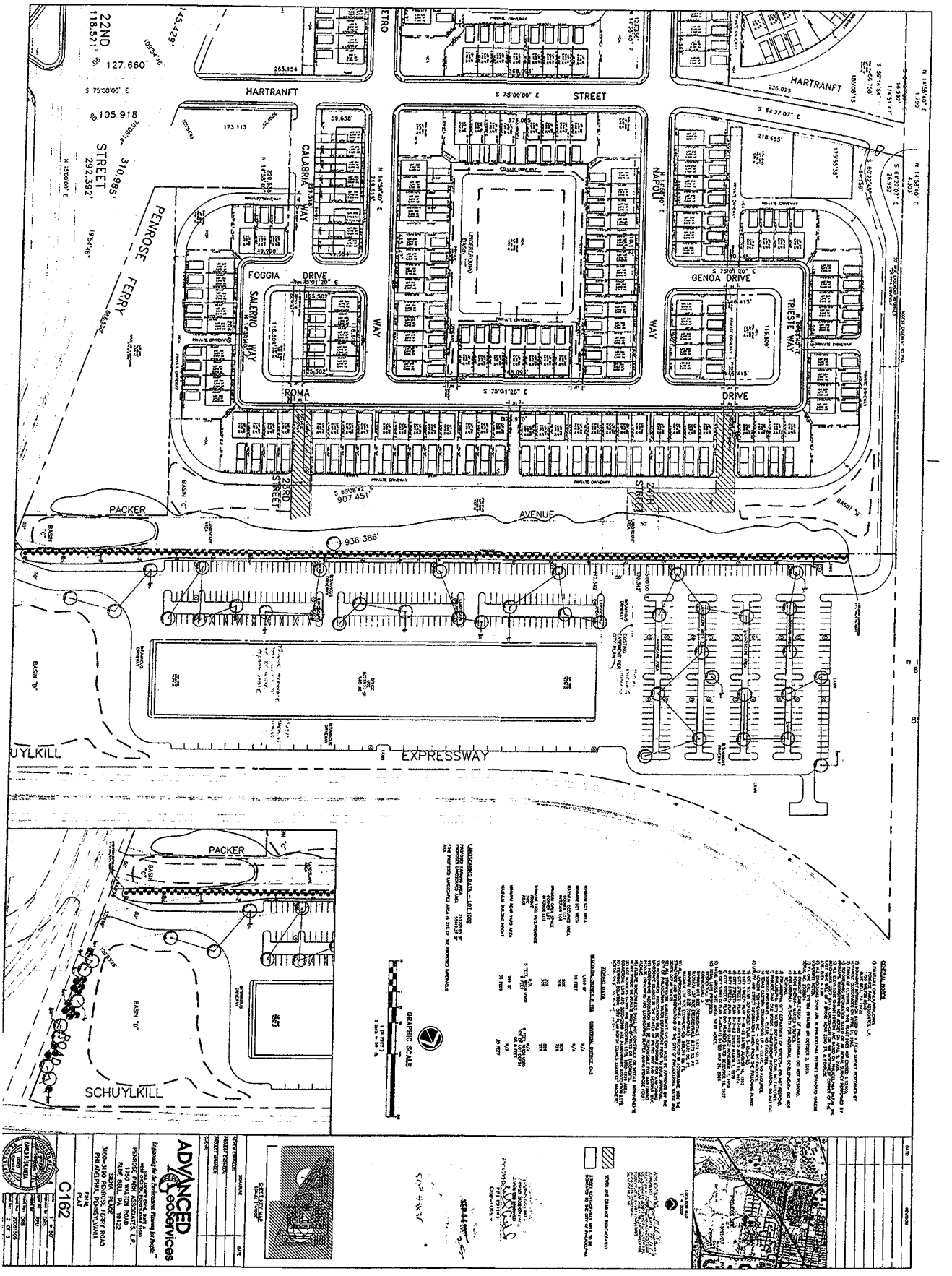
BEING part of the same premises which The United States of America, acting by and through the Public Housing Administration by Quitclaim Deed dated 1/24/1957 and recorded 1/30/1957 in Philadelphia County in Deed Book CAB 487 Page 1 conveyed unto Philadelphia Housing Authority, in fee.

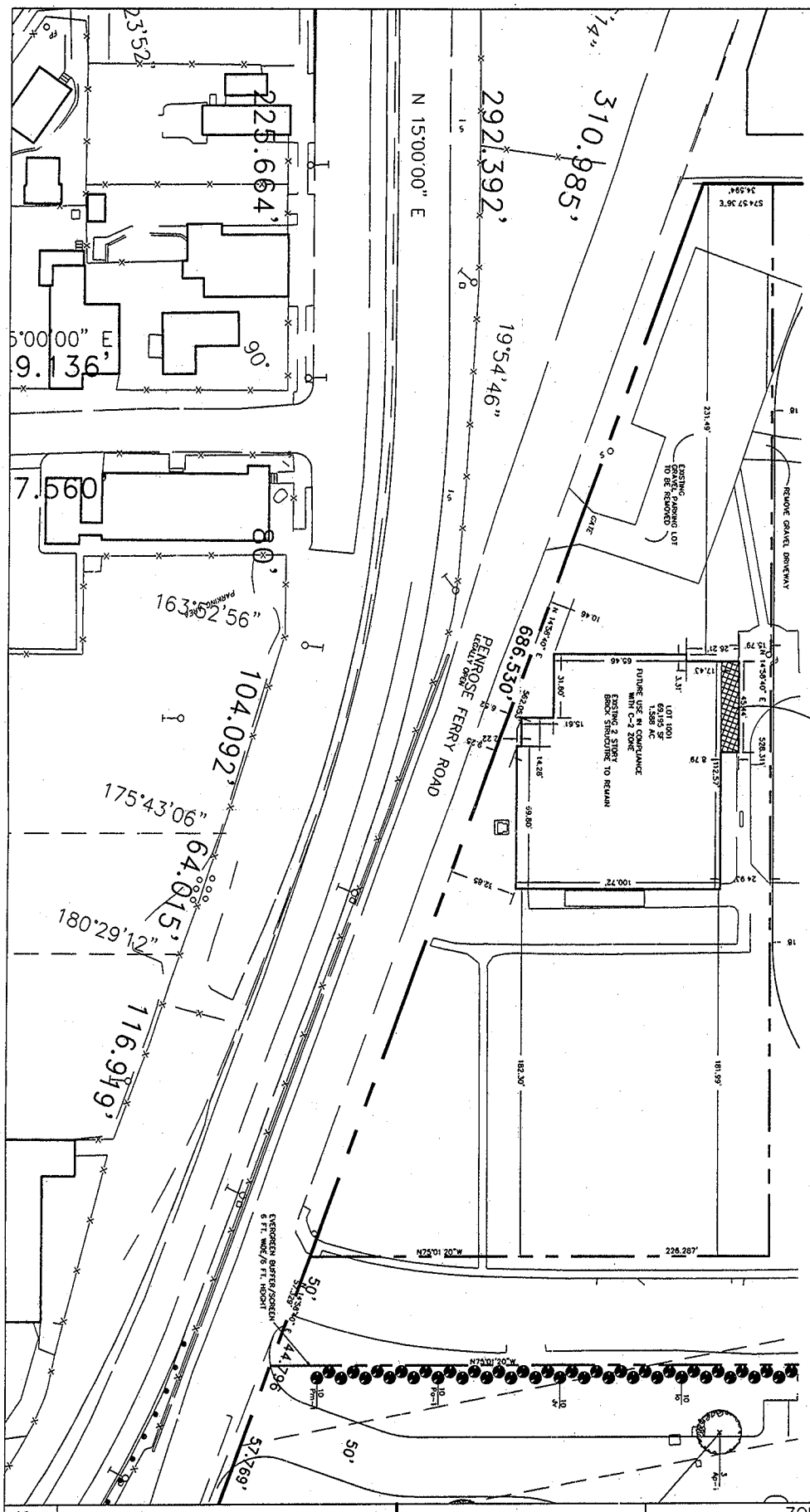
EXHIBIT "A-1"

SUBDIVISION PLAN


AVENUE
PATTISON
PENROSE
AVENUE
STREET
HARTRANFT
STREET
HARTRANFT
PIETRO
24TH
GRAPHIC SCALE
CALL BEFORE YOU DIG
THIS IS NOT A PERMIT
22ND
118.521'
127.660'
105.918'
ADVANCED
C161


22ND STREET
127.660'
105.918'
PENROSE FERRY
HARTRANFT
PACKER
STRICKEN FROM CITY PLAN & AND VACATED
3RD STREET
24TH STREET
RIGHT OF WAY FOR MAINTENANCE OF SEWER AND FOR SEWER PURPOSES AND DRAINAGE PURPOSES
907.451'
936.386'
AVENUE
STRICKEN FROM CITY PLAN AND VACATED
SCHUYLKILL
DELAWARE RIVER RIGHT OF WAY LINE (PER CITY PLAN)
EXPRESSWAY
PACKER
STRICKEN FROM CITY PLAN & AND VACATED
ROAD
SCHUYLKILL
GRAPHIC SCALE
ADVANCED GeoServices
S162


22ND STREET
HARTRANFT
CALABRIA WAY
NAPOLI WAY
PENROSE FERRY
FOGGIA DRIVE
SALERNO WAY
GENOA DRIVE
TRIESTE WAY
ROMA DRIVE
21ST STREET
PACKER AVENUE
936.386'
SCHUYLKILL EXPRESSWAY
GRAPHIC SCALE
ADVANCED GeoServices
C162
FINAL PLAT



APPLICATION NO. 101088
APPROVED _____ DATE 9-11-07
WHEN YOUR PLANS CONTAIN ANY OMISSION ERROR OR DEVIATION FROM THESE APPROVED PLANS, IT WILL REQUIRE THE APPROVAL OF THE ZONING UNIT OF THE DEPARTMENT OF LICENSES & INSPECTIONS PUBLIC SERVICE CONCOURSE MUNICIPAL BUILDING

SK091007-C

SIENA PLACE
COMMERCIAL LOT 1001

3100-3190 Penrose Ferry Road
PHILADELPHIA, PA

ADVANCED Geoservices
Engineering for the Environment. Planning for People.™
1055 ANDREW DRIVE, SUITE A, WEST CHESTER PA 19380
tel 610.840.9100 fax 610.840.9199 www.advancedgeoservices.com

ZONING PLAN

PROJECT MANAGER:	DRS	SCALE:	1=50'
CHECKED BY:	DRS	PROJECT NUMBER:	20051505
DRAWN BY:	DRS	DATE:	09/10/07

EXHIBIT "B"

PADEP'S 1999 ORDER

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of

Defense Logistics Agency,
Department of the Army and
Defense Supply Center Philadelphia
Philadelphia, PA

Subsurface Hydrocarbon
Contamination

ORDER

FINDINGS OF FACT

The Commonwealth of Pennsylvania, Department of Environmental Protection ("DEP" or "Department") has found and determined the following Findings of Fact.

A. The Department is the agency with the duty and authority to administer and enforce the Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"); The Land Recycling and Environmental Remediation Standards Act, Act of May 19, 1996, 35 P.S. § 6026.101 et seq. ("Land Recycling Act"); The Solid Waste Management Act, Act of July 7, 1980 (P.L. 380, No. 97), as amended, 35 P.S. § 6018.101 et seq.; The Storage Tank and Spill Prevention Act, Act of August 7, 1989, P.L. 1989, No. 32, as amended, 35 P.S.§ 6021.101 et seq. ("Tank Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17 ("Administrative Code") and the rules and regulations promulgated pursuant to these Acts.

B. The Defense Logistics Agency ("DLA") is an agency of the United States Government within the Department of Defense and is the parent agency of the Defense Supply Center Philadelphia ("DSCP"). DSCP was previously known as Defense Personnel Support Center and before that as the Philadelphia Quartermaster's Depot. DSCP was formerly located at a facility with an address of 2800 South 20th Street, Philadelphia, PA, 19145-5099. The former DSCP facility (referred to herein as "DSCP facility") is owned by the Department of the Army ("Army"), which previously operated the DSCP facility. For purposes of these Findings, Conclusions of Law and Order, actions taken by DLA, the Army and DSCP will be attributed to DLA.

C. The DSCP facility is located to the east of the south yard of the Point Breeze Processing Area of the Sunoco, Inc. Philadelphia Refinery ("Point Breeze") and to the north and east of the Schuylkill Expressway. The DSCP facility is separated from Point Breeze by 26th Street, Conrail tracks and the Schuylkill Expressway, each of which runs north to south between DSCP and Point Breeze, with a combined width of approximately 550 feet. The DSCP facility encompasses approximately 86.5 acres.

D. The DSCP facility has been an active military logistics, repair and manufacturing facility from the time of the First World War until recently. During this time period, incident to normal operations, it has stored and consumed petroleum products, including diesel fuels, gasoline and heating oils. Since the 1920's, petroleum products have been stored in underground and above ground tanks located in various places on the DSCP facility. Releases of hydrocarbons have occurred on the DSCP facility property. Underground storage tanks associated with the "28th Street Gas Station" and the "Bash Street Gas Station", both located on the DSCP facility, were reportedly removed and/or replaced due to leakage at some time in the past.

E. The Steen property is located to the north of Hartranft Street, between the southwest corner of DSCP and the east side of Point Breeze. The Steen property is sandwiched between 26th Street to the west and Conrail to the east. Hydrogeological investigation has been performed on the Steen property as part of the effort to locate and characterize the subsurface contamination in the area. There is no significant source of hydrocarbon contamination presently located on the Steen property.

F. The Passyunk Homes complex lies to the south of the DSCP facility. Passyunk Homes consists of World War II-era military housing now owned by the Philadelphia Housing Authority and operated as low-income residential apartments. The existing buildings at Passyunk Homes are cinder block structures with no basements. The residents of Passyunk Homes are largely African Americans with incomes at or below poverty level. There is no significant source of hydrocarbon contamination presently located on the Passyunk Homes property.

G. At present, there is a large quantity, estimated by some to be on the order of one million gallons, of non-aqueous phase liquid (NAPL) hydrocarbon ("the NAPL plume") located 15 to 20 feet below ground surface under the southern portion of the DSCP facility property. The NAPL plume extends across the southern boundary of the DSCP facility, under the Schuylkill Expressway and beneath the northern portion of Passyunk Homes. Apparent plume thickness ranges up to several feet. Additional dissolved phase and soil contamination extends southward to approximately Hartranft Street, across the Steen property and westward to the vicinity of Point Breeze. The northern and eastern extent of the dissolved phase and soil contamination which may be associated with the NAPL plume appears not to extend eastward of Penrose Avenue and 19th Street. In many of the areas noted above, significant hydrocarbon soil contamination is found below the current water table elevation and beneath the NAPL Plume. The NAPL plume and associated subsurface hydrocarbon contamination constitutes "industrial waste" and a "substance ... resulting in pollution" as those terms are used in Sections 301, 307 and 401 of the Clean Streams Law, 35 P.S. §§ 691.301, 691.307 and 691.401.

H. Extensive subsurface investigations performed on behalf of DLA and Sunoco, Inc. and provided to DEP have largely delineated the areal extent of the NAPL plume and hydrocarbon contamination in the vicinity of the DSCP facility and Passyunk Homes.

I. The Packer Avenue sewer, a major combined (storm water and sanitary) sewer, crosses the northern portion of Passyunk Homes, running generally from east to west. The invert level of the Packer Avenue Sewer sits below the groundwater elevation in Passyunk Homes. The Packer Avenue sewer continues westward under Point Breeze, where it becomes known as the Pollock Street sewer, and discharges into the Schuylkill River. Dry weather flows in the Packer

Avenue sewer are intercepted at 26th Street and enter the Schuylkill East Side Intercepting Sewer ("26th Street Interceptor"), which conveys this flow to the Philadelphia Southwest Sewage Treatment Plant. Wet weather flows that exceed the capacity of the 26th Street Interceptor are discharged into the Schuylkill River.

J. The NAPL plume is in contact with the Packer Avenue sewer, and petroleum liquid infiltration into the sewer at various locations under Passyunk Homes has been reported on the both occasions since 1997 when personnel conducted investigations of the interior of the sewer. Tributary sewers, particularly the sewer system draining the southeast portion of DSCP, are in close proximity to the NAPL, and may be subject to additional petroleum vapor infiltration.

K. DEP personnel and others have sensed olfactory evidence and obtained Photo Ionization Detector ("PID") readings confirming the presence of petroleum vapors in the Packer Avenue Sewer and its tributary sewers. Petroleum odors have been detected at sewer structures such as storm drains and manhole covers where vapors from the sewer were not blocked from flowing freely to the atmosphere. A number of homeowners in dwellings served by the Packer Avenue Sewer and its tributary lateral sewers have had sporadic episodes of petroleum odors in their homes.

L. Sunoco installed an air collection and filtration system on the Packer Avenue Sewer in 1997, which has significantly reduced the number of petroleum odor complaints in the area served by the Packer Avenue Sewer. This odor abatement system also serves the 26th Street interceptor sewer and the Shunk Street combined sewer, both of which are in contact with or adjacent to other zones of hydrocarbon contamination located on or near Point Breeze. DLA declined to participate in this abatement effort despite a DEP request that it do so.

M. Sunoco and DLA entered into a Consent Order and Agreement with DEP on September 24, 1996(1996 CO&A), that required them to collectively perform a series of specific tasks. These obligations could be modified, not only by formal amendment to the 1996 CO&A, but through joint decisions that were ratified through 1996 CO&A oversight procedures. All actions taken by Sunoco or DLA under the 1996 CO&A were expressly without prejudice to their rights to seek recovery of the costs thereof from the other.

N. The 1996 CO&A tasks included delineation of the NAPL plume and the area affected by the NAPL plume ("Affected Area"), design of a remedial system for NAPL removal and the performance of a risk assessment intended to determine the residual risk following the removal of free product. Pursuant to the oversight process established by the 1996 CO&A, the scope of the risk assessment was expanded to include an assessment of the existing health risk.

O. The NAPL plume is located on the DSCP facility and properties contiguous to the DSCP facility. The Affected Area is a "site" as that term is defined by 35 P.S. § 6026.101 (Definitions). The Affected Area includes properties which are at risk for exposure to petroleum vapors as a consequence of vapor transport from the NAPL through the Packer Avenue Sewer and its tributary sewer system, as well as properties underlain by NAPL and by dissolved phase petroleum derived from the NAPL.

P. Pursuant to the 1996 CO&A, Sunoco submitted a design for a "Phase I" free product removal system, described in "Engineering Report, Free Product Hydrocarbon Recovery

Operations, Defense Supply Center Philadelphia (DSCP) and the Passyunk Homes Area, Philadelphia, PA, April 24, 1998, prepared by Flour Daniel GTI", which DEP approved. This Phase I system was intended to begin the process of free product removal. It was not submitted as, nor was it approved as anything more than the first step towards removing the existing NAPL. Additional remedial work, including modifications to the Phase I system and/or subsequent phases of design and construction, is likely to be required in order to meet the 1996 CO&A goal of removing as much NAPL as is practicable.

Q. On October 16, 1998, the CO&A was amended to require DLA and Sunoco to jointly fund the construction and operation of a Phase I NAPL plume remediation system. Pursuant to this amendment, Sunoco managed the construction and operation of the Phase I remedial system, with financial contributions from DLA. The October 1998 amendment expired on August 31, 1999.

R. The CO&A was amended for a second time on August 31, 1999. This amendment extended the remediation obligations of the 1998 amendment until October 31, 1999, and assigned the management role for the ongoing risk assessment to Sunoco. DLA and Sun agreed to contribute equally to these efforts, without prejudice to future claims against each other.

S. Interim removal efforts performed by Sunoco and DLA recovered approximately 150,000 gallons of NAPL from beneath the DSCP facility between 1997 and October 1998. The Phase 1 remedial system began operations in March 1999 and to date has recovered in excess of 100,000 gallons of NAPL from beneath the DSCP facility and from beneath Passyunk Homes.

T. The DSCP facility has been selected for closure under the Defense Base Realignment and Closure ("BRAC") process, which was prescribed by the United States Congress in the Defense Authorizations and Base Closure and Realignment Act. 10 U.S.C. § 2687. The facility is presently scheduled for closure in April 2000. At the present time, military operations have ceased at the DSCP facility, except for caretaker functions.

U. The Philadelphia Office of Defense Conversion ("ODC"), a division of the City of Philadelphia Commerce Department, has developed a reuse plan for the DSCP facility. The reuse plan calls for retail and light industrial uses. A portion of the DSCP facility consisting of Building 13, part of Building 9 and surrounding parking areas has been conveyed or is in the process of being conveyed, through a combination of lease and air rights deed, to Brite Star, a manufacturing, warehouse and retail operation.

V. Through the BRAC process, DLA has been conducting investigations and producing decision documents that evaluate the environmental conditions at the base. To date, the DEP's oversight of the NAPL plume remedial project has been parallel to but separate from the BRAC environmental assessment and remediation process.

W. In February 1999, Philadelphia Housing Authority announced its intention to close Passyunk Homes and to relocate the residents elsewhere in Philadelphia. Numerous residents have moved out of Passyunk Homes during 1999 and the vacated apartments have been boarded up.

X. Investigations conducted in the past on behalf of Sunoco and Arco concerning the geology and hydrogeology of the Philadelphia Refinery have revealed the presence of two water-bearing geologic structures contained within unconsolidated sedimentary layers. The deeper water-bearing structure is part of the Potomac-Raritan-Magothy ("PRM") aquifer, which is a source of drinking water in Gloucester County, New Jersey. The uppermost, or shallow aquifer, is a surficial unconfined aquifer, largely consisting of the Cape May Formation and of recent alluvium. The lower, deep aquifer is located in the lower sand unit of the PRM aquifer. A clay unit of the PRM system lies between the shallow and deep aquifers. The bedrock beneath the unconsolidated sediment layers consists of Wissahickon Shist.

Y. Investigations performed on behalf of DLA and Sunoco have shown that the geological structures underlying the DPSC facility and Passyunk Homes are generally similar to those underlying Point Breeze. However, the confining unit between the upper and lower aquifers in this area was only nine feet thick in the northwest corner and the subsurface of the southwestern portion of the DPSC facility contains no such confining clay layer. Where the confining layer is thin or absent, there is the potential for groundwater exchange between the surficial aquifer and the deep aquifer.

Z. The direction and rate of groundwater flow in the area of the DSCP facility and Point Breeze has been largely determined by human activities since the 1920's. Although the current direction of groundwater flow is generally from north to south, major pumping centers at surrounding industrial and military facilities have significantly altered the natural groundwater flow patterns at various times in this century. Two such major pumping centers, one located at the former Publicker Industries site near the Walt Whitman Bridge and the other located at the Philadelphia Naval Ship Yard and Naval Station exerted significant influence over the ground water levels and flow directions during the period between 1920 and 1975. During this time frame, groundwater elevations in the DSCP - Point Breeze area were significantly lowered. Regional groundwater flow directions were sometimes predominately from north to south and at other times were from west to east. Groundwater withdrawals at Point Breeze and elsewhere may have caused local variations in groundwater flow direction during this time frame.

AA. Investigations performed by both DLA and Sunoco in support of a risk assessment have revealed the presence of a silt layer of varying thickness and depth between the petroleum plume and the ground surface throughout most of the Affected Area. This silt layer is breached by the Packer Avenue sewer and by the basement of Building 13 on the DSCP facility.

BB. Soil, groundwater and NAPL samples taken by DLA and Sunoco have revealed the presence of benzene and other materials in the Affected Area. These materials are potentially hazardous to human health.

CC. The NAPL plume consists of a petroleum material, with characteristics of a light naphtha. It contains significant quantities of benzene and has a low flash point. Attempts to characterize the precise nature of the product or products which produced the plume have been inconclusive. The NAPL appears to have similar physical and chemical characteristics across most of its extent, although benzene concentrations within the plume do vary somewhat. Other hydrocarbon contamination by material with lower benzene content exists at some locations within the area of the NAPL plume below the current water table elevation.

DD. The entire NAPL plume, soil contamination and dissolved phase petroleum is located within 2500 feet of the boundaries of the DSCP facility. Only the portion of the Affected Area defined by the Packer Avenue Sewer and its tributary sewers may lie partially beyond 2500 feet from the boundaries of the DSCP facility.

DETERMINATIONS OF LAW

The Department has made the following Determinations of Law:

EE. The ground water beneath the DSCP facility and the surrounding areas of South Philadelphia is a water of the Commonwealth as defined by Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

FF. The Packer Avenue sewer and the Schuylkill River are waters of the Commonwealth as defined by Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

GG. The Schuylkill River is a navigable water of the United States as that term is used by the Clean Water Act, 33 U.S.C.A. §§ 1251 to 1387 and the Oil Pollution Act of 1990, 33 U.S.C.A. §§ 2701 to 2761.

HH. At various times in the past, industrial wastes and polluting substances in the form of petroleum hydrocarbons were released into the subsurface of the DSCP facility, Passyunk Homes and adjacent properties in violation of Sections 301, 307 and 401 of the Clean Streams Law, 35 P.S. §§ 691.301, 691.307 and 691.401.

II. Petroleum that was released into the subsurface of the DSCP facility and Passyunk Homes enters navigable waters of the United States via the Packer Avenue sewer, in violation of Section 1002 of the Oil Pollution Act of 1990 and Section 311 of the Clean Water Act, 33 USCA § 2702 and 33 USCA § 1321.

JJ. Sections 301 and 307(a) of the Clean Streams Law, 35 P.S. §§ 691.301 and 691.307(a) state that no person shall discharge industrial wastes into waters of the Commonwealth unless such discharge is authorized by the rules and regulations of the Department or unless the person has obtained a permit from the Department.

KK. The existing conditions in the area affected by the NAPL plume, by dissolved phase hydrocarbon and by contaminated soil, create a danger of pollution to waters of the Commonwealth within the meaning of Section 402 of the Clean Streams Law, 35 P.S. § 691.402.

LL. Pursuant to Section 316 of the Clean Streams Law, 35 P.S. § 691.316, whenever the Department finds that pollution or a danger of pollution is resulting from a condition which exists on land in the Commonwealth, the Department may order the land owner or occupier to correct the condition in a manner satisfactory to the Department.

MM. DLA operates and/or operated aboveground and underground storage tanks that are regulated by the Department pursuant to the Tank Act. 35 P.S. § 6021.101 *et seq.* The US

Army operated aboveground and underground storage tanks when it operated the former DSCP installation.

NN. Pursuant to Sections 1302 and 1309 of the Tank Act, 35 P.S. §§ 6021.1302 and 6021.1302, whenever the Department finds that pollution or a danger of pollution is resulting from a release from a regulated storage tank, the Department may order the land owner or occupier, or the tank owner or operator, to correct the condition in a manner satisfactory to the Department.

OO. Pursuant to Section 120(a) of CERCLA, 42 U.S.C.A. § 9620(a), owners of federal facilities are subject to state laws governing the remediation of hazardous substances.

PP. Section 9007 of the Solid Waste Disposal Act, 42 U.S.C.A. § 6991f, provides that any department, agency and instrumentality of the Federal Government is subject to all Federal and State laws applicable to underground storage tanks.

QQ. Section 313 of the Clean Water Act, 33 U.S.C.A. § 1323, requires that all Federal facilities comply with applicable state water pollution control laws.

RR. Federal law governing the transfer of former military installations requires that the Department of Defense indemnify and hold harmless the transferees of such installations from liabilities resulting from the release or threatened release of hazardous substances or pollutants or contaminants or petroleum derivatives resulting from Department of Defense activities on the installation. Pub. L. 102-484, Div. A, Title III, § 330, Oct. 23, 1992, 106 Stat. 2371, as amended.

SS. The standards for remediation of the Affected Area are set forth in Chapter 3 of the Land Recycling Act, 35 P.S. §§ 6026.301 - 6026.308.

Order

Pursuant to the authority granted by sections 5, 316 and 610 of the Clean Streams Law, 35 P.S. §§ 691.5, 691.316 and 691.610, Sections 1302 and 1309 of The Storage Tank and Spill Prevention Act, 35 P.S. §§ 6021.1302 and 6021.1309; and by Section 1917-A of the Administrative Code of 1929, 71 P.S. § 510-17 and the rules and regulations promulgated pursuant to these Acts, the Commonwealth of Pennsylvania, Department of Environmental Protection **Orders** DLA, the Department of the Army and DSCP (collectively "DLA") to take the following steps:

1. DLA shall immediately maintain and operate the NAPL removal system currently in place on the Passyunk Homes property and the DSCP facility, and shall design, construct, maintain and operate any additional remedial systems necessary to remove as much of the petroleum NAPL contamination from the Affected Area as is practicable.

2. DLA shall immediately take all steps necessary to demonstrate that the Affected Area is brought into compliance with the substantive, procedural and notice requirements and shall meet

one or a combination of the remedial standards set forth in the Land Recycling Act and the regulations found in 25 Pa. Code Chapter 250.

3. DLA shall immediately undertake all measures necessary to ensure that the health and safety of workers, residents and visitors within the Affected Area is protected from any unacceptable risks associated with or contributed to by the petroleum contamination described in Paragraphs G through O and BB through DD.

4. DLA shall immediately assume responsibility for the operation of that portion of the sewer air collection and filtration system described in Paragraph L which collects and treats petroleum vapors that enter the sewer system from within the Affected Area.

5. DLA shall perform risk assessments as necessary to monitor the risk to residents, workers and visitors within the Affected Area during the remedial phase. DLA shall continue to fund and otherwise support a Technical Advisory Group ("TAG") which shall advise and inform the residents and workers in the Affected Area and provide input to DEP. DLA shall submit all risk assessment work plans and work product to both DEP and to the TAG for review.

6. DLA shall, on the 15th day of each month following the end of each calendar quarter, submit reports to the Southeast Regional Office of DEP detailing all measures taken in conformance with this Order, and shall attach the results of all quantitative measurements taken during the previous three months. The quarterly report submitted following the end of each calendar year shall also contain an overview of the past year's activities and recommendations for future action. All data that refers to specific locations, such as monitoring wells and sampling points, shall be submitted in both written and in digital form suitable for use in an ArcView-based GIS system.

7. DLA shall provide DEP, its agents, employees and contractors free and unrestricted access to all portions of the DSCP facility to enable DEP to conduct investigations and inspections and to monitor and oversee all activities performed pursuant to this Order.

8. All groundwater, hydrocarbon and soil samples collected pursuant to this Order shall be analyzed at a qualified laboratory using EPA-approved methodology, where such a proven method exists. Alternate analytical methods may be employed if approved in advance by the DEP.

9. DLA shall reimburse DEP for all expenses incurred in the course of overseeing compliance with this Order. Reimbursement shall be made within 60 days of the submission of each DEP statement of expenses.

This action of the Department may be appealable, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 PA C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17101-8457, (717) 787-3483. TDD users may contact the Board through the Pennsylvania Relay Service at 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audio tape from the Secretary to the Board at (717) 787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statute and decisional law.

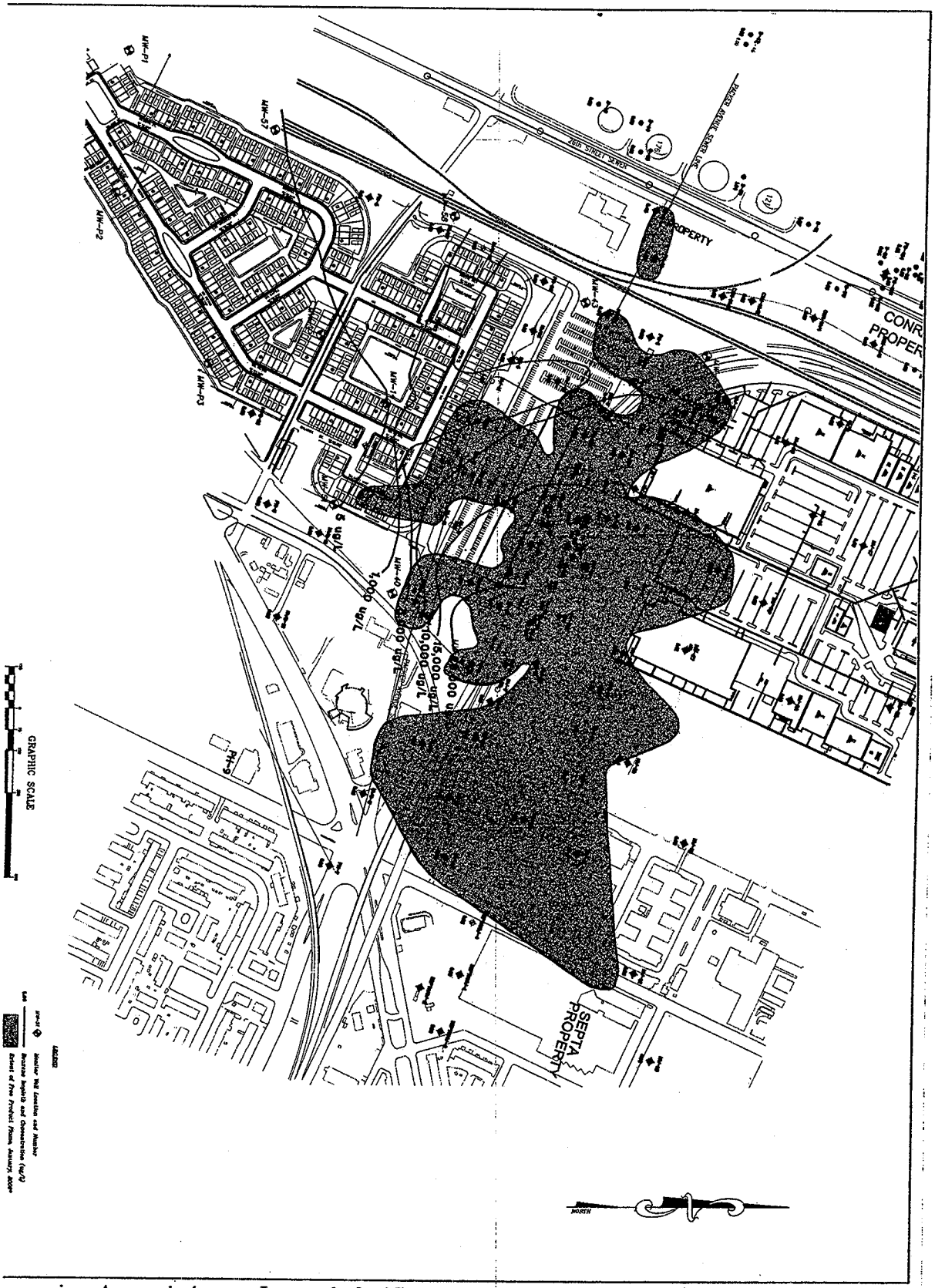
[redacted]

Regional Director

Date: Dec. 10, 1999

EXHIBIT "C"

LNAPL PLUME DIAGRAM



Pennoni Associates Inc.
One Drexel Plaza, 3001 Market Street
Philadelphia, PA 19104
Engineers • Surveyors • Planners • Landscape Architects

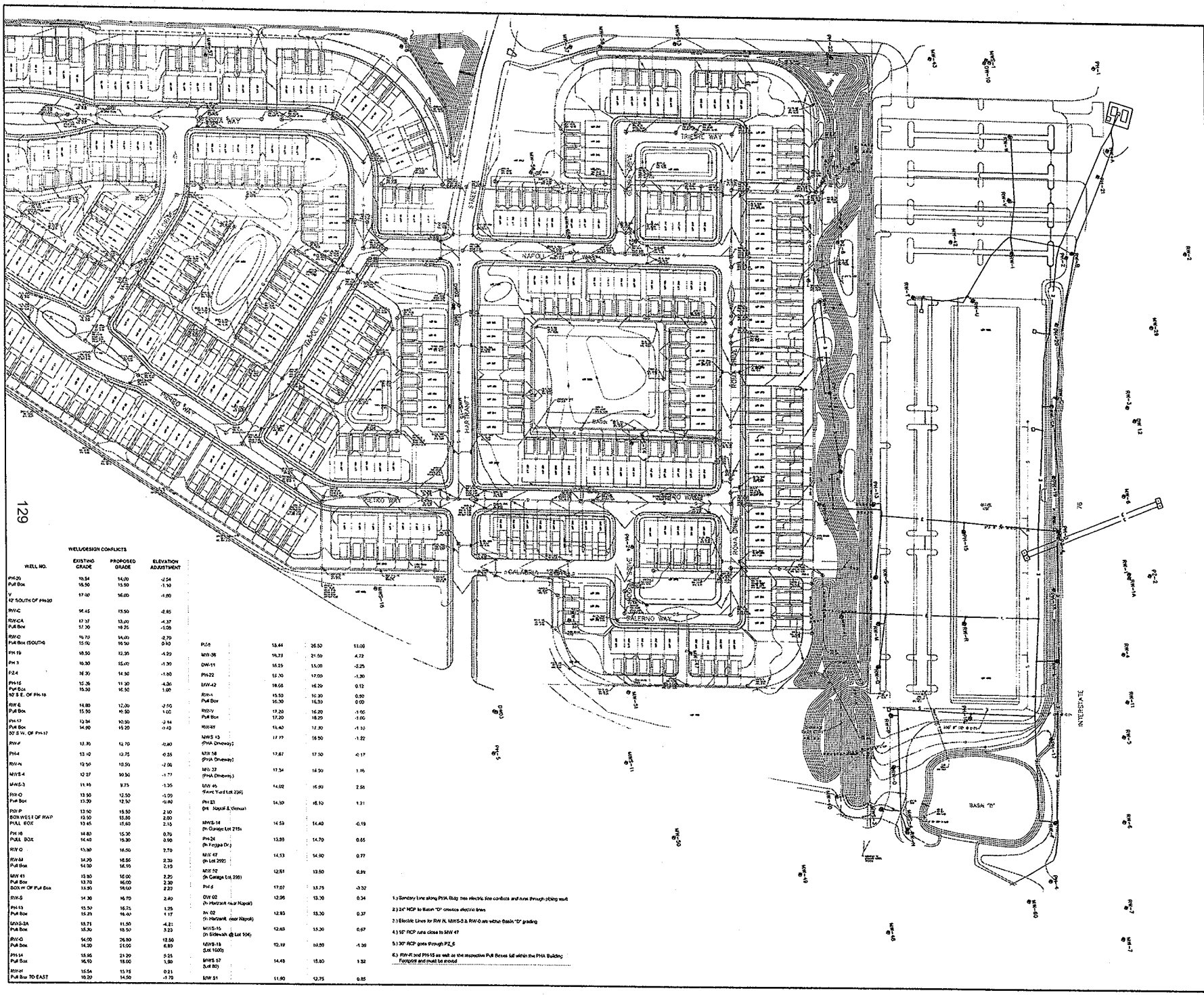
Former Passyunk Homes

24th Street and Penrose Avenue
Philadelphia, Pennsylvania 19145

Free Product Plume and Dissolved Benzene Isopleth Plan

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AT SITE AND ENGINEER NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DATE	NO.	REVISIONS	BY



129

WELL/DESIGN CONFLICTS

WELL NO.	EXISTING GRADE	PROPOSED GRADE	ELEVATION ADJUSTMENT
PH-20	16.54	14.00	-2.54
Pull Box	16.50	15.50	-1.10
V	17.00	16.00	-1.00
10' SOUTH OF PH-20			
RW-C	16.45	13.50	-2.95
RW-CA	17.37	13.00	-4.37
Pull Box	17.30	16.25	-1.05
RW-D	16.70	14.00	-2.70
Pull Box (SOUTH)	15.00	16.50	0.90
PH 19	16.50	12.35	-4.20
PH 3	16.30	15.00	-1.30
PZ-4	16.30	14.50	-1.80
PH-16	12.35	11.30	-4.35
Pull Box	15.30	16.50	1.00
50' S.E. OF PH-16			
RW-E	14.80	12.30	-2.50
Pull Box	15.50	16.50	1.00
PH-17	13.94	10.50	-3.44
Pull Box	14.90	15.20	0.40
50' S.W. OF PH-17			
RW-F	13.30	12.70	-0.60
PH-4	13.10	12.75	-0.35
RW-N	12.50	10.50	-2.00
MWS-4	12.27	10.50	-1.77
MWS-3	11.10	9.75	-1.35
RW-O	13.50	12.50	-1.00
Pull Box	13.30	12.50	-0.80
RW-P	13.50	15.50	2.00
BOX WEST OF RW-P	13.50	15.50	2.00
PULL BOX	13.45	15.60	2.15
PH-18	14.80	15.36	0.76
PULL BOX	14.40	15.30	0.90
RW-Q	15.30	16.00	2.70
RW-M	14.20	16.50	2.30
Pull Box	14.00	16.50	2.50
MW 41	13.80	16.05	2.25
Pull Box	13.70	16.00	2.30
BOX W OF Pull Box	13.90	16.00	2.23
RW-S	14.30	16.70	2.40
PH-13	13.50	16.75	1.25
Pull Box	15.25	16.40	1.17
MWS-2A	13.71	11.50	-4.21
Pull Box	15.30	18.50	3.23
RW-G	14.00	26.50	12.50
Pull Box	14.20	21.00	6.80
PH-14	15.95	21.20	5.25
Pull Box	16.10	18.00	1.90
RW-H	15.54	15.75	0.21
Pull Box TO EAST	16.20	14.50	-1.70
PZ-5	13.44	26.50	13.06
MW-36	16.73	21.50	4.72
DW-11	16.25	15.00	-1.25
PH-22	18.30	17.00	-1.30
MW-42	18.05	18.29	0.12
RW-I	15.50	16.30	0.80
Pull Box	16.30	16.30	0.00
RW-V	17.20	16.20	-1.00
Pull Box	17.20	16.20	-1.00
RW-W	13.40	12.30	-1.10
MWS #3 (PHA Driveway)	17.77	16.50	-1.27
MW 58 (PHA Driveway)	17.67	17.50	-0.17
MW 37 (PHA Driveway)	17.34	18.50	1.16
MW 46 (Farm Yard Lot 236)	14.02	16.80	2.58
PH 23 (bt. Napoli & Genoa)	14.30	16.10	1.21
MWS-14 (In Garage Lot 215)	14.59	14.40	-0.19
PH-24 (In Foggia Dr.)	13.85	14.70	0.85
MW 47 (In Lot 299)	14.13	14.90	0.77
MW 52 (In Garage Lot 238)	12.61	13.50	0.89
PH-6	17.07	13.75	-3.32
DW 02 (In Hardrock near Napoli)	12.96	13.30	0.34
IW 02 (In Hardrock near Napoli)	12.93	13.30	0.37
MWS-15 (In Sidewalk @ Lot 104)	12.63	13.30	0.67
MWS-16 (Lot 1000)	12.19	10.80	-1.39
MWS 57 (Lot 80)	14.48	15.80	1.32
MW 51	11.90	12.75	0.85

1.) Sanitary Line along PHA Bldg. has electric line conflicts and runs through piping vault

2.) 24" RCP to Basin "D" crosses electric lines

3.) Electric Lines for RW N, MWS-3 & RW-O are within Basin "D" grading

4.) 15" RCP runs close to MW 47

5.) 30" RCP goes through PZ-5

6.) RW-R and PH-15 as well as the respective Pull Boxes fall within the PHA Building Footprint and must be moved

DATE	REVISION

SIGNATURE	DATE
REVIEW ENGINEER:	
PROJECT ENGINEER:	
PROJECT MANAGER:	
CLIENT:	

ADVANCED GeoServices

Engineering for the Environment. Planning for People.

1055 ANDREW DRIVE, SUITE A
WEST CHESTER, PENNSYLVANIA 19380

PENROSE PARK ASSOCIATES, L.P.
1750 WALTON ROAD
BLUE BELL, PA 19422

SIENA PLACE
3100–3190 PENROSE FERRY R[illegible]
PHILADELPHIA, PENNSYLVA[illegible]

WELL / DESIGN
CONFLICT COMPILATION

SK041007

DAVID R. SAUNDERS — REGISTERED PROFESSIONAL ENGINEER

Scale:	1" = [illegible]
Designed by:	D. SAU
Drawn By:	B. KEL
Checked By:	N. KEL
Reviewed By:	D. SAU
Project No.:	30051
Sheet No.:	1 OF [illegible]
Date:	04/10

EXHIBIT C

51778197
Page: 23 of 30
09/24/2007 04:43PM

EXHIBIT "D"

PADEP ACT 2 LETTER

Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401
November 14, 2006

Southeast Regional Office

484-250-5900
Fax 484-250-5761

[redacted]

Re: ECP – Act 2 Program
Final Report Approval – Background
Village Penrose Park Philadelphia Development
a.k.a. Former Passyunk Homes Property
e-FACTS Site # 669524
24th Street & Penrose Avenue
City of Philadelphia
Philadelphia County

Dear Mr. [redacted]:

The Pennsylvania Department of Environmental Protection (DEP), has received and reviewed the Final Report For Groundwater, dated September 8, 2006, for the site referenced above. Pennoni Associates, Inc. (Pennoni), Environmental Consultant for Penrose Park Associates, L.P. (Penrose), submitted this Site Report to the DEP on September 11, 2006. The Philadelphia Housing Authority (PHA) is a cooperating remediator with respect to this submission. Missing appendices to this Final Report were received at our Norristown Office on October 4, 2006.

DEP has had numerous meetings with Pennoni Associates, Penrose Park Associates, PHA, DLA, and their legal counsel to discuss the conditions across this site. Based on the absence of any known historical source on the PHA property and on the historical data characterizing the plume of free product centered on the southern portion of the former DSCP, it is assumed that the subsurface dissolved and free phase petroleum contamination observed on the former Passyunk Homes property has likely migrated south and possibly east from other locations. This pattern of contamination strongly supports the use of the Background Standard for the PHA property. However, it also has implications for the reuse of the PHA property, which will be touched on in this letter.

As you are no doubt aware, the Defense Logistics Agency ("DLA") is under DEP order to remediate the contamination that is currently centered on the southern portion of the former DSCP site.

DLA has, in compliance with this order, constructed a vacuum-enhanced single-phase product recovery system, part of which extends into the northern portion of the PHA property. In addition, numerous monitoring wells are in place across the Sunoco, DSCP, PHA and other nearby properties. These recovery efforts in place, and currently operating, have captured slightly less than 1,000,000 gallons of free product and will likely recover more in the future. For purposes of the DLA remediation efforts, their "site" includes at least a portion of the PHA property. DEP expects that DLA will eventually demonstrate attainment of an Act 2 Standard for its site, including the portion of their site which includes the PHA property that is the subject of this submission. Because much of the DLA site extends onto the PHA property, DEP anticipates that DLA will continue to require the cooperation of PHA and its successors in ownership of the PHA site in order to complete attainment of an Act 2 standard that is protective of human health and the environment.

Penrose Park Associates have submitted an NIR for the intended development of the former PHA property and have chosen to demonstrate attainment of the Act 2 Background Standard. The assumed groundwater flow direction from numerous investigations appears to be South-Southeast but exhibits an extremely shallow gradient. In this report Pennoni has presented dissolved phase data from 12 wells collected from 12/7/2005 through 7/1/2006. Background wells at this site will be MW-55, MW-43, and MW-60. DEP will accept Pennoni's demonstration of the Act 2 Background Standard and suggest that the dissolved phase groundwater concentrations referenced below represent that standard.

Contaminant	Background Std.	Location
Benzene	25,000.0 ppb	in MW-60
Toluene	1,000.0 ppb	Act 2 SHS
Ethylbenzene	700.0 ppb	Act 2 SHS
Xylenes	10,000.0 ppb	Act 2 SHS
Naphthalene	280.0 ppb	in MW-60

In addition, as noted above, Background conditions at the PHA site also include a plume of free phase product extending onto the property from the north. This free product contains significant levels of benzene. Although practical difficulties have prevented sampling of groundwater beneath the free product, DEP must presume that dissolved phase contamination at or near the saturation limits is present throughout the area covered by the NAPL plume.

The Benzene concentration referenced above is in excess of the screening standards for Benzene (3,500.0 ppb) as described in the Department's Vapor Intrusion Policy. Exposure to petroleum vapor was evaluated in an extensive risk assessment prepared by DLA and accepted by DEP in 1998. The Risk Assessment suggested that exposure to the subsurface petroleum (specifically Benzene) in a home above the plume with a standard basement design (15.0' below grade) would result in an unacceptable risk.

Certainly any future development plans for this property for residential use, to the extent they include basements or other subsurface components (e.g., crawl spaces, utility chases, etc.), should consider measures such as vapor barrier technologies that reduce or eliminate potential exposure pathways associated with soil vapor generated by the plume. DEP remains willing to discuss practical measures to eliminate risks from petroleum vapors on the PHA property.

DEP also notes that DLA is conducting an ongoing investigation into conditions in the deeper groundwater aquifer across the PHA property. We anticipate receiving additional information about the results of this investigation when it becomes available. This should supplement the information provided by the Final Report.

With this letter, DEP approves the Act 2 Demonstration of Attainment for the Background Standard at this property as described above. DEP approves this report for the substances identified within the site(s) specified. Chapter 5, Section 501 of Act 2, provides the liability protection where attainment of Act 2 cleanup standards is demonstrated. Cleanup liability protection provided by this chapter applies to the current and future owner or any other person who participated in the remediation; a person who develops or occupies the site; successor or assign of any person to whom liability protection applies; and public utility to the extent the public utility performs activities on the identified site.

Thank you for your cooperation in working with the Department in the remediation of this site. Your efforts are helping to return land to productive use and prevent the needless loss of greenspace across the Commonwealth. If you have any questions or need further information regarding this matter, please contact the Environmental Cleanup Program.

Sincerely,

[redacted]

Program Manager
Environmental Cleanup Program
DEP Southeast Regional Office

cc: [redacted]
City of Philadelphia
Regional File

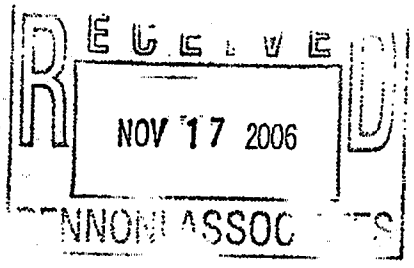


EXHIBIT "E"

PERMITTED EXCEPTIONS

1. Easement in favor of Defense Energy Support Center, Defense Logistics Agency and Department of Defense.

BOOK NO. PAGE NO.

DATE RECORDED

CITY TAX PAID

PHILADELPHIA REAL ESTATE TRANSFER TAX CERTIFICATION

Complete each section and file in duplicate with Recorder of Deeds when (1) the full consideration/value is/is not set forth in the deed, (2) when the deed is with consideration, or by gift, or (3) a tax exemption is claimed. If more space is needed, attach additional sheet(s).

A. CORRESPONDENT — All inquiries may be directed to the following person:

NAME	TELEPHONE NUMBER:
[redacted]	AREA CODE (215) 575-7198

STREET ADDRESS	CITY	STATE	ZIP CODE
[redacted]	Philadelphia	PA	19103

B. TRANSFER DATA

DATE OF ACCEPTANCE OF DOCUMENT:

GRANTOR(S)/LESSOR(S)	GRANTEE(S)/LESSEE(S)
The Philadelphia Housing Authority	[redacted]
STREET ADDRESS: 12 S. 23rd Street	STREET ADDRESS: [redacted]
CITY: Philadelphia STATE: PA ZIP CODE: 19103	CITY: [redacted] STATE: PA ZIP CODE: [redacted]

C. PROPERTY LOCATION

STREET ADDRESS	CITY, TOWNSHIP, BOROUGH
3100-90 Penrose Ferry Rd	Philadelphia

COUNTY	SCHOOL DISTRICT	TAX PARCEL NUMBER
Philadelphia	Philadelphia	78-2-427000 (PART OF)

D. VALUATION DATA

1. ACTUAL CASH CONSIDERATION	2. OTHER CONSIDERATION	3. TOTAL CONSIDERATION
[redacted]	+ $0.00	= [redacted]
4. COUNTY ASSESSED VALUE	**5. COMMON LEVEL RATIO FACTOR**	**6. FAIR MARKET VALUE**
[redacted]	x 3.51	= [redacted]

E. EXEMPTION DATA

1A. AMOUNT OF EXEMPTION	1B. PERCENTAGE OF INTEREST CONVEYED
None	100.00%

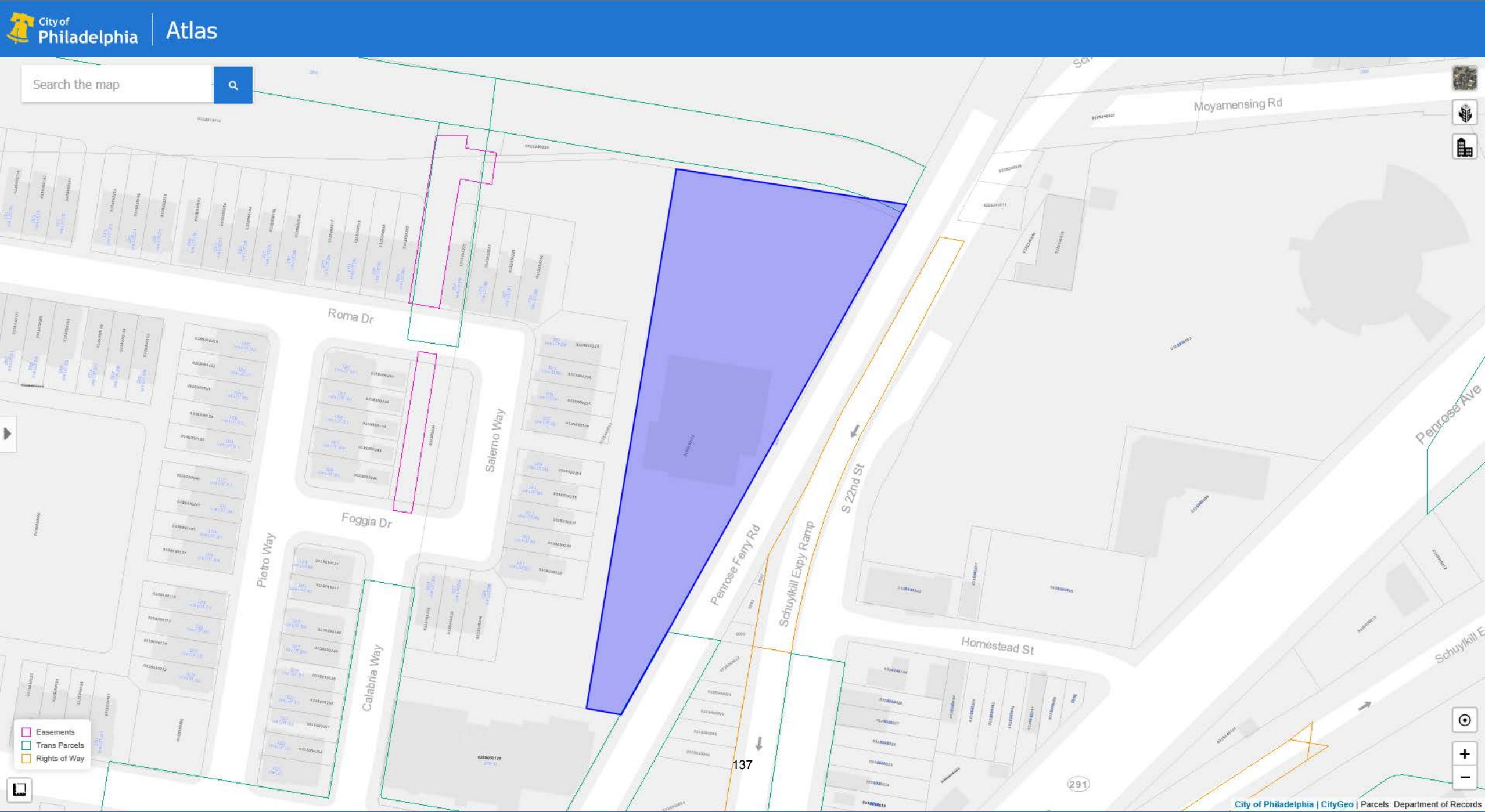
2. Check Appropriate Box Below for Exemption Claimed

- ☐ Will or intestate succession _____ (NAME OF DECEDENT) _____ (ESTATE FILE NUMBER).
- ☐ Transfer to Industrial Development Agency.
- ☐ Transfer to agent or straw party. (Attach copy of agency/straw party agreement).
- ☐ Transfer between principal and agent. (Attach copy of agency/straw trust agreement). Tax paid prior deed $ _____.
- ☐ Transfers to the Commonwealth, the United States, and Instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (Attach copy of resolution).
- ☐ Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____. Mortgagee (grantor) sold property to Mortgagor (grantee) (Attach copy of prior deed).
- ☐ Corrective deed (Attach copy of the prior deed).
- ☐ Other (Please explain exemption claimed, if other than listed above.)

Under penalties of law or ordinance, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

SIGNATURE OF CORRESPONDENT OR RESPONSIBLE PARTY	DATE
[redacted]	9/20/07

82-127 (Rev. 6/93) (SEE REVERSE)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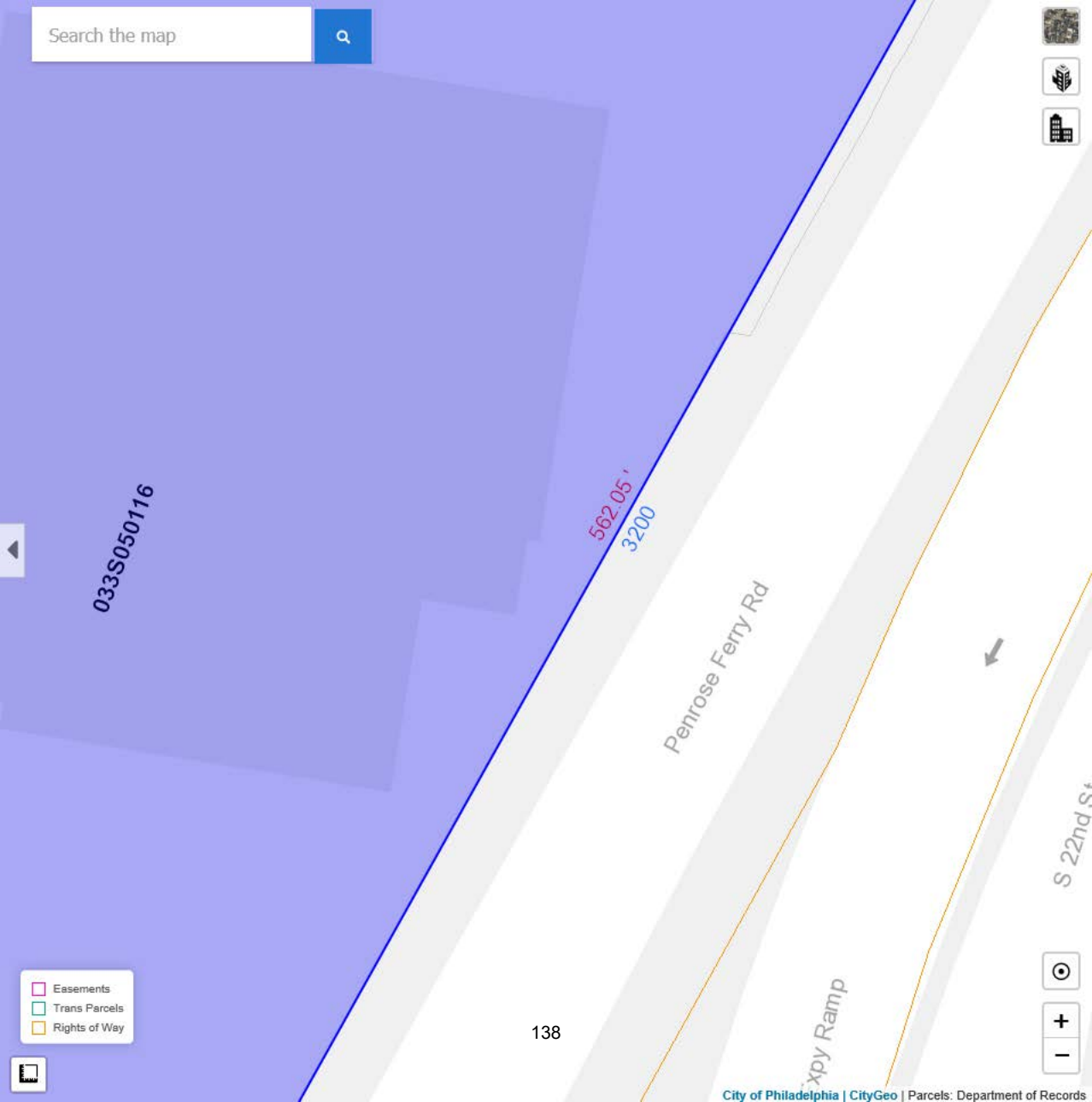
Easements
Trans Parcels
Rights of Way
City of Philadelphia | CityGeo | Parcels: Department of Records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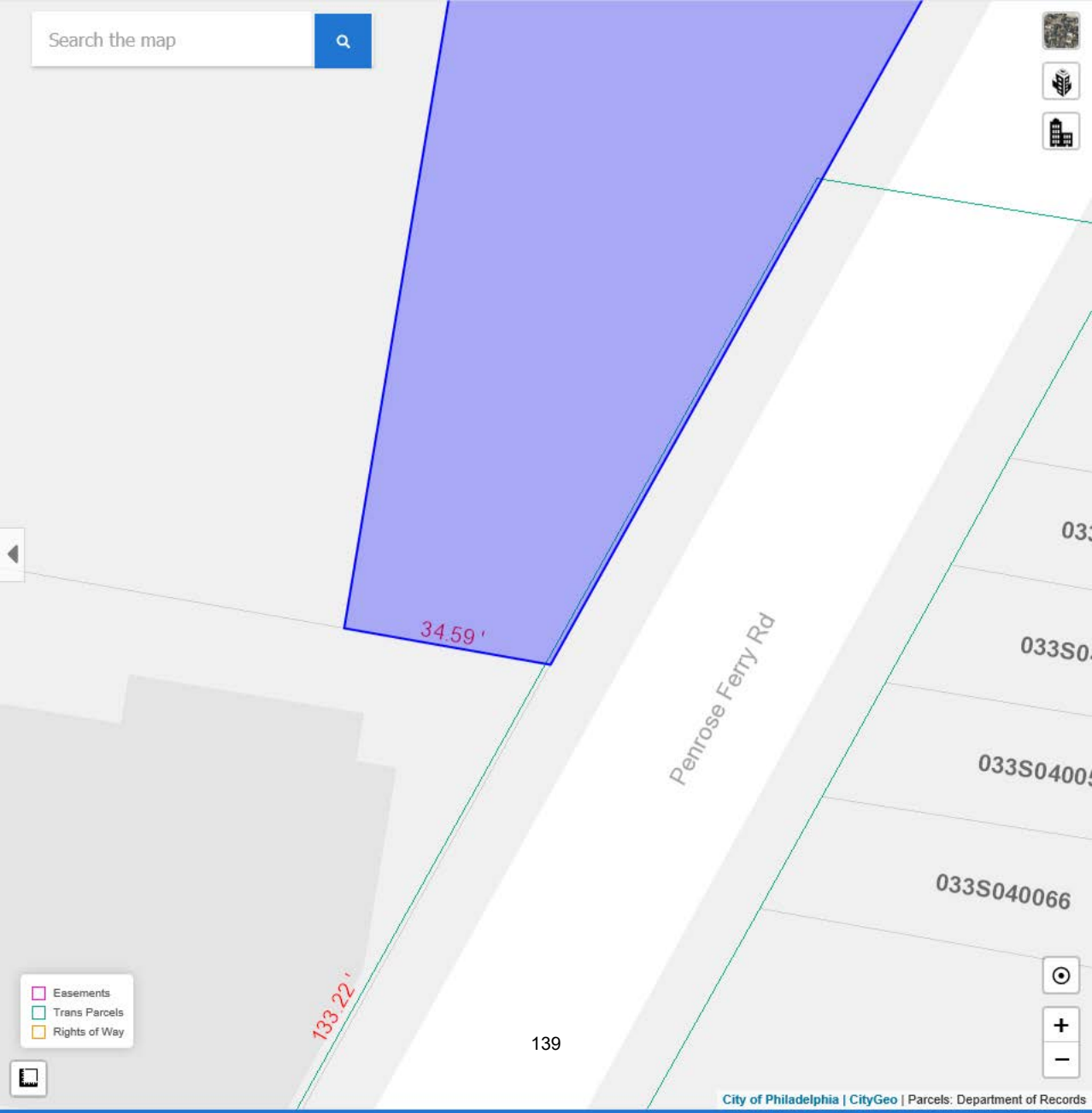
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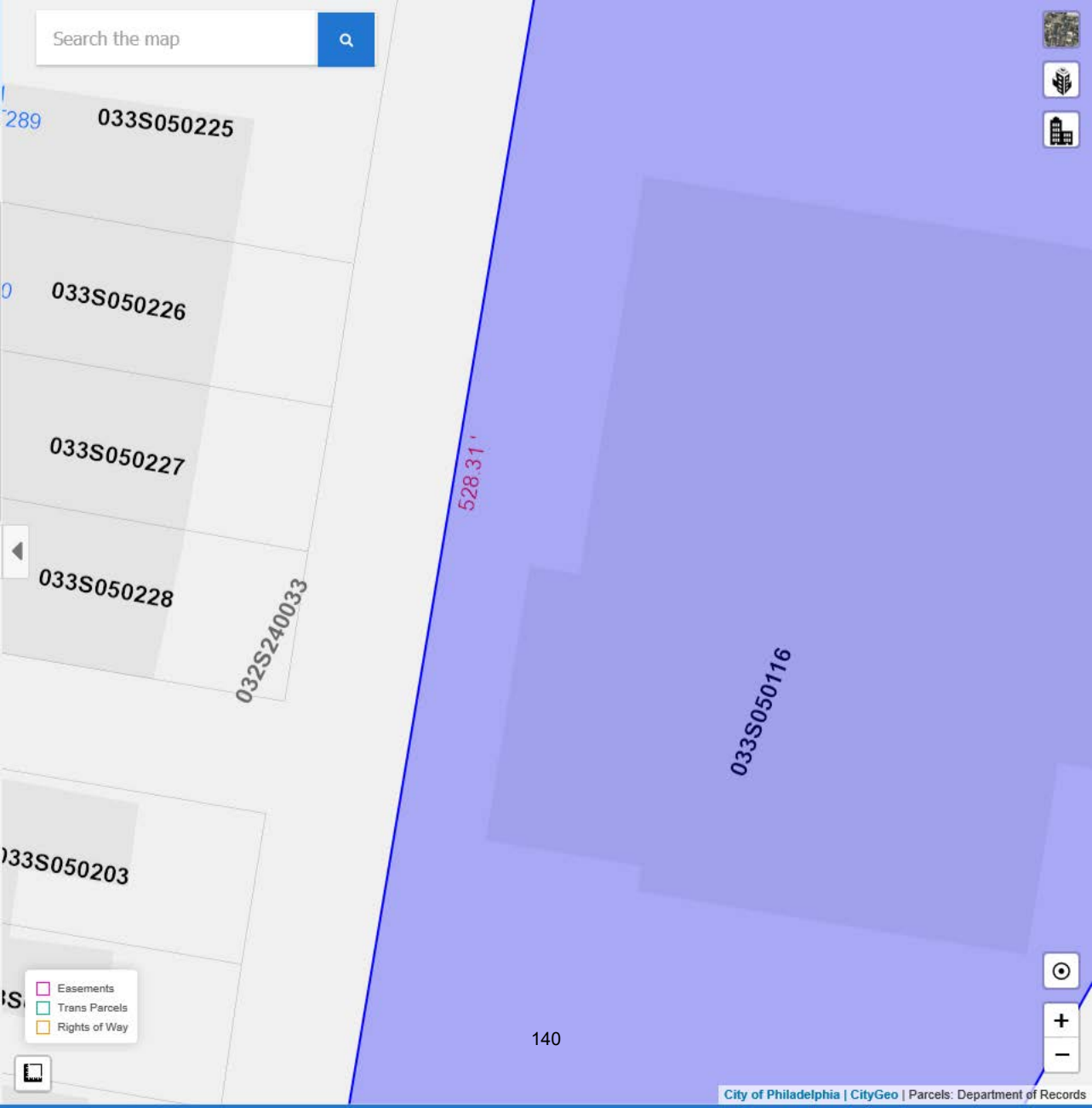
City of Philadelphia | CityGeo | Parcels: Department of Records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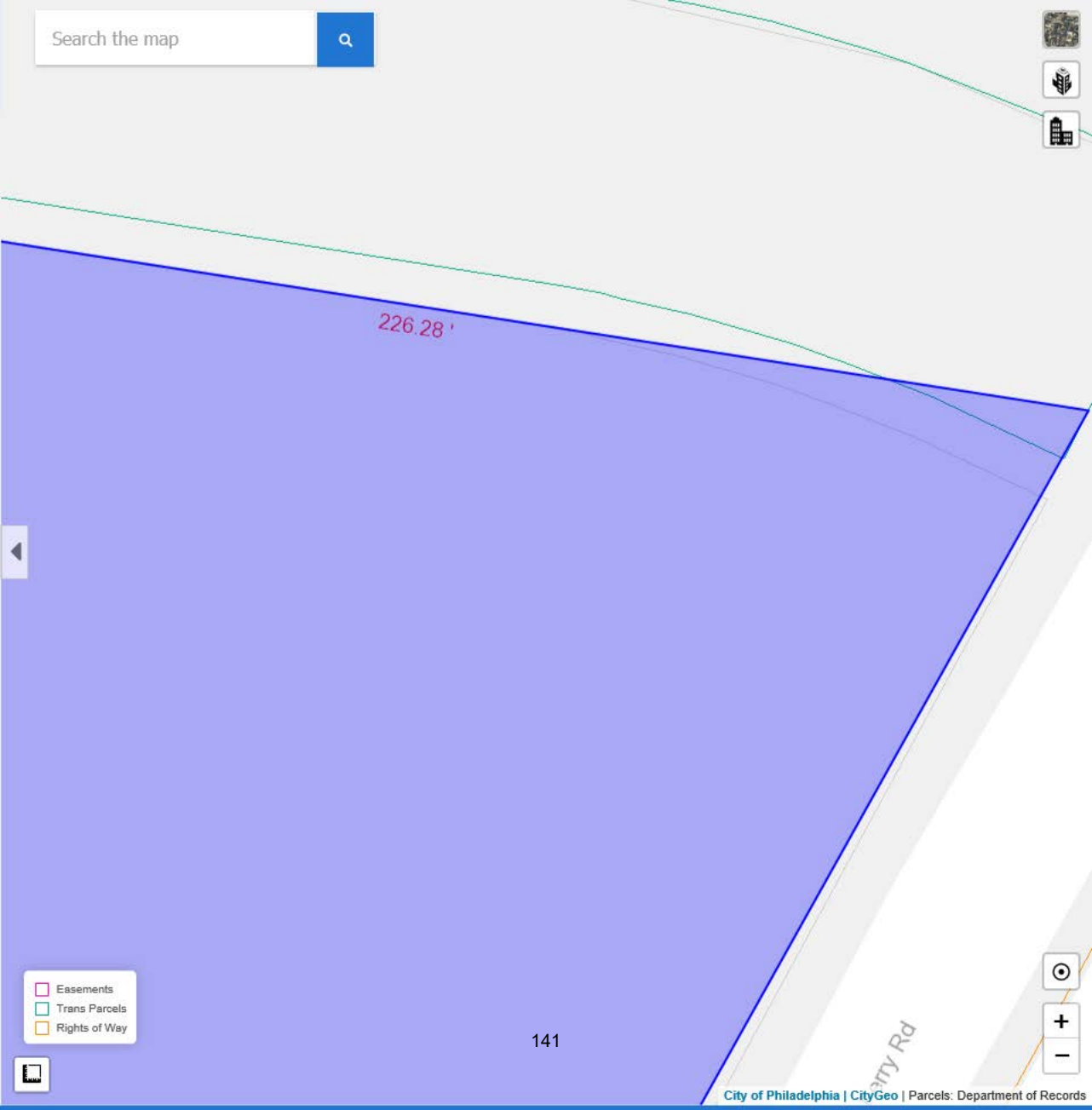
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APPENDIX B

RECORD OF CONVERSATION

Subject:

Building E – Jim's Enterprises, Liberty Camera, Leones Comp, Martial Arts Hero Factory

Department:

Arcadis Project No.:

[redacted]

Record by:

[redacted]

Issue Date

[Date]

Arcadis U.S., Inc.

[redacted]

BUILDING E VI DISCUSSION REPORT

At the request of [redacted] (Arcadis) [redacted] (USACE PHL) met with [redacted] and [redacted] on October 10, 2018 at 1430 to discuss the former Defense Supply Center Philadelphia project status and recent request to gain entry to the property owned by the [redacted] referred to as Building E in draft internal Arcadis Remedial Investigation Report/Cleanup Plan (RIRCP). Request for entry was made by the USACE BAL district on behalf of the DLA and was subsequently denied by [redacted].

[redacted] own the property located at 2231-2241 Hartranft St, Philadelphia, PA 19145 (Building E). There are four businesses within this building, Liberty Camera Company, Martial Arts Hero Factory, Jim's Enterprises and Leones Comp (Building E). [redacted] is the point of contact. His cell phone number [redacted]

As part of the ongoing cleanup and investigation, a Vapor Intrusion (VI) assessment is required to investigate and document potential VI exposure pathways in site buildings that lie within the footprint of the petroleum hydrocarbon plume. The VI assessment team was seeking to conduct visual internal and external inspections of Building E to determine whether preferential pathways exist. Specifically, the team would identify substantial foundation cracks, utility hookups, building sumps, or any other method for vapors to enter the building. If necessary, information gathered during the assessment would be used to develop building-specific VI sampling plans and to develop subsequent mitigation strategies at a later time.

Meeting Summary

[redacted] (USACE PHL) and [redacted] met with [redacted] and [redacted] of [redacted] on 10/10/18 at 2:30 PM. We met across the street from the building of interest at a second property that

they own, 3311B Penrose Ferry Ave. They asked that all future communications be mailed to this address. The nature and extent of the plume was discussed and the most recent quarterly memo was provided to [redacted]. The VI Assessment process was explained from start to finish (visual inspection, interviews that could lead to subslab or indoor sampling and engineering controls). [redacted] and [redacted] expressed concerns with tenant interaction and the potential for losing them due to contamination (the property in question is their pension plan). They also expressed concerns with disruption to their tenants and the potential vacancy. It was explained the tenant needs to allow entry per [redacted] email and [redacted] choice to opt out. It was also explained that soil vapor samples could be collected from outside the building if access is not granted. At this time, [redacted] are not going to allow access but would like to be kept apprised of how our investigation proceeds for neighboring properties (i.e., will neighboring properties require some type of sampling). [redacted] left his business card for [redacted] to reach out to him if they have any questions or concerns. [redacted] welcomed us to reach out to them at any time as well.

Previous Public Involvement

[redacted] was very active in the monthly meetings that were held prior to Arcadis' involvement. They had some insightful background on what they heard and what they saw happening over the years. [redacted] commented on they city allowing Siena Place Homes to be built. According to [redacted], he was told homes will never be built on the property due to the contamination. He was also told that no drainage basins should be built because it would 'reactivate' the contamination; however, the city of Philadelphia would not allow homes to be built without a drainage basin to control stormwater flow (the City stated they could not handle additional stormwater). He has photos of the developer installing a infiltration basin.

[redacted] are also very active in the community. The property we met at was the old VA Hall that they took ownership of, repaired and still allow the veterans to use rent free. They provide ice to the community at little to no cost for many organizations and events. They also sell ice to the neighboring refinery and provided a story for why they provide ice. The refinery used to provide water jugs for water on site until it was discovered that workers were dipping sweaty neck rags into the water people were drinking from. Now only bottled water is allowed.

Technical Details

The property we seek access to is slab on grade where the slab is elevated approximately 5 ft to keep a level surface at the southeast corner. Tenants include a children's karate school, the ice shop (which includes dry ice), a computer repair shop and a movie camera/lighting rental shop.

The address for this location is 2235 Hartranft St, Philadelphia, PA 19145.

At this time, [redacted] do not wish to permit access to the USACE for their investigation.

ACTION ITEMS

1. Keep [redacted] apprised of the VI assessment work at neighboring properties

APPENDIX C

Withelder, Gregory

From: [redacted] USARMY CENAB (US) <[redacted]usace.army.mil>
Sent: Monday, December 17, 2018 1:35 PM
To: [redacted]
Subject: FW: SEPTA ROE Communications

All,

As per our last call, I'm forwarding all of my email communications with SEPTA regarding obtaining Rights of Entry for VI Monitoring.

[redacted]

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAP (US)
Sent: Tuesday, November 20, 2018 10:23 AM
To: [redacted]usace.army.mil>
Subject: RE: SEPTA ROE Communications

[redacted] I have not received the contact information or I cannot find it readily in my -emails.

[redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US)
Sent: Tuesday, November 06, 2018 8:51 AM
To: [redacted] CIV USARMY CENAP (US) [redacted]usace.army.mil>
Subject: FW: SEPTA ROE Communications

[redacted]

I'm going through emails and this was in my outbox as a draft. I apologize if I never sent this to you.

[redacted]

[redacted]

I had in my notes from our call to send you contact info for the folks at SEPTA. I'm forwarding you the email chain I had with both [redacted] and [redacted] Their contact information can be found in their respective email signatures.

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]
usace.army.mil

-----Original Message-----
From: [redacted] CIV DLA INSTALLATION SUPPORT (US) [mailto:[redacted]dla.mil]
Sent: Thursday, October 11, 2018 9:33 AM
To: [redacted] CIV USARMY CENAB (US) [redacted]usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>; [redacted] CIV USARMY CENAP (US) [redacted]usace.army.mil>; [redacted]parsenviro.com>; [redacted] arcadis.com>
Cc: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Subject: RE: SEPTA ROE Communications

Good morning,

I spoke with Mr. [redacted] with PADEP this morning regarding the SEPTA access issues. As an FYI, it looks like he may eventually take over the DSCP project from David Brown, but at this time he's just assisting.

I explained the issues we're having with the SEPTA access and he mentioned that he will discuss with the PADEP PM for SEPTA to see if she has any insight or perhaps and environmental POC that we may be able to go through to get the waiver from Ms. Grose. He was also going to reach out to their legal to see if they have any recommendations.

The other thing he asked was whether we've had any discussions with Ms. [redacted]. I told him there are several email communications, but we've not met with her directly. So, is it possible to have [redacted] stop by to perhaps talk with her or [redacted] briefly? [redacted] mentioned he was out for two weeks, but he may be back in the office.

Please let me know.

Thanks,

[redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US) [redacted]usace.army.mil>
Sent: Tuesday, October 9, 2018 2:47 PM
To: [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted]dla.mil>; [redacted] CIV USARMY CENAP (US) [redacted]usace.army.mil>; [redacted]parsenviro.com>; [redacted] arcadis.com>
Cc: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Subject: RE: SEPTA ROE Communications

[redacted]

It is accurate that we cannot agree to any language committing the US to reimbursement of future fees, however...

In addition, paragraph 2 of the "application" bounds the applicant to the terms and conditions of the "agreement". SEPTA needs to clarify if the "agreement" is a different document than the "application". If so, we need to see it. We cannot sign an application that bounds us to the terms and conditions of a document we have not had an opportunity to review. Perhaps the "application" becomes the "agreement once executed". This may be semantics, but they are important semantics.

On 9/27/18 [redacted] stated, "If you are requesting the waiver of the application, please submit written documents reflecting your statement of authorization." I responded by stating explicitly that I was seeking a waiver of the application and resubmitting the USACE ROE package as our "written documents reflecting your statement of authorization". [redacted] responded stating that I still needed to complete the SEPTA internal ROE application regardless.

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]

-----Original Message-----
From: [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted] dla.mil]
Sent: Tuesday, October 9, 2018 2:26 PM
To: [redacted] CIV USARMY CENAB (US) [redacted] usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) [redacted] dla.mil>; [redacted] CIV USARMY CENAP (US) [redacted] usace.army.mil>; [redacted] parsenviro.com>; [redacted] arcadis.com>
Cc: [redacted] CIV USARMY CENAB (US) <[redacted] usace.army.mil>
Subject: RE: SEPTA ROE Communications

Thank you [redacted]

Just so that I'm clear, we're asking only for a waiver for SEPTA's standard application because the language requiring reimbursement for reviewing and executing the agreement is against the Anti-deficiency Act. Is this accurate?

It appears from the email traffic that [redacted] first requested that you submit documents supporting the waiver, and then said the application would need to be submitted, regardless?

Thanks,

[redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US) <[redacted] usace.army.mil>
Sent: Tuesday, October 9, 2018 1:12 PM

To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>; [redacted] CIV DLA INSTALLATION SUPPORT (US) <[redacted]dla.mil>; [redacted] CIV USARMY CENAP (US) <[redacted]usace.army.mil>; [redacted] <[redacted]parsenviro.com>; [redacted] <[redacted]arcadis.com>
Cc: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Subject: SEPTA ROE Communications

Alcon,

Please see the email thread below outlining my communications with SEPTA. I'm attaching the original USACE ROE package that I sent on 9/18/18, as well as the SEPTA internal ROE to which we cannot commit under the existing terms and conditions. My last email addressing our concerns was to [redacted] on 9/27/18. I called her to follow up on 10/3/18, and left her a voicemail. She has not responded to the 9/27 email or the 10/3 voicemail.

Regards,

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]
[redacted]usace.army.mil

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US)
Sent: Thursday, September 27, 2018 11:10 AM
To: [redacted] <[redacted]septa.org>
Cc: [redacted] CIV USARMY CENAB (US) ([redacted]usace.army.mil) <[redacted]usace.army.mil>; [redacted] <[redacted]septa.org>
Subject: RE: Right of Entry Agreement

[redacted]

After reviewing the attached application I would like to address the following concerns:

2. Once executed the applicant will be bound by the terms and conditions set forth in the right of entry agreement.
- We have not had an opportunity to review the right of entry agreement. We have only been provided an application. I'm assuming we would be provided an agreement after submitting the application. We cannot commit to being bound by the terms and conditions set forth in a document we have not seen.

3. Applicant acknowledges that SEPTA is not responsible for any costs associated with the Work. Permittee must reimburse SEPTA for all costs that SEPTA incurs in connection with this application ("Application"), Agreement and Permit. Without limiting the foregoing, applicant must reimburse SEPTA for all costs that SEPTA incurs in connection with the review of the applicant's plans, drawings or other submissions and flag service and other protection.
- The Anti-Deficiency Act bans federal agencies from committing future funds before they have been appropriated by Congress for an express purpose. We cannot legally consent to reimburse SEPTA for the subject expenses.

4. SEPTA will bill applicant for SEPTA's costs, expenses and labor charges at SEPTA's standard force account rates. All payments due from applicant to SEPTA shall be due and payable within thirty (30) calendar days from the date of invoice. Applicant has no right to set off against any payment due any sums which applicant may believe are due to it

from SEPTA for any reason. In the event that applicant fails to pay, when due, any amount payable by it, applicant must pay SEPTA, together with such overdue payment, interest at an annual rate of six (6) percent calculated from the date the payment was due until paid. All payments due from applicant to SEPTA hereunder must be: (i) made by check drawn from currently available funds; (ii) made payable to Southeastern Pennsylvania Transportation Authority; and (iii) mailed with a copy of the invoice to: Southeastern Pennsylvania Transportation Authority, P.O. Box 7780-4044, Philadelphia, PA 19182- 4044. All payments are deemed made only upon receipt by SEPTA of collected funds.
-See response to para(3)

We are happy to sign a SEPTA agreement, however we cannot legally commit to the above referenced terms and conditions. Please advise on how to move forward.

Regards,

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]
[redacted]usace.army.mil

-----Original Message-----
From: Grose, [redacted] [mailto:[redacted]septa.org]
Sent: Thursday, September 27, 2018 8:51 AM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Cc: [redacted] <[redacted]septa.org>; [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Subject: [Non-DoD Source] RE: Right of Entry Agreement

Chad,

The attached application must be completed. If you have any questions, please let me know. The fee will be waived.

[redacted] C. Grose | Director, Engineering and Design SEPTA I Civil Engineering Department
1234 Market Street, 13th Floor, Philadelphia, PA 19107-3780
Office: [redacted] I Mobile: [redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US) [mailto:[redacted]usace.army.mil]
Sent: Thursday, September 27, 2018 8:39 AM
To: Grose, [redacted] <[redacted]septa.org>
Cc: [redacted] <[redacted]septa.org>; [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Subject: RE: Right of Entry Agreement

[redacted]

I am requesting a waiver of the SEPTA application. This requirement was waived in 2013. I am reattaching a new Right of Entry form and associated transmittal. Please contact me if you have any additional questions or issues.

Regards,

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]usace.army.mil

-----Original Message-----
From: Grose, [redacted] [mailto:[redacted]septa.org]
Sent: Thursday, September 27, 2018 8:25 AM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Cc: [redacted] <[redacted]septa.org>
Subject: [Non-DoD Source] RE: Right of Entry Agreement

Good Morning Chad,

Yes, SEPTA has received your information. Since the 2013 ROE agreement has expired a new form must be submitted. Mr. Benek forwarded to your attention SEPTA's required forms to enter our property on September 21st. If you are requesting the waiver of the application, please submit written documents reflecting your statement of authorization.

[redacted] C. Grose | Director, Engineering and Design SEPTA I Civil Engineering Department
1234 Market Street, 13th Floor, Philadelphia, PA 19107-3780
Office: [redacted] I Mobile: [redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US) [mailto:[redacted]usace.army.mil]
Sent: Wednesday, September 26, 2018 3:07 PM
To: Grose, [redacted] <[redacted]septa.org>
Cc: [redacted] <[redacted]septa.org>
Subject: FW: Right of Entry Agreement
Importance: High

[redacted]

Can you please confirm that you received the email below?

Regards,

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]usace.army.mil

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US)
Sent: Tuesday, September 25, 2018 10:54 AM
To: [redacted] <[redacted]septa.org>
Cc: [redacted]septa.org' <[redacted]septa.org>; [redacted] CIV USARMY CENAB (US) ([redacted]usace.army.mil) <[redacted]usace.army.mil>
Subject: RE: Right of Entry Agreement
Importance: High

[redacted]

I am attaching an expired ROE agreement that was executed by SEPTA on 18 December 2013. Please review the attachment and consider that SEPTA was amenable to this agreement in 2013. We are simply asking to execute a new agreement for similar entry and exploration. We are not authorized to provide payment for any application fees. Your prompt attention to this [redacted] is greatly appreciated as survey work is expected to begin during the month of October.

Regards,

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]usace.army.mil

-----Original Message-----
From: [redacted] [mailto:[redacted]septa.org]
Sent: Friday, September 21, 2018 3:16 PM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Subject: [Non-DoD Source] RE: Right of Entry Agreement

No problem. In your future replies, please CC [redacted] [redacted]septa.org as I will be participating in NORAC training the next two weeks.

Tom

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US) [mailto:[redacted]usace.army.mil]
Sent: Friday, September 21, 2018 3:13 PM
To: [redacted]
Subject: RE: Right of Entry Agreement

[redacted]

Thanks for getting back to me. I'll take a look at the forms and get back to you on Monday.

[redacted]
Realty Specialist
USACE Baltimore District

[redacted]
[redacted]
[redacted]
[redacted]usace.army.mil

-----Original Message-----
From: [redacted] [mailto:[redacted]septa.org]
Sent: Friday, September 21, 2018 2:08 PM
To: [redacted] CIV USARMY CENAB (US) <[redacted]usace.army.mil>
Cc: Grose, [redacted] <[redacted]septa.org>
Subject: [Non-DoD Source] RE: Right of Entry Agreement

[redacted]

I had the opportunity to review your version of the right of entry form. SEPTA requests that you submit this work with our provided Application and Checklist in order to proceed with review and coordination. Please see the two documents attached.

Thank you

[redacted] | Engineer I
SEPTA | Civil Engineering Department
1234 Market Street, 13th Floor, Philadelphia, PA 19107-3780
Mobile: [redacted]

-----Original Message-----
From: [redacted] CIV USARMY CENAB (US) [mailto:[redacted]usace.army.mil]
Sent: Tuesday, September 18, 2018 11:21 AM
To: [redacted]
Subject: Right of Entry Agreement

[redacted]

Please find the attached transmittal, ROE Agreement, and exhibits associated with obtaining Right of Entry for a SEPTA site located at 19th Street and Johnston Street. Please let me know if there are any issues with our standard form.

Regards,

[redacted]
Realty Specialist
USACE Baltimore District
[redacted]
[redacted]
[redacted]usace.army.mil

APPENDIX D

ADDED SG NUMBERS 10/05/94 JPK
VERSAR IN-HOUSE WORKSHEET

VARE AVE.
24TH. ST.
23RD. ST.
22ND. ST.
21ST. ST.
OREGON AVENUE
CHAIN LINK FENCE
20TH. ST.
19TH. ST.
JOHNSTON ST.
HUMPHREY ST.
ALESHIRE STREET
ROGERS STREET
BASH STREET
DEWITT STREET
SCHUYLKILL EXPRESSWAY
CHAIN LINK FENCE
CENTER LINE OF EXISTING FUEL OIL TUNNEL
NO ACTIVE SOIL GAS SURVEY COVERAGE IS PROPOSED FOR THIS AREA (FREE PRODUCT PLUME PREVIOUSLY DOCUMENTED)

BUILDING 26 (D C B A)
BUILDING 20 (G F E D C B A)
BUILDING 3 (E D C B A)
BUILDING 2 (K J I H G F E D C C-1)
BUILDING 1 (J I H G F E D C B A)
BUILDING 4 (I H G F E D C B A A-1)
BUILDING 30 (F E D C B A)
BUILDING 9
BUILDING 8
BUILDING 6 (E D C B A)
BUILDING 15
BUILDING 11
BUILDING 12 (D C B A / E F G H)
BUILDING 14
BUILDING 13
RAMP PLATFORM
BLDG 22
BLDG 51
BLDG 44
BLDG 28
OPEN COURT YARD
PARKING LOT
GRASS
PARKING LOT

SG-01 SG-02 SG-03 SG-04 SG-05 SG-06 SG-07 SG-08 SG-09 SG-10 SG-11 SG-12 SG-13 SG-14 SG-15 SG-16 SG-17 SG-18 SG-19 SG-20 SG-21 SG-22 SG-23 SG-24 SG-25 SG-26 SG-27 SG-28 SG-29 SG-30 SG-31 SG-32 SG-33 SG-34 SG-35 SG-36 SG-37 SG-38 SG-39 SG-40 SG-41 SG-42 SG-43 SG-44 SG-45 SG-46 SG-47 SG-48 SG-49 SG-50 SG-51 SG-52 SG-53 SG-54 SG-55 SG-56 SG-57 SG-58 SG-59 SG-60 SG-61 SG-62 SG-63 SG-64 SG-65 SG-66 SG-67 SG-68 SG-69 SG-70 SG-71 SG-72 SG-73 SG-74 SG-75 SG-76 SG-77 SG-78 SG-79 SG-80 SG-81

1 = EXISTING UST LOCATION
= SAMPLING LOCATION

N

100' 0 100' 200'
GRAPHIC SCALE

NOTES:

1. SAMPLING LOCATIONS ARE SPACED 200 FEET APART, EXCEPT NEAR CERTAIN UST SITES WHERE SPACING IS DECREASED TO 100 FEET.
2. THE PROPOSED SAMPLING LOCATIONS DEPICTED ON THIS FIGURE ARE PRELIMINARY IN NATURE AND REPRESENT APPROXIMATE LOCATIONS ONLY. THE ACTUAL, FINAL SAMPLING LOCATIONS WILL BE FIELD DETERMINED AND MAY BE ADJUSTED BASED ON UTILITY CLEARANCE AND RESULTS FROM THE INITIAL SCREENING SURVEYS.

DEFENSE PERSONNEL SUPPORT CENTER
PHILADELPHIA, PA.

FIGURE 2-6
ACTIVE SOIL GAS SURVEY
SAMPLING GRID

Versar INC.
2010 CABOT BLVD
LANGHORNE, PA 19047

DATE: 09/01/93
PROJ. NO.: 2050.001
DWG. NO.: L9410150

Pennoni Associates Inc.
One Drexel Plaza, 3001 Market Street, Philadelphia, PA 19104
Engineers • Surveyors • Planners • Landscape Architects

QUARTERMASTER PLAZA SHOPPING CENTER
23RD STREET AND OREGON AVENUE
PHILADELPHIA, PENNSYLVANIA

POTENTIAL ADDITIONAL BORING LOCATIONS

FOREST CITY RATNER COMPANIES
ONE METROTECH CENTER NORTH
BROOKLYN, NEW YORK 11201

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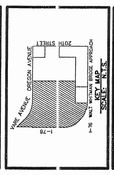

SCALE	DRAWING NO.
1" = 80'	E-5
DRAWN BY	
ECL	
DATE	
7/2/03	
APPROVED	

FCRA 0101

SHEET

BY	REVISIONS	NO.	DATE
	NOT FOR CONSTRUCTION		

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR IN THE FIELD. NOTIFY OWNER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

Pennoni

NOTE:
THIS PLAN INDICATES THE LOCATION OF EXISTING TANKS WHICH ARE PROPOSED TO BE REMOVED.

GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.
0 40 80 160 320

POTENTIAL BORING LOCATIONS

BUILDING 8
BUILDING 30
MATCH LINE
MATCH LINE
INTERSTATE 76
INTERSTATE 76
OREGON AVENUE 120' WIDE
OREGON AVENUE 120' WIDE
WARE AVENUE (100' WIDE)
23rd STREET
24th STREET
22nd STREET
H1
H2
H3
H4
H5
I1
J2
K1
L
P
O
J
R
S
F
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
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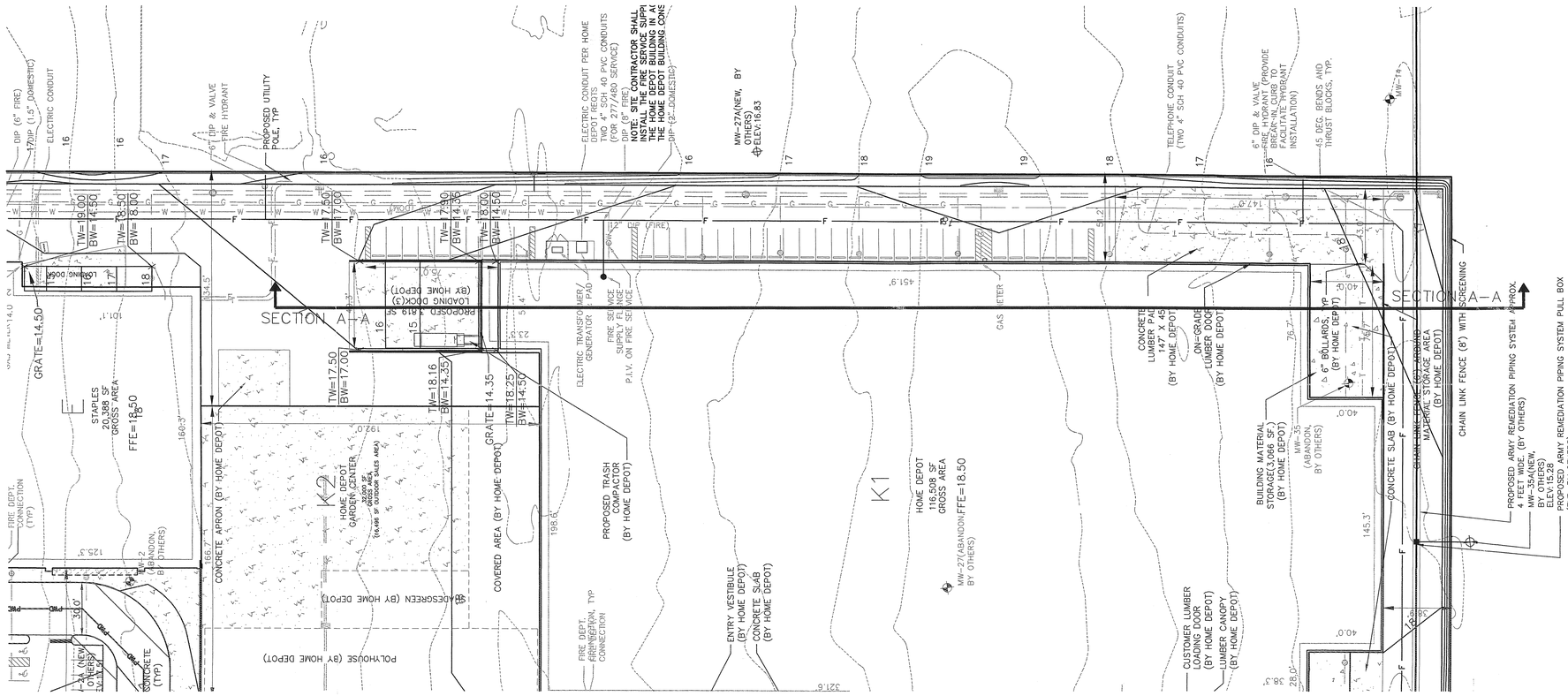
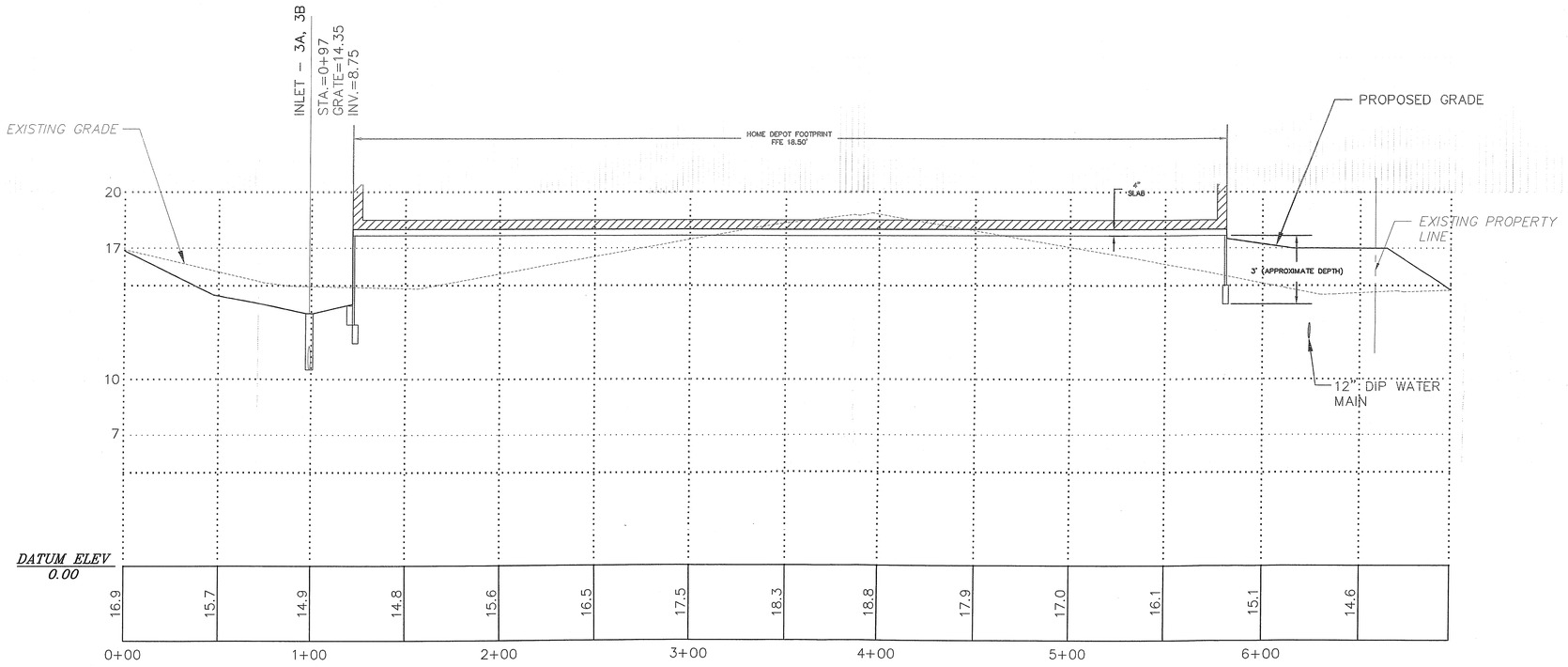
F41



PLAN VIEW OF VERTICAL CROSS-SECTION THROUGH HOME DEPOT (A–A)

SCALE: HOR: 1" = 30'



VERTICAL CROSS–SECTION THROUGH HOME DEPOT (A–A)

SCALE: HOR: 1" = 30'
VERT: 1" = 3'

Pennoni Associates Inc.
One Drexel Plaza, 3001 Market Street, Philadelphia, PA 19104
Engineers • Surveyors • Planners • Landscape Architects

Pennoni

NOT FOR CONSTRUCTION

DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

QUARTERMASTER PLAZA SHOPPING CENTER
23rd STREET AND OREGON AVENUE
PHILADELPHIA, PENNSYLVANIA

CROSS SECTION "A-A" THROUGH HOME DEPOT

FOREST CITY RATNER COMPANIES
ONE METROTECH CENTER NORTH
BROOKLYN, NEW YORK 11201

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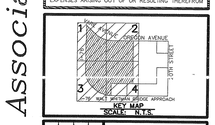
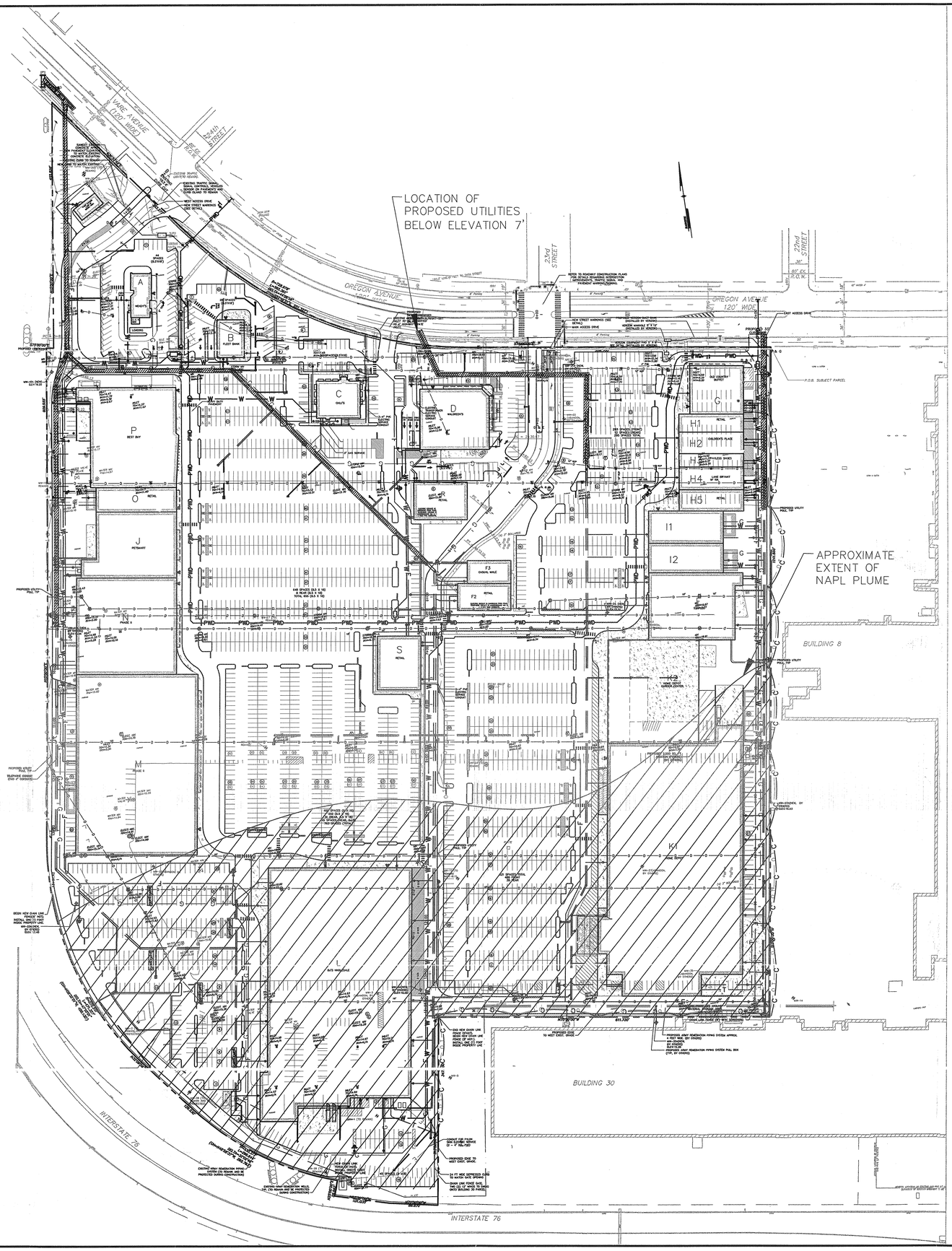


FCRA 0101

SHEET

SCALE	DRAWING NO.
1" = 30'	HD–A
DRAWN BY: MCW	
DATE: 7/7/03	
APPROVED	



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One Drexel Plaza, 3001 Market Street, Philadelphia, PA 19104

Pennoni

NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

QUARTERMASTER PLAZA SHOPPING CENTER
23RD STREET AND OREGON AVENUE
PHILADELPHIA, PENNSYLVANIA

APPROXIMATE EXTENT OF NAPL PLUME

FOREST CITY RATNER COMPANIES
ONE METROTECH CENTER NORTH
BROOKLYN, NEW YORK 11201

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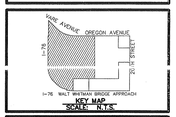
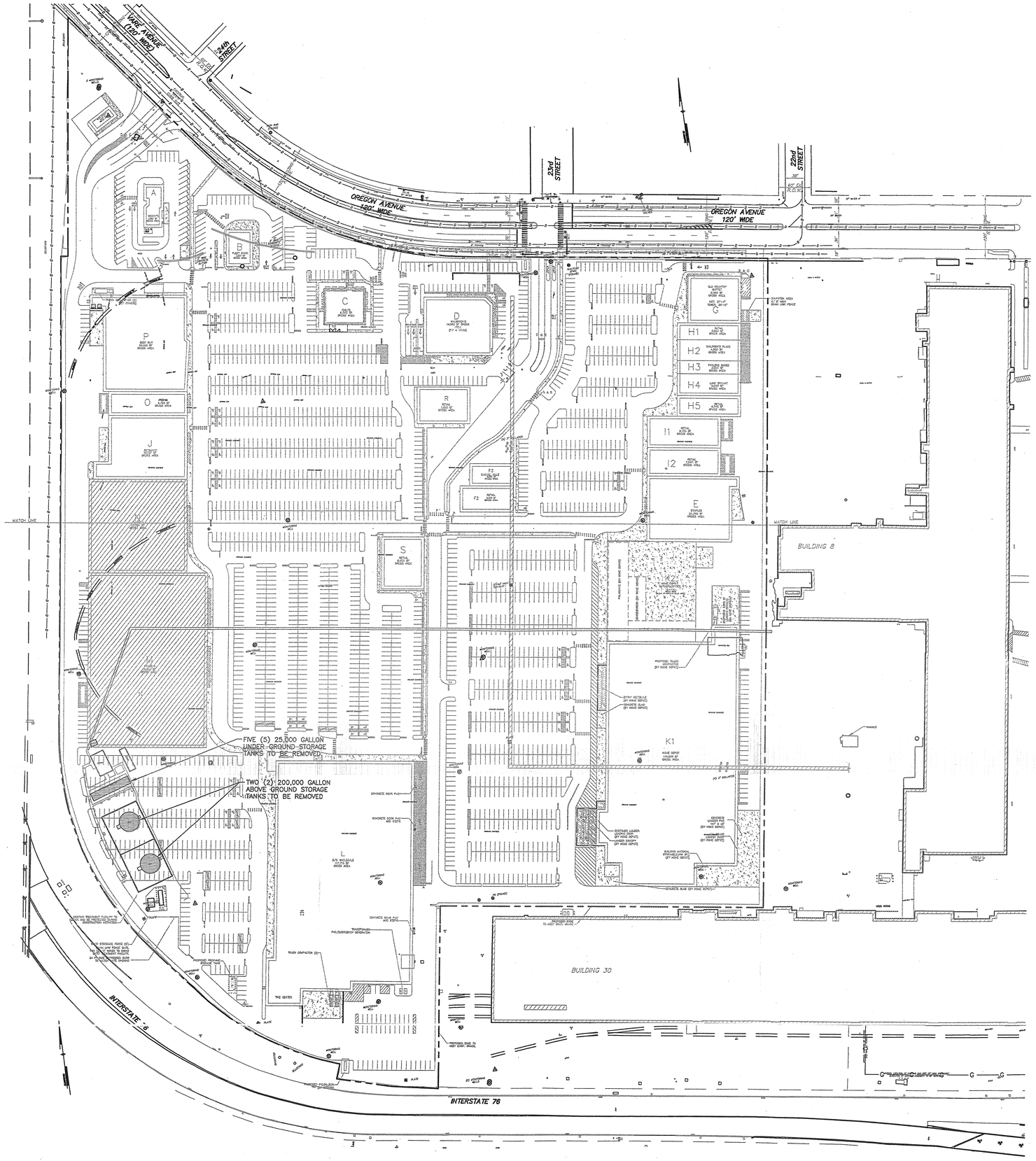


FCRA 0101

SHEET 1

SCALE	DRAWING NO.
1"=80'	E--2
DRAWN BY: ECL	
DATE: 7/7/03	
APPROVED	



NOTE:

THIS PLAN INDICATES THE LOCATION OF EXISTING TANKS WHICH ARE PROPOSED TO BE REMOVED.

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

Pennoni Associates Inc.

One Drexel Plaza, 3001 Market Street, Philadelphia, PA 19104

Engineers • Surveyors • Planners • Landscape Architects

Pennoni

NOT FOR CONSTRUCTION

DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

QUARTERMASTER PLAZA SHOPPING CENTER
23RD STREET AND OREGON AVENUE
PHILADELPHIA, PENNSYLVANIA

STORAGE TANK REMOVAL LOCATIONS

FOREST CITY RATNER COMPANIES
ONE METROTECH CENTER NORTH
BROOKLYN, NEW YORK 11201

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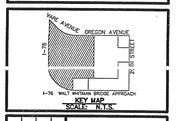


KEY MAP
SCALE: N.T.S.

FCRA 0101

SHEET

SCALE 1" = 80'

DRAWN BY ECL

DATE 7/2/03

APPROVED

DRAWING NO. E-4

RESERVATION BOUNDARY

RESERVATION BOUNDARY

PARKING

JOHNSON ST

MAIN ENTRANCE

ADM. LAB & WHSE

WAREHOUSE

LAB

191 GAL

GEN'L SERVICES QTRS & MAIN CO HQ

HUMPHREY ST

ADM. & BOILER HOUSE

ADM. BLDG.

OFFICERS' OPEN MESS & OFFICERS' CAFETERIA

ADM

MESS

MFG.

BUTLER TRANSPORT

ABANDONED

OPERATION FACILITY

STOR.

CH-24 18,673

DH-11 105

DH-10 933

DH-8 9575

DH-7 16,789

DH-5 9786

DH-6 8999

CH-18 6238

DH-13 192

DH-14 2534

DH-15 973

DH-16 6151

RESERVATION BOUNDARY

spoils 25 gpm PSD

VES. Sewer Line

catch basin

manhole

Kinder For Groundwater

NOTE: No attempt was made to contour these values because not all readings were taken right at the groundwater surface. As shown on Plates 2 and 9, contamination levels varied considerably within a few feet of the groundwater surface.

HYDROCARBON CONTAMINATION IN THE VICINITY OF THE GROUNDWATER SURFACE

PLATE 5

LEGEND

- SEWER MAIN, WITH SIZE
- MANHOLE, WITH NUMBER
- CATCH BASIN, WITH NUMBER
- DIRECTION OF FLOW

NOTES

ALL SEWER MAINS ARE VITRIFIED CLAY CONSTRUCTION

THE SANITARY SEWER AND STORM DRAINAGE MAINS ARE A COMBINED SYSTEM, RUNNING OFF INTO CITY OF PHILADELPHIA COLLECTION SYSTEM.

N

100 0 100 200 300

SCALE IN FEET

NOTE

THE FENCE IS ACTUALLY LOCATED ON THE RESERVATION BOUNDARY LINE

DEFENSE PERSONNEL SUPPORT CENTER

PHILADELPHIA, PENNSYLVANIA

U S ARMY ENGINEER DISTRICT, BALTIMORE CORPS OF ENGINEERS BALTIMORE, MARYLAND	DEFENSE PERSONNEL SUPPORT CENTER CIVIL ENGINEERING DIVISION PHILADELPHIA, PENNSYLVANIA

MASTER PLAN
BASIC INFORMATION MAPS

GENERAL SANITARY-SEWER & STORM DRAINAGE MAP

RECOMMENDED BY THE CHIEF OF ENGINEERS FOR APPROVAL

APPROVED BY THE BOARD FOR APPROVAL

NOTE:- For City Sewer Connection see Sub-Plan below.

M-5 — Floor Elev. 19.0

M-3 — Floor Elev. 19.0

M-2 — Floor Elev. 19.0

M-1 — Floor Elev. 19.0

M-4 — Floor Elev. 19.0

NOTE: These Transformers located on East Wall, and not as shown.

AVENUE "A"

AVENUE "B"

AVENUE "C"

AVENUE "E"

AVENUE "F"

AVENUE "G"

AVENUE "H"

AVENUE "K"

AVE. "L"

JOHNSON STREET

TWENTIETH STREET

PENROSE AVENUE

B. & O. R. R.

P. R. R.

OFFICER'S QUARTERS

GUARD HOUSE

BARRACKS

MESS HALL

AMMUNITION DEPOT

STORAGE BATTERY CHARGING STATION

Heating Plant

Oil Storage

Gasoline Tank

Steam Roller Shed

Tool House

Paint Shop

Carpenter Shop

Blacksmith Shop

Machine Shop

Engine House

Fire Station

Hose Reel House

Flag

Toilet

Fire Hydrant

Manhole

Inlet

Post Indicator Valve

Fence Light

Flood Light

Flood Light Snap Switch

Oil Circuit Breaker

Transformer 2200 Volt Primary — 110/220 Volt Secondary

2-#6 - 2200 Volt Feed

3-#2 T.B.W.P. Fire

3-#2 T.B.W.P.

3-#2 T.B.W.P. & #4 B.C.

3-#2 T.B.W.P. & #4 S.K.K.A.

2-#6 for Fence Lights

2-#6 for Flood Lights

2-#6 for Flood Lights & Fence Lights

2-#6 for Flood Lights & Fence Lights

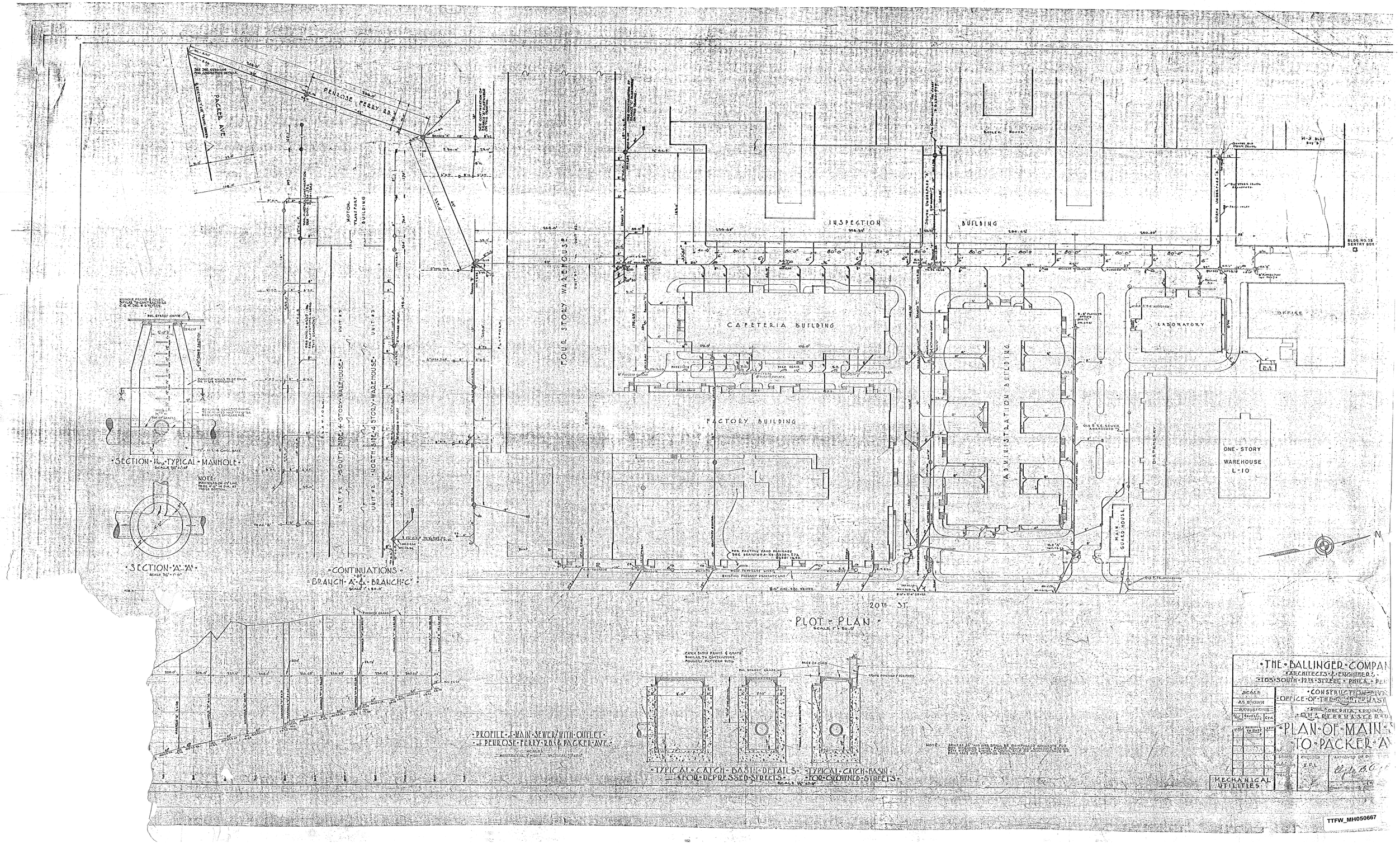
2-#6 for Fence Lights

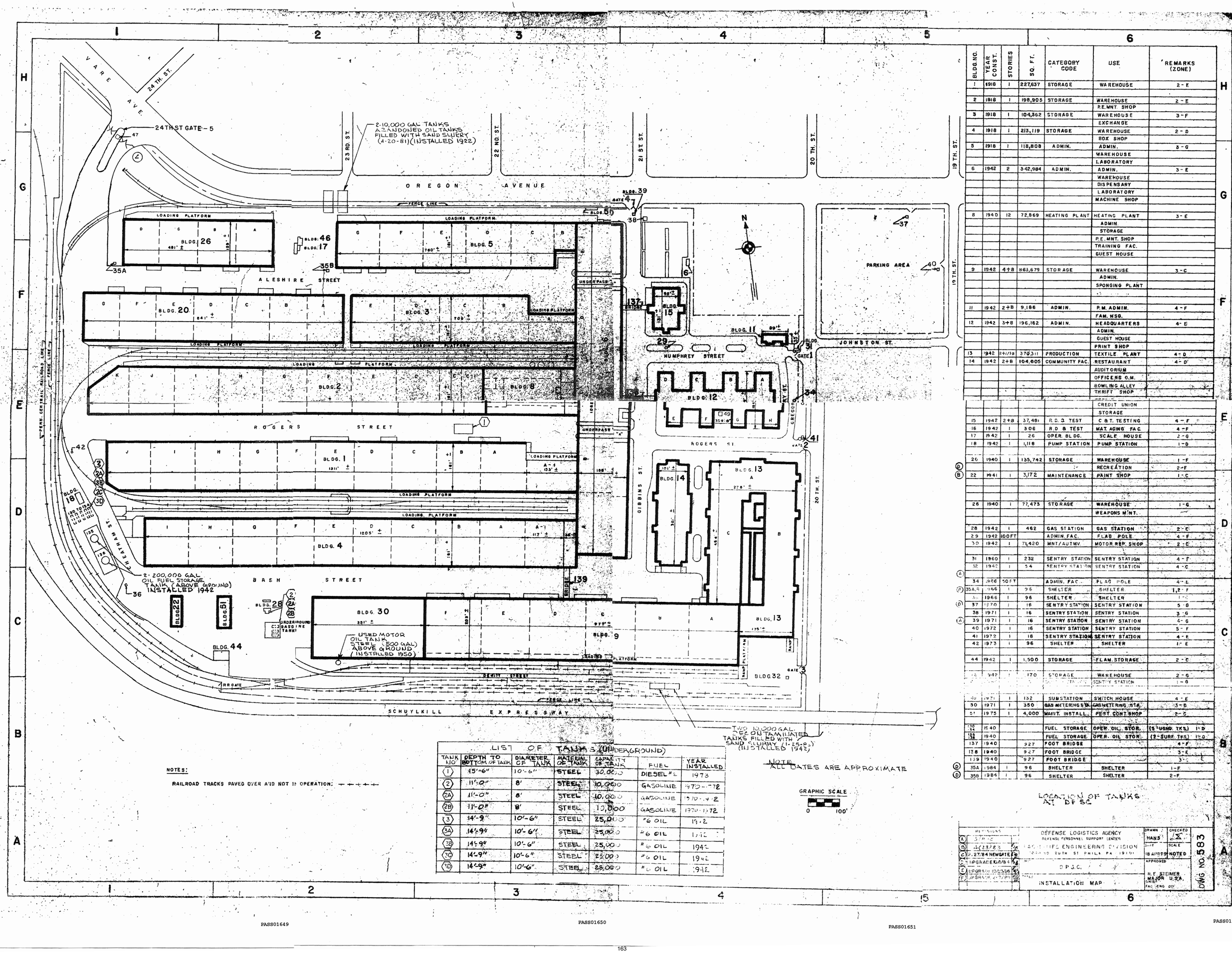
2-#6 for Flood Lights

2-#6 for Flood Lights & Fence Lights

2-#6 for Flood Lights & Fence Lights

2-#6 for Flood Lights & Fence


PENROSE FERRY RD.
PACKER AVE.
MOTOR TRANSPORT BUILDING
FOUR STORY WAREHOUSE
INSPECTION BUILDING
BOILER HOUSE
CAFETERIA BUILDING
FACTORY BUILDING
ADMINISTRATION BUILDING
LABORATORY
OFFICE
DISPENSARY
MAIN GUARD HOUSE
ONE-STORY WAREHOUSE L-10
20TH ST.
PLOT-PLAN
SECTION-TYPICAL-MANHOLE
SECTION-"A"-"A"
CONTINUATIONS
BRANCH-"A"-&-BRANCH-"C"
PROFILE-OF-MAIN-SEWER-WITH-OUTLET
PENROSE-FERRY-RD.-&-PACKER-AVE.
TYPICAL-CATCH-BASIN-DETAILS-FOR-DEPRESSED-STREETS
TYPICAL-CATCH-BASIN-FOR-CROWNED-STREETS
THE-BALLINGER-COMPAN
ARCHITECTS-&-ENGINEERS
105-SOUTH-12TH-STREET-PHILA.-PE
CONSTRUCTION
OFFICE-OF-THE-QUARTERMAST
PHILADELPHIA, PENNA
QUARTERMASTER
PLAN-OF-MAIN-
TO-PACKER-A
MECHANICAL UTILITIES
TTFW_MH050667



BLDG. NO.	YEAR CONST.	STORIES	SQ. FT.	CATEGORY CODE	USE	REMARKS (ZONE)
1	1918	1	227,637	STORAGE	WAREHOUSE	2 - E
2	1918	1	198,905	STORAGE	WAREHOUSE	2 - E
					P.E.MNT. SHOP	
3	1918	1	104,362	STORAGE	WAREHOUSE	3 - F
					EXCHANGE	
4	1918	1	213,119	STORAGE	WAREHOUSE	2 - D
					BOX SHOP	
5	1918	1	118,808	ADMIN.	ADMIN.	3 - G
					WAREHOUSE	
					LABORATORY	
6	1942	2	342,984	ADMIN.	ADMIN.	3 - E
					WAREHOUSE	
					DISPENSARY	
					LABORATORY	
					MACHINE SHOP	
8	1940	12	72,869	HEATING PLANT	HEATING PLANT	3 - E
					ADMIN.	
					STORAGE	
					P.E. MNT. SHOP	
					TRAINING FAC.	
					GUEST HOUSE	
9	1942	4+B	863,679	STORAGE	WAREHOUSE	3 - C
					ADMIN.	
					SPONGING PLANT	
11	1942	2+B	9,186	ADMIN.	P.M. ADMIN.	4 - F
					FAM. MSG.	
12	1942	3+B	196,162	ADMIN.	HEADQUARTERS	4 - E
					ADMIN.	
					GUEST HOUSE	
					PRINT SHOP	
13	1942	2+1/2B	370,311	PRODUCTION	TEXTILE PLANT	4 - D
14	1942	2+B	104,605	COMMUNITY FAC.	RESTAURANT	4 - D
					AUDITORIUM	
					OFFICERS O.M.	
					BOWLING ALLEY	
					THRIFT SHOP	
					CREDIT UNION	
					STORAGE	
15	1942	2+B	37,481	R.D. & TEST	C.B.T. TESTING	4 - F
16	1942	1	306	R.D. & TEST	MAT. AGING FAC.	4 - F
17	1942	1	26	OPER. BLDG.	SCALE HOUSE	2 - G
18	1942	1	1,118	PUMP STATION	PUMP STATION	1 - D
20	1940	1	135,742	STORAGE	WAREHOUSE	1 - F
D					RECREATION	2 - F
B 22	1941	1	3,172	MAINTENANCE	PAINT SHOP	1 - C
26	1940	1	77,473	STORAGE	WAREHOUSE	1 - G
					WEAPONS M'NT.	
28	1942	1	462	GAS STATION	GAS STATION	2 - C
29	1942	100FT		ADMIN. FAC.	FLAG POLE	4 - F
30	1942	1	71,420	MNT/AUTMV.	MOTOR REP. SHOP	2 - C
31	1960	1	232	SENTRY STATION	SENTRY STATION	4 - F
32	1942	1	54	SENTRY STATION	SENTRY STATION	4 - C
L						
34	1966	50FT		ADMIN. FAC.	FLAG POLE	4 - E
F 35A,B	1966	1	96	SHELTER	SHELTER	1,2 - F
35C	1966	1	96	SHELTER	SHELTER	1 - C
D 37	1970	1	16	SENTRY STATION	SENTRY STATION	5 - G
38	1971	1	16	SENTRY STATION	SENTRY STATION	3 - G
A 39	1971	1	16	SENTRY STATION	SENTRY STATION	4 - G
40	1972	1	16	SENTRY STATION	SENTRY STATION	5 - F
41	1972	1	16	SENTRY STATION	SENTRY STATION	4 - E
42	1973	1	96	SHELTER	SHELTER	1 - E
44	1942	1	1,500	STORAGE	FLAM. STORAGE	2 - C
48	1942	1	170	STORAGE	WAREHOUSE	2 - G
					SENTRY STATION	1 - G
49	1971	1	132	SUBSTATION	SWITCH HOUSE	4 - E
50	1971	1	350	GAS METERING STA.	GAS METERING STA.	3 - G
51	1975	1	4,000	MAINT. INSTALL.	PEST CONT. SHOP	2 - C
130 14	1940			FUEL STORAGE	OPER. OIL STOR.	(5 - UGND. TKS.) 1 - D
132 138	1940			FUEL STORAGE	OPER. OIL STOR.	(2 - SURF. TKS.) 1 - D
137	1940		927	FOOT BRIDGE		4 - F
138	1940		927	FOOT BRIDGE		3 - E
139	1940		927	FOOT BRIDGE		3 - E
D 35A	1984	1	96	SHELTER	SHELTER	1 - F
D 35B	1984	1	96	SHELTER	SHELTER	2 - F

NOTES:

RAILROAD TRACKS PAVED OVER AND NOT IN OPERATION: — + — + —

LIST OF TANKS (UNDERGROUND)

TANK NO	DEPTH TO BOTTOM OF TANK	DIAMETER OF TANK	MATERIAL OF TANK	CAPACITY OF TANK	FUEL	YEAR INSTALLED
(1)	15'-6"	10'-6"	STEEL	30,000	DIESEL #2	1978
(2)	11'-0"	8'	STEEL	10,000	GASOLINE	1970 - 1972
(2A)	11'-0"	8'	STEEL	10,000	GASOLINE	1970 - 1972
(2B)	11'-0"	8'	STEEL	10,000	GASOLINE	1970 - 1972
(3)	14'-9"	10'-6"	STEEL	25,000	#6 OIL	1942
(3A)	14'-9"	10'-6"	STEEL	25,000	#6 OIL	1942
(3B)	14'-9"	10'-6"	STEEL	25,000	#6 OIL	1942
(3C)	14'-9"	10'-6"	STEEL	25,000	#6 OIL	1942
(3D)	14'-9"	10'-6"	STEEL	25,000	#6 OIL	1942

NOTE
ALL DATES ARE APPROXIMATE

GRAPHIC SCALE
0 100'

LOCATION OF TANKS
AT DPSC

REVISIONS			
A	3-7-84		
B	4/23/84		
C	9.27.84 NEWGATE		
D	UPGRADED 10/1/84		
E	UPGRADED 10/2/86		
F	UPGRADE 2/23/87		

DEFENSE LOGISTICS AGENCY
DEFENSE PERSONNEL SUPPORT CENTER
ENGINEERING DIVISION
2800 S. 20TH ST. PHILA. PA. 19101

DPSC

INSTALLATION MAP

APPROVED
R.E. STEIMER
MAJOR U.S.A.
CHIEF FAC. ENG. DIV.

DRAWN: HANS
CHECKED: X
SCALE: 1" = 100'
DATE: 18 APR 79 NOTED

DWG NO. 583

PASS01649 PASS01650 PASS01651 PASS01652

PENROSE AVE

PATTISON AVE

HOYT ST.

HARTRANFT ST.

HARTRANFT AVE.

Note
Trench existing ditch where necessary.

Existing Ditch

Sewer Pipe

4'-0" Dia. Reinforced Concrete Pipe

1:2:4 Concrete Outlet Wall

Concrete Inlet Wall

Pavement Gutter

Concrete Pipe

Concrete Intake Wall

Existing Ditch

Concrete Ferry Road

Note: Unless otherwise shown on the plan, all pipe sewers shall be constructed 11'-6" from the outside lines of the buildings and parallel thereto, and all pipe stormwater conduits shall be constructed 7'6" from the outside lines of the buildings and parallel thereto.

8" DIA. C.I. FORCE MAIN

8" DIA. C.I. FORCE MAIN

8" DIA. C.I. FORCE MAIN

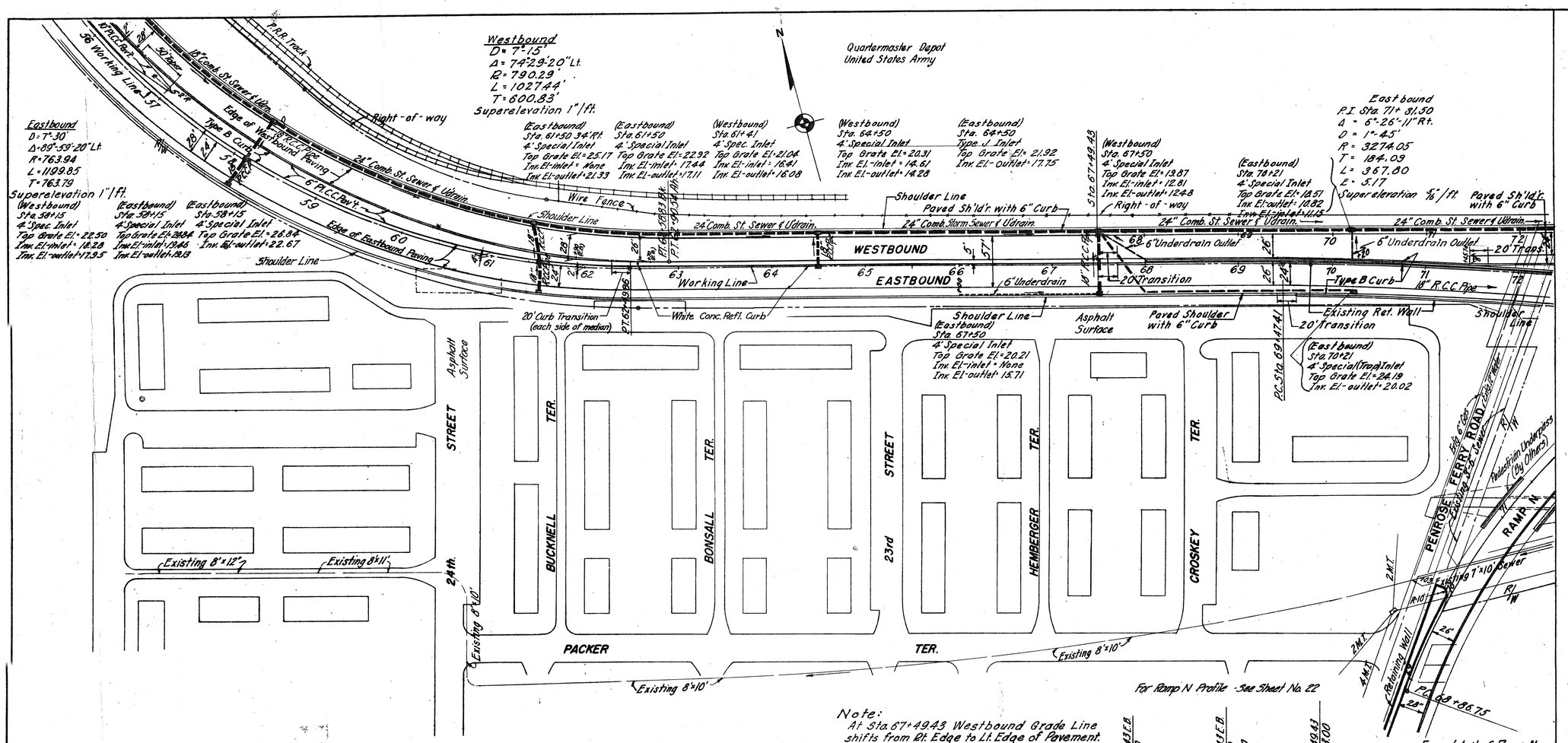
Proposed 2'6"-1'-8" Brick Sewer

Proposed 2'6" Dia V.P. Sewer

Proposed 24" R.C.P.

Proposed 24" R.C.P.

Proposed 24" R.C.P.



REQUIRED LIST
EASTBOUND

Sta 58+15
84 L.F. 18" R.C.C. Pipe
1-4 Ft. Spec. Inlet on Lt.
2-4 Ft. Spec. Inlets Lt. & Rt.

Sta 58+17 - Sta 61+39 Lt.
Comb. Storm Sewer & U/drain
308 L.F. 24" R.C.C. Pipe (Open Joints)

Sta. 61+50
76 L.F. 18" R.C.C. Pipe
1-4 Ft. Spec. Inlet on Lt.
1-4 Ft. Spec. Inlet Lt. (Sta. 61+41)
1-4 Ft. Spec. Inlet Rt. (Sta. 61+50)

Sta 61+43 - Sta 64+48 Lt.
Comb. Storm Sewer & U/drain
296 L.F. 24" R.C.C. Pipe (Open Joints)

Sta. 64+50
36 L.F. 18" R.C.C. Pipe
1- Type J Inlet on Lt.
1-4 Ft. Spec. Inlet Lt.

Sta. 64+52 - Sta. 67+48 Lt.
Comb. Storm Sewer & U/drain
296 L.F. 24" R.C.C. Pipe (Open Joints)

Sta. 66+00 - Sta. 67+48 Rt.
148 L.F. 6" Underdrain

Sta. 67+50
70 L.F. 18" R.C.C. Pipe
2-4 Ft. Spec. Inlets Lt. & Rt.

Sta. 67+52 - Sta. 70+19 Lt.
Comb. Storm Sewer & U/drain
268 L.F. 24" R.C.C. Pipe (Open Joints)

Sta. 67+52 - Sta. 68+00
58 L.F. 6" U/drain outlet (Across W.B.)

Sta. 70+20
30 L.F. 6" U/drain outlet (Across W.B.)

Sta. 70+23
192 L.F. 18" R.C.C. Pipe *
1-4 Ft. Spec. Inlet (Trapped) Ft. (Sta. 70+21)
3 C.Y. Cl. A Conc. (For Thrust Backing)
* Connect to Existing Sewer

WESTBOUND

Sta. 70+23 - Sta. 73+23 Lt.
Comb. Storm Sewer & U/drain
300 L.F. 24" R.C.C. Pipe (Open Joints)
1-4 Ft. Spec. Inlet (Sta. 70+21)

DELAWARE RIVER PORT AUTHORITY
OF PENNSYLVANIA AND NEW JERSEY

DELAWARE RIVER BRIDGE

CONNECTING
PACKER AVE., PHILADELPHIA, PA.
AND GLOUCESTER, N. J.

PAVING AND DRAINAGE PLAN-5

SCALE IN FEET

MODJESKI & MASTERS
AMMANN & WHITNEY
ENGINEERS

CONTRACT NO. P-9
DRAWING NO. 18R
FILE NO. 2833

REVISION	BY	CHD.	DATE
As Built	RBS	HMH	5-2-58

SUPERSEDES DRAWING NO. 18 File No. 2798

TTEW MH050706

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LEGEND:

- EXISTING PROPERTY LINE
- EXISTING INLET
- EXISTING MANHOLE
- EXISTING STORM LINE
- EXISTING SANITARY LINE
- EXISTING WATER LINE
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING COMMUNICATIONS LINE
- EXISTING COMBINED SEWER LINE
- EXISTING FENCE LINE
- EXISTING ROOF DRAIN
- EXISTING FEATURE TO BE REMOVED
- EXISTING CONTOUR LINE
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING GROUNDWATER RECOVERY WELL
- PROPOSED INLET
- PROPOSED MANHOLE
- PROPOSED STORM LINE
- PROPOSED INTERIOR STORM LINE
- PROPOSED RAINWATER GUTTER LINE
- PROPOSED OUTLET CONTROL STRUCTURE
- PROPOSED OBSERVATION WELL
- PROPOSED CLEANOUT
- EXISTING DOWNSPOUT
- PROPOSED EXTERNAL DOWNSPOUT & STUB-UP
- PROPOSED TIE TO EXISTING

GENERAL NOTES:

1. PROPERTY LINE SHOWN IS BASED ON "ALTA/ACSM LAND TITLE SURVEY" PLAN PREPARED BY LANGAN ENGINEERING DATED 09/01/2011.
2. PROJECT COORDINATE SYSTEM IS PENNSYLVANIA STATE PLANE - SOUTH ZONE. VERTICAL DATUM IS NAVD 1988.
3. EXISTING STRUCTURE INFORMATION BASED ON ACTUAL FIELD SURVEY PERFORMED BY H2O INFRASTRUCTURE, OR PLANS PROVIDED BY PWD.
4. UNDERDRAIN CAP WILL BE INSTALLED IN THE OUTLET CONTROL STRUCTURES FOR BASINS 00-0, & 00-0. CAP WILL BE REMOVED IF INFILTRATION IS NOT FEASIBLE OR BASIN INFILTRATION FAILS AFTER CONSTRUCTION.
5. OUTFLOW PIPES FROM CATCH BASINS AND RISER MANHOLES WILL TIE IN TO SUBSURFACE BASIN UNDERDRAIN FROM A 45° VERTICAL BEND AS INDICATED AT EACH LOCATION. SOME PIPES WILL TIE DIRECTLY IN TO A CLEANOUT NEAR THE EDGE OF THE SUBSURFACE BASIN. (SEE SHEET C-80□ FOR DETAILS)
6. COMPACTION: ALL BACKFILL MATERIAL IN BASINS AND PIPE TRENCHES SHALL BE INSTALLED IN 8-INCH TO 12-INCH LOOSE LIFTS AND COMPACTED TO 95□ OF ITS MAXIMUM DRY DENSITY BY ROLLING EACH LIFT WITH A MINIMUM OF THREE PASSES OF A SHEEPSFOOT VIBRATORY TRENCH ROLLER OR E□UIVALENT.
7. THE PROPOSED INLET GRATE ELEVATION ON THE PLANS SHALL BE VERIFIED IN FIELD. ENSURE THAT THE TOP OF GRATE ELEVATION IS 2 INCHES LOWER THAN THE ADJACENT EXISTING GRADE SO THAT SURFACE RUNOFF DOES NOT BYPASS THE INLET GRATE OR POND AROUND THE INLET.
8. THE PROPOSED MANHOLE RIM ELEVATIONS ON THE PLANS SHALL BE VERIFIED WITH ACTUAL ELEVATIONS IN THE FIELD. ENSURE THAT THE INSTALLED MANHOLE RIM ELEVATION MATCHES THE ADJACENT EXISTING GRADE.

SHEET NOTES:

1 DSCP GROUNDWATER REMEDIATION INFRASTRUCTURE.

CONNECTION TO EXISTING STORM WATER SEWER SHALL NOT INTERFERE WITH DSCP BURIED INFRASTRUCTURE. ASKED TO INCLUDE DLA IN NOTIFICATION OF WORK STARTING AND INCLUDE IN SITE MEETINGS AND PROCEED WITH CAUTION.

2

50' 0 50' 100'
scale feet
SCALE: 1"=50'

PROGRESS PLAN-NOT FOR CONSTRUCTION

ISS Infrastructure Solution Services
A Design/Build Company
1533 SKIPPACK PIKE, SUITE 2
BLUE BELL, PA 19422
P: (484) 704-7200
F: (267) 200-0414

No.	Revision/Issue	Date
4	TECHNICAL PLAN REVIEW	2/22/2017
3	TECHNICAL PLAN REVIEW	2/16/2017
2	TECHNICAL PLAN REVIEW	1/27/2017
1	TECHNICAL PLAN REVIEW	12/5/2016
0	TECHNICAL PLAN REVIEW	11/10/2016

CALL BEFORE YOU DIG
Toolkit 811
PA. ONE CALL

PWD TRACKING NUMBER: FY17-STHS-4442-01
DRAWN By : D.H.T.
DESIGNED BY : M.W.M.
CHECKED BY : M.J.C.
DATE : 10-24-2016
SCALE : AS NOTED
CAD FILENAME: C-130.dwg

PROJECT:
PWD STORMWATER CREDIT RETROFIT DESIGN
SITE 13 - PHASE 3
FOR
SKY MANAGEMENT
2810 S. 20TH STREET
PHILADELPHIA, PA

SEAL:
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL J. COYLE ENGINEER NO. 061136

MICHAEL J. COYLE
PROFESSIONAL ENGINEER
NO. 061136
COMMONWEALTH OF PENNSYLVANIA

H2O Infrastructure, LLC
1533 SKIPPACK PIKE, SUITE 1
BLUE BELL, PA 19422
PHONE: (484) [redacted]
FAX: (267) 200-0414

SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C-130

2/22/2017 9:11 AM
P:\Site 13 - 20th St & Oregon Ave\Drawings\SHEET SET-3\C-130.dwg

APPENDIX E

ACME, [redacted] 2018-11-05

Created	2018-11-05 18:46:42 UTC by Chuck Rogers
Updated	2018-11-06 13:01:10 UTC by Chuck Rogers
Location	39.9174546869843, -75.1792032179192
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-05
Time	13:47
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	ACME

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Survey Team
Given access to building?	No

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	Supermarket
Does it include residences?	N/A
Building age (in years)	N/A
Is the building insulated?	Yes
How air-tight?	Average

Basement and Construction Characteristics (select all that apply)

Above grade construction	stone brick
Basement type	Slab
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A
Please provide representative photos	

NE corner of building facing W

Gas line entering at SE corner, facing W

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Gas line at SE corner, facing W, drain vents for sewer pictured

Storm sewer vents and storm sewer grates at SE corner, facing E

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Sewer manhole across from heating oil room at septa, facing S

FDC at mid of building rear, facing W

Water valves at FDC, facing S

Storm sewer grate along S wall ~60w of FDC, facing W

Sewer ~60’ from SW corner, facing SW

Transformers at SW corner, facing W

Gas valves at SW corner, facing E

SW section of building, receiving bay

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Conduit on NW corner of 20th and Oregon, branching towards parking lot, likely for lights, facing W

Storm sewer at N parking lot entrance, facing E

Storm sewer at Ne parking lot edge, facing E, 19th st pictured

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A

Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	No
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	Yes
Describe the general weather conditions	Rain, 50s

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Building 6, Bay A - State Police, 2018-11-13

Created	2018-11-13 13:57:53 UTC by Chuck Rogers
Updated	2018-11-16 12:21:58 UTC by Chuck Rogers
Location	39.9165515312756, -75.1845435348226
Project Number	[redacted]
Date	2018-11-13
Time	08:57
Building Address/Number/ID	Building 6, Bay A - State Police

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Sky Mgmt Worker, Bobby
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	Yes
How air-tight?	Unknown

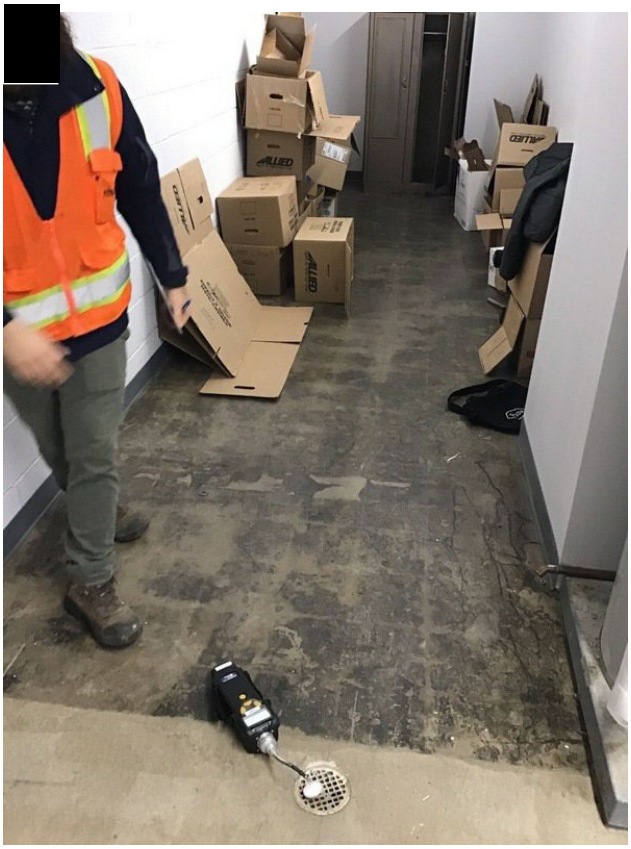
Basement and Construction Characteristics (select all that apply)

Basement type	Slab
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

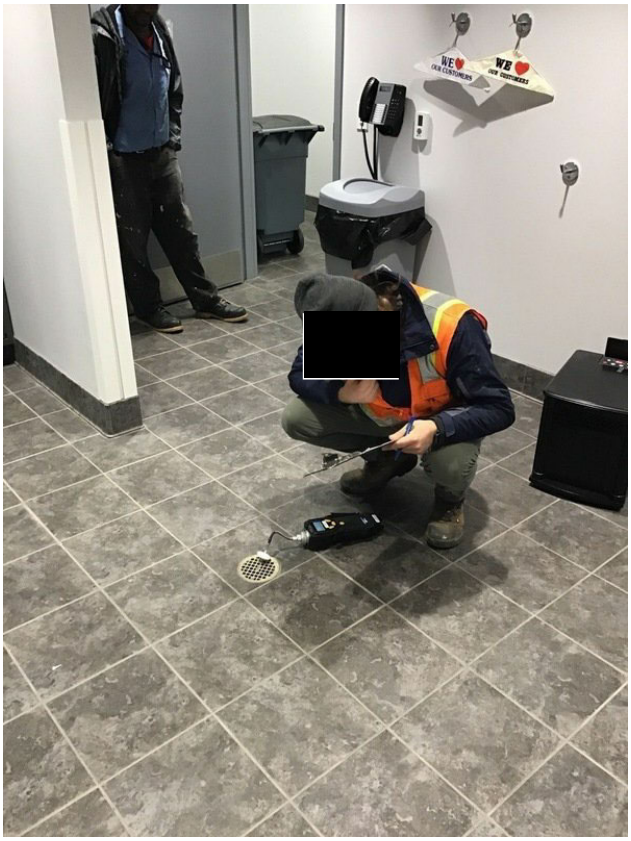
Please provide representative photos

Crack in DMARK room - Building 6, bay A

Drain in mechanical room - Building 6, bay A

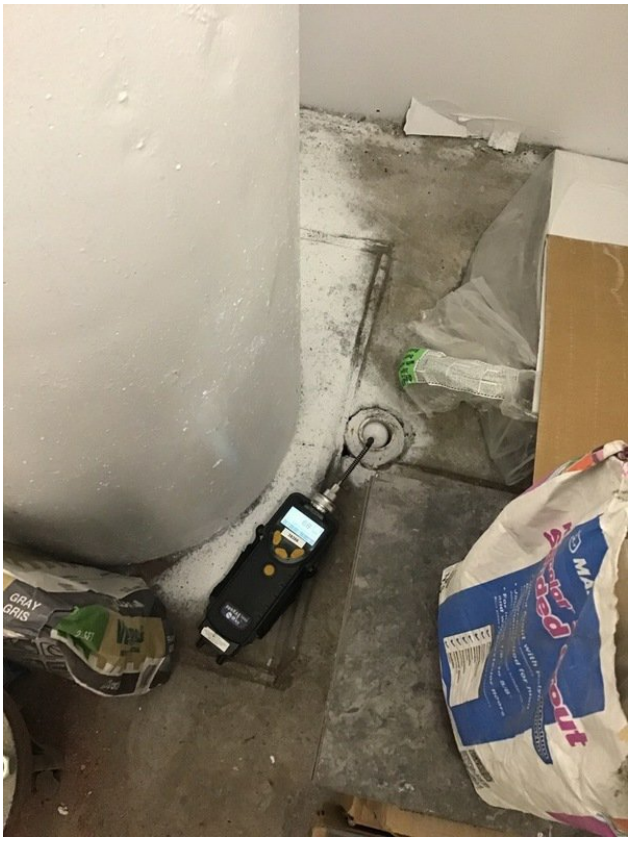


Mechanical room - building 6, bay A



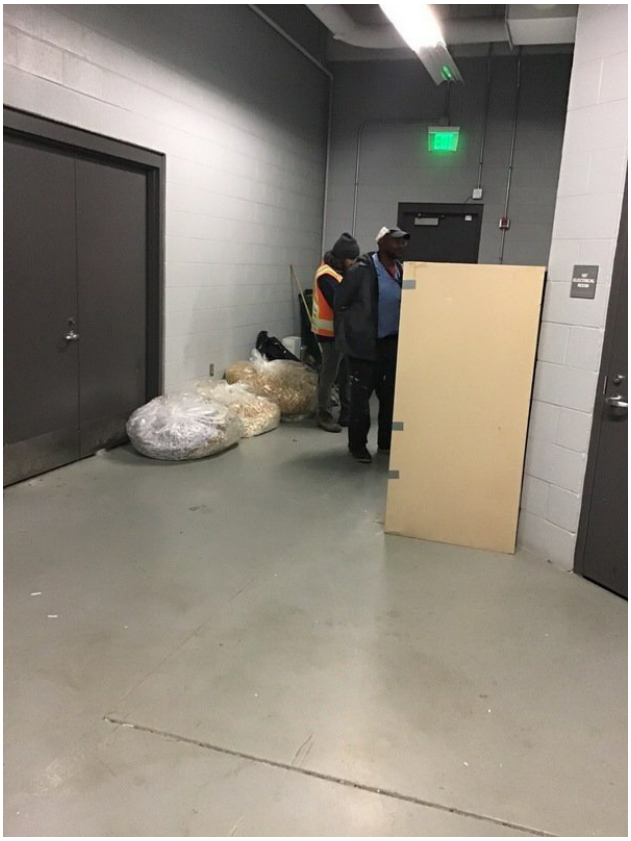
Women’s locker room - building 6, bay A

Sprinkler room - building 6, bay A



Sprinkler room - building 6, bay A

Janitor room - building 6, bay A



Building 6, bay A - room outside of hallway before the main door to state police, behind

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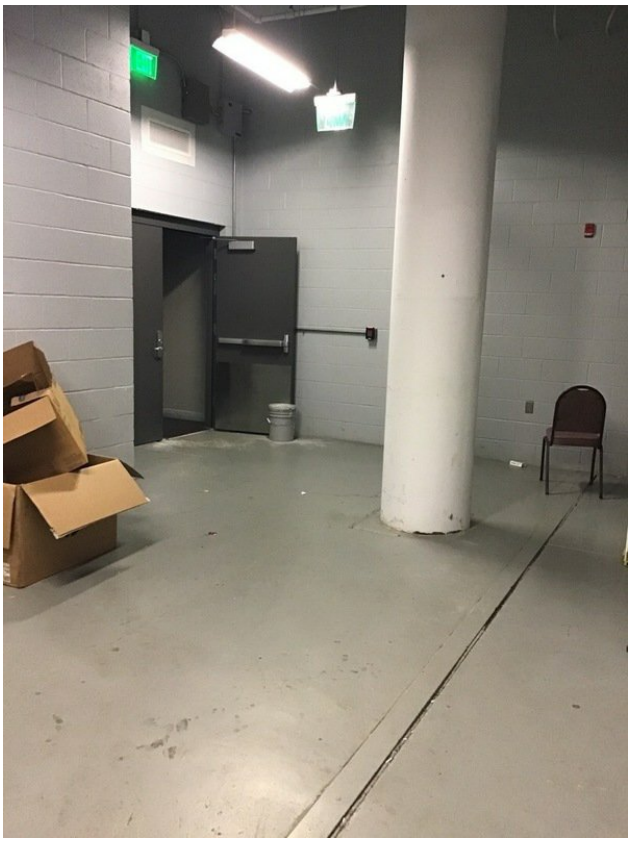
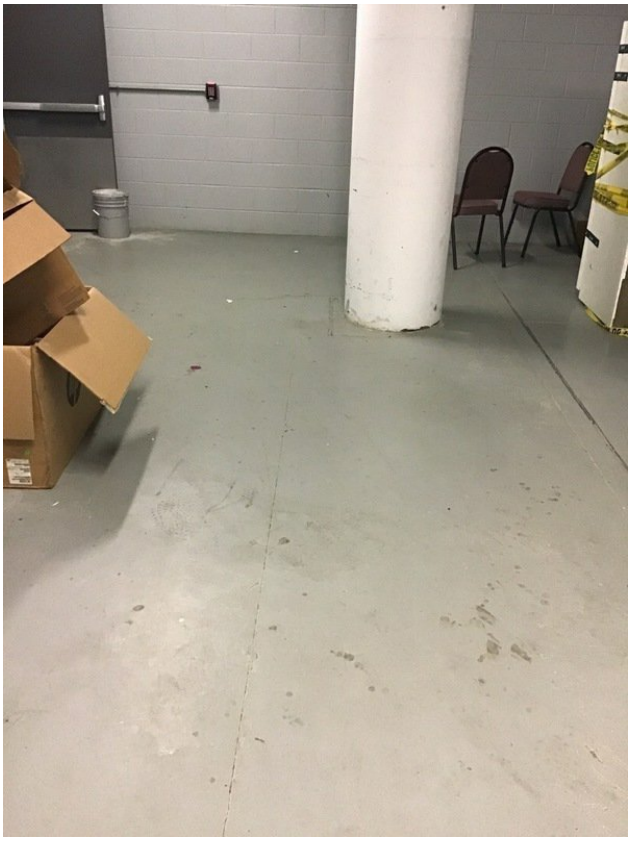
elevator



Building 6, bay A - room outside of hallway before the main door to state police, behind elevator



Building 6, bay A - room outside of hallway before the main door to state police, behind elevator

Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Hot air circulation
Primary type of fuel used	Natural gas
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Main Floor
Air Conditioning	Central air
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Full-time
Number of hours basement/lowest level occupied per day	8
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A

Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	Yes
When and type of cleaning products?	Household, regularly
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	No
Is there a bathroom exhaust fan?	Yes
Where is the bathroom exhaust fan?	Center
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	No
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water

Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	50s, sunny

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Bldg 6, bay A, PPD Counterterrorism , [redacted] 2018-11-14

Created	2018-11-14 13:33:28 UTC by Chuck Rogers
Updated	2018-11-14 18:57:20 UTC by Chuck Rogers
Location	39.9151918016178, -75.1841569367336
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-14
Time	08:33
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	Bldg 6, bay A, PPD Counterterrorism

Occupant

Occupant Interviewed	Yes
Occupant Last Name	[redacted]
Occupant First Name	[redacted]
Occupant Address	
Age of Occupants	N/A

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Occupant
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Building age (in years)	75
Is the building insulated?	Yes
How air-tight?	Average

Basement and Construction Characteristics (select all that apply)

Above grade construction	stone brick, concrete
Basement type	Slab
Sump present?	No
Perimeter drainage system present?	No
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

Please provide representative photos

Roof drain pipe at SW corner of stairs, facing SW

Roof drain pipe at corner of equipment locker, facing SW

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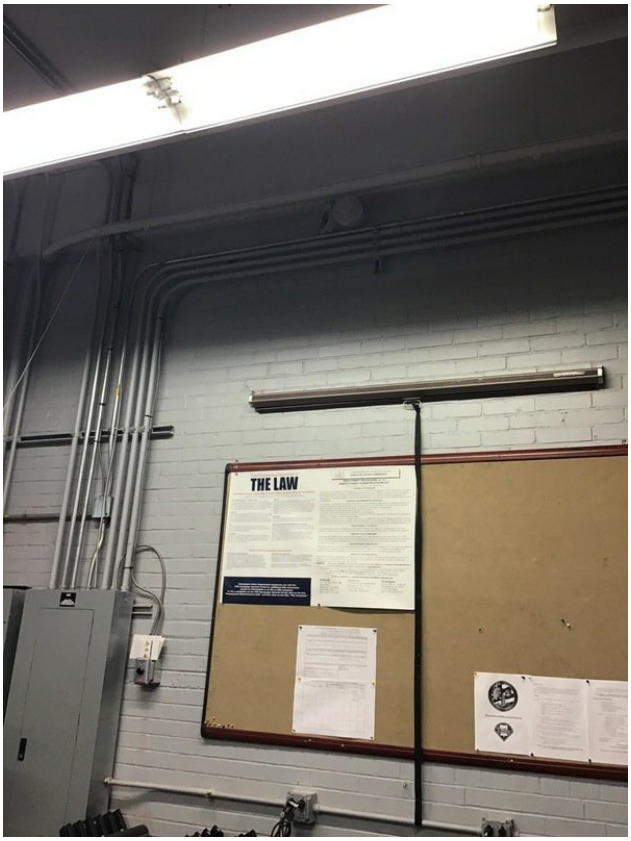
0.5” crack in slab, facing E



Pipe on N wall of equip locker

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Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Hot air circulation
Primary type of fuel used	Fuel oil
Domestic hot water tank fueled by	N/A
Air Conditioning	Central air
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Full-time
Number of hours basement/lowest level occupied per day	8
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	Storage, Fitness
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	No

Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	40s, sunny

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

DSCP Building 6 Section B, [redacted] 2018-11-09

Created	2018-11-09 16:16:25 UTC by [redacted]
Updated	2018-11-09 17:26:36 UTC by [redacted]
Location	39.9160891492292, -75.183476228337
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-09
Time	11:17
Preparer's Affiliation	USACE
Purpose of Investigation	VI Assessment
Building Address/Number/ID	DSCP Building 6 Section B

Occupant

Occupant Address

Owner or Landlord

Owner Address

Building Characteristics

If Multiple Units, how many?	N/A
Does it include residences?	No
Building age (in years)	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

Please provide representative photos

Northeast corner large pipes into floor. Likely steam based on utility map of steam tunnel.

Northeast corner. Two pipes into floor and one into wall.

Southeast corner pipe into floor.

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Southeast corner pipe into floor.

Southeast corner end of ramp.

Row D of columns, south end sprinkler floor penetration

E and D columns dirt and concrete pieces. Origin unknown.

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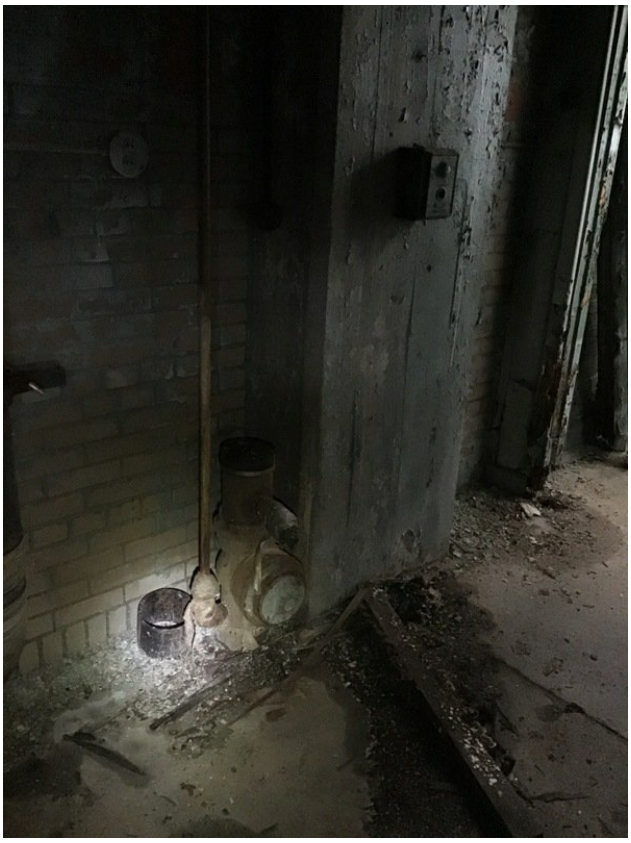
North sprinkler floor penetration, row D



Northwest corner pipe into floor. Appears to formerly have connected to roof drain.

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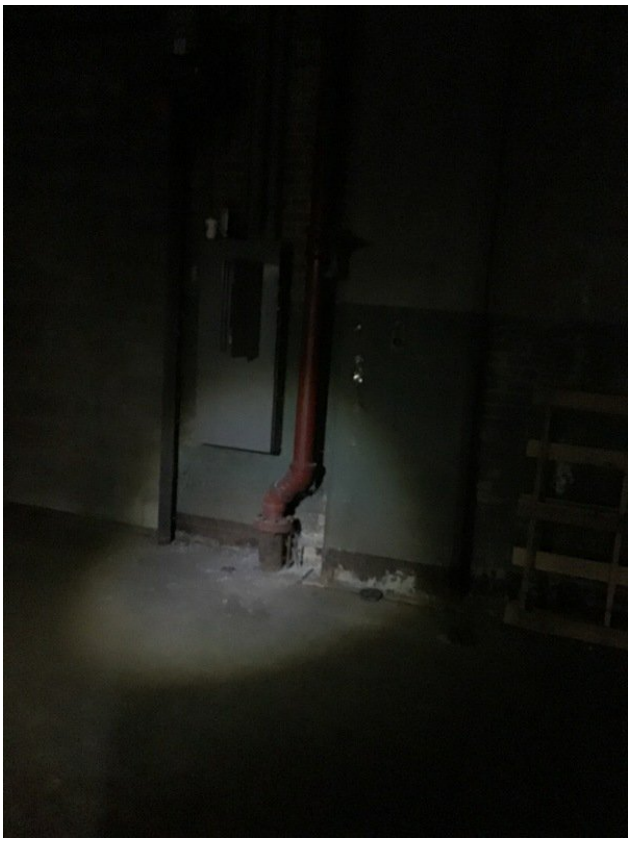
Northwest corner bathroom with floor drain, south side of bathroom

Northwest corner bathroom, north side. Floor drain, sink floor penetration



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Mid way along west wall. Pipe into floor.

Mid way along west wall pipe into floor, formerly connected to pipe above.

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A

Other factors influencing indoor air	N/A

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Building 6 Bay C, [redacted] 2018-11-09

Created	2018-11-09 15:00:43 UTC by Chuck Rogers
Updated	2018-11-09 16:34:48 UTC by Chuck Rogers
Location	39.9188179867731, -75.1823323148777
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-09
Time	10:00
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	Building 6 Bay C

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Entry Team
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Number of floors	3
Building age (in years)	75
Is the building insulated?	No
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete, stone brick
Basement type	Slab
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Refrigerant Storage in old bathroom at NE , facing E

R11 pail stored At NE end, appears full, facing NE, all pails/drums in this room marked

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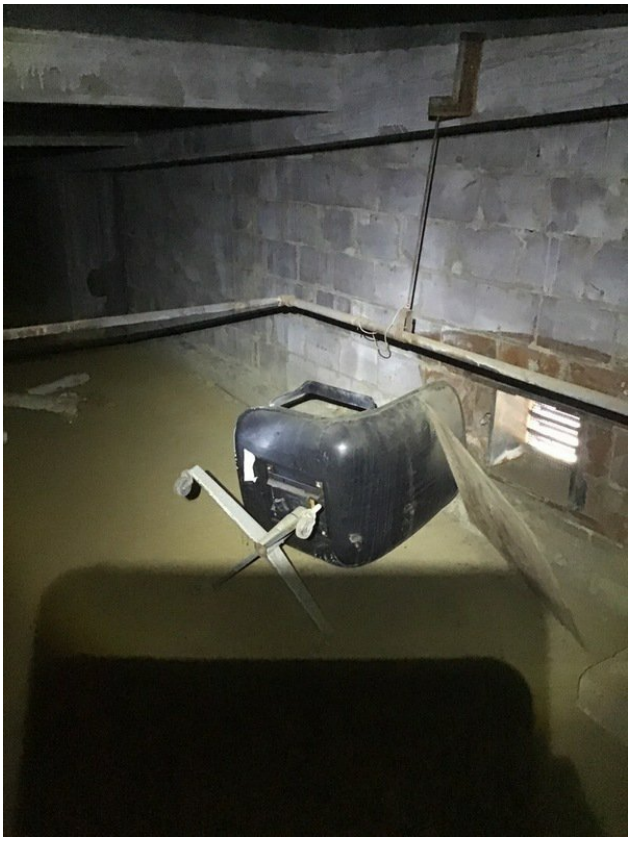
R11

Boiler in ramp room, facing SE

E side of ramp room, extends N, E of storage area to wall with bay D, dirt floor here, facing NE, 0ppb, fdp on pictured right of column on E side of floor

Floor drain E side of boiler in ramp room, facing NW



Window vent and fdp on NE end of ramp room, facing NE

Gas pipe along E wall of ramp room, facing S

SW corner of ramp room, facing S

Fdp and Water on N side of ramp room, facing E

Ramp room facing S at door to storage

N hall facing W from storage

N end of Rm1 facing W

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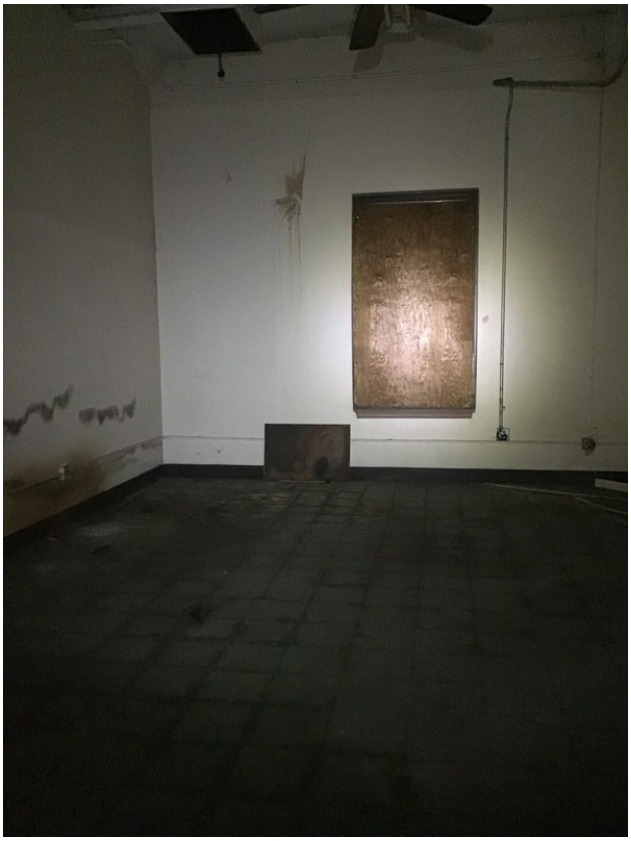
Vault at W end of Rm1 at door to Rm1A, facing S, ~5’ deep, 0ppb, cracks at each corner of vault on slab radiating out, gravel and one water pipe going through sides at base



Rm1A facing W, window to outside

Rm1 facing SE

Rm10, machine Rm, facing W from Rm1

Refrigerant and fdp in NE of Rm10, facing NW

Drum storage(?) and pipe though wall to outside, facing W at NW corner

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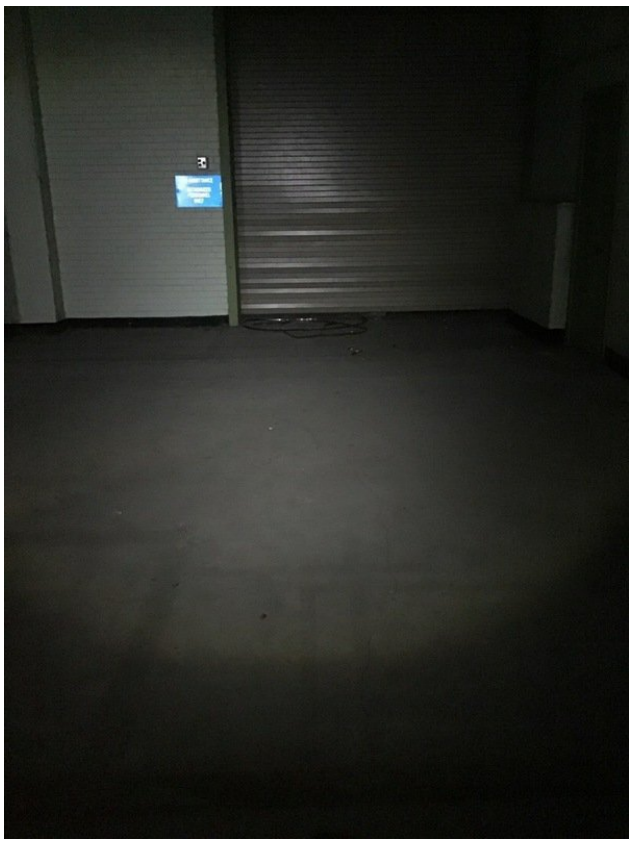
Floor drain vault at Rm10 center, facing W , ~8’ deep, water at base and open pipe about 5’ down, 0ppb

Floor drain, facing SW in Rm10

Door at SW corner Rm10, to N loading dock of Bldg8 and outside, facing W

Boilers facing E , Rm10



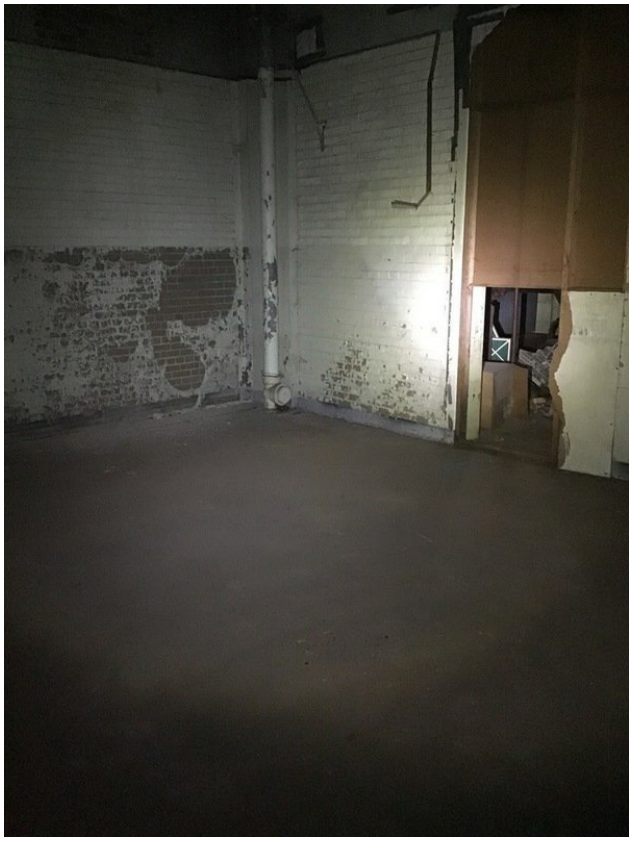
SW corner Rm1, facing S, 30’ 0.25” crack

Crack, Rm1 N of 3rd Door from E wall, facing S

N end rm2, facing W

NE sprinkler pipes rm2, facing N

N sprinkler pipe, cut and insulated, rm2 facing N



NW drain pipe, rm2, facing NW, hole to Rm10 s of boiler

Rm 2, facing SW

Rm2, SW end facing SW

Rm2, SE end, door to S rm3 at far left

W1, facing NW, fd at center, 0ppb

W4 and 5 facing S from W3, no features in any of these rooms

N end W2 facing S, bldg 8 on right

N end W2, facing W, door to building 8

Fdp N end W2, facing SW, metal grate behind may be covering gap b/w buildings but 0ppb from gap

Fdp in W2, facing S

W2, S end facing S, fdp at right, cracked floor at left, door to S end of bldg 8 on right

S hall from S end of W2 facing W, window on right to tunnel b/w bay B/C, door at end to parking lot between 6 and 12

Fdp W5 facing NE

Door from W5 to W6, no features in W6

Fdp on SE end S hall, facing SE

M bathroom SE end S hall, sink at NE end, fd likely but not observed, xylene cans, spent

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at left, 400pb in air here, facing E

Loading dock and door to Rm3, facing NE

Manhole (?) sw corner rm3, facing N

E3, Fdp, facing E

E2, Facing SE

N end E2, Fdp at right, facing N, WRR At end

N end E2, Fdp, facing NE

WRR, Fd, fdp(x2), vent fan, facing E

Fdp, facing NE, 3ppb

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E1 facing N, doors to ramp above ramp room

N at top of ramp where fenced off, facing N

Drain pipe at SE doors, facing NE

0.25

Crack Width (inches)	0.25
Crack Location	SW end of Rm1 near Rm10b door
Maximum PID measurement (ppb)	0

0.5

Crack Width (inches)	0.5
Crack Location	Mid of S end Rm1
Maximum PID measurement (ppb)	0

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	No
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Almost never
Number of hours basement/lowest level occupied per day	1

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	Storage
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	No
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	Light rain, 50s

General Observations

Please add any other general observations	Building slab ~3 above grade

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

DSCP Building 6 E/D, [redacted] , 2018-11-08

Created	2018-11-08 14:11:38 UTC by [redacted]
Updated	2018-11-09 13:25:07 UTC by [redacted]
Location	39.9188511676352, -75.1838358525007
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-08
Time	09:12
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	DSCP Building 6 E/D

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

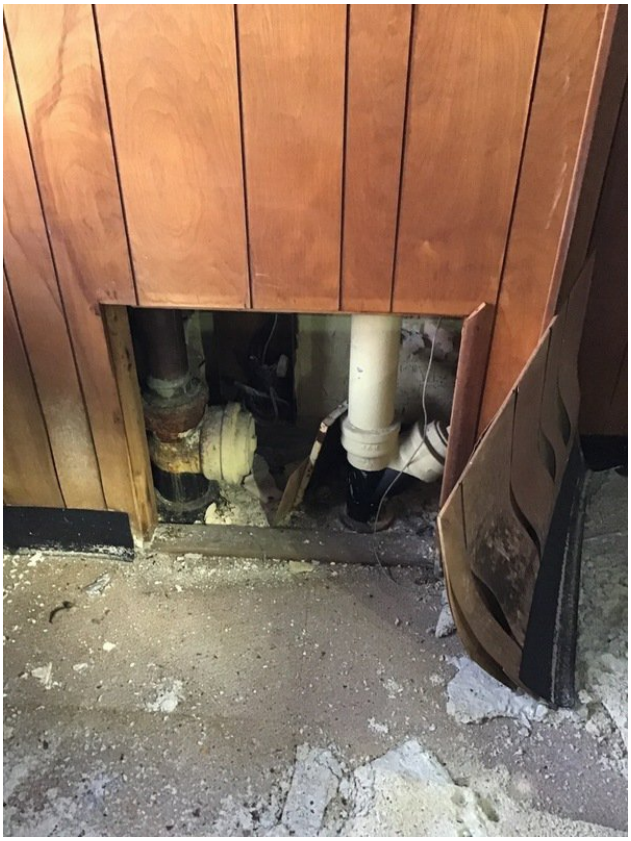
Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	N/A
Does it include residences?	No
Number of floors	2
Building age (in years)	75
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete
Concrete floor	Unknown
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A
Please provide representative photos	



Pipes going into floor northeast corner room 67 building 6

Utility sink north side room 71 building 6

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Utility sink north side room 74 building 6

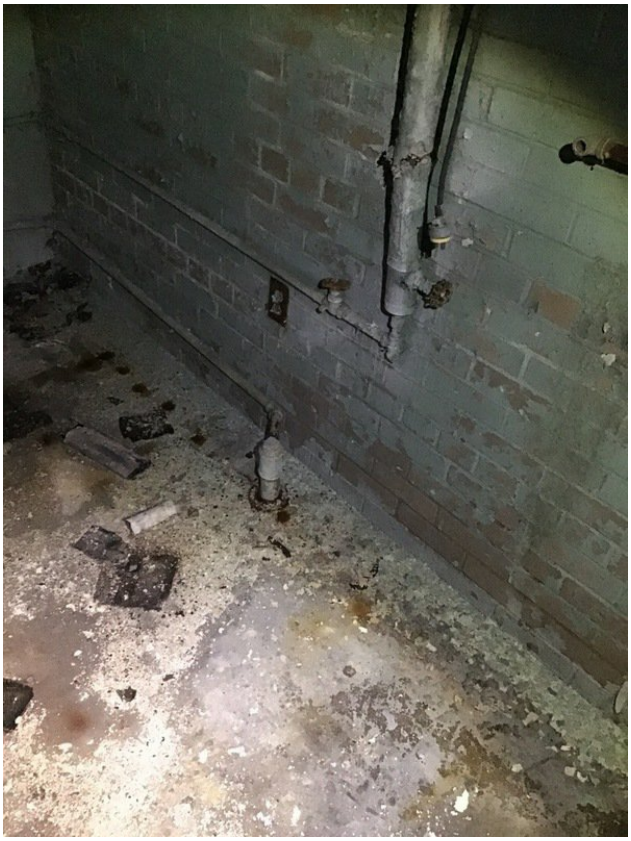
Pipe going into floor north side room 81 building 6

Pipe going into floor north side room 81 building 6

Pipes going into floor northwest corner next to overhead door building 6

Floor drain north side room 81 building 6

Shower drain men’s room northwest corner building 6



Pipe going into floor northwest corner outside of men’s room building 6

Pipe going into floor northwest corner building 6

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Pipe going into floor west side next to external double doors building 6

Pipe going into floor east side room 47 building 6

Pipes going into floor east side room 4H building 6

Drain cover women’s room 3H east side building 6

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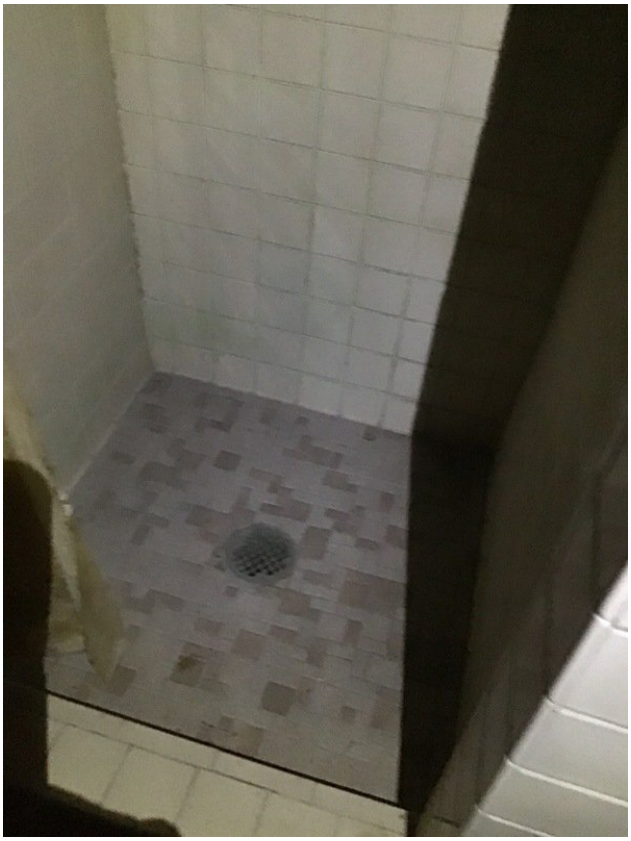

Shower drain room 50 east side building 6

Pipes going into floor east side utility closet building 6

Pipe going into floor west side pacemaker danger room building 6

Floor cracks west side restricted areas room building 6

Floor trench mechanical room west side building 6

Floor trench mechanical room west side building 6

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Pipes going into floor mechanical room west side building 6

Floor drain mechanical room west side building 6

Pipe going into floor mechanical room west wall building 6

Pipe going into floor mechanical room west side building 6

Manhole and pipe vault mechanical room west side building 6

Manhole and pipe vault mechanical room west side building 6

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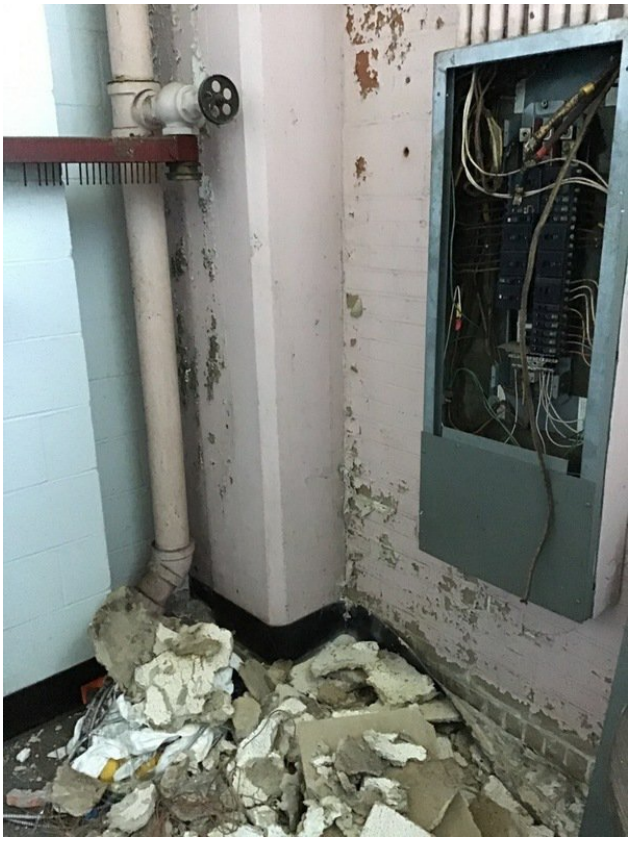
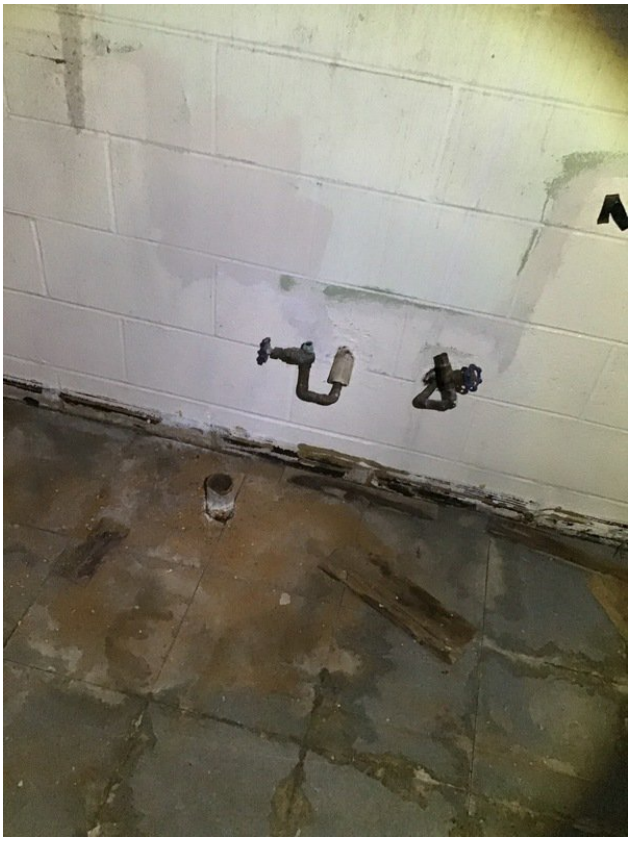
Manhole in mechanical room west side building 6

Pipe going into floor west side middle section of building 6



Pipe going into floor west wall middle section of building 6



Drain going into floor room 10B middle section of building 6

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Main sprinkler valve room #2 in room 07/08 st column 42F middle section of building 6

Floor cover women’s room 31 middle section of building 6

Floor drain women’s room 31 middle section of building 6

Floor drain men’s room 29 middle section of building 6

Floor trench conference room middle section of building 6

Pipe going into floor in room south of room 28 middle section of building 6

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Pipe going into floor conference room middle section of building 6

Pipe going into floor west side column H37 middle section of building 6

Sink drain room 34 west side of middle section of building 6

Pipe going into floor west wall by column H41 middle section of building 6

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Floor drain in HVAC room east wall middle section of building 6

Pipe going into floor in HVAC room east wall middle section of building 6

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Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Hot air circulation
Primary type of fuel used	Unknown
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Unknown
Air Conditioning	Unknown
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	No
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	No
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	No

Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	Sun

General Observations

Please add any other general observations	Asbestos everywhere

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Building 8, [redacted] 2018-11-09

Created	2018-11-09 17:43:11 UTC by Chuck Rogers
Updated	2018-11-13 13:12:59 UTC by Chuck Rogers
Location	39.9149217745139, -75.1895553376101
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-09
Time	12:43
Preparer's Affiliation	PARS
Purpose of Investigation	VI assessment
Building Address/Number/ID	Building 8

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Building age (in years)	75
Is the building insulated?	No
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete, stone brick
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

SE hall, facing E, door to 6 and loading dock at right

Fdp at se door to 6 , facing E, 0ppb

Pump room, facing NW from SE hall

W end of pump room ,facing S, vault at right with vent duct, drum, chemical pails,

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windows to parking at S

Sprinkler pumps x4 at SW qtr of room, facing SE, each pump has several 12” pipes coming through slab

S most sprinkler pumps, facing E, 2x 12” at each

N most sprinkler pumps, 3x 12” pipes at each

Fd at center of spr8nkler pumps, facing W

Fd west of pumps, facing W

Fd at E most pumps, facing E, drums of tar(?) here

16” water main at door to se hall, facing S

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Drain at water storage tanks, facing NE

Water tanks at E end of pump room

Water pumps at NE end of pump room, 2x 4” pipes, facing NE

Fd between water pumps, facing NW

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18” water pipe, fdp in NE corner of pump room , facing NE

Chemical storage cage at N end of pump room, facing NW

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Fd at Chemical storage, facing NW

Boiler room, S end facing W from door to pump room

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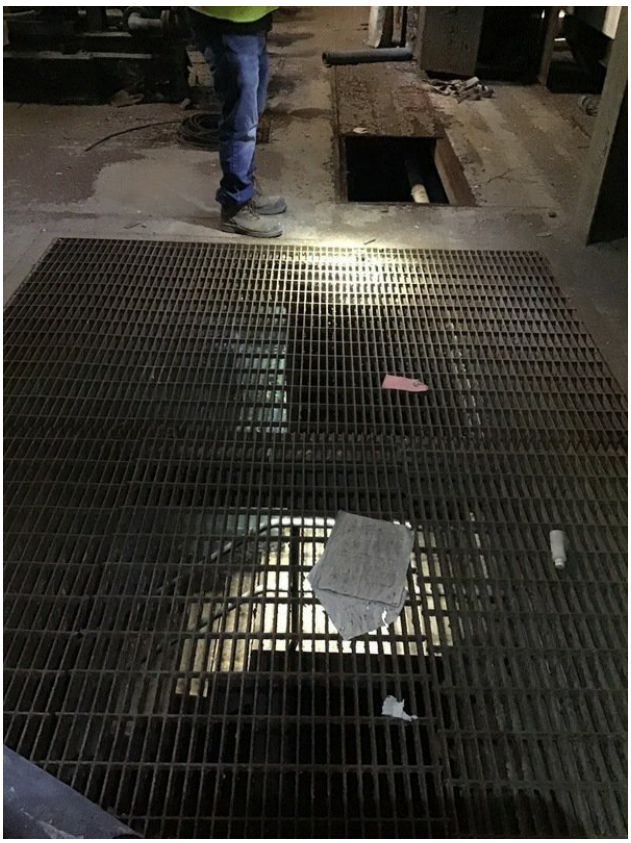

Grate over sump room below at SE corner, facing W

Grate over pipe trench, trench base is 7.5’ below slab, facing W

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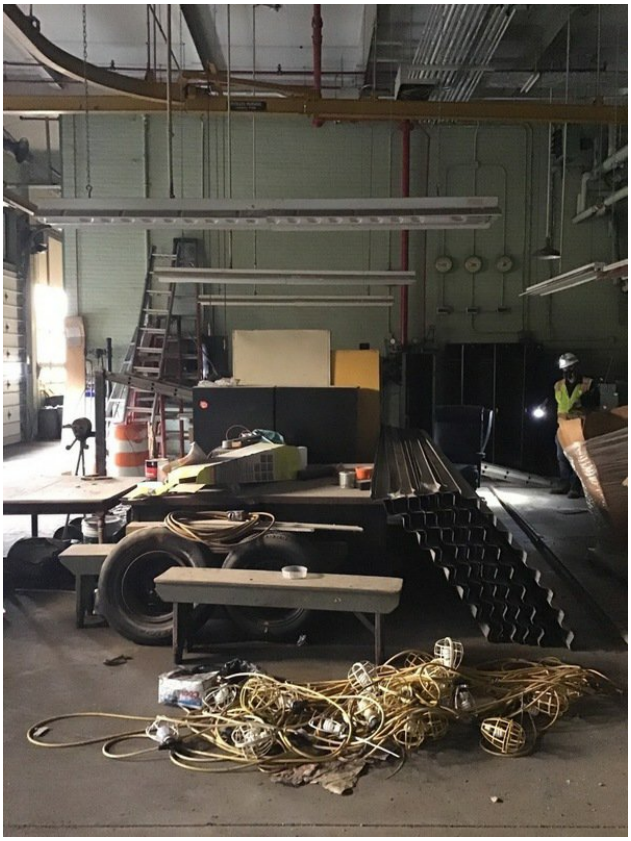
Fdp and sink, NE corner of E workshop, facing NE

Fdp, workshop E, Se corner



Workshop E, facing W at E wall, Fd at flashlight, 0ppb

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Sprinkler pipe in E workshop, facing W

Conduit in E workshop, facing N, 6x 1” pipe into slab

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Fdp on S wall of E workshop, gas/paint storage, facing E

Sprinkler pipe, E dividing wall, facing N

Facing NW in E workshop at E divider

E workshop, facing W, gas powered vehicle storage, 150ppb about in this room

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Workshop E, facing NE, fuel storage

Fd and chemical / asphalt storage, e workshop facing N

Sink on N wall, e workshop facing NW

Small bay in E workshop, facing N

Gas and chemical storage, e workshop facing N

E workshop, facing NW, fd and fdp x3, water fountain plus two on boiler

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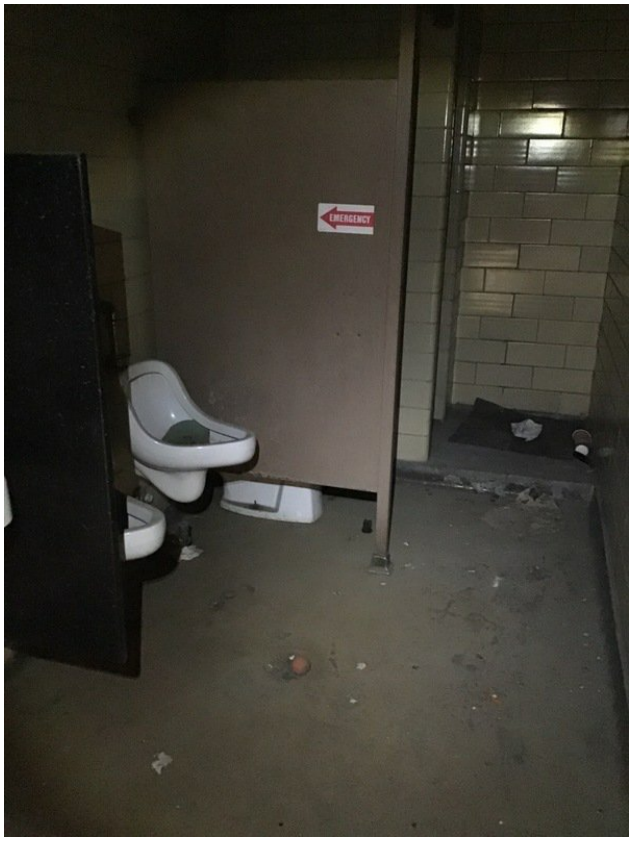
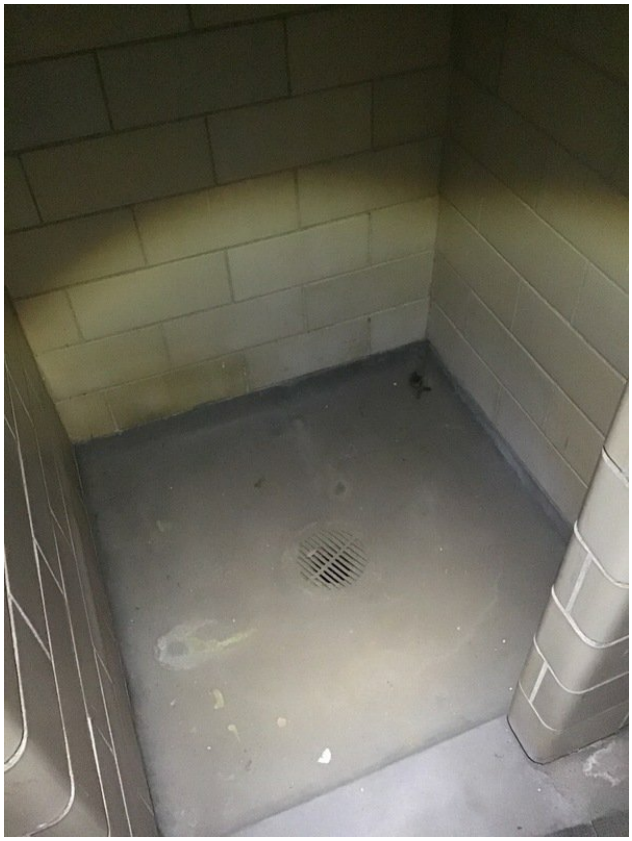
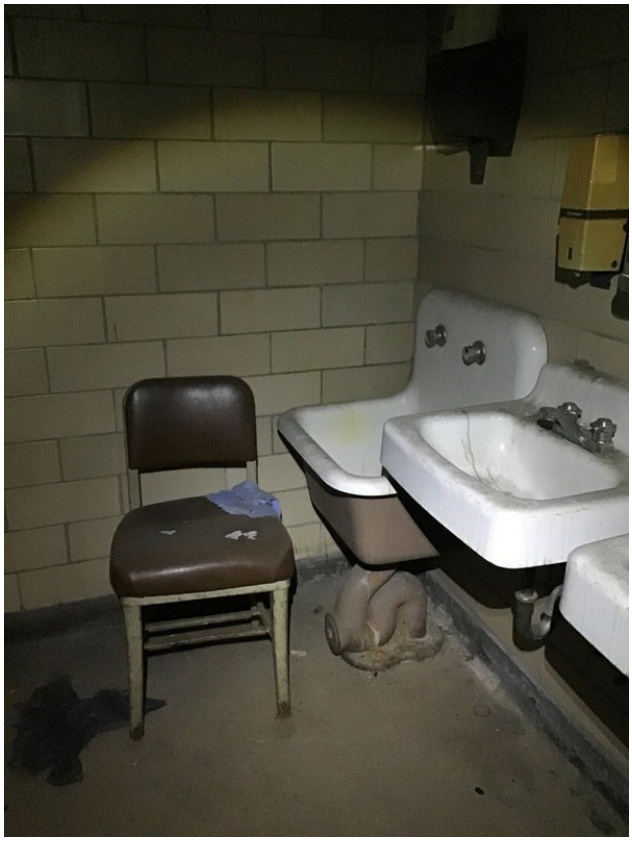


Workshop bathroom, facing E, fd



Fd in shower at workshop bathroom, facing NE



Utility sink in workshop bathroom, facing Nw

Hall to workshop bathroom, E workshop

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Conduit at workshop W office, facing NW

Conduits, w workshop facing E

Electrical switches , conduit inside each through slab, facing NW in W workshop

Switch cabinets, facing N

NW corner workshop, possible vault and plans, facing NE

Vaults along S end of W workshop, facing SE, approx 3-4' deep and muddy

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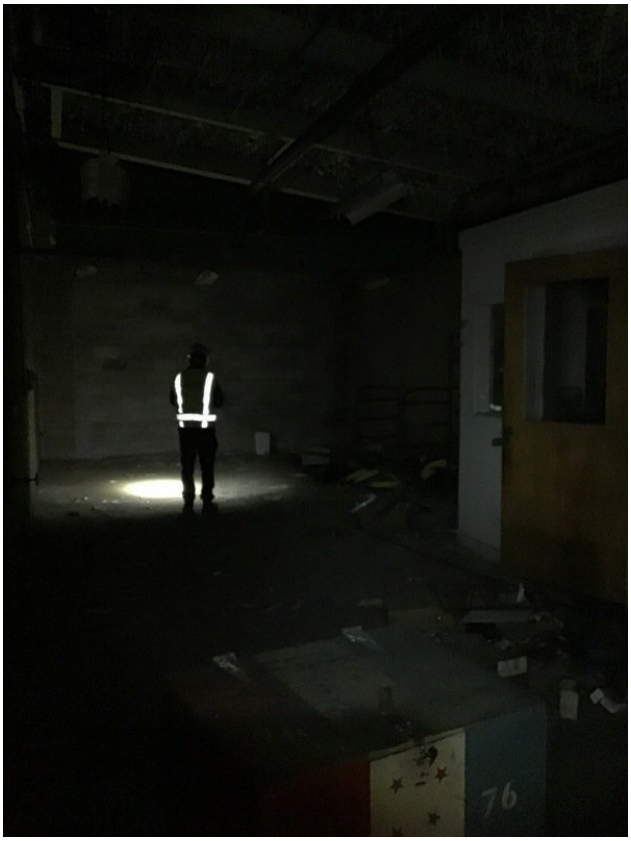
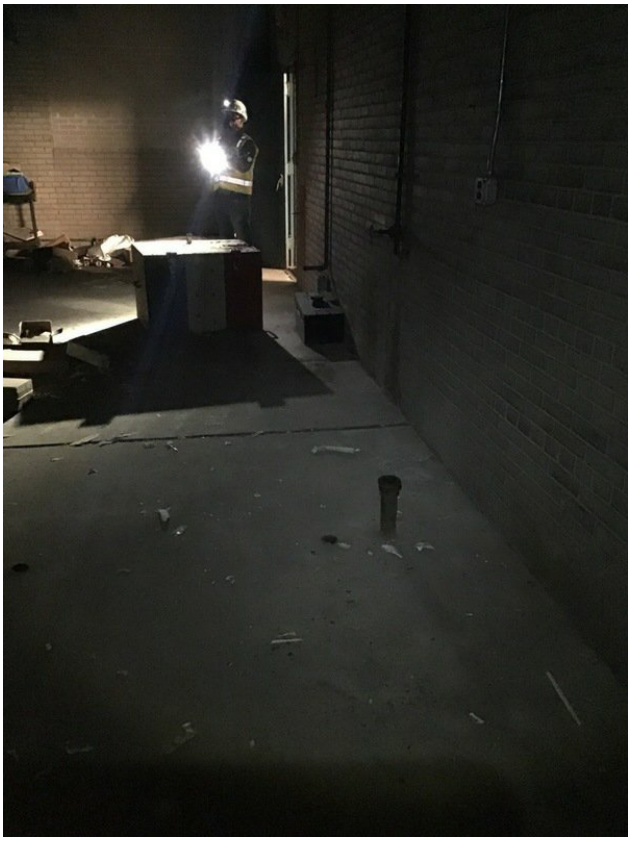
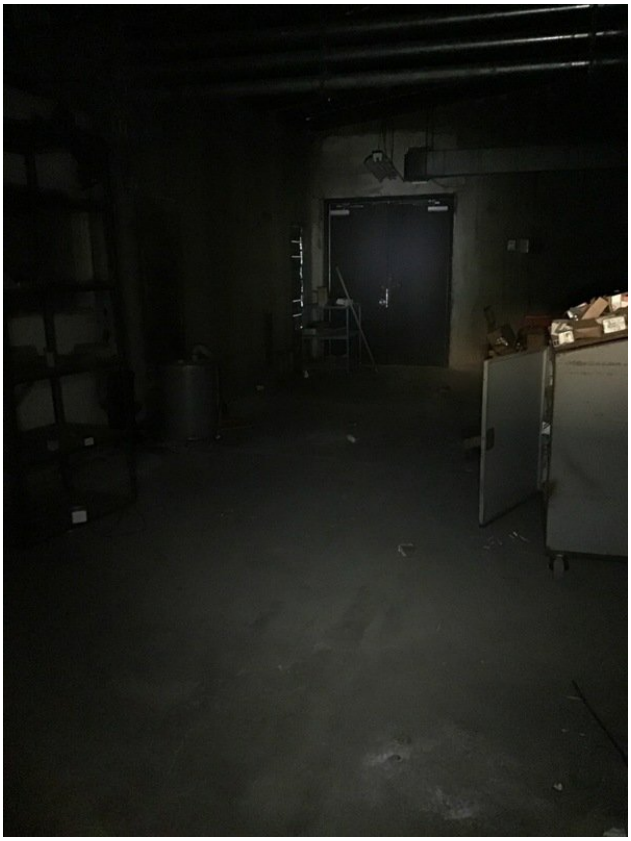


W workshop, facing Nw in electric workshop



Open conduits in W workshop, 2.5 ppm in taller conduit

Conduits at Floor, w workshop facing N



Locked door to courtyard at W workshop, facing N

Pipes on S side b/w boiler 2/3

Air handler and office at W end of boiler house

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Boilers facing E from stairs to catwalk

Chiller in locker room, facing S

Fd in bathroom, facing E

Utility sink in boiler br, facing S

Kitchen at SW corner boiler house

Air handler, trenched pipe around base, facing NE

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Open grate to pipe trench (1’ deep), Door to courtyard on W wall

Locked door at NE corner of boiler room, facing E

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N end of boilers, facing W at NE corner of boiler rm

Stairs to lower portion of boilers 3/4, facing W

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Grate over pipe trench along boiler 4 and E wall of boiler room

Chamber of furnace 4, facing W, chamber drops ~2-3' down

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Room at base of boiler 4, about 7.5″ down, facing S, drool drain grate silted up

Trench and hall to base of boiler 3, pipe runs under grate, facing N

Trench along E wall of boiler 4 from room at base of boiler 4, facing S

Pipe at E side of room below boiler 4, facing E

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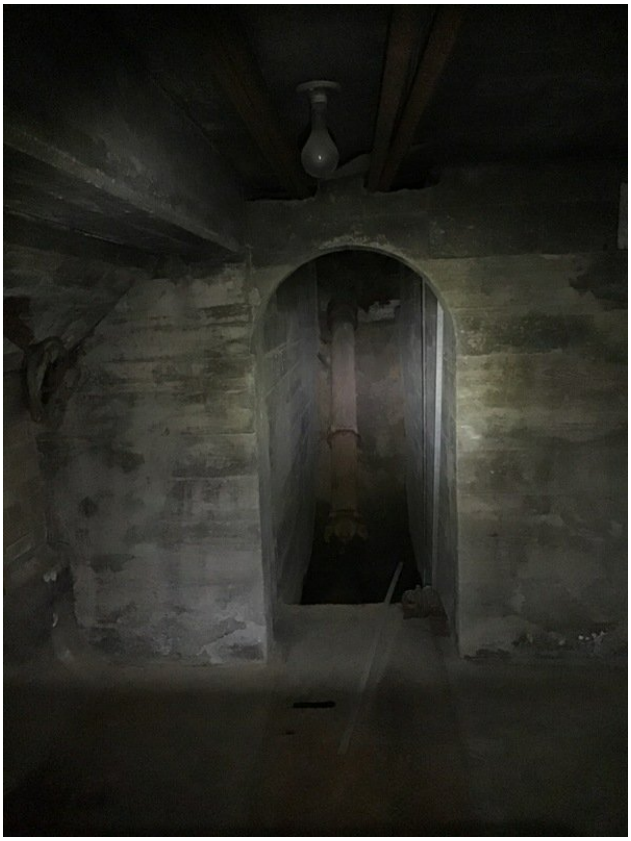

Room below boiler 3, facing W, pipe trench here has water

Pipe trench in room below boiler 3, facing W

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Room below boiler 3, facing SE

Can of tar near boiler 2, numerous cans like this in boiler room, facing W

Pipe trench between 1/2 facing S

Sprinkler pipe, N hall facing W

Fd, Women’s br at W end of N hall, facing NW

Drain pipe, behind drywall on W wall of rest room, facing Nw

M rr, facing W, fd

M rr, facing W, fdp

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Fdp in W wall of M rr, facing W

Sink, M rr, facing W

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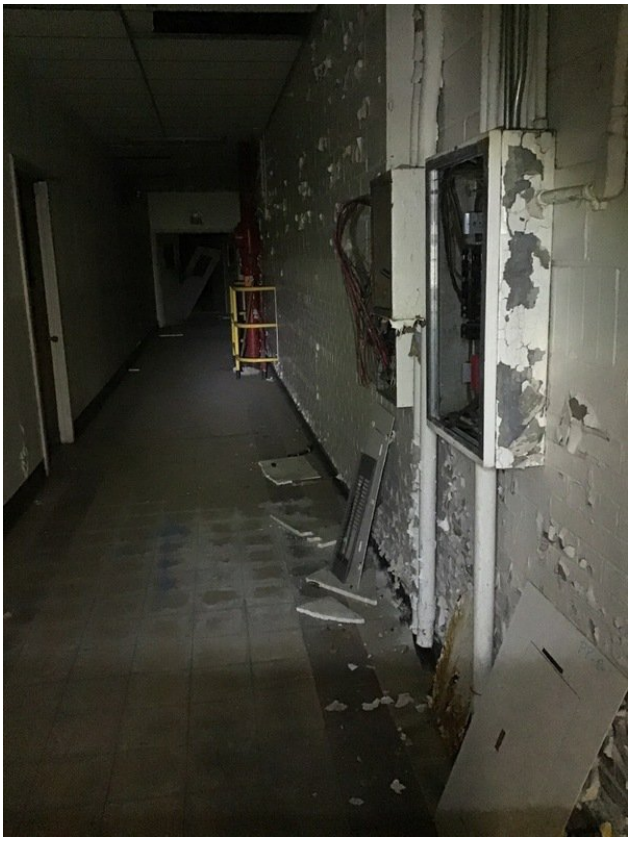
Commanders offices, facing W, no features noted



Conduits, N hall facing E

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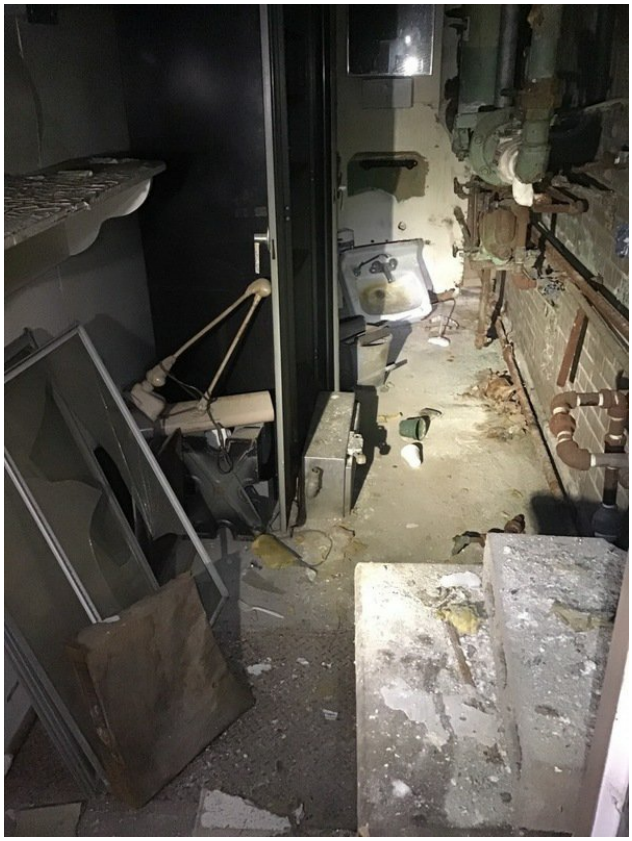
Facilities engineering office, facing W



Utility closet at N end of Navfac office, facing W

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Trench with pipes in utility closet, facing N

W end of navfac offices, facing W

File room, facing N

File room facing E

Loading bay at E end N hall, facing N

Drain pipe, SE corner of NE room , facing S

Fdp, NE corner ofvNE room, facing N

Chemical storage and stack in stack room,facing W, stack opens to air at 8/10 floor

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Chemical storage in stack room

Door from stack room to pump room, chemical storage, facing S

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Floor drain at lobby, facing W

Pipe in NE corner of locker room, facing E

Stack storage room, facing S

Elevator shaft in stairwell, facing S

Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Stream radiation
Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Almost never
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	Former boiler house/ offices
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	Yes
Where & Type of hobby area	N/A
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	No
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	No
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	Yes

Types of solvents	N/A
Are their clothes washed at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	60s,

General Observations

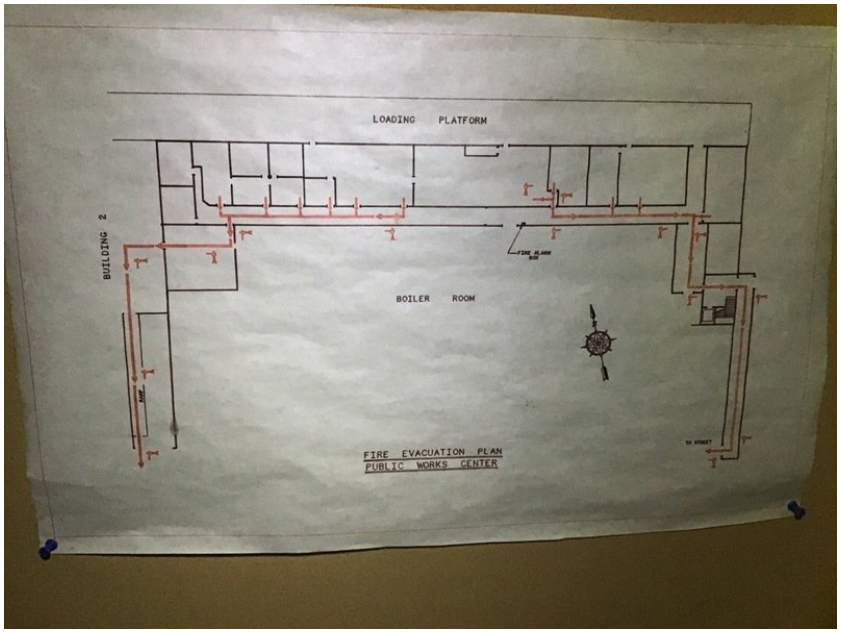
Please add any other general observations	N/A

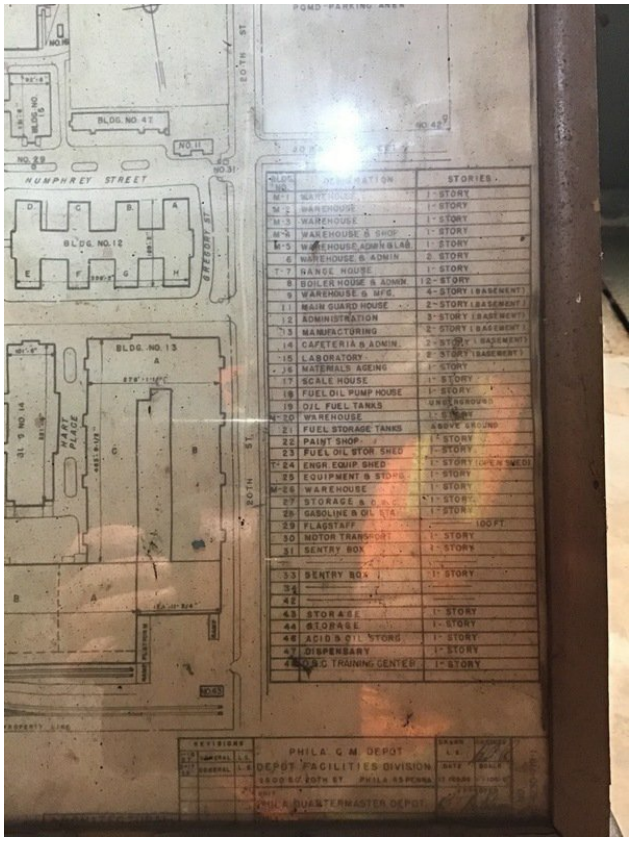
Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Floor Plans

First Floor Plan





Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

DSCP Building 11, [redacted] 2018-11-09

Created	2018-11-09 13:25:11 UTC by [redacted]
Updated	2018-11-09 16:16:16 UTC by [redacted]
Location	39.9144786699697, -75.1868908446602
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-09
Time	09:41
Preparer's Affiliation	USACE
Purpose of Investigation	VI assessment
Building Address/Number/ID	DSCP Building 11

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	N/A
Does it include residences?	No
Number of floors	2
Building age (in years)	75
Is the building insulated?	Yes
How air-tight?	Unknown

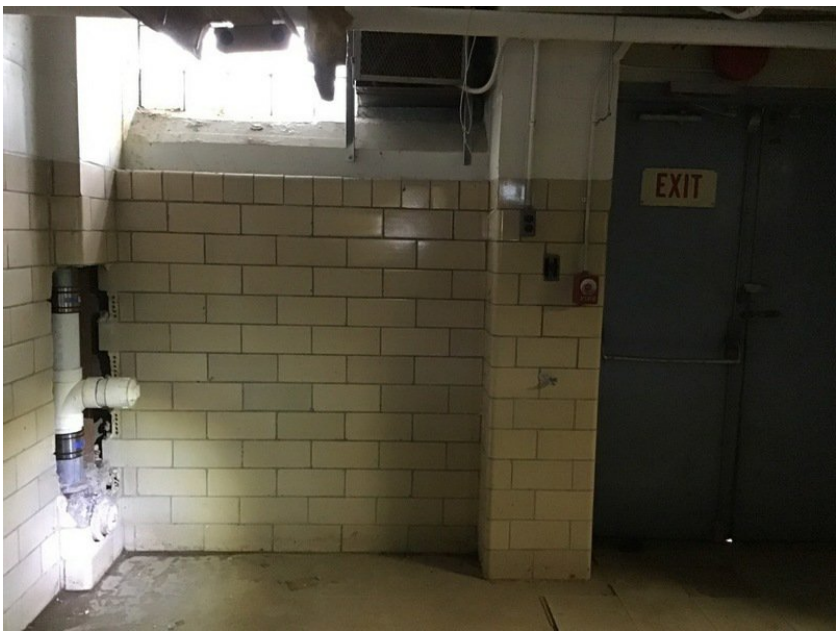
Basement and Construction Characteristics (select all that apply)

Basement type	Full
Basement floor	Concrete, Concrete and tile
Concrete floor	Unsealed
Foundation walls	Poured
Basement moisture	Damp
Basement finish	Partially finished
Sump present?	Yes
Water in sump?	No
Perimeter drainage system present?	No
Basement/lowest level depth below grade (feet)	7.7
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	Drains
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	No

Please provide representative photos

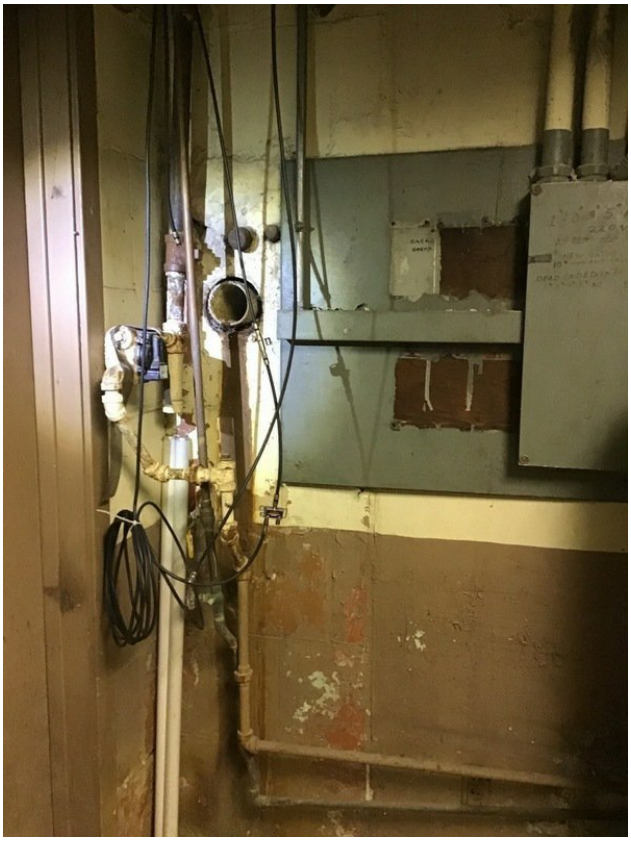
NE utility room. 1 floor drain and sink drain

NE stairwell drain pipe into slab



East wall, center of bldg by basement exit. Drain pipe into slab.

Out of service generator in southeast room.

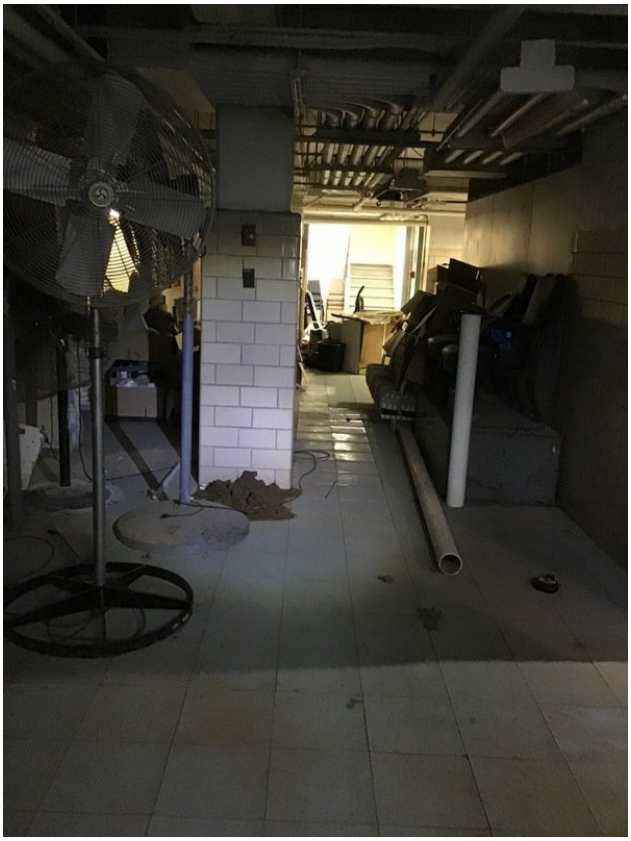


East wall of generator room. Pipe into wall 4 inch diameter. Two smaller above.

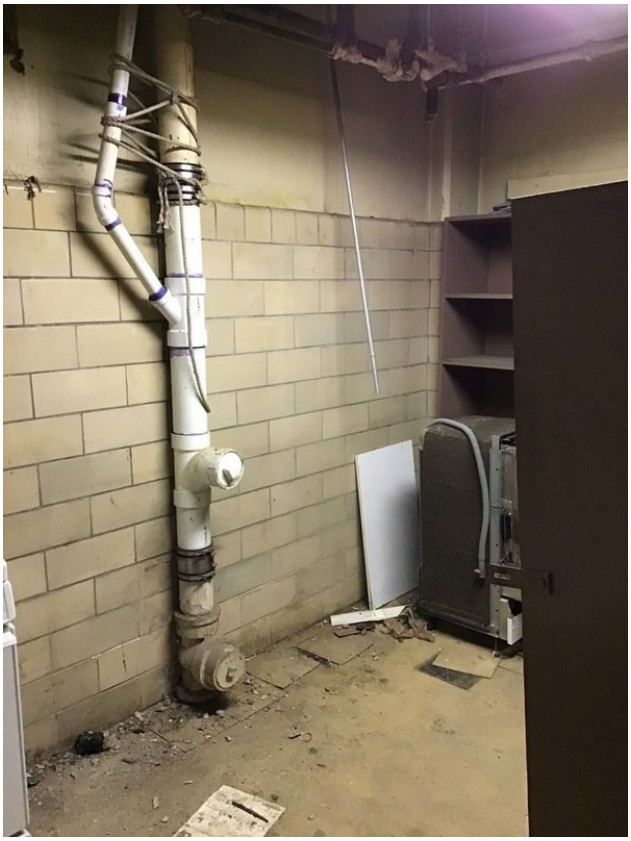
Southeast corner of generator room. Pipe into floor. Drain.

South wall of generator room. Pipe into floor

Generator room facing east



General view of basement facing west



North wall storage room. Drain pipe into floor.

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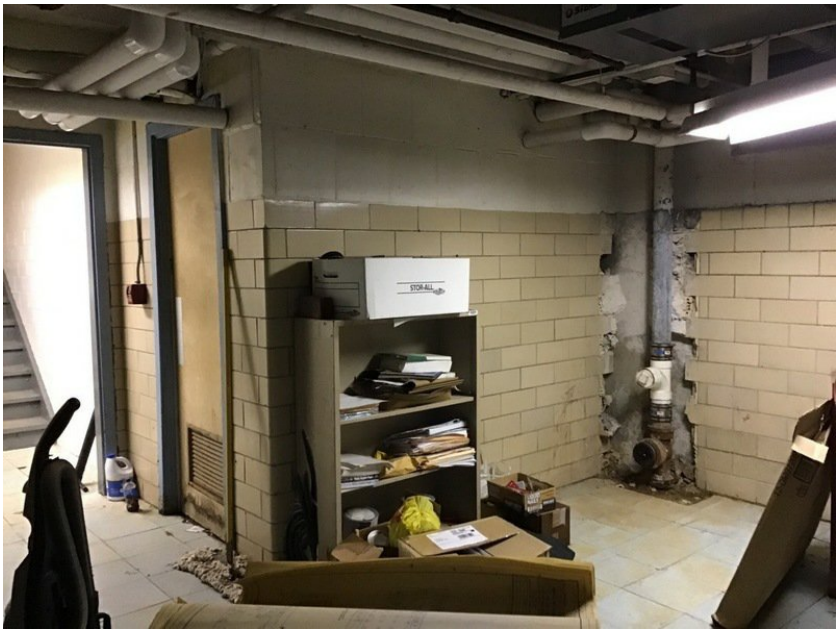
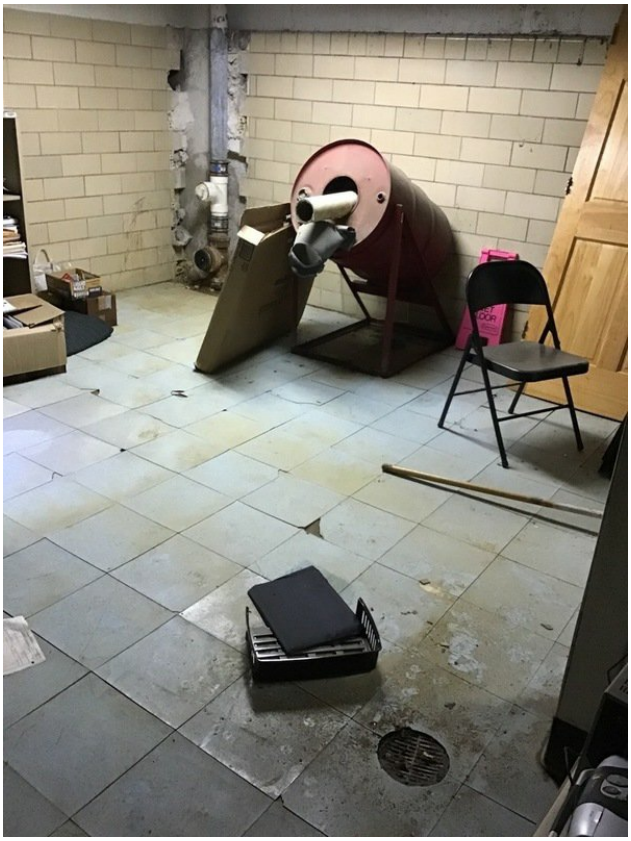


North wall of main basement area. Drain pipe into floor.

Middle of basement on west side water fountain with drain.



North side, main basement room floor drain.

North basement bathroom. Drain in floor and pipe into wall. Bathroom has toilets and

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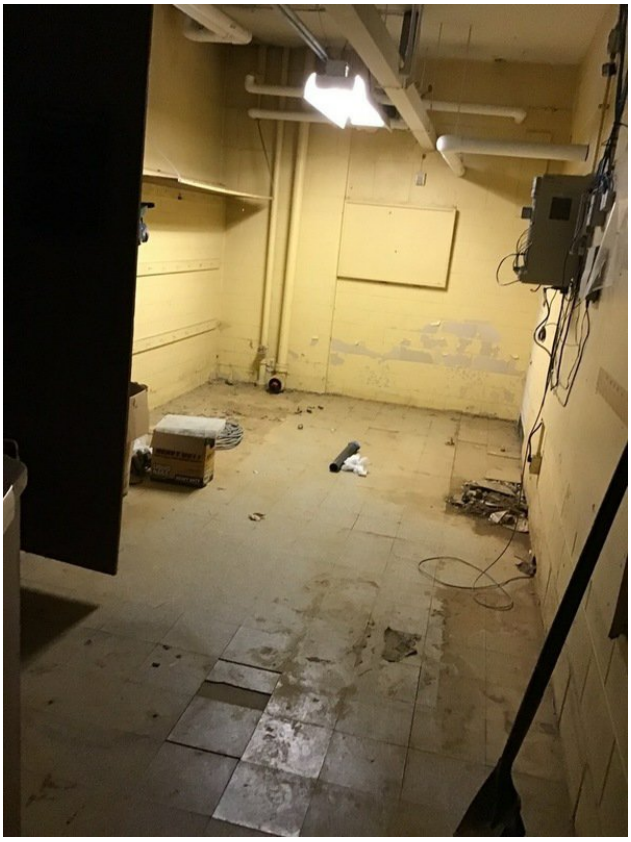
sinks.

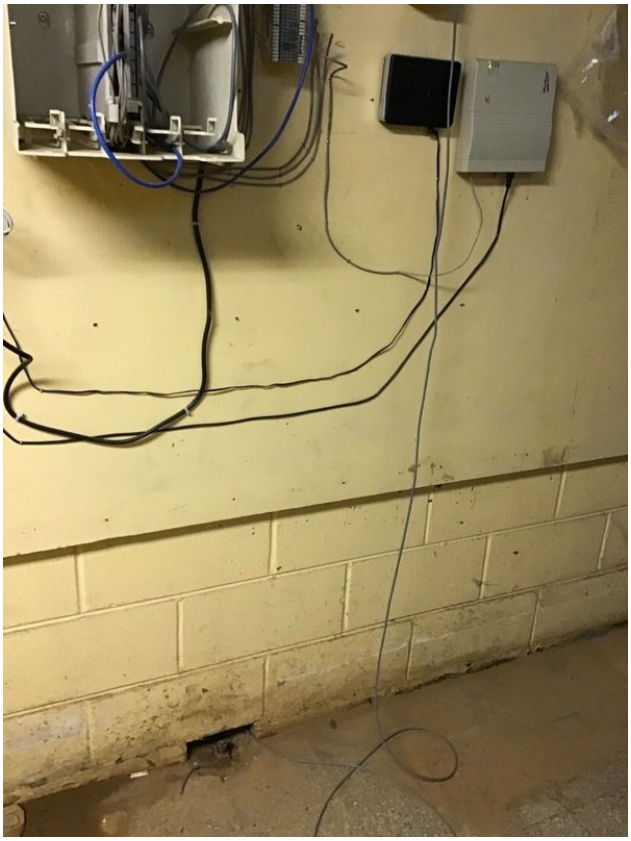
North bathroom sinks. Drain into floor.



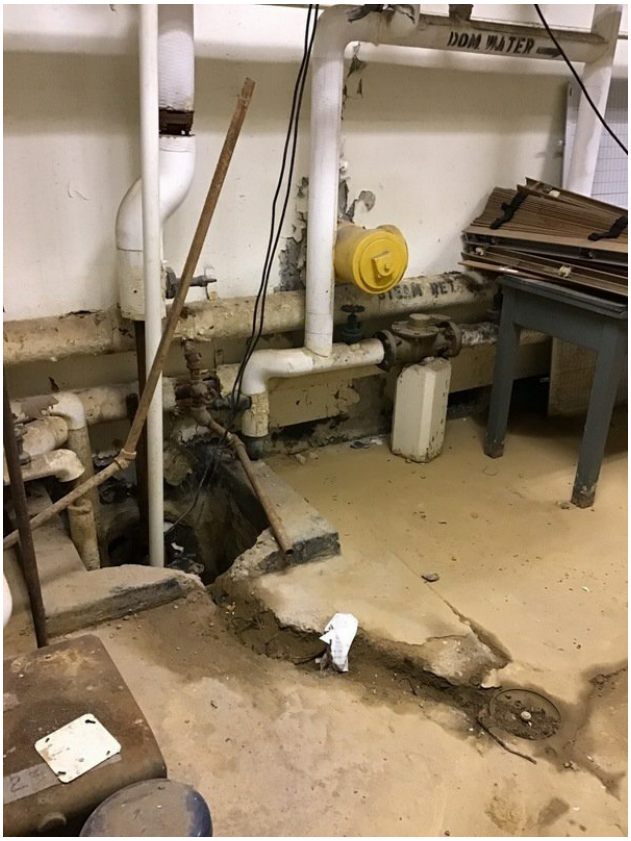
South former weapons room facing west

South former weapons room southeast corner on south wall. Pipe into floor.

South former weapons room west wall. Two pipes into floor.



South former weapons room north wall floor drain. Appears plugged.



Southwest sump room. Sump and floor drain. Sump along south wall of room. Small

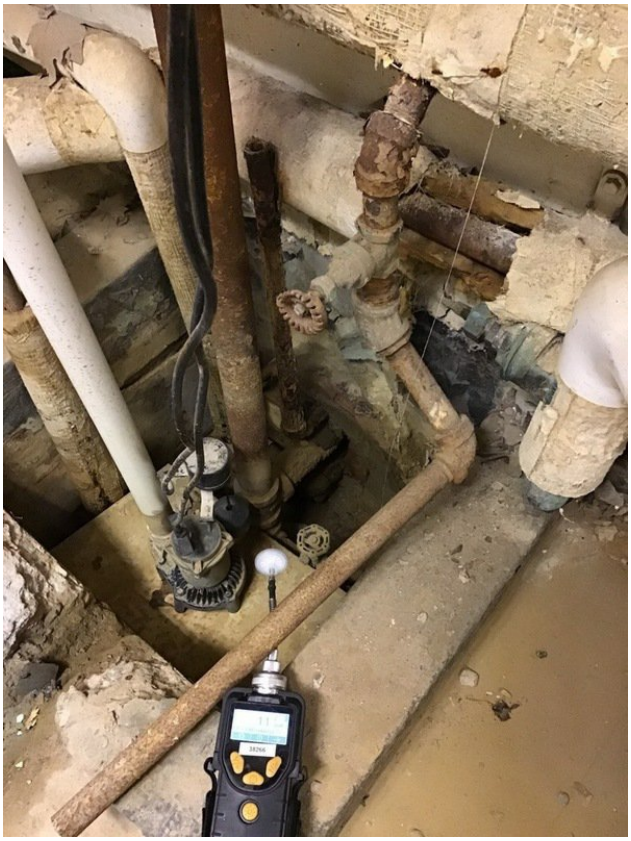
diameter pipe into wall about five inches from floor. Large diameter yellow pipe into wall.

Southwest sump room. Southwest corner. Pipes into walls and floor.

Southwest sump room north wall. Pipes into wall, qty 7.

Southwest sump room north wall floor drain.

Southwest sump room north wall. Additional pipes into wall.



Southwest sump room. Sump detail. Pipe into wall.

Southwest sump room general view looking east.

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Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Almost never
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	Storage
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	Yes
Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	Yes
Please specify the petroleum-powered machines	Lawn mower
Outside Contaminant Sources	
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	DSCP
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	Cool and light rain occasionally

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Building 12, [redacted] 2018-10-16

Created	2018-10-16 14:05:00 UTC by Chuck Rogers
Updated	2018-11-06 19:50:12 UTC by Chuck Rogers
Location	39.9161689280898, -75.1814183146533
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-10-16
Time	10:09
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	Building 12

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	School
Does it include residences?	No
Number of floors	3
Building age (in years)	75
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

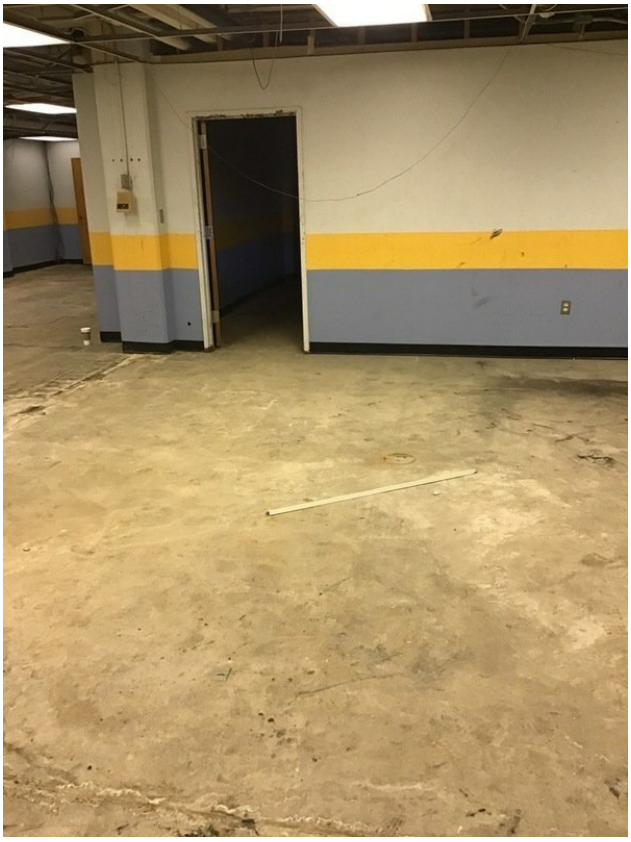
Above grade construction	concrete, stone brick
Basement type	Slab
Basement floor	Concrete
Foundation walls	Block stone
Basement finish	Partially finished
Sump present?	Yes
Water in sump?	Yes
Perimeter drainage system present?	Yes
Basement/lowest level depth below grade (feet)	7
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	Yes

Please provide representative photos

SE2, Door from corridor facing S, sewer pipe through drywall at left, ~2' of space behind drywall

SE2, NE corner facing NE, capped pipe at right through drywall, door to corridor at left, door through drywall to sewer pipe center

SE2, NE corner facing E, door through drywall to storm/sanitary sewer pipe through wall



SE2, N wall facing S, filled floor drain at center, door to small training room

SE2, Filled floor drain at above

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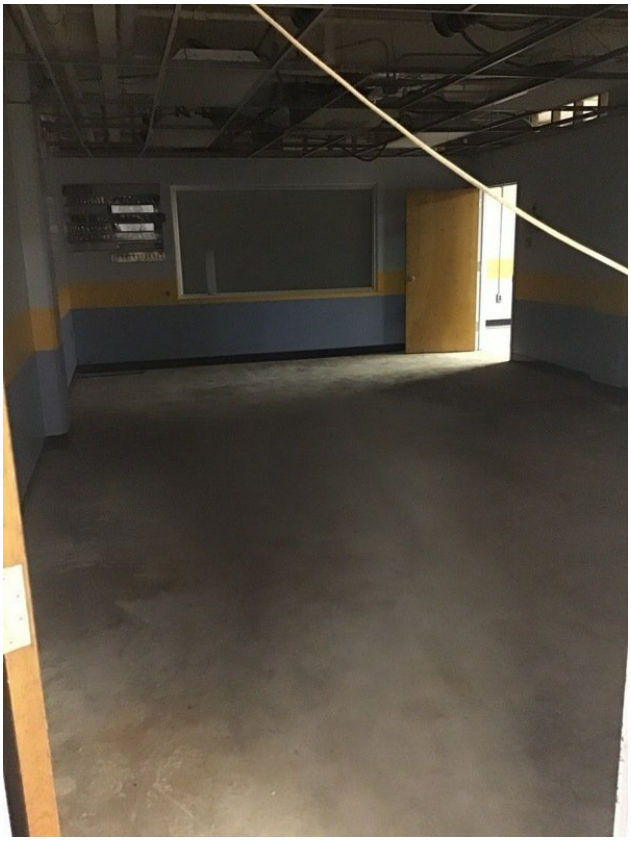
SE2, SW corner facing N, filled floor drain at center fore, training room at right

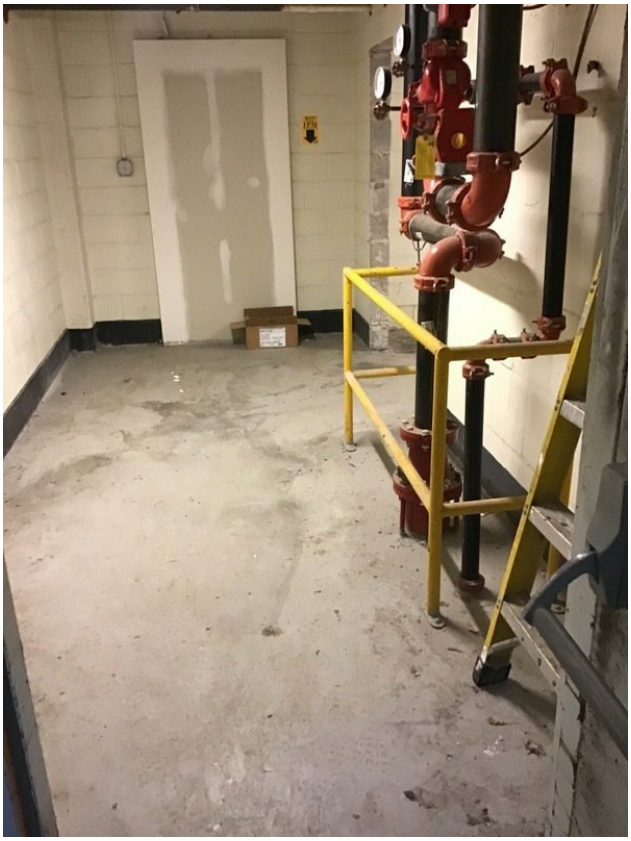
SE2, SE corner facing W, from door to training room 2, sewer pipe at center right thru drywall

SE2, SE corner facing N



SE2, Center facing S, Training Room

SE2, Door to training room facing NW, sewer pipe through wall



Corridor, E2 facing S, fire pump room, city water connect thru slab

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Fire pump room, sump pit, ~1’ of water at base, 0.1% CH4 and CO2, 5.25 ft to base.

Fire pump room, SE corner facing W, sump at right, sewer pipe thru slab at left

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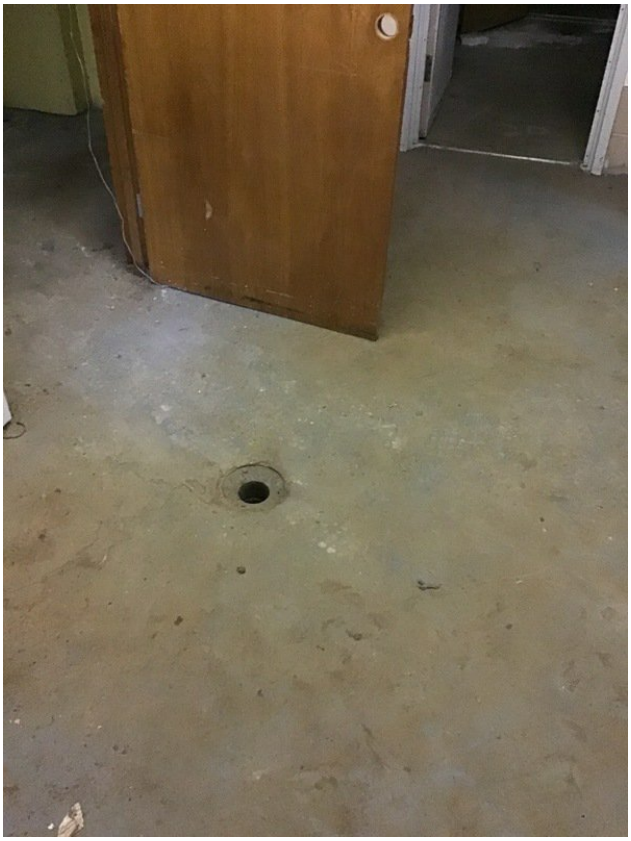
Fire pump room sump, facing W

Fire pump room sump

Fire pump room, SW wall, facing W, drain pipe thru slab, drain pipe thru wall

Fire pump room, sprinkler thru wall



Corridor, E2 facing SE, floor drain at left, door to SE2 at top right

NE2, SE corner facing NE, water pipe in thru wall on right, capped drain on left thru wall

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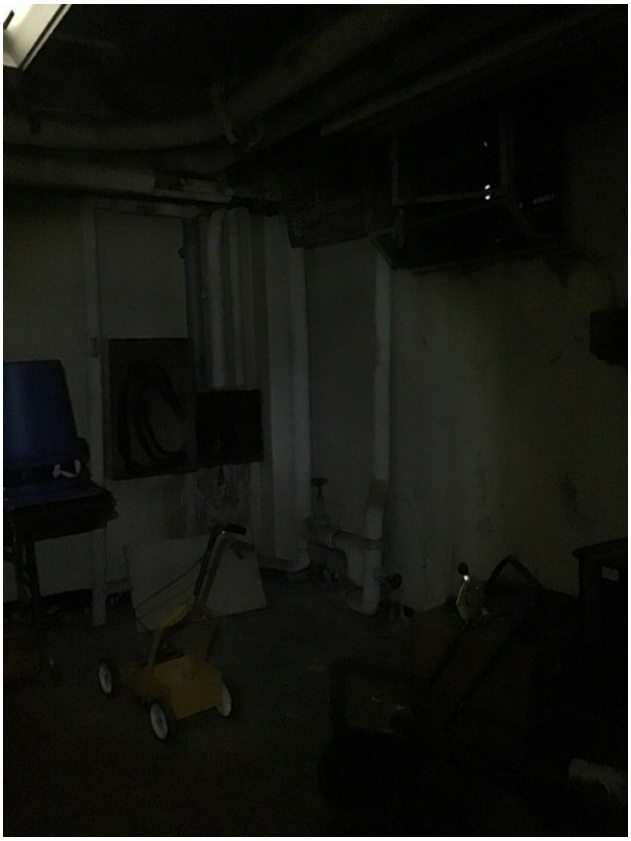
NE2, SE corner facing N, room used primarily for storage



NE2, NE corner facing NE, water pipe thru slab at left, and thru wall x2 at right, window

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vent unit at top right measured 74” from slab to bottom of vent

NE2, N wall facing E, drain pipe thru wall

NE2, Near NW corner facing ESE, floor drain beneath cabinets

NE2, Center facing S, floor drain, ~ due south of other drain

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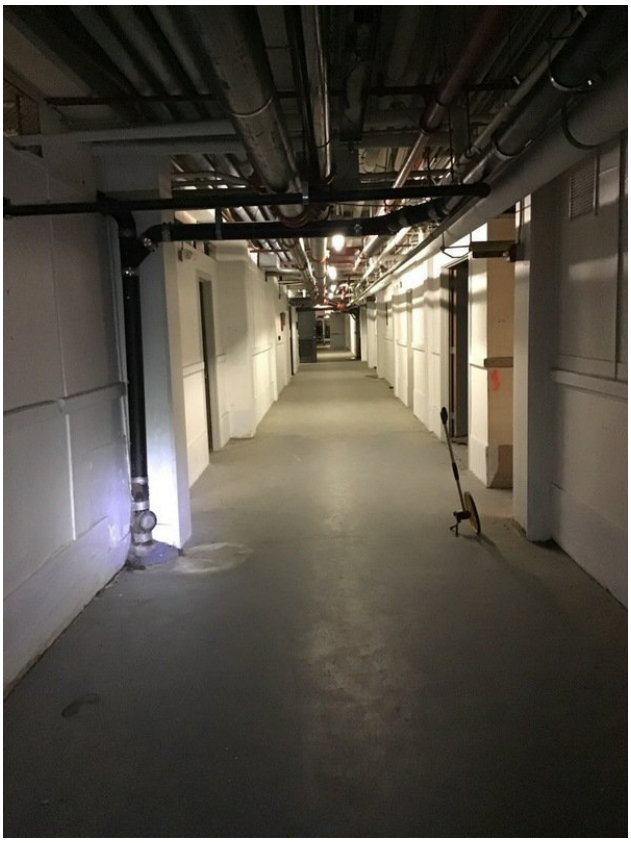
NE2, SW corner facing NW, roof drain out thru wall

NE2, middle W wall facing NW, drain thru W wall

Corridor, W of fire pump room facing E, capped pipe in old column likely thru floor



Corridor, E2 facing W, Drain pipe thru slab at left

Corridor E2, Door to NE2 supply room facing NE

Corridor, E2 at air handlers facing SE, door to ATS room

ATS Room, NE corner facing SW, two floor drains thru slab, sewer pipe thru wall

Corridor, E2 facing N at Air Handlers, N air handler room

N Air Handler Room, floor drain to right of handler

Corridor, E2 facing south at south air handler

NE2W, NE corner facing SW, floor drain, old and new drain pipe thru slab

Corridor, E1 facing W, door to SE1 on left and NE1 on right

SE 1, from E1 facing S

SE1, at door from E1 facing S, floor drain thru slab

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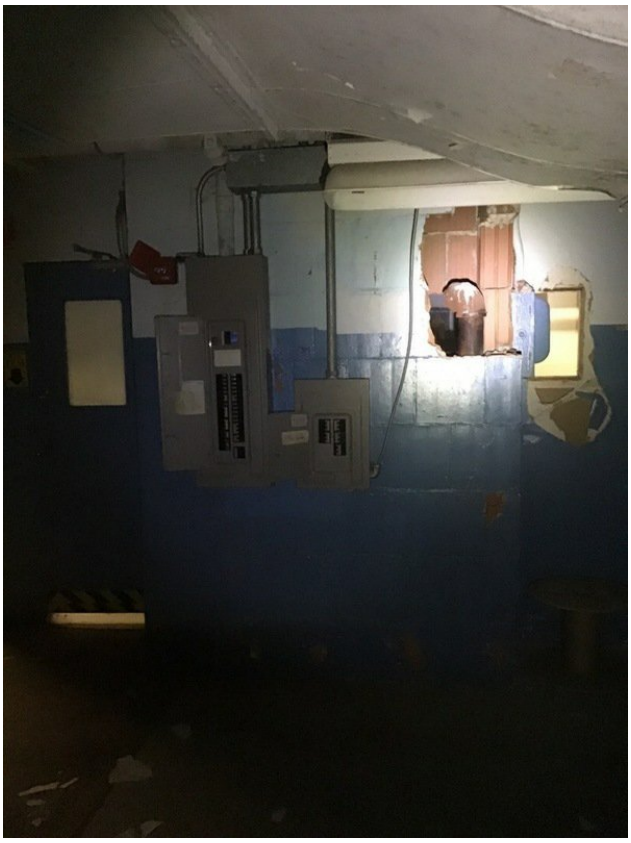
SE1, NE corner facing E, wall to S air handler room, floor drain



SE1, N wall facing N, doors from E1 to left, capped pipe in brick column

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SE1, NW wall facing W, drain pipes x2 thru wall

SE1, SW corner, facing S, water pipe thru wall

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SE1, SE corner facing N, conduits thru slab

SE1, SE facing E, drain pipe thru wall

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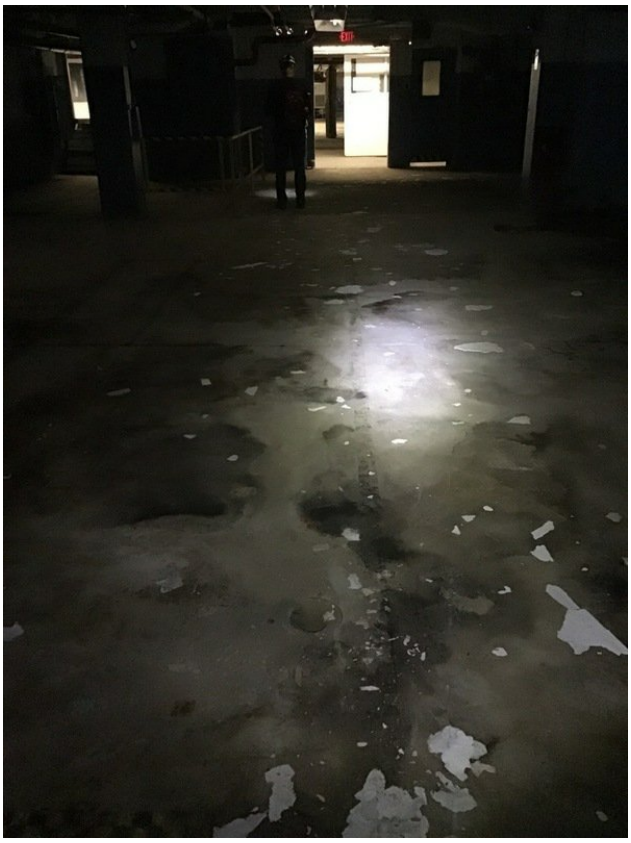
SE1, middle E wall facing NE, three drain pipes thru wall



SE1, center facing N, floor drain

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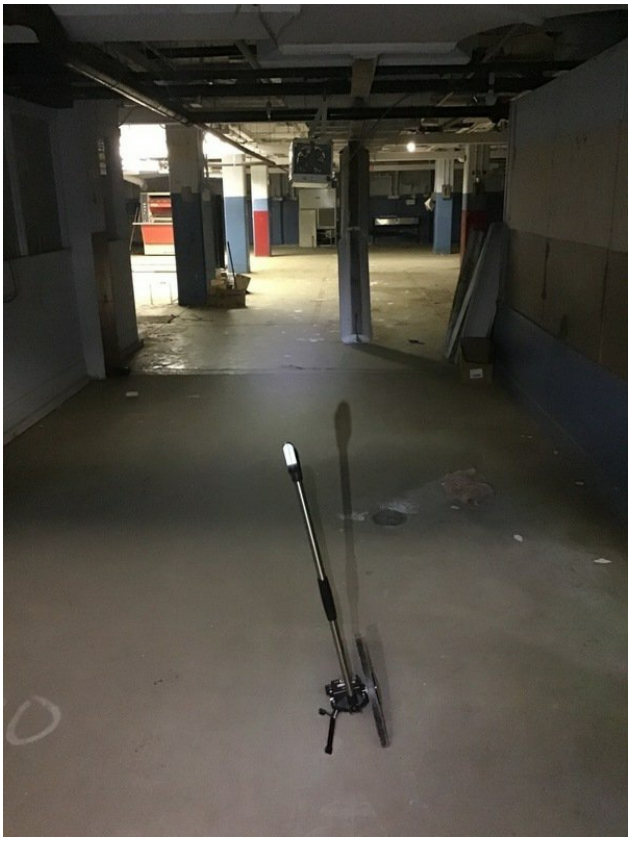
SE1, NW Fire cutout facing NW, two pipes thru slab,

E1, facing S to ElecVaultB, no penetrations



NE1, Door from E1 facing N, floor drain

NE1, SW corner facing NW, drain pipe thru wall to outside

NE1, SE corner facility nw NE, sewer x2 thru floor

NE1, Middle E wall facing SE, two drain pipes thru wall

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NE 1, NE corner facing NE, drain thru wall

NE1, NW corner wall, crack along foundation wall and slab.

NE1, center of N end facing N, floor drain

NE1, middle of room facing S, floor drain

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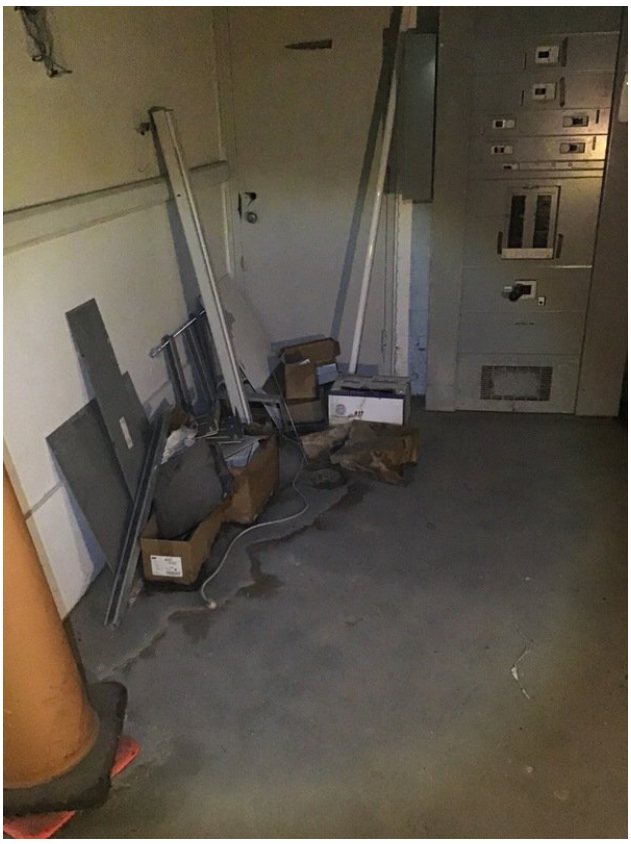
NE1, W wall facing SW, two drainpipes thru wall, pie 102ppb at this location

Electric vault room A, door from E hall facing S

Electric vault A, facing S, exit door to outside and vent for transformer, no penetrations noted

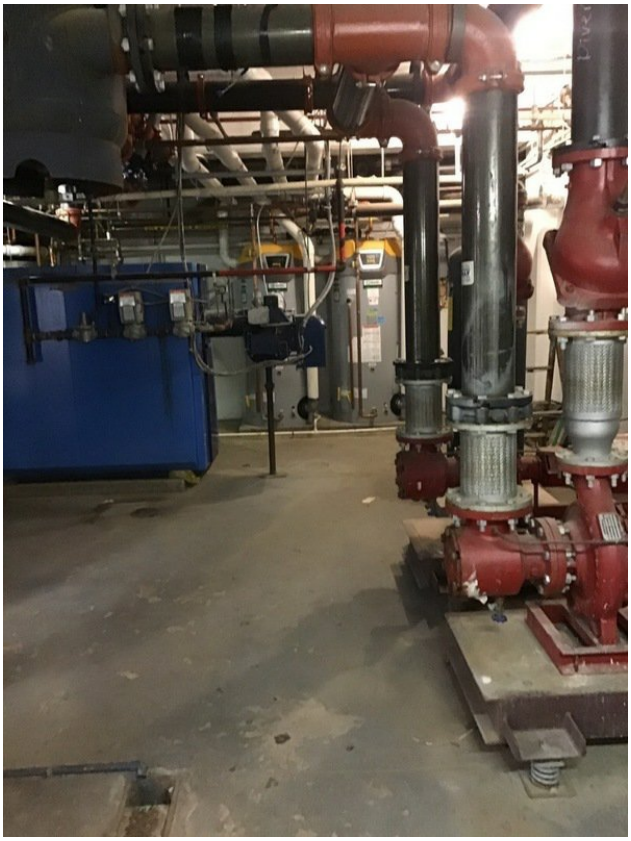


Floor drain across from electric A, 3” diameter 6” deep, facing N, door couldn’t be opened, labeled “bell telephone storage”

Vent on wall across from electric A, facing NE, likely from phone room

Mechanical room from E hall, facing N, sprinkler pumps

Floor drain for sprinkler drain in mech room, facing E



Mech room facing E, natural gas boilers at rear for domestic and sprinkler

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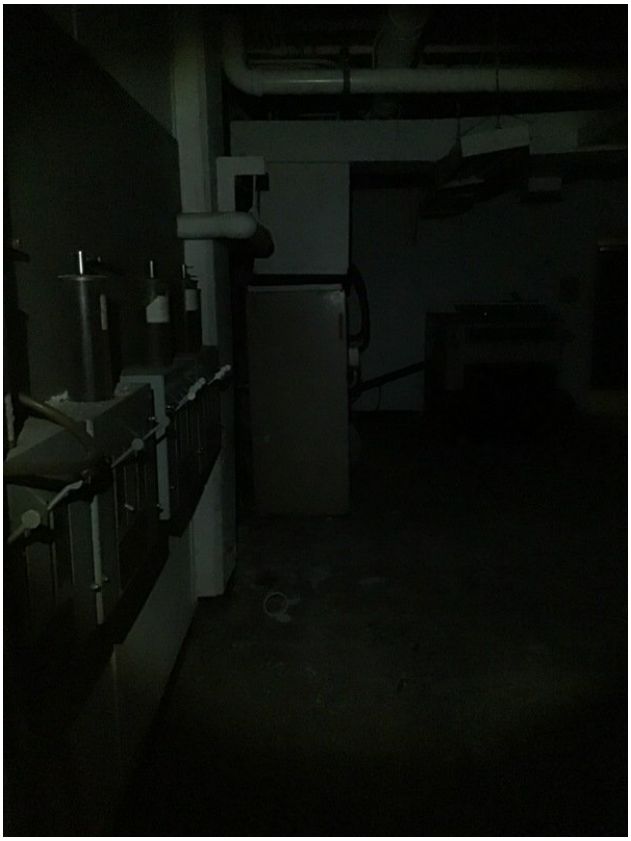
Floor drain at SE1 stairs, facing S

SE1 stairwell hall and exit, facing S

E hall at door to W hall, facing W, door to “H room” on left is locked

6” sprinkler pipe through slab at SW1, facing W



SW1, Erm2 facing S

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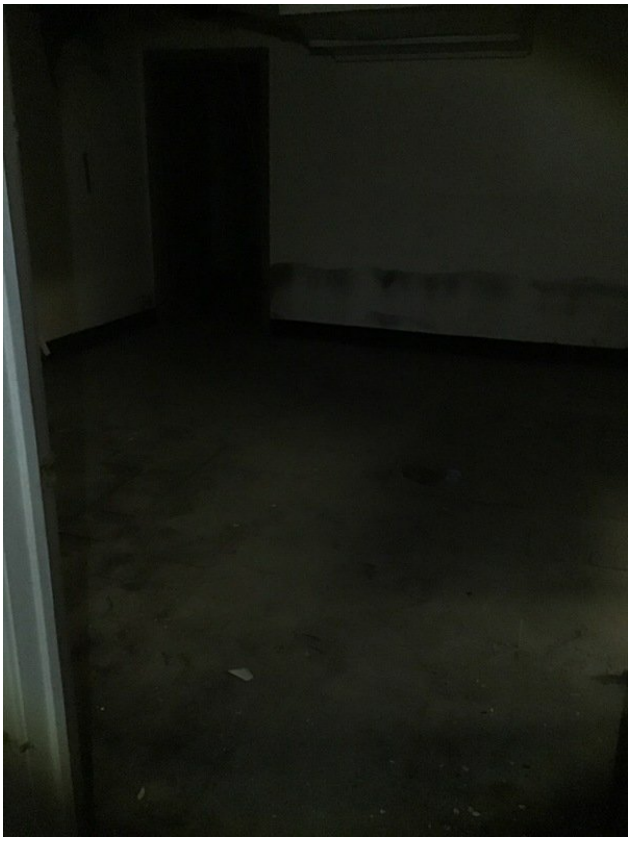
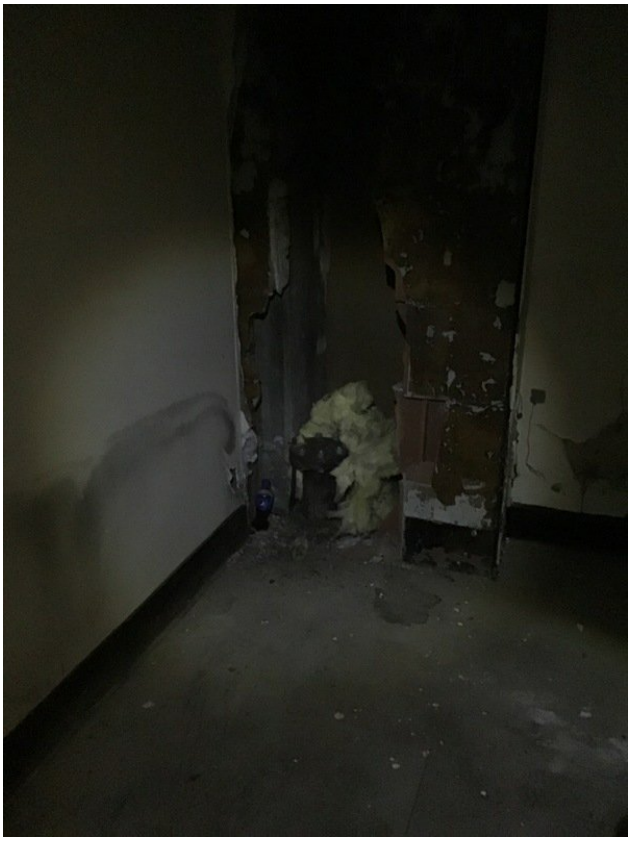
SE1, E room 1, no penetrations, hvac through wall from “H room”, facing SE

Hvac thru wall in E room 1, wall shar3d with locked “H room”. Facing E



SE1, Crm1 from door to E rm 1, facing W, floor drain at center



Old sprinkler main in NW corner of Crm1, facing NW

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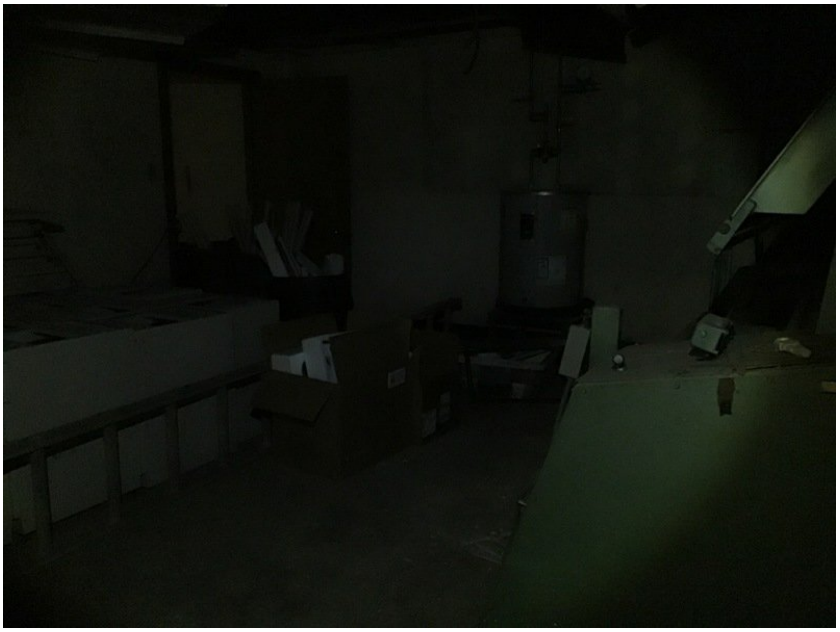
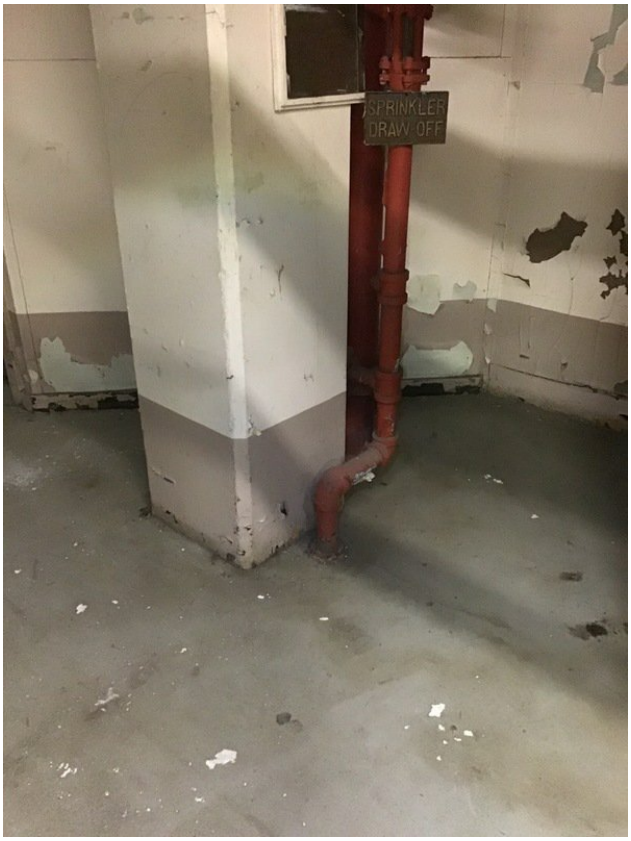
SW1, Drains at SW corner of of Wrm1



SW1, Wrm1 from W hall, door to CRm1 at left



Sprinkler drain at SW1, facing SE

SW1, Drain on E wall of Erm2, facing E

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SW1, Two drain pipes through floor of Erm2, facing SE

SW1, crm2, pipe through E wall, facing E

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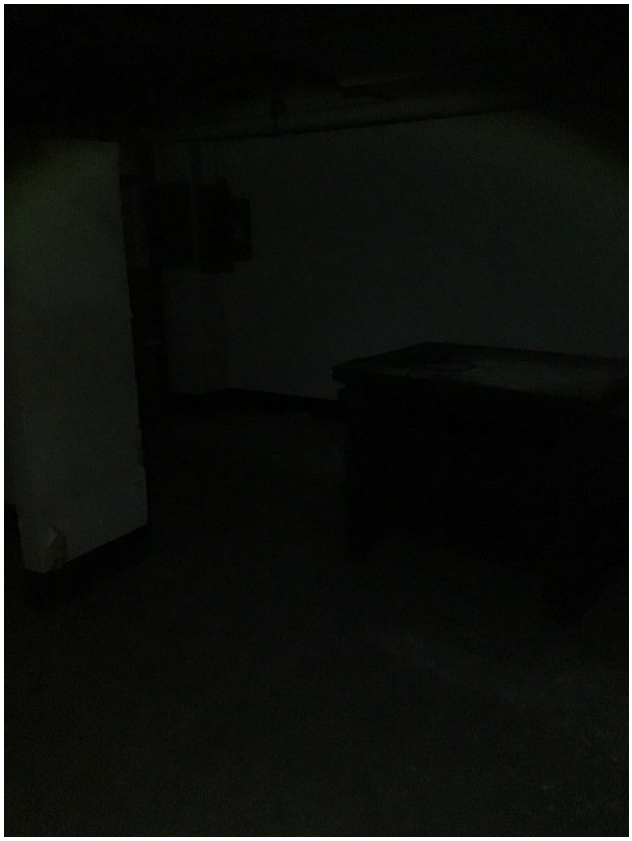
SW1, Erm2 facing door to Er1, facing NE



SW1, Crm2, no penetrations noted

Drain pipe through wall at wrm2, likely roof drains

Roof drain thru W wall of Wrm2

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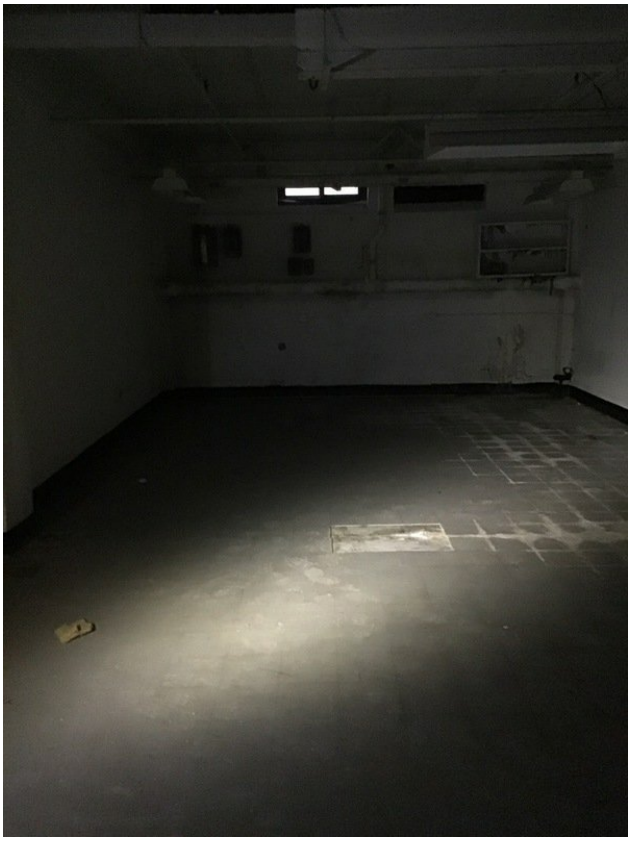
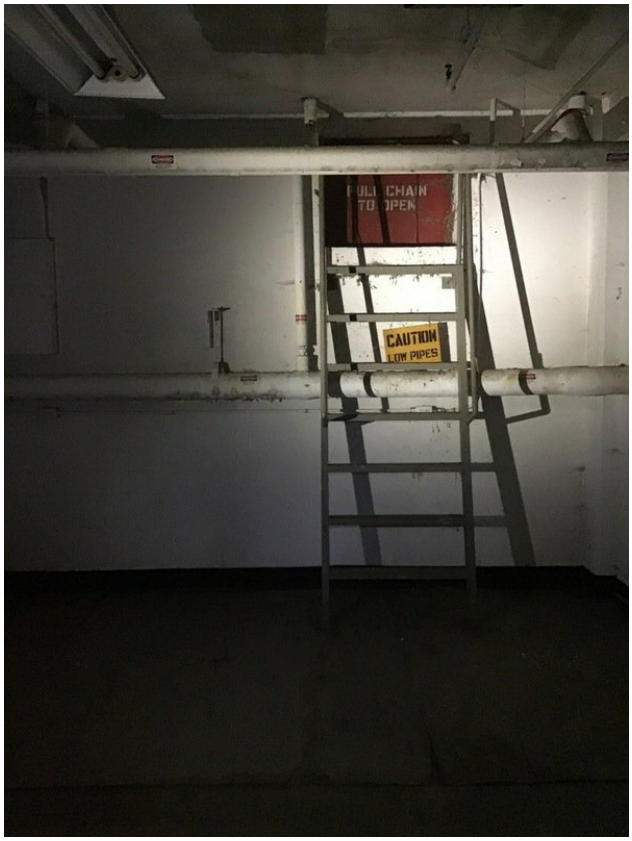
SW1, wrm3 facing W, no features noted

SW1, wrm4 Floor drain facing SE

SW1, erm3 facing E, no features

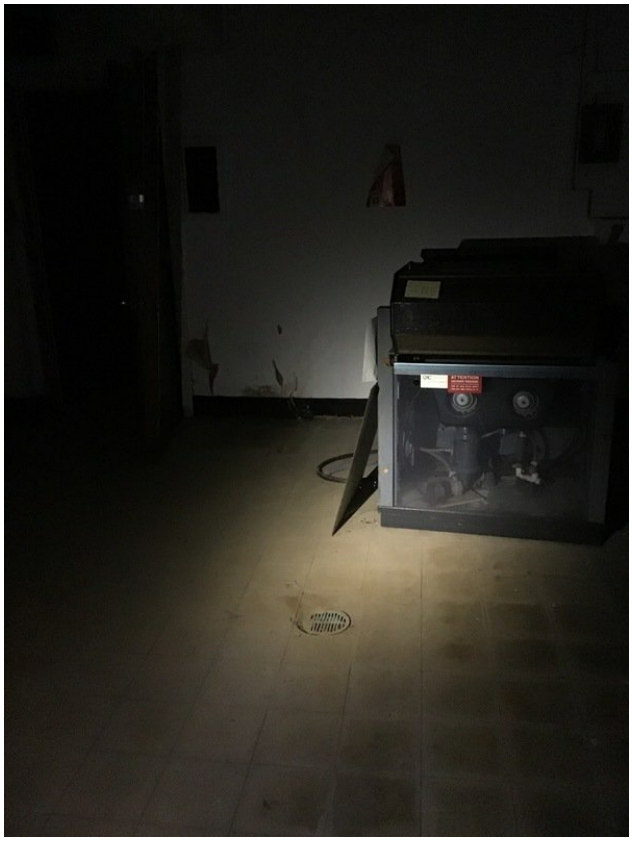


SW1, wrm4 facing W



SW1, wrm6, facing W, escape hatch

SW1, wrm5, drain pipe thru S wall, facing SW



SW1, Wrm5, facing E, floor drain

SW1, erm6, Exhaust fan on e wall, facing E

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SW1, erm5, 2 pipes through floor at SE corner, facing SE

SW1, erm5, exhaust fan in window on e wall, facing se

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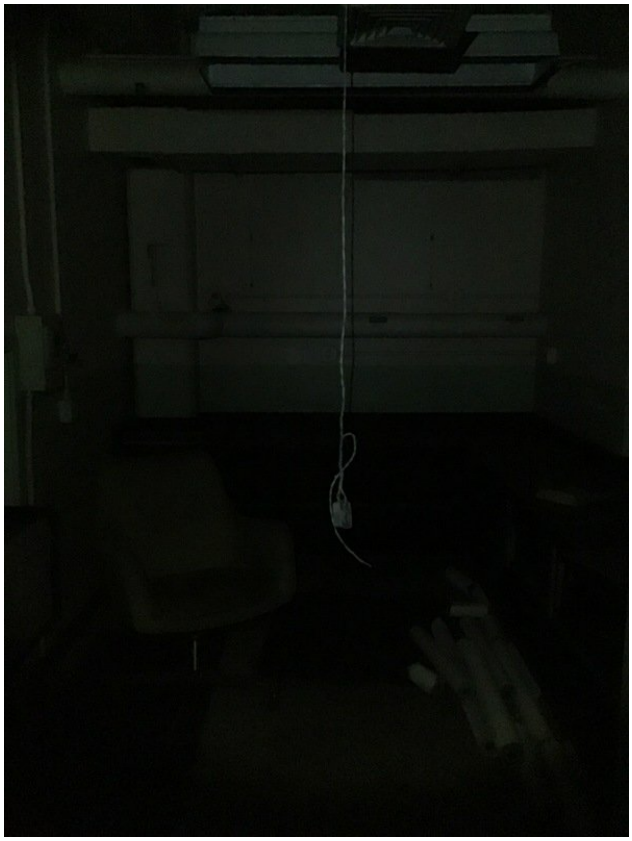
SW1, erm5, facing E

SW1, erm5 facing N, door to erm4.5



SW1, erm4.5, facing E, no features noted

SW1, erm4, facing E

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SW1, erm4, hole for exhaust fan on e wall

SW1, erm6, facing N, Drain under bench in erm5

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Utility room, Floor drain, facing NE

W hall facing ENE, utility room on left

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Door to NW1 from w hall, facing N

NW1, sw corner facing N

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NW1, wrm1, Dumb waiter, shaft measured as terminating at slab level

Nw2, Wrm1, Drain pipes through W wall , facing NW

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NW1, Wrm1, Windows on W wall, facing W

NW1, Wrm1, facing NW, windows on W wall and NW corner, no features noted

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NW1, erm1, capped floor drain, facing NE

NW1, erm1, drain pipe thru N wall, facing NE

NW1, Erm2, Drywalled windows leaking on E wall near doo to erm1

NW1, Erm2, floor drain at center, facing SE

NW1, Erm2, roof drain through E wall near SE end, facing NE

NW1, Erm2, SE corner facing N

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NW1, Erm2, drain at utility hall at SE end on E wall, facing NE

Paint room, facing NW, one floor drain at center

Drain pipe on slab across from paint room, facing W

Open room across from paint room ,facing S, floor drain at center

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Drain at W side of NW furnace, facing NE

NW Furnace room, facing N from W hall

SW furnace, Vent to outside on south wall, facing SW

Open enclosure across from ramp, facing SW

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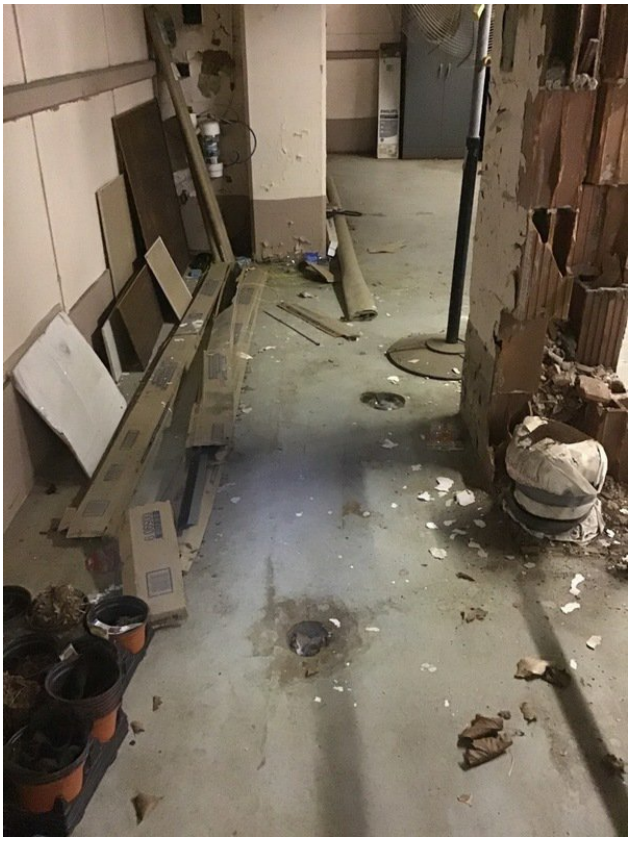
Drain pipe across from ramp, facing E

SW sump room, facing E, identical to SE sump



W hall, facing W, floor drains outside sump room

Floor drain at base of NW ramp, facing N

Sump room at W hall across from ramp, facing W, 0ppb, depth measured at 1.5’ from

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grade

Sprinkler drain in W hall, across from NW2, cut and capped, facing SW

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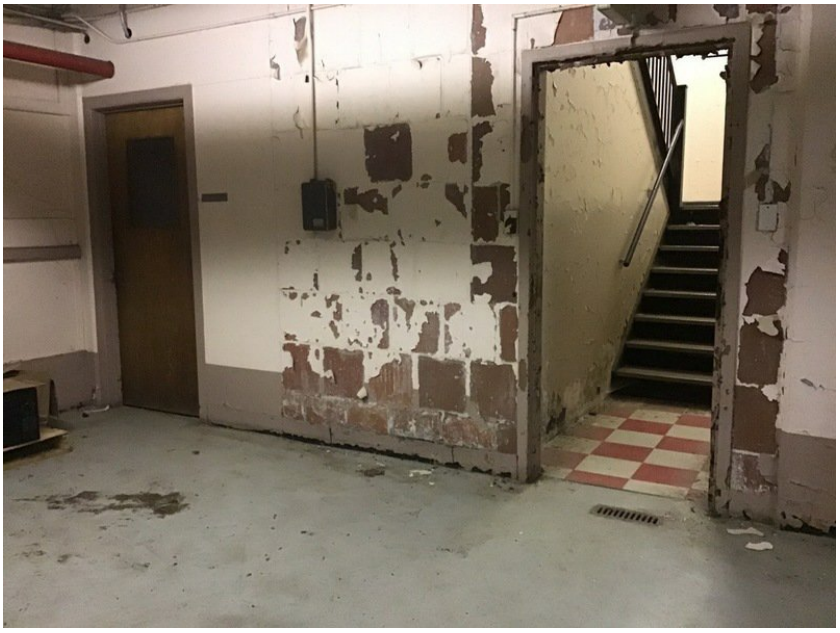
SE end of NW2, facing N from W hall

Elevator at door to SW2, shaft extends ~6.5’ below grade



NW2 stair and floor drain, closed door to NW2, facing N

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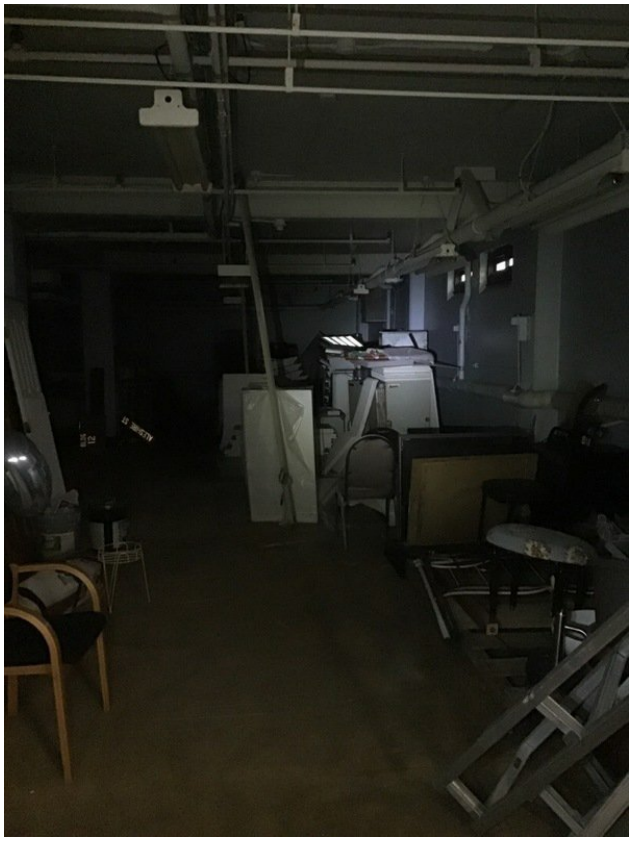
NW2, erm1, SE Windows on E wall , facing NE



NW2, erm1, NE corner and windows, facing NE, Room has wood floor about 2” thick so

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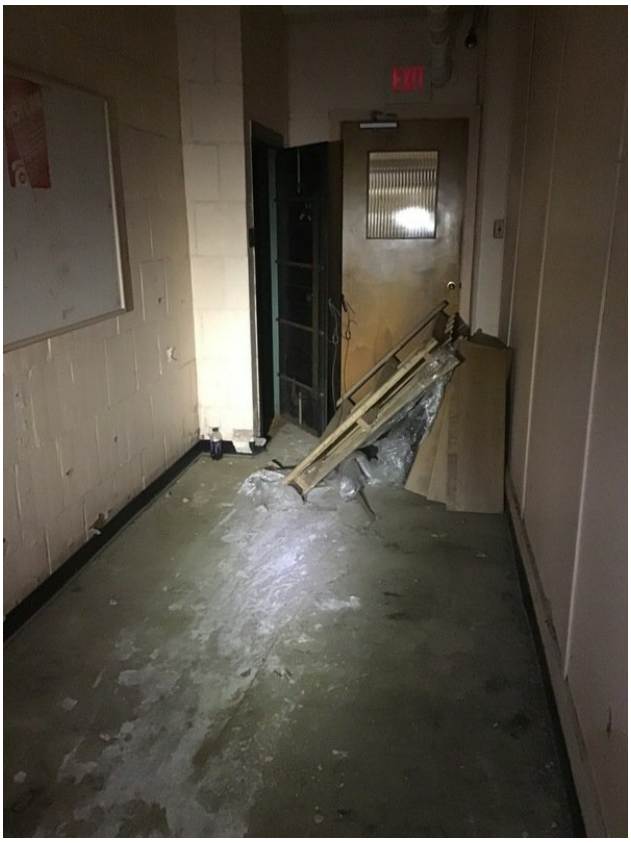
slab is not visible

Nw2, erm1, vent fan in NE corner, facing NE

Flooring adhesive in NW2, erm1, NW corner

NW2, erm1, NW corner facing NW

NW2, Wrm1, Safe, crack in floor facing N



NW2, Wrm1, exit to W hall and safe beneath stairs, facing S

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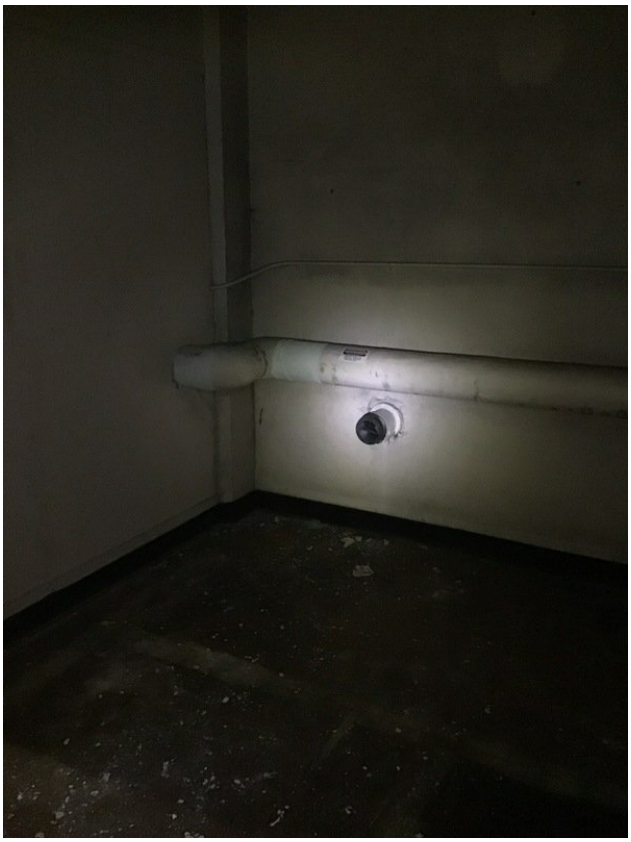
Nw2, wrm, facing N from Exit to safe



Nw2, Wrm1, drain through W wall, facing W

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NW2, Wrm1, pipe thru W wall, facing NW

Nw2, Wrm1, vent fan and escape hatch at NW corner, facing Nw

NW2, wrm2 facing N to Wrm1

Nw2, wrm2, drain pipe thru W wall, facing W

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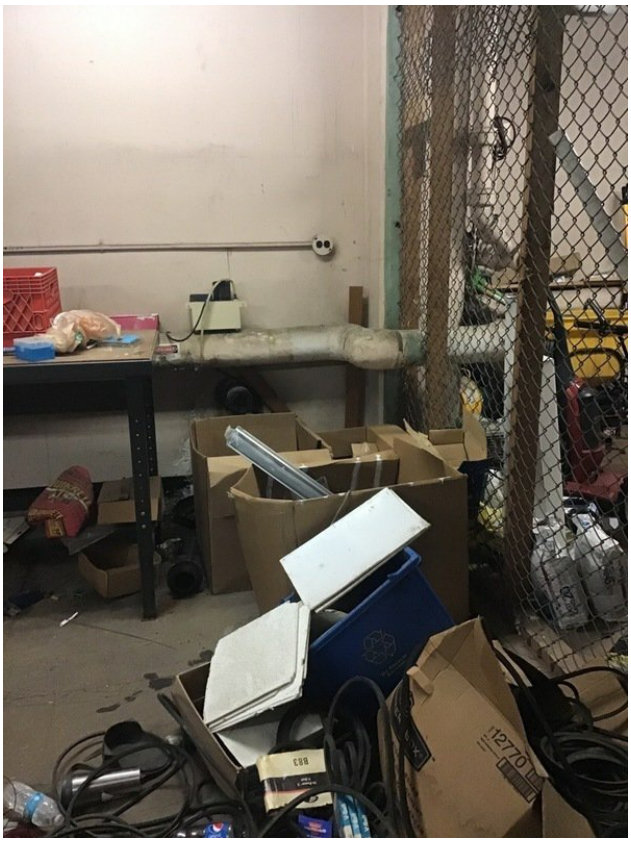
SW2, W2, facing S from NW2, wrm2

SW2, W1, drain through W wall in NW corner, facing SW

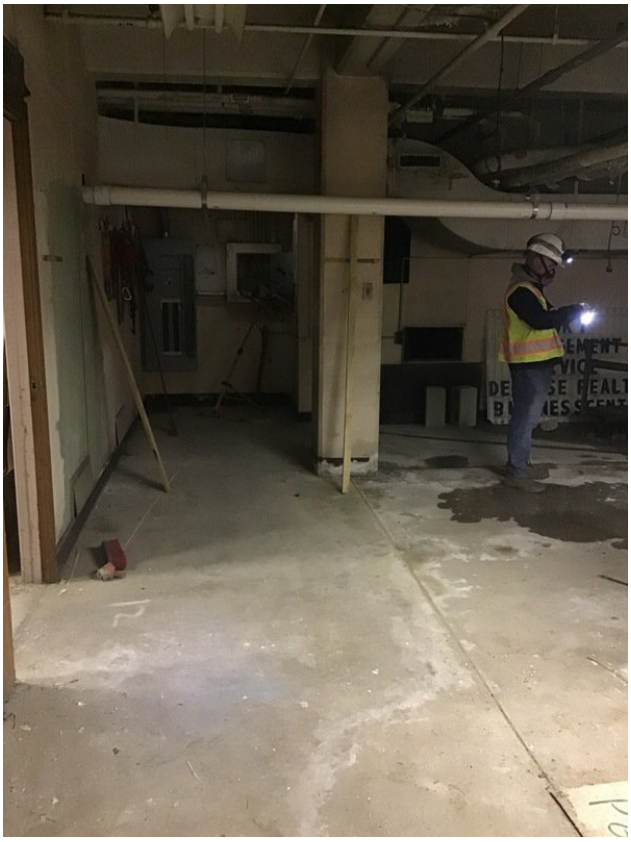


SW2, W2, drain pipe capped thru w wall, facing W

SW2, center of W1 facing N to NW2

SW2, W1, drain pipe thrust W wall facing W near SW corner

SW2, hall to steam tunnel at end facing S, drain pipe on floor , water at 8” depth, 0ppb



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SW2, E1, facing N from door to E2

SW2, Drain line in E1 on E wall, facing E, vent to enclosure across from ramp

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Sprinkler through floor at entrance to W hall to SW2

SW2, E1, vents to sump room on N wall, facing N

SW2, E2, facing SE from door to hall

SW2, e3, facing S

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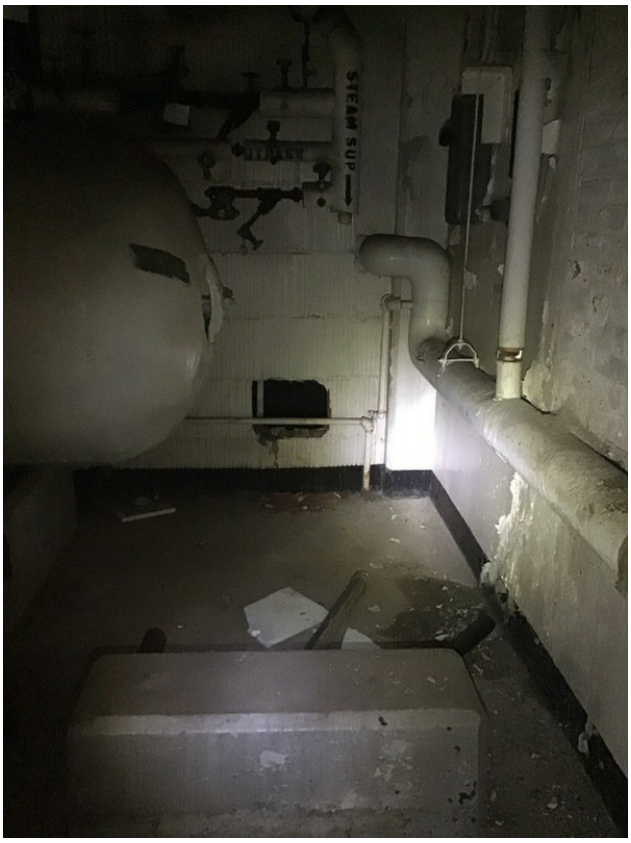
SW2, E3, facing S

SW2, E4, floor drain

SW2, E4, vent fan on E wall



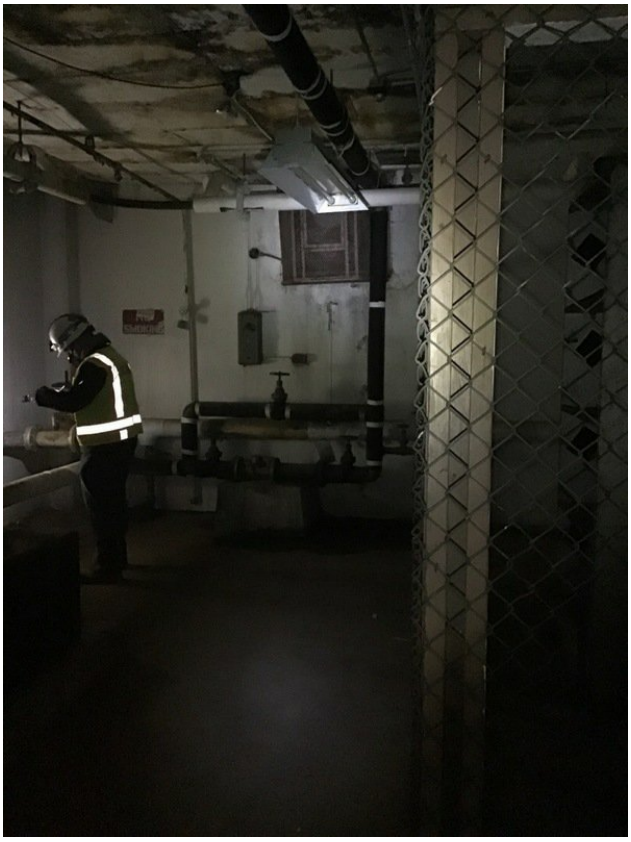
SW2, E4, NE drain line, 1”, facing N

SW2, E4, NE drain and cracked concrete

SW2, E4, drain line thrust slab at NW end, facing N

SW2, E4, water tank, facing E

SW2, stair to steam tunnel, facing S



POWERED BY fulcrum
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SW2, W2, facing W, vent fan

SW2, W2, facing SW, water main thru wall, floor drain

SW2, W2, drain thru S wall

SW2, W2, flor drain, facing W

0.25

Crack Width (inches)	0.25
Crack Location	NW wall of wing NE1
Maximum PID measurement (ppb)	134

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	No
Is there smoking in the building?	No
Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

DSCP Building 12 Steam tunnel , [redacted] , 2018-11-06

Created	2018-11-06 15:57:42 UTC by [redacted]
Updated	2018-11-06 17:10:56 UTC by [redacted]
Location	39.9145928759515, -75.1874527988924
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-06
Time	10:58
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	DSCP Building 12 Steam tunnel

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Basement type	Unknown
Basement floor	Concrete
Concrete floor	Unsealed
Basement moisture	Damp, Moldy
Sump present?	Yes
Water in sump?	Yes
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	Yes

Please provide representative photos

Floor drain steam tunnel to building 6 & 14

Entrance to steam tunnel to building 6 & 14

Broken floor steam tunnel to building 6 & 14

Source of water to steam tunnel to building 6 & 14

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Sump in steam tunnel to building 6 & 14 ~2-3′ deep

Water leaking into steam tunnel to building 6 & 14

POWERED BY fulcrum
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Tunnel heads to building 6

Spot where water has leaked into tunnel heading to building 6

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Pipes going into wall tunnel heading to building 6

Leaking ceiling tunnel headed to building 6

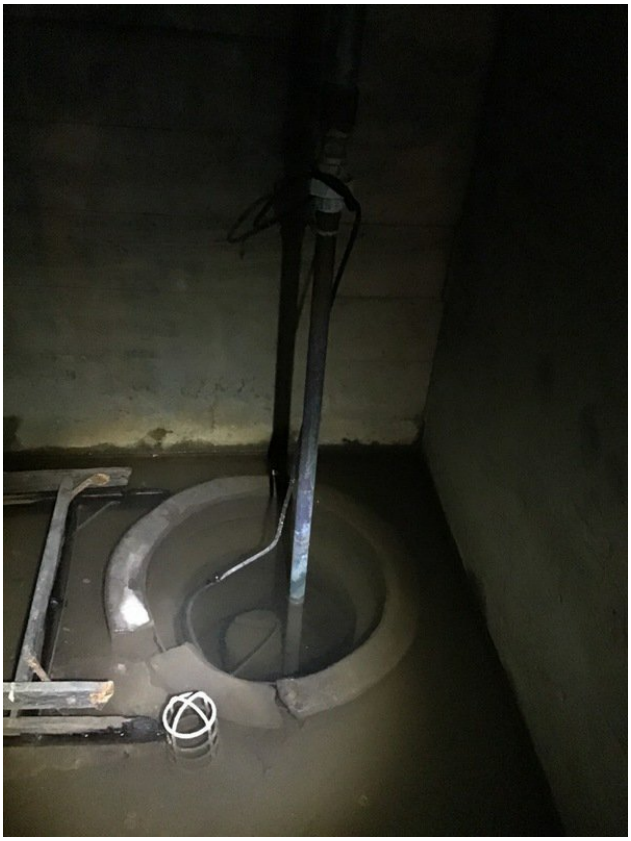
Water leaking into tunnel heading to building 6

Tunnel heading to building 14

Leak into tunnel heading to building 14

Running water into tunnel at the corner heading to building 14

Running water into tunnel at the corner heading to building 14



Sump tunnel heading to building 14

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Water seeping into tunnel heading to building 14

Hole in wall in tunnel heading to building 14

Floor drain base of steps in tunnel heading to building 14

Ceiling degradation tunnel heading to building 13

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Wall degradation tunnel heading to building 13

Sump in tunnel heading to building 13

AST in boiler room between tunnels of 13 & 14

Sump in boiler room in between tunnels heading to building 13 & 14

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Sump in boiler room in between tunnels heading to building 13 & 14

Roof drain in boiler room in tunnel heading to 13

Pipe going into floor in boiler room at the end of the tunnel to building 13

Pipe going into wall in boiler room at the end of the tunnel to building 13

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Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Unknown
Primary type of fuel used	Unknown
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Unknown
Air Conditioning	None
Are there air distribution ducts present?	No
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Unknown
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	No
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	No
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	Yes
Please describe odors	Mildew

Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	Yes
Describe the general weather conditions	Heavy rain

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Building 12, [redacted] 2018-10-16

Created	2018-10-16 14:05:00 UTC by Chuck Rogers
Updated	2018-10-16 19:04:04 UTC by Chuck Rogers
Location	39.9161689280898, -75.1814183146533
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-10-16
Time	10:09
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	Building 12

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Commercial/Multi-use
Business Type (if commercial property)	School
Does it include residences?	No
Number of floors	3
Building age (in years)	75
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

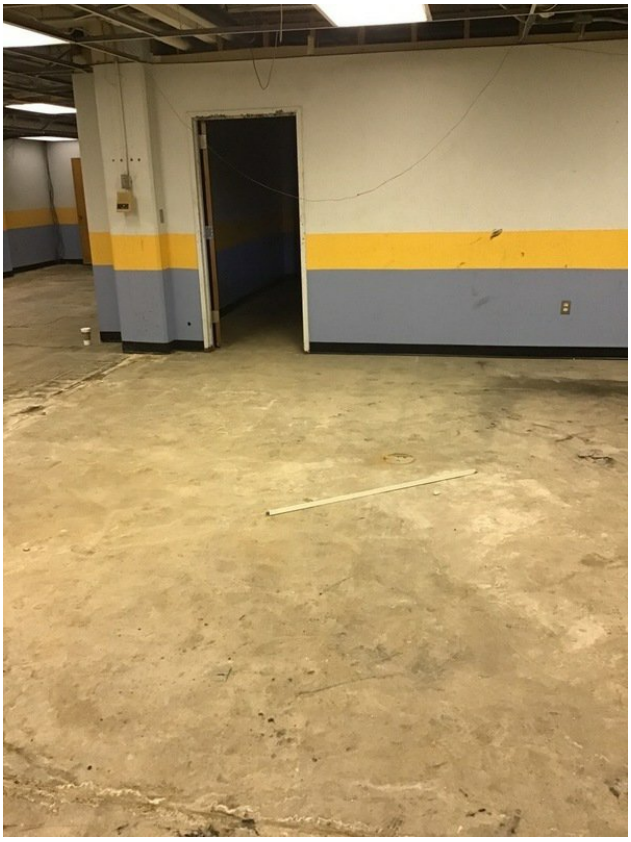
Above grade construction	concrete, stone brick
Basement type	Slab
Basement floor	Concrete
Foundation walls	Block stone
Basement finish	Partially finished

Please provide representative photos

SE2, Door from corridor facing S, sewer pipe through drywall at left, ~2' of space behind drywall

SE2, NE corner facing NE, capped pipe at right through drywall, door to corridor at left, door through drywall to sewer pipe center

SE2, NE corner facing E, door through drywall to storm/sanitary sewer pipe through wall



SE2, N wall facing S, filled floor drain at center, door to small training room

SE2, Filled floor drain at above

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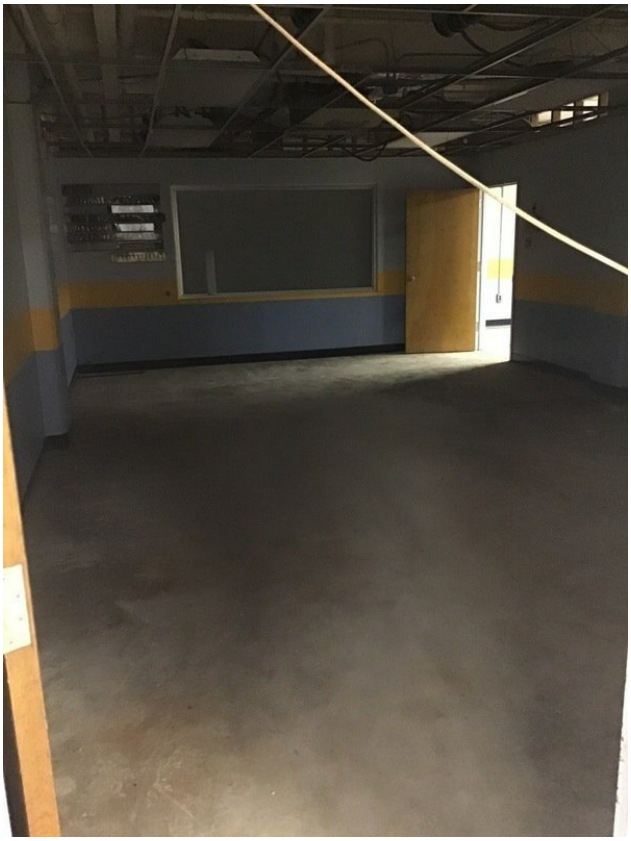
SE2, SW corner facing N, filled floor drain at center fore, training room at right

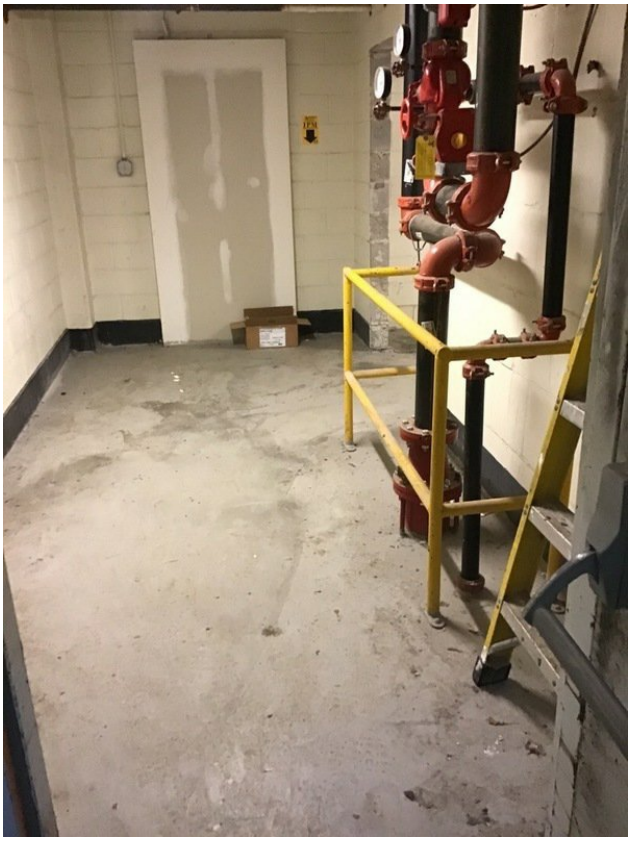
SE2, SE corner facing W, from door to training room 2, sewer pipe at center right thru drywall

SE2, SE corner facing N



SE2, Center facing S, Training Room

SE2, Door to training room facing NW, sewer pipe through wall



Corridor, E2 facing S, fire pump room, city water connect thru slab

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Fire pump room, sump pit, ~1’ of water at base, 0.1% CH4 and CO2, 5.25 ft to base.

Fire pump room, SE corner facing W, sump at right, sewer pipe thru slab at left

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Fire pump room sump, facing W

Fire pump room sump

Fire pump room, SW wall, facing W, drain pipe thru slab, drain pipe thru wall

Fire pump room, sprinkler thru wall

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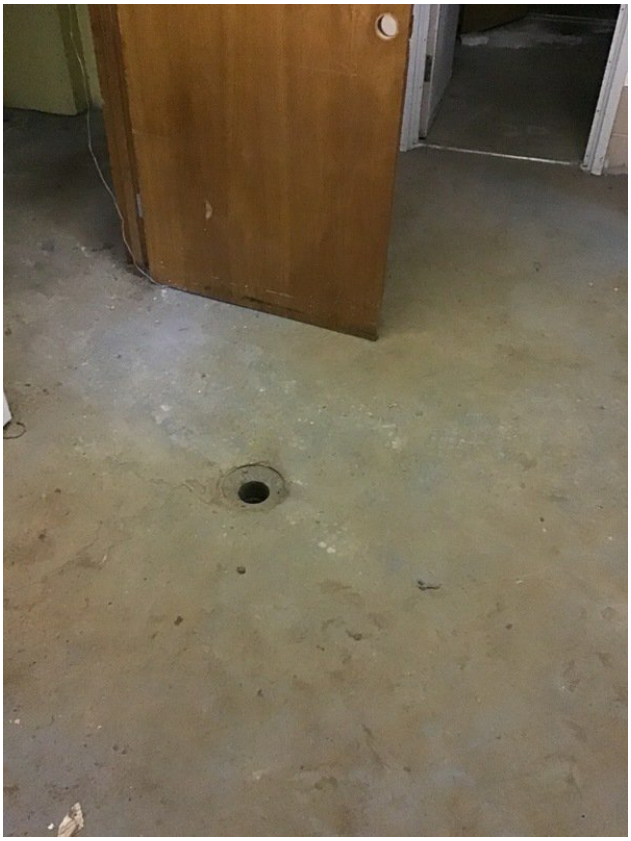

Corridor, E2 facing SE, floor drain at left, door to SE2 at top right

NE2, SE corner facing NE, water pipe in thru wall on right, capped drain on left thru wall

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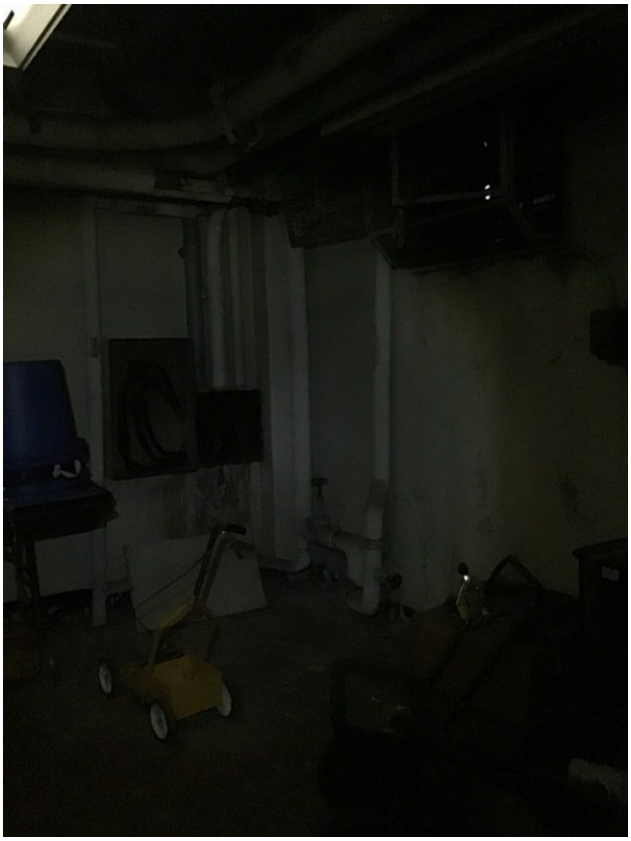
NE2, SE corner facing N, room used primarily for storage



NE2, NE corner facing NE, water pipe thru slab at left, and thru wall x2 at right, window

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vent unit at top right measured 74” from slab to bottom of vent

NE2, N wall facing E, drain pipe thru wall

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NE2, Near NW corner facing ESE, floor drain beneath cabinets

NE2, Center facing S, floor drain, ~ due south of other drain

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NE2, SW corner facing NW, roof drain out thru wall

NE2, middle W wall facing NW, drain thru W wall

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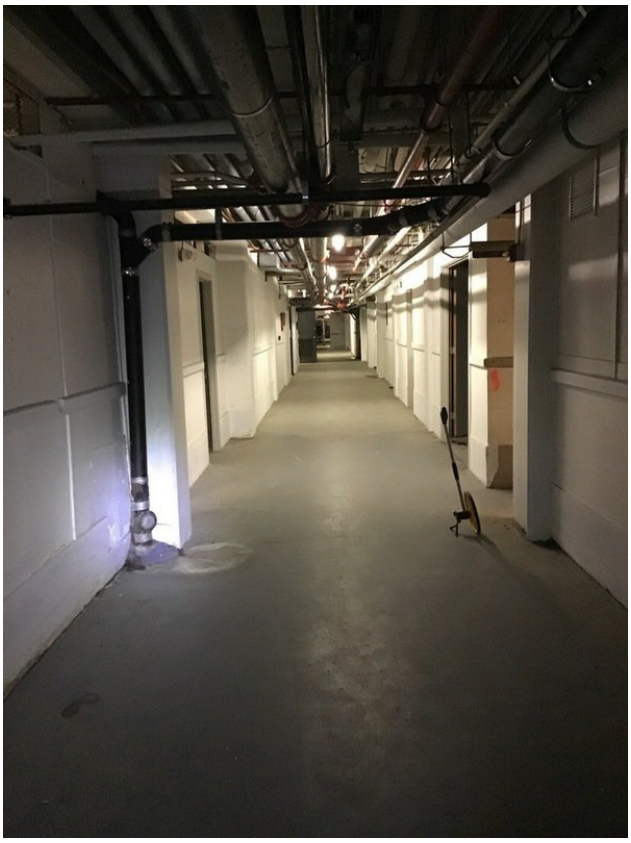
Corridor, W of fire pump room facing E, capped pipe in old column likely thru floor



Corridor, E2 facing W, Drain pipe thru slab at left

Corridor E2, Door to NE2 supply room facing NE

Corridor, E2 at air handlers facing SE, door to ATS room

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ATS Room, NE corner facing SW, two floor drains thru slab, sewer pipe thru wall

Corridor, E2 facing N at Air Handlers, N air handler room

N Air Handler Room, floor drain to right of handler

Corridor, E2 facing south at south air handler

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NE2W, NE corner facing SW, floor drain, old and new drain pipe thru slab

Corridor, E1 facing W, door to SE1 on left and NE1 on right

SE 1, from E1 facing S

SE1, at door from E1 facing S, floor drain thru slab

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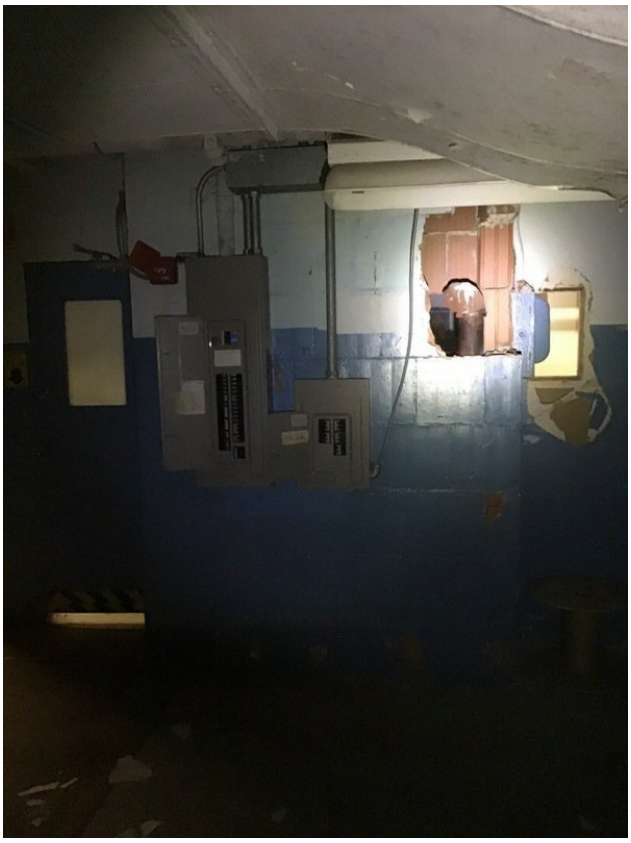
SE1, NE corner facing E, wall to S air handler room, floor drain



SE1, N wall facing N, doors from E1 to left, capped pipe in brick column

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SE1, NW wall facing W, drain pipes x2 thru wall

SE1, SW corner, facing S, water pipe thru wall

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SE1, SE corner facing N, conduits thru slab

SE1, SE facing E, drain pipe thru wall

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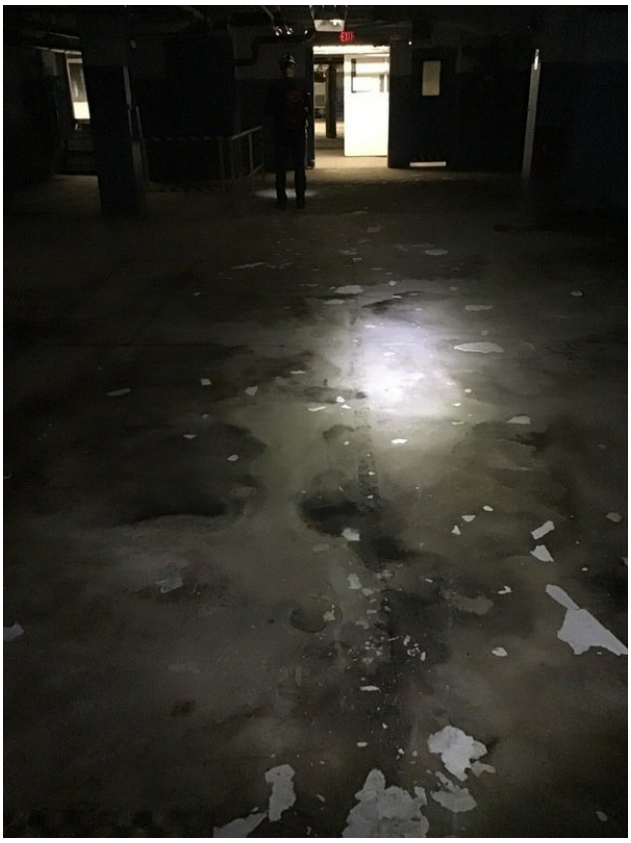
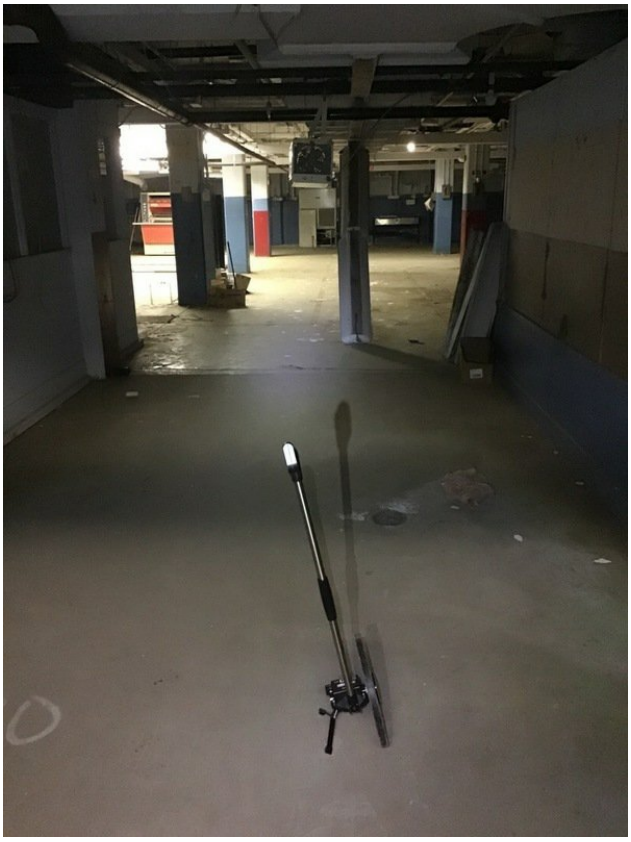
SE1, middle E wall facing NE, three drain pipes thru wall



SE1, center facing N, floor drain

SE1, NW Fire cutout facing NW, two pipes thru slab,

E1, facing S to ElecVaultB, no penetrations



NE1, Door from E1 facing N, floor drain

NE1, SW corner facing NW, drain pipe thru wall to outside

NE1, SE corner facility nw NE, sewer x2 thru floor

NE1, Middle E wall facing SE, two drain pipes thru wall

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NE 1, NE corner facing NE, drain thru wall

NE1, NW corner wall, crack along foundation wall and slab.

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NE1, center of N end facing N, floor drain

NE1, middle of room facing S, floor drain

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	NE1, W wall facing SW, two drainpipes thru wall, pie 102ppb at this location

0.25

Crack Width (inches)	0.25
Crack Location	NW wall of wing NE1
Maximum PID measurement (ppb)	134

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)

Factors That May Influence Indoor Air Quality

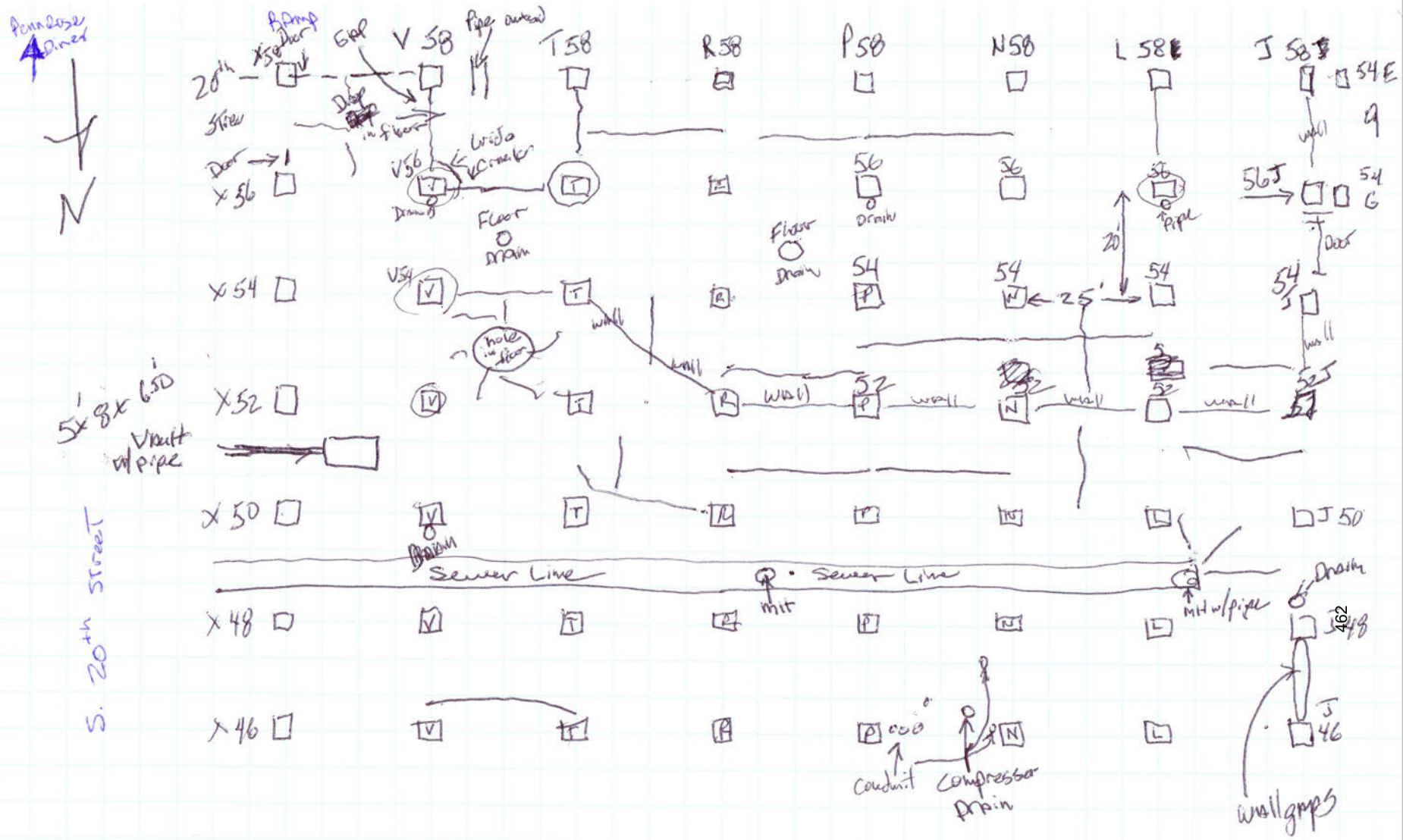
Outside Contaminant Sources

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).



Building 13 (Brite Star)

10-29-18

South END

DSCP Building 13 , [redacted] , 2018-11-07

Created	2018-11-07 17:46:20 UTC by [redacted]
Updated	2018-11-07 19:39:09 UTC by [redacted]
Location	39.9144777487438, -75.186891606958
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-07
Time	12:46
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	DSCP Building 13

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

If Multiple Units, how many?	N/A
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	No
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete
Basement type	Full
Basement floor	Concrete
Concrete floor	Unknown
Foundation walls	Poured
Basement moisture	Moldy, Damp
Basement finish	Unfinished
Sump present?	Yes
Water in sump?	Yes
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	No

Please provide representative photos

Drain pipe going into floor by X13 east side building 13

Drain pipe going into floor east side by column V9 building 13

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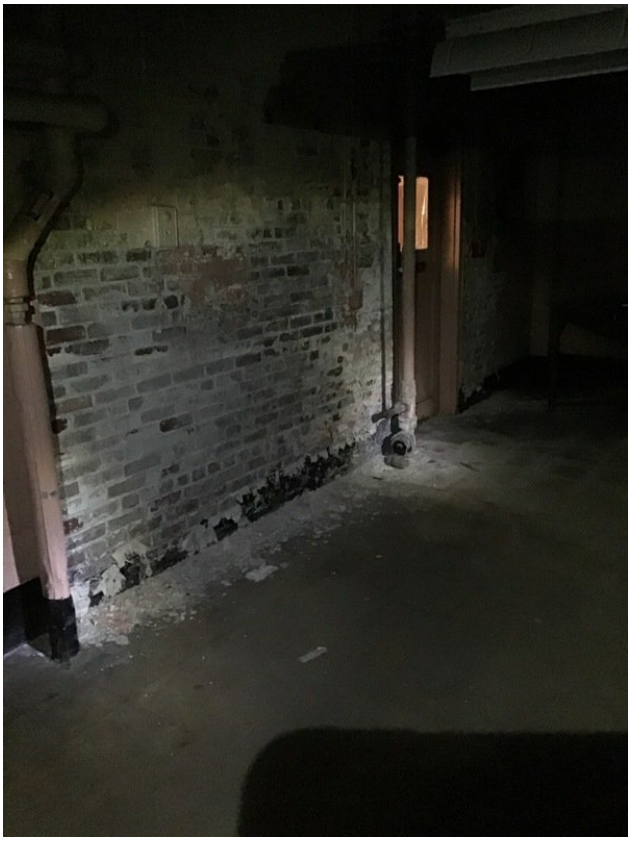

Drain pipes going into floor northeast between X19 and X17 building 13

Drain pipe going into floor by V15 east side building 13

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Sprinkler room by T17 east side building 13

Drain pipe going into floor by R15 east side building 13

Drain pipe going into floor by O17 east side building 13

Drain pipe going into floor by O13 east side building 13

Pipe going into floor by R7 east side building 13

Vault lid in cubicle room by X11 east wall building 13

Drain pipe going into floor in cubicle room by X11 east wall building 13

Pipe going into floor wall by V9 cubicle room east side building 13

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Floor drain women’s room east side next to cubicle room building 13

Pipe going into floor women’s room east side next to cubicle room building 13

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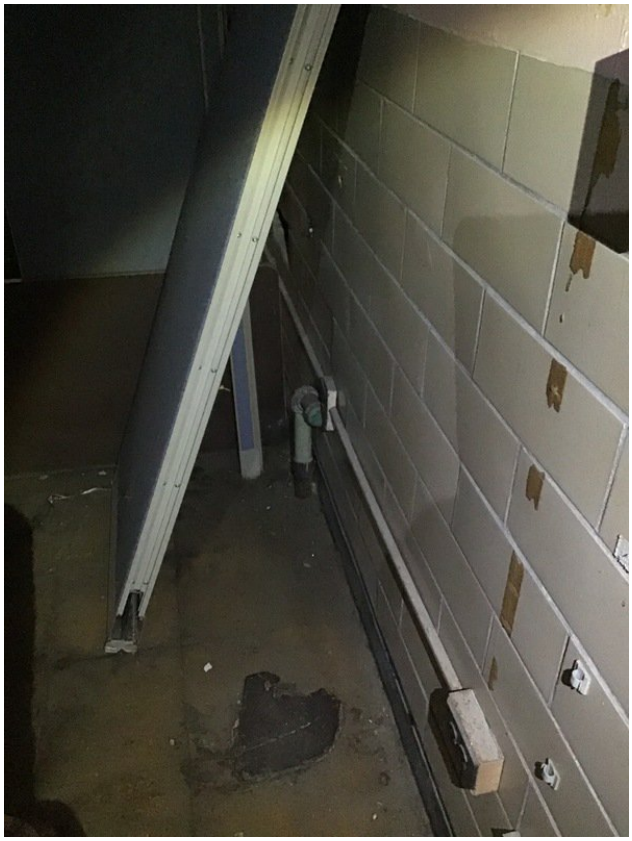
Pipe going into floor by V7 east side building 13

Floor drain in stairwell east wall building 13

Floor drain men’s room east wall building 13

Sink drain men’s room east wall building 13



Pipe going into floor northeast side by V3 building 13

Pipe going into floor northeast side by V3 building 13

POWERED BY fulcrum
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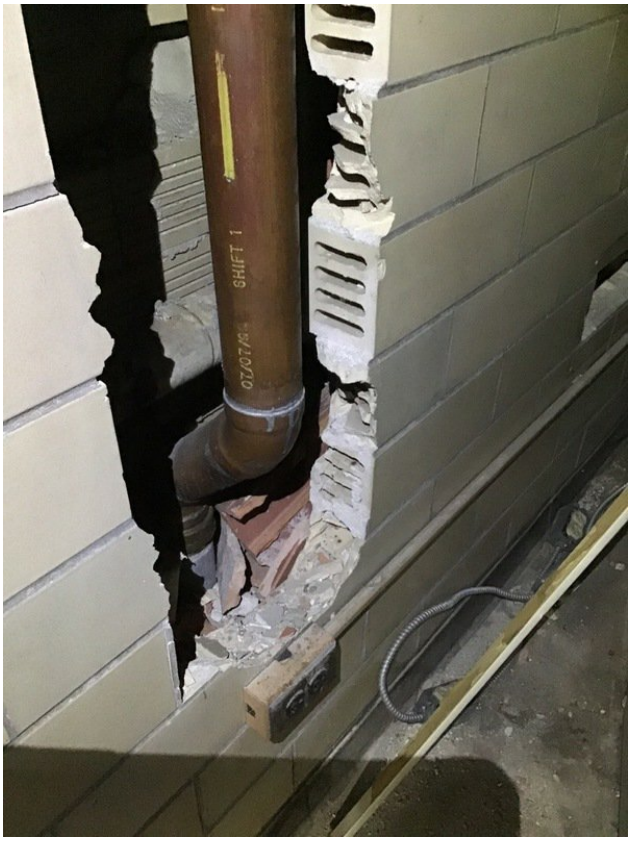
Pipe going into floor northeast side in same room as V3 building 13



Pipe going into floor behind wall in room as V3 northeast side building 13

Pipe going into floor by R3 north side building 13

Pipe going into floor by O1 north side building 13

POWERED BY fulcrum
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Floor penetration by M1 north side building 13

Pipe going into floor by K1 north side building 13

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Pipe going into floor by I1 north side building 13

Sprinkler pipe by K7 north side building 13

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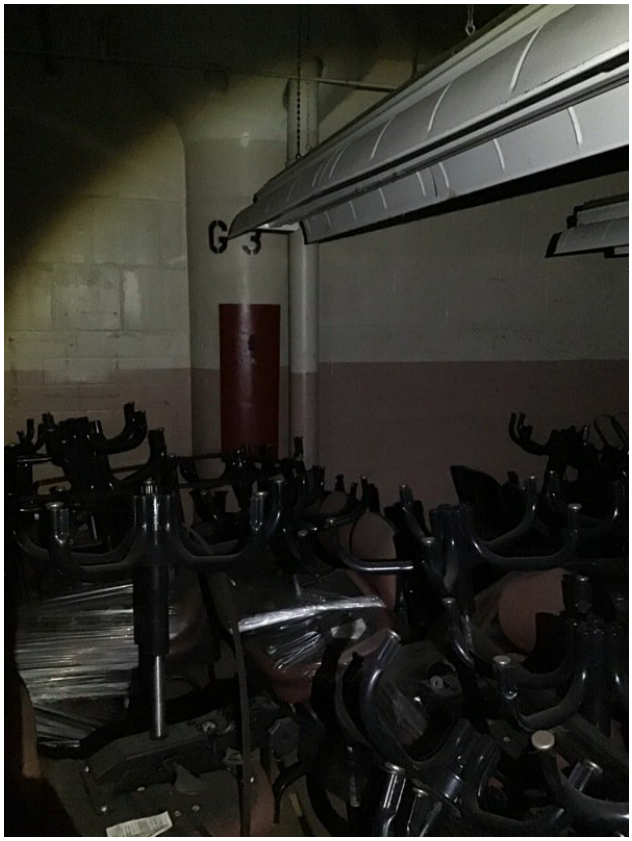
Pipe going into floor north west corner by G3 building 13



Pipe going into floor north west corner by G3 building 13

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Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Unknown
Primary type of fuel used	Unknown
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Basement
Air Conditioning	Unknown
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	No
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	No
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	Yes
Please describe odors	Mildew

Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	Yes
Describe the general weather conditions	Sunny

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Building 13, [redacted] 2018-11-07

Created	2018-11-07 14:09:17 UTC by Chuck Rogers
Updated	2018-11-13 13:14:43 UTC by Chuck Rogers
Location	39.9144851988259, -75.1868934748766
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-07
Time	09:10
Preparer's Affiliation	PARS
Purpose of Investigation	VI assessment
Building Address/Number/ID	Building 13

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Entry team
Given access to building?	Yes

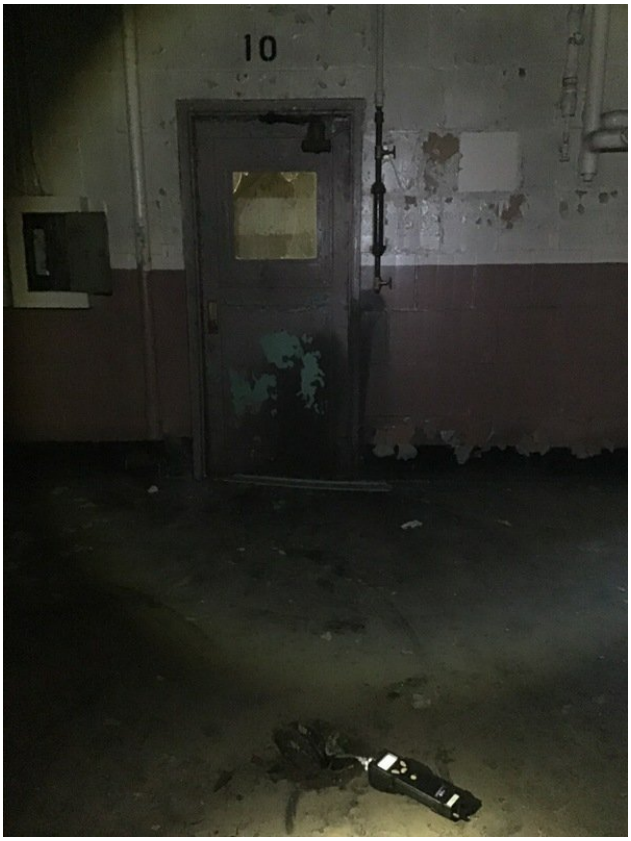
Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Number of floors	4
Building age (in years)	75
Is the building insulated?	Yes
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

Above grade construction	stone brick, concrete
Basement type	Full
Basement floor	Concrete
Concrete floor	Unknown
Foundation walls	Block stone, Poured
Basement moisture	Moldy, Damp, Wet
Basement finish	Finished
Perimeter drainage system present?	Yes
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

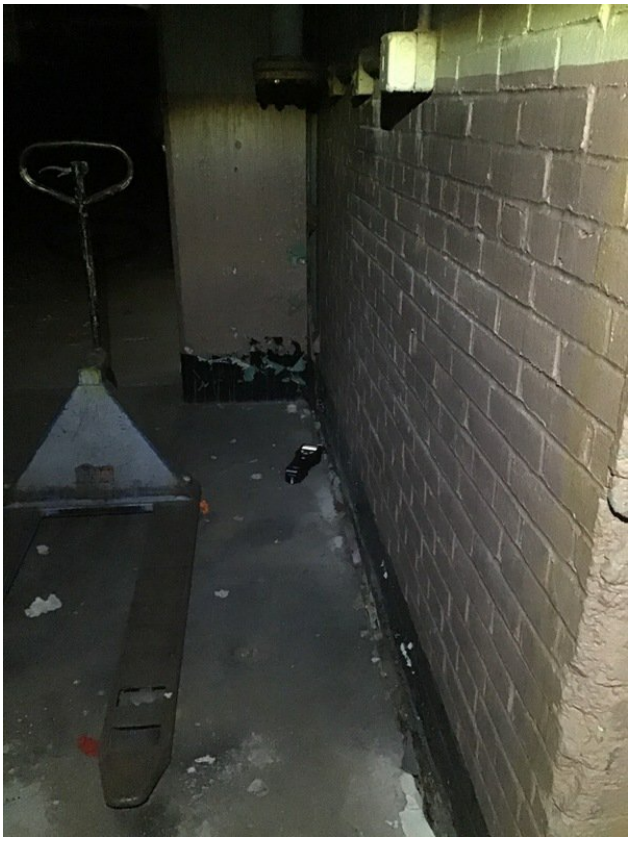
Please provide representative photos



Floor drain at stairwell 10, facing E, 5.5ppm measured

S hall, ent fan on W wall facing NW

S Hall, SW corner facing W, 2” Gap between bldg 9 and 13, PID max 21.25 ppm in this gap



9/13 gap, facing E at door to 9 from S hall, 0ppb

S Hall, s wall b/w C/E 48, gap continues, 0ppb

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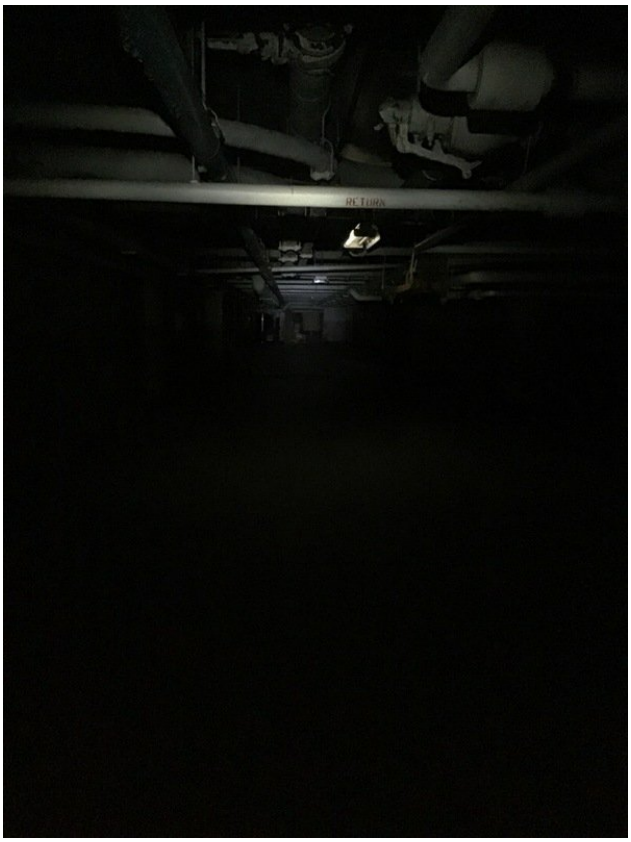
S Hall, E48, steam system equipment, appears oily



S hall facing E, steam line runs thru this hall

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Joint b/w C46/48 facing S, sealant missing at some of these joints, appears to be from wear and tear

Drain at G48 thru slab

Drain at I44, facing N

Steam equipment b/w M/O 44 facing NE, door to bldg 19

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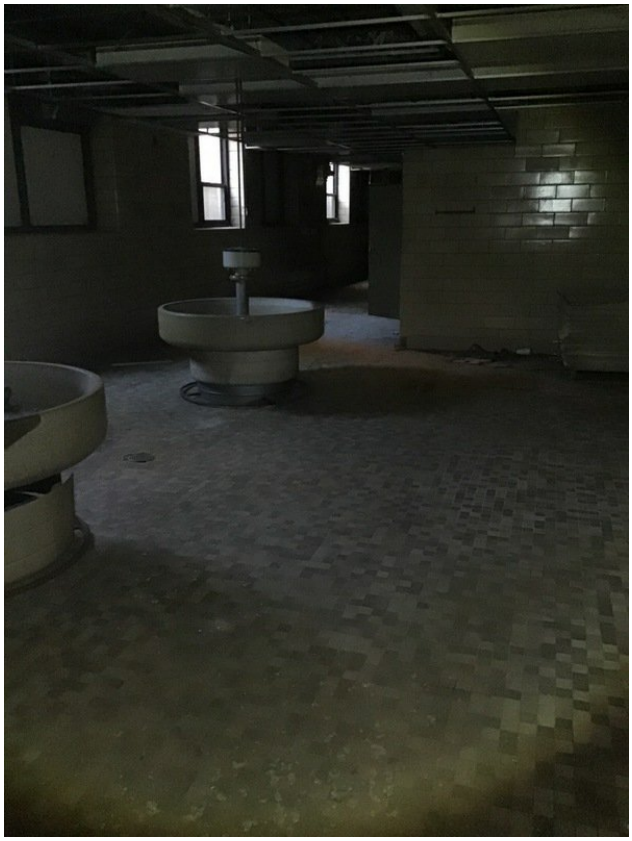
Drain pipe at G44, facing N

S Hall, NW corner facing NW, drain thrust floor and water(?) pipe thru wall

Stairwells 10, facing NW

Floor drain and sprinkle drain box in interior stair 10

Drain at E stair 10, facing W



SWMR, facing NW at S door

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Drain under hand washing sink. SWMR facing E

Two floor drains, S end of SWMR, facing E, 0ppb

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Drain in floor and window hvac in SWMR, facing SW

Two floor drains, 1 drain pipe, a SWMR, facing N

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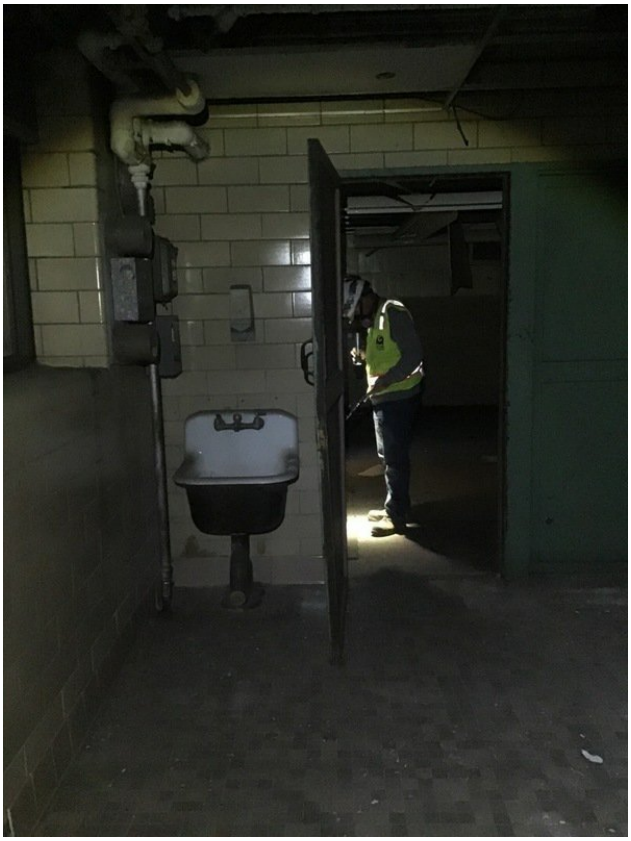

Drain pipe and sink thru floor, N end of SWMR, facing N

Locker room, facing W, drain pipe, windows

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Shower in lockerroom with one floor drain max of 3.4ppm, facing S, C34 at left

drain in locker room Nw corner, facing NE

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Floor drain at locker room, facing S, 12ppb

Locker room,Floor drain and door to SWMR facing S

Stair 9 lobby, facing E, hvac duct going to floor

Hatch in stair 9 lobby, facing E, max pid 25ppm

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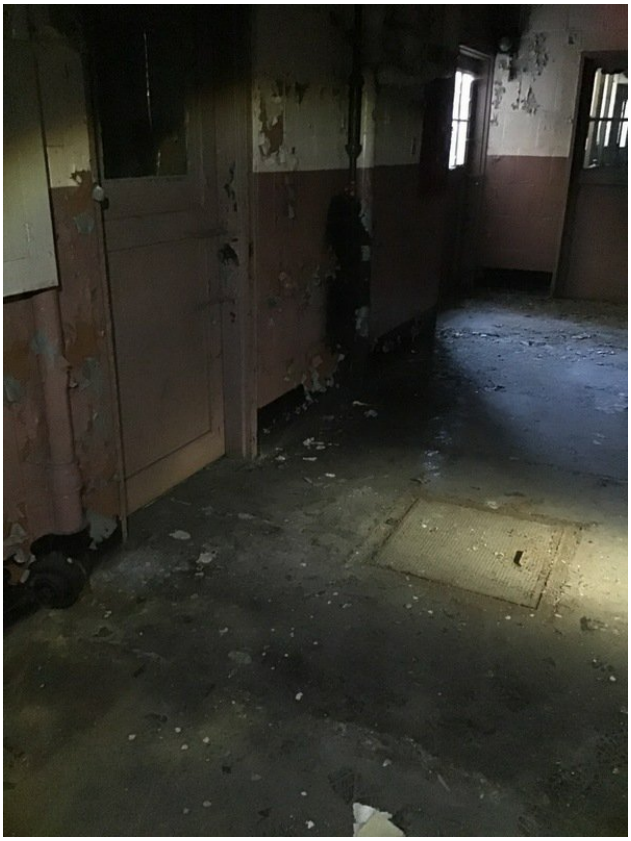

Two drains and floor hatch at Interior stair 9, facing NW

Floor drain and sprinkler pipe thru slab, boxed off, in Interior stair 9, door locked

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Stair 9 lobby facing E to W hall, door to locker room on right

Shop31, Drain at SW corner, 18.5ppm

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4 drains along W end of shop31, facing N

Drain in shop31, 9ppm measured. Possibly radiator or steam drain pipes, 1” into 4”

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pipe with gap, not sure of the purpose

Drain pipe, shop31, facing SE, door to W hall

Drain pipes on E wall of shop 31, facing N

Drains on NE corner shop 31, door to W hall, facing Nw

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Shop 31 Boiler room, Drain pipe in SE corner, facing S

Drain pipe and vent for shop31 boiler, facing SW

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Shop31 bOiler, facing W

Window vent, shop 31 boiler, facing W

Interior stair 8, boxed sprinkler pipe and floor drain likely, door locked, facing SW

Pipe in wall at Istair 8, facing NW

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Drain pipes outside interior stair 8, facing S

SCVR, drain on S wall facing W

SCV rm, floor drain, facing N

SCV rm, sprinkler pipes thru slab at E17, facing SE

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SCV Room, facing W from w hall door

Drain pipe and boarded up window, SCV rm w wall

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SCV rm, drain pipe at c15, facing NE

Possible floor drain/conduit in n of SCV room, facing W

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NWmr, facing S, doors to SCV rm, two floor drains

Drain pipe, sink, and doors to SCV rm at S end of NWmr, facing S

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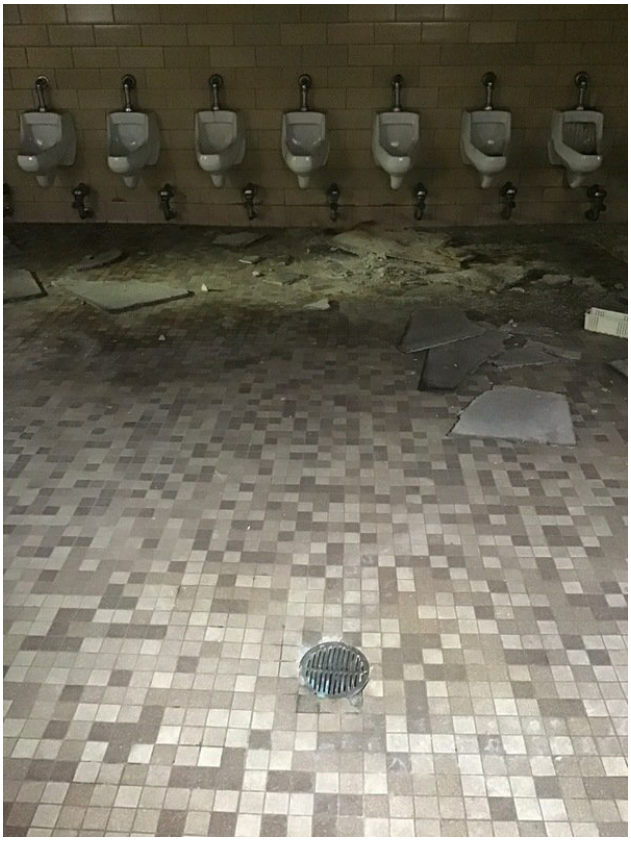
Two drain pipes along W end of NWmr, facing N



Two floor drains at NWmr near urinals, one is near pile of tile in rear, facing E

Hand washing tubs each with drain line thru floor, facing S

Drain pipes thru floor at Ext stair 7, facing W

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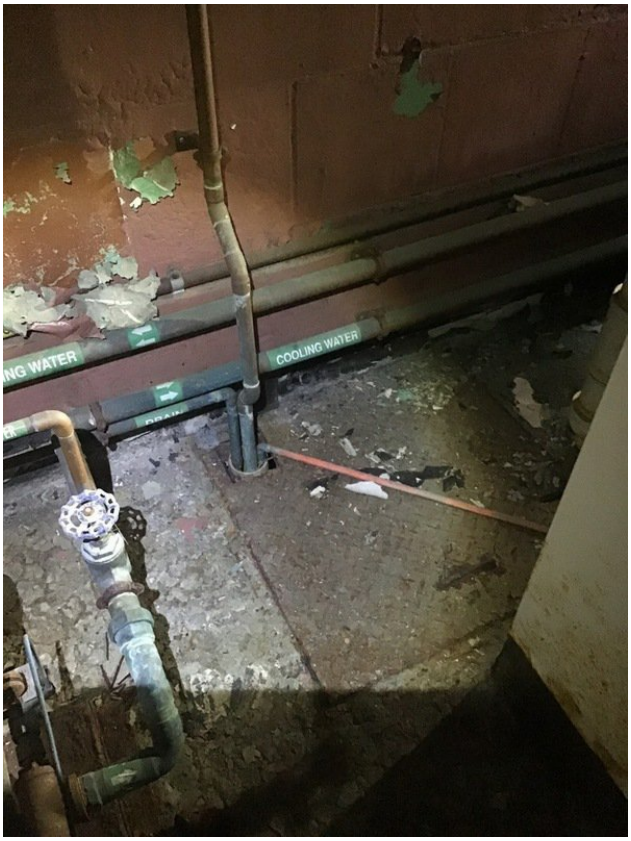
Drain at Int stair 7, facing N



Sump/hatch at NW corner of Stair 7 lobby, facing Nw

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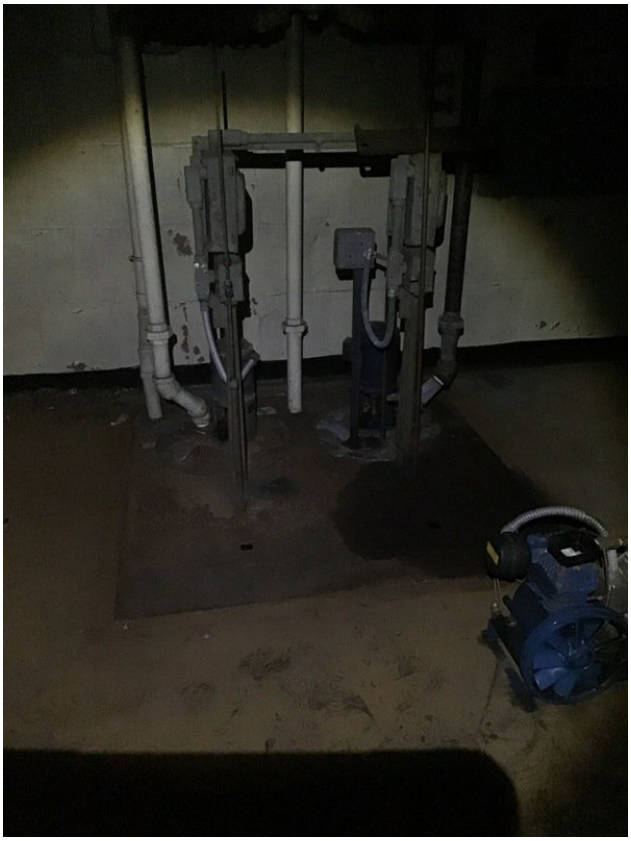
Unknown equip in stair 7 lobby, plugged in to 2” water line send /return and electric, facing Nw

Drain pipe and door to boiler / steam tunnel , facing NE, column C7 at right

Sprinkler pipes at E38, facing E



Sump in scv2 rm, facing E

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Scv2 rm, drain pipe on W wall, facing Nw

Drain pipes at rear of SWMR thru wall at scv2 rm, facing SW

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Scv2 rm , air handler, facing S

Drain pipe at 34C, facing SW

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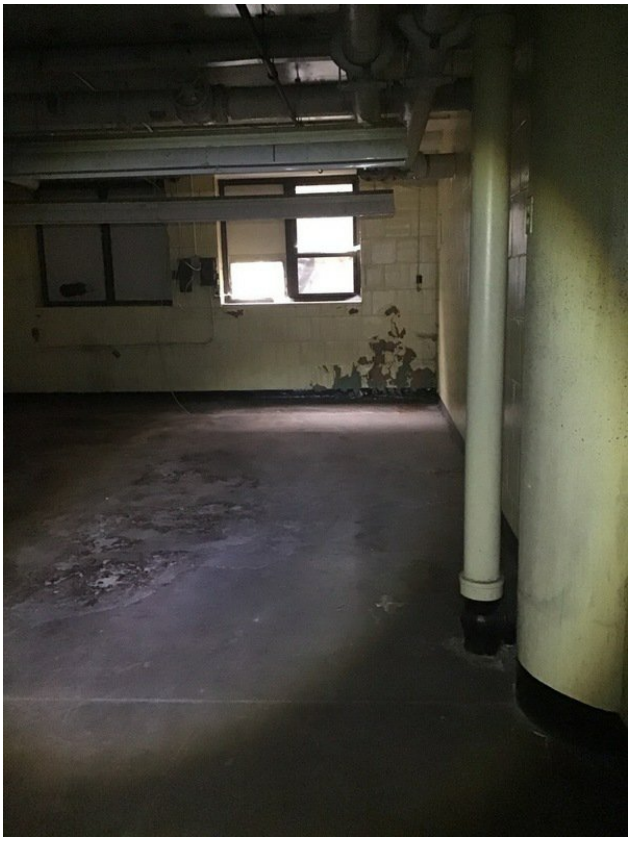
S10, facing E



S10, fdp on S wall, facing E to courtyard sunken windows

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Facing E, sw hall 1, exit to exterior stairwell below grade, training rm door on right

Training room, facing SW from door to sw hall 1

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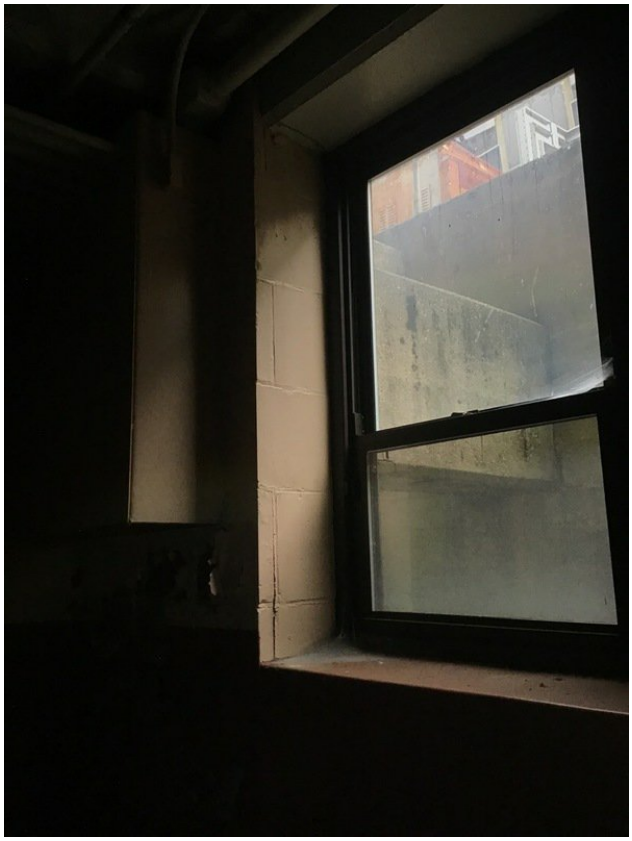
Fdp in SE corner of training room, facing SE, window to recessed stairwell on courtyard



Conduit box on NE wall of training room, likely exits through wall in concrete block to

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transformer (?) seen through windows, facing Ne

AH room facing SE, windows to courtyard stair, fdp

Window vent on E wall of AH room, facing SE

Fd at N end of sound rm, facing E to door to AH room

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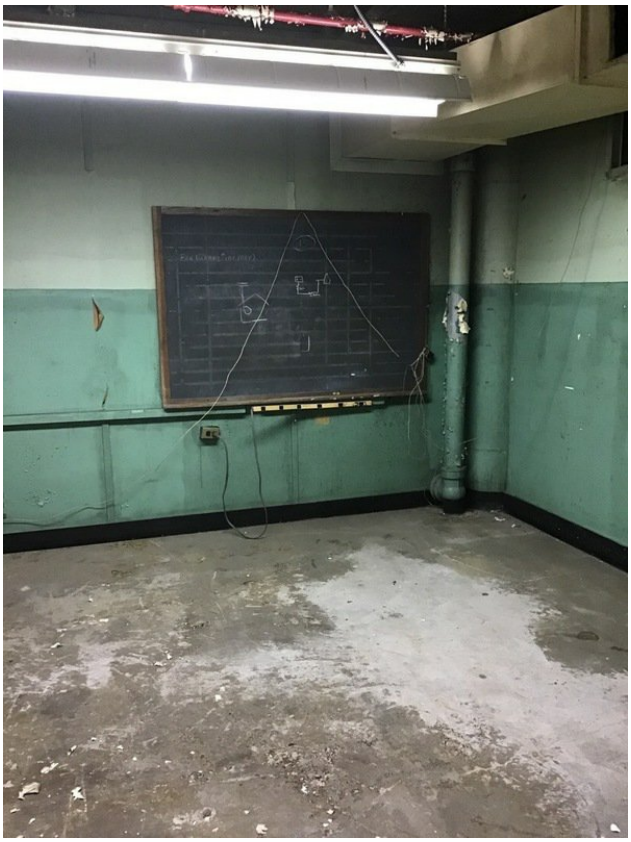
Fd T door to AH room from sound room, facing E

Sound room, from N door facing SE, door to sw hall on right



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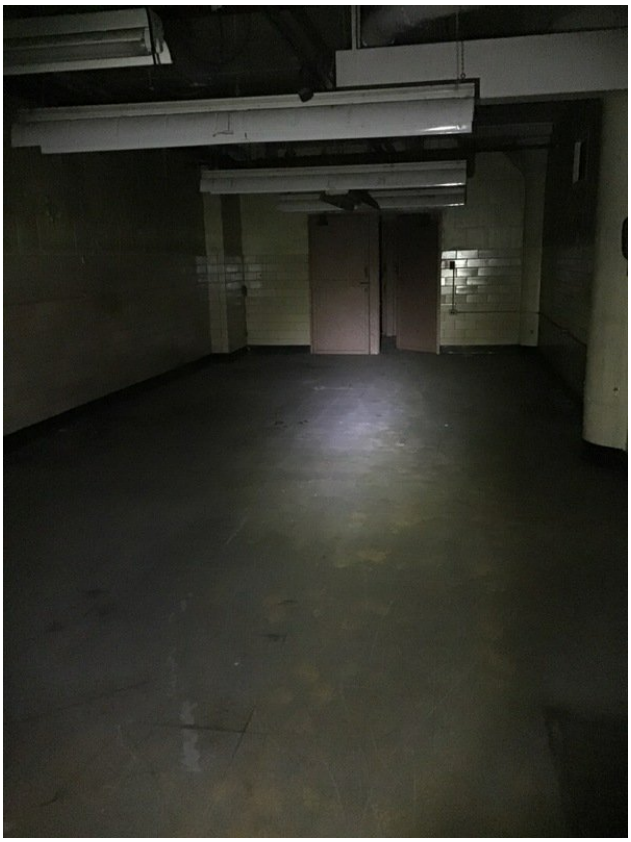
Cb room facing SW, fdp

Cb room facing E, electric through wall, windows to courtyard



Room by cb room, facing N from sound room door

Break room, facing E

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Break room, fdp, Floor hatch pictured

Wrm, sink at S end and S door, facing W

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Women’s restroom (wrm), fdp, handwashing tub and window to courtyard, facing E

Wrm, se corner facing N, one fdp at each wash basin

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Wrm, fd2/5 in between wash basins going N-S, fdp at column, 1/3 in stall areas

Chiller drain/supply at S end of Wrm, facing W

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Wrm, fd at stall row 1, facing W

Wrm, stall row 2 facing W, fdp and fd

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Wrm, washbasin fd at stall row 3

Wrm, fd at stall row 3, facing E

Wrm, fdp across from stall row 3, facing E

Fd and fdp, at stall row 4 facing W, fd behind column as well

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Wrm, fd and fdp at N end, facing Nw

Fdp and sink with drain at N end of Wrm, facing W, chiller drains to fdp here

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Lab facing E, window to courtyard

Sump and fdp in NE lab corner

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Drain sump in NW corner of lab, 8ppm, facing NW

Lab, vent fan, facing Nw

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Stripe room, facing N

Fdp in stripe room, facing S, door to hall and Wrm at right

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Two fdp at center of stripe room, facing N

Floor drain and hatch S of AH in stripe room, facing SE, hatch read 4.8ppm max

AH in stripe room, facing S

Fdp, nw corner of Stripe room, facing Nw

Window vent, E wall of stripe room, facing E

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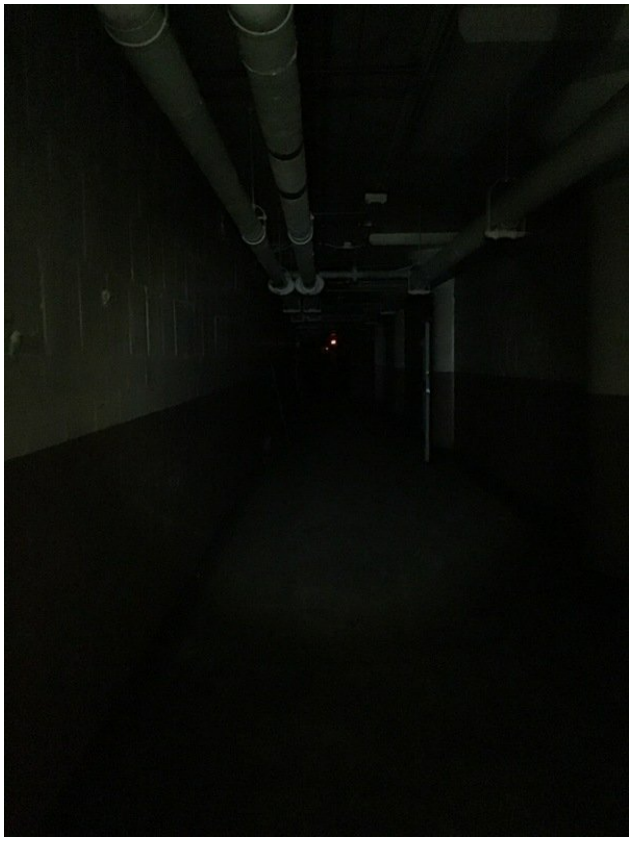
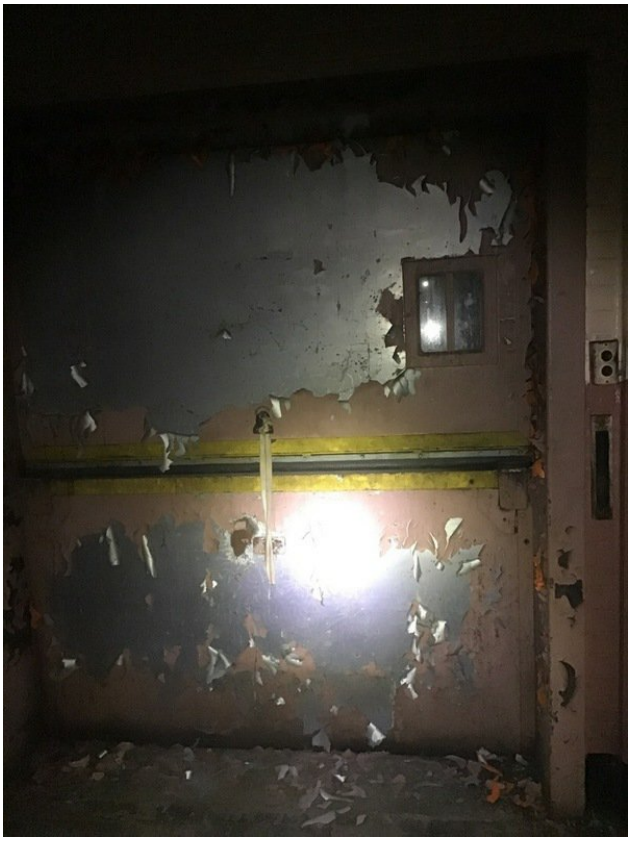


W hall facing south at E11

N hall, facing E to courtyard exit



Elevator at E end of N hall, facing S, measured ~3’ to bottom of shaft through gap

Boxed sprinkler fdp, near e end of N hall, facing E

Fdp near E end of N hall, facing SE

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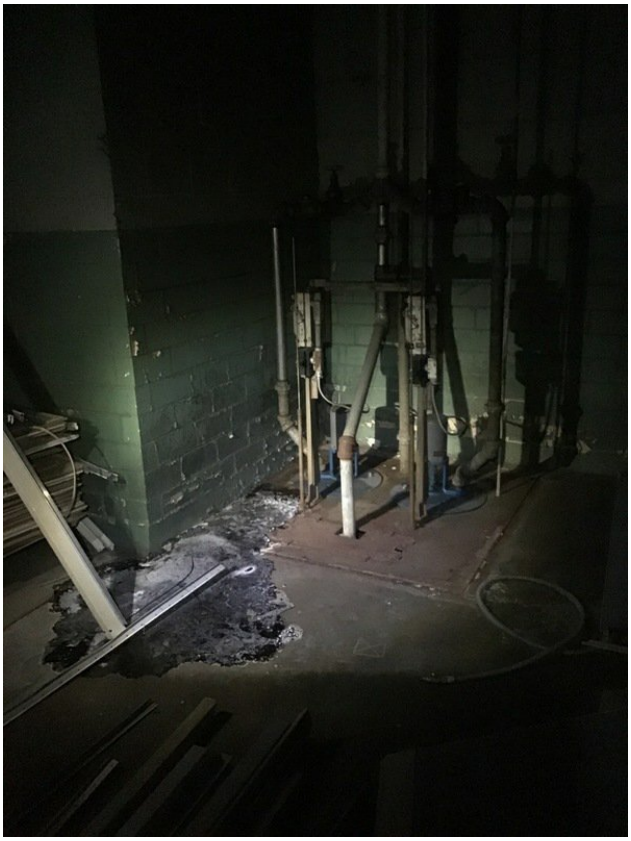

Sump in supply room, facing SW, 0ppb. Hard black substance appears to have spilled and hardened at left some time ago, no pid reading on spill

Supply room, facing NW

Supply room B facing NE

Fd in N hall, facing E

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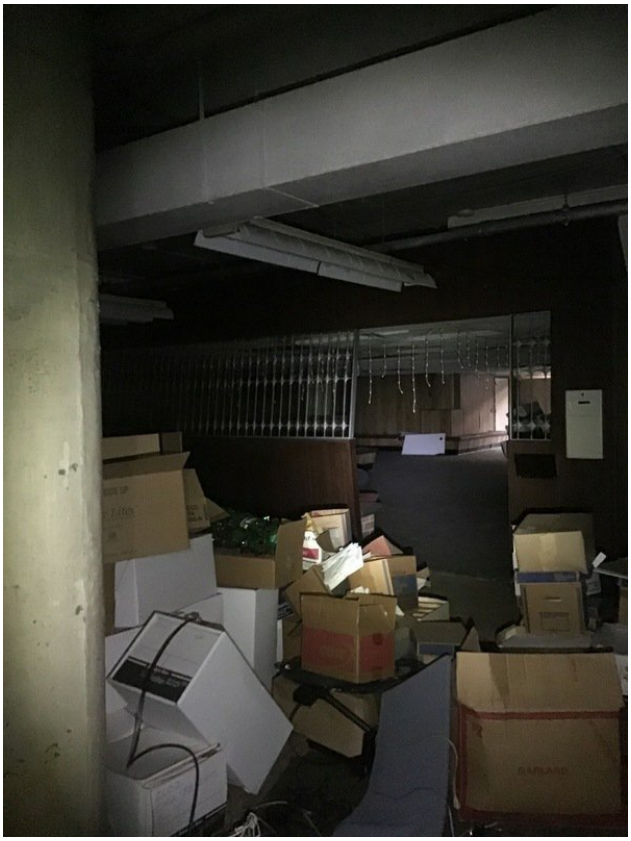
Dance room , facing W



Dance room facing N

Fd, near E30 in W hall,facing N

2

Crack Width (inches)	2
Crack Location	B/w 9/13 along S hall
Maximum PID measurement (ppb)	20400

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Outside Contaminant Sources

Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

DSCP Building 14, [redacted] , 2018-11-06

Created	2018-11-06 18:46:40 UTC by [redacted]
Updated	2018-11-07 17:46:18 UTC by [redacted]
Location	39.9165200386163, -75.1818504814893
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-06
Time	13:47
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	DSCP Building 14

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Number of floors	2
Building age (in years)	N/A
Is the building insulated?	No
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

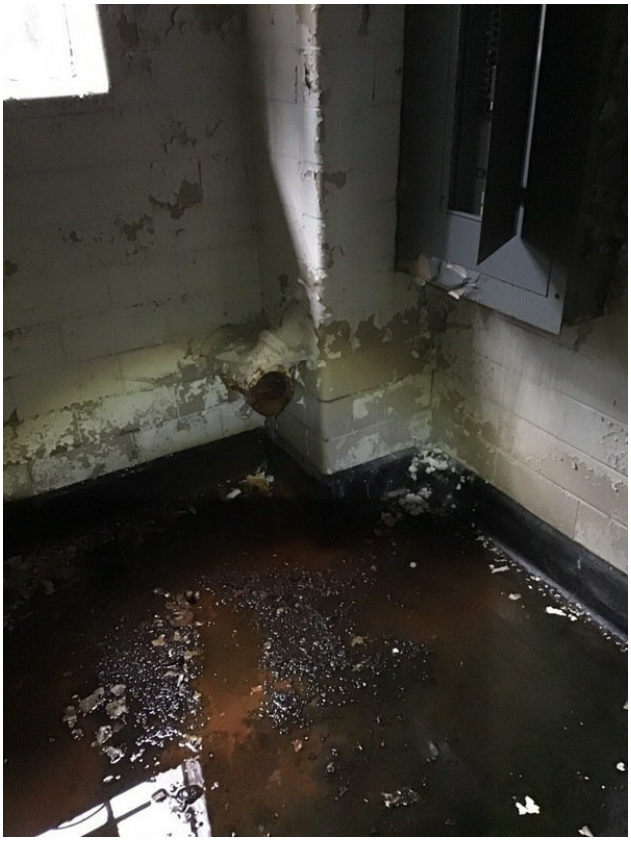
Above grade construction	concrete
Basement type	Full
Basement floor	Concrete
Concrete floor	Unknown
Foundation walls	Unknown
Basement moisture	Damp, Moldy
Basement finish	Unfinished
Sump present?	Yes
Water in sump?	Yes
Perimeter drainage system present?	No
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	No

Please provide representative photos

Sump building 14

Small cover right outside stairwell building 14

Floor drain building 14



Drain west wall by windows building 14

Drain pipe southwest corner building 14

Floor drain southwest corner building 14

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Pipe going into floor southwest corner building 14

Pipes going into floor south wall building 14

Pipe going into floor southwest corner building 14

Floor drain south part of building 14 in former kitchen area

Floor drain south part of building 14 in former kitchen area

Floor drain south part of building 14 outside of sump closet

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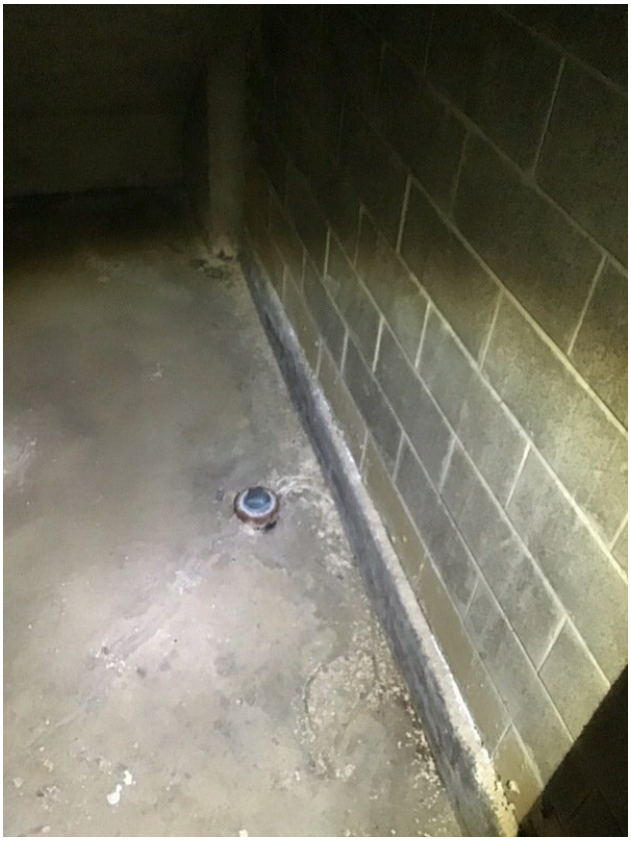
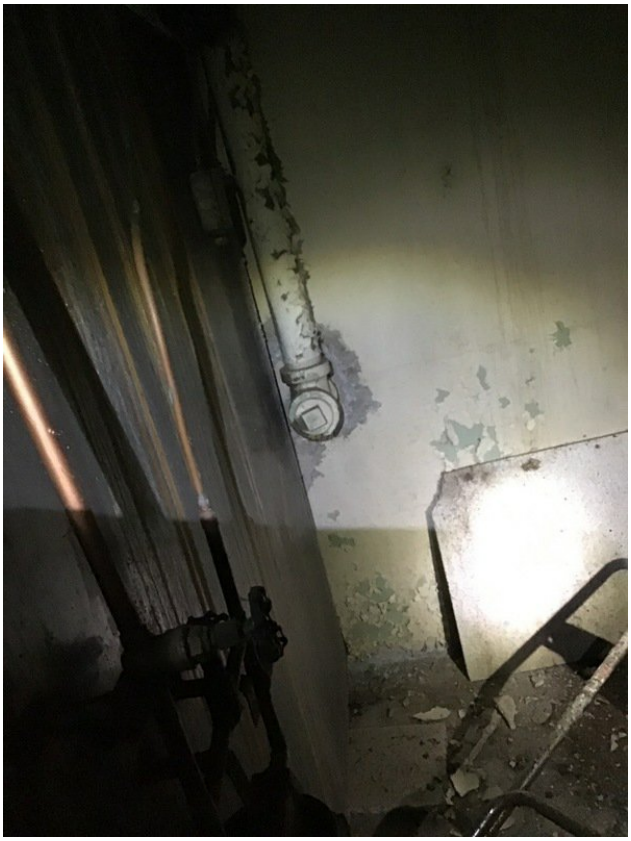
Sealed wall penetration West wall by stairs building 14



Capped floor drain under stairwell south side of building 14

Pipe into floor south side building 14



Wall penetration south wall building 14

Floor drain south part of building 14 in former kitchen area

Floor drain by exhaust fan 4 east side building 14

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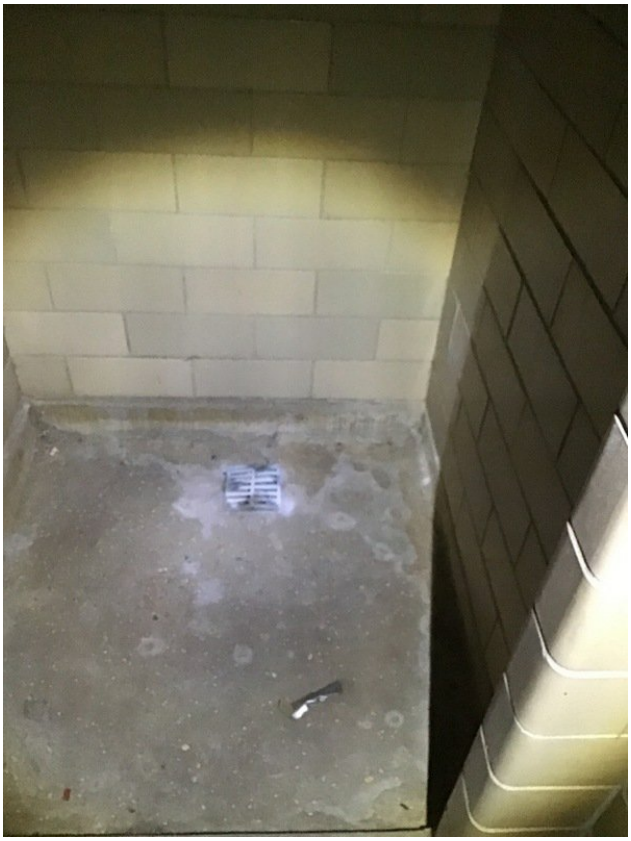
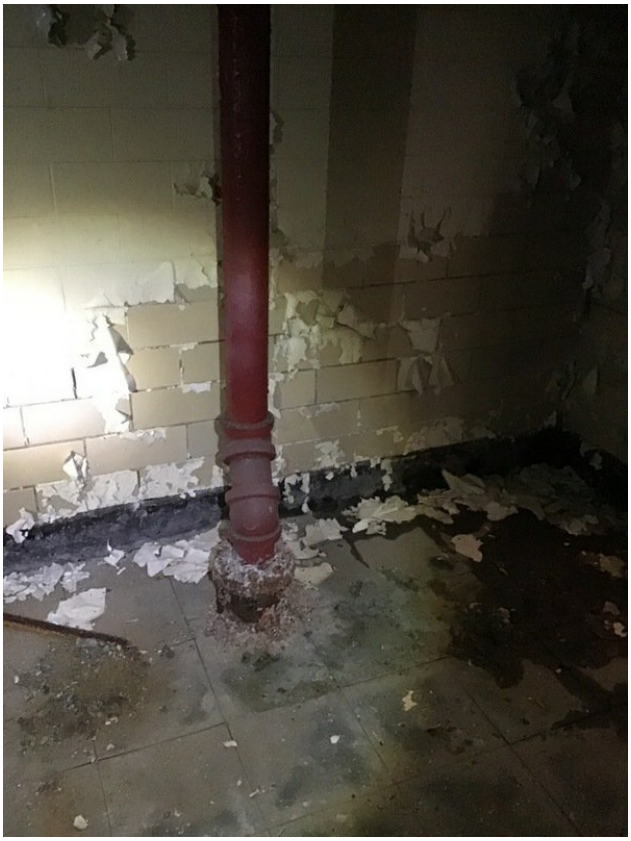
Wall penetrations south part of building 14 in exhaust fan 4 room

Drain by men’s room east side building 14



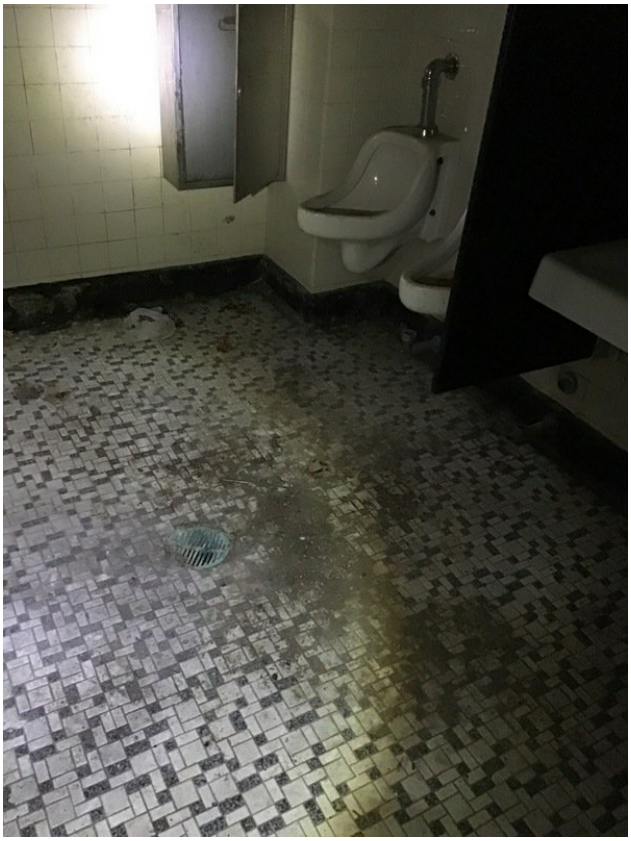
Shower drain ladies lounge east side building 14



Drain pipe in ladies lounge east side building 14

Floor drain ladies lounge east side building 14

Shower drain men’s lounge east side building 14



Floor drain men’s lounge east side building 14

Drain pipe east side building 14 in room next to men’s lounge

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Drain pipe east side building 14

Drain pipe penetration into east wall building 14

Wall penetration east wall refrigerator room building 14

Wall penetration east wall building 14

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Pipe going into floor behind refrigerator east side building 14

Pipe going into floor between refrigerators east side building 14

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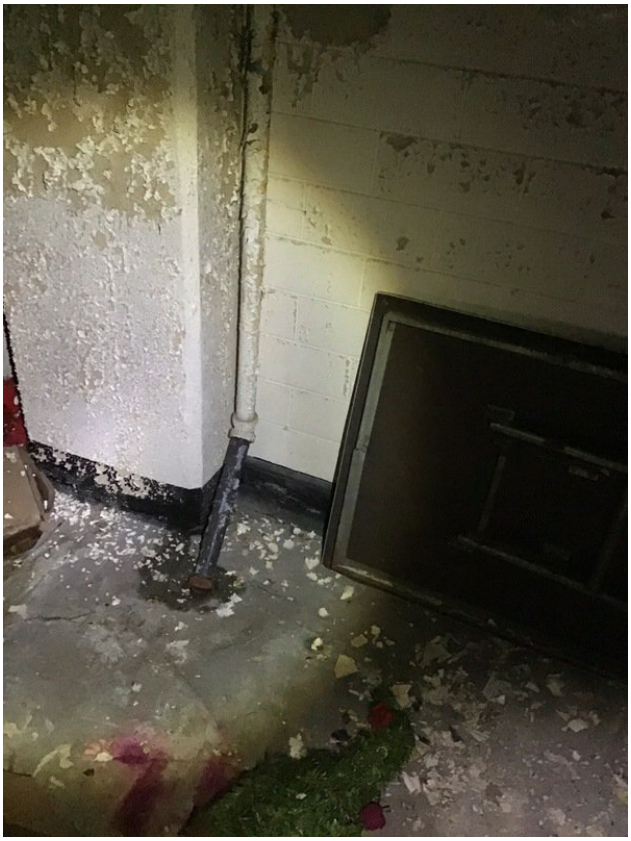
Pit west side building 14

Pit west side building 14

Floor drain next to pit West side building 14

Pipes going into floor in the middle of room west side building 14

Pipe and pipe cover next to column middle of room west side building 14



Pipe going into floor next to in middle room west side building 14

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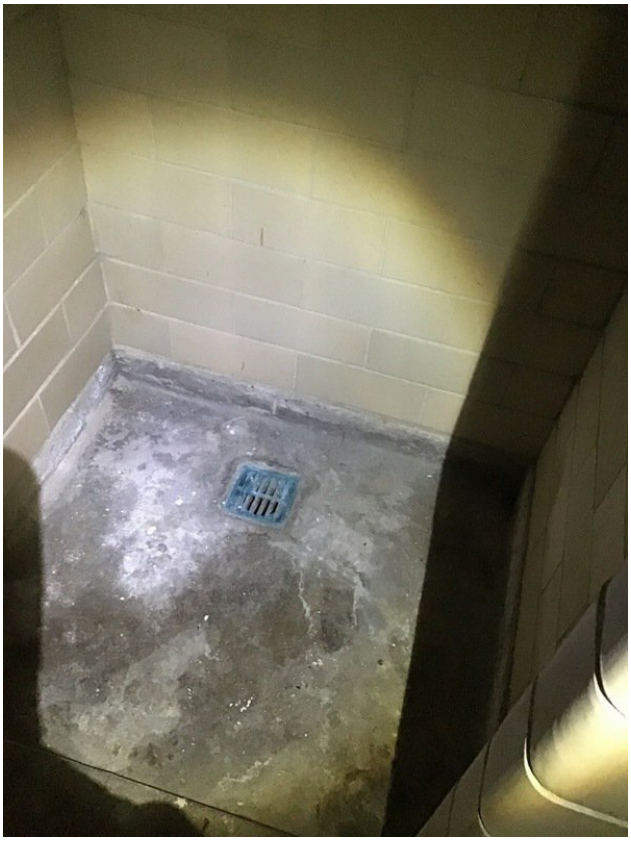
Floor drain by column middle room west side building 14

Floor drain middle room west wall building 14

Pipe going into floor middle room west wall building 14

Pipe going into floor west wall building 14

Pipe going into floor west wall building 14



Shower drain women’s room west wall building 14

Shower drain men’s room west side building 14

Sink by men’s room west side building 14

Pipe going into floor by men’s room west side building 14

Floor drain men’s room west wall building 14

Pipe going into floor in air handler room by fan no 18 in the center of building 14

Pipe going into floor in air handler room by fan no 18 in the center of building 14

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Drain pipe in air handler room behind fans in the center of building 14

Floor cracks in air handler room by fan no 18 in the center of building 14

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Floor cracks in air handler room in the center of building 14

Pipe going into floor in breaker room in air handler room in center of building 14

Pipe going into floor next to air handler room east side building 14

Pipe going into floor in back up generator room east side building 14

Drain pipe in room next to back up generator room east side building 14

Drain pipe in room next to back up generator room east side building 14

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Pipe going into floor center of building 14

Some sort of pit in the center of building 14

Drain pipes going into floor by boiler room east side building 14

Drain pipes going into floor by boiler room east side building 14

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Pipes going into floor in HVAC area in center of building 14

Floor drains by HVAC equipment in center of building 14

Floor drains by HVAC equipment in center of building 14

Pipe going into floor by HVAC units near entrance to tunnels building 14

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Pit by door to tunnels north side building 14

Pipe going through wall north wall electric room building 14

Pipe going into floor north side next to door to tunnels building 14

Pipe going through north wall by door to tunnels building 14

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Pipe going through wall next to door to tunnels building 14

Water penetration north west wall building 14

Pipe going through wall north west wall building 14

Heating, Ventilating, and Air Conditioning

Primary type of fuel used	Unknown
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Basement
Air Conditioning	Unknown
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Unknown
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No

Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	No
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	No
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	No
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	Yes
Please describe odors	Mildew
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	Yes
Describe the general weather conditions	Rain

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

2900 S 20th St, Philadelphia, PA, Building 19 aka Kindys, [redacted] 2018-10-29

Created	2018-10-29 15:00:02 UTC by Chuck Rogers
Updated	2018-10-29 18:15:59 UTC by Chuck Rogers
Location	39.912612915039, -75.1754302978515
Project Number	06260246.0012
Preparer's Name	[redacted]
Date	2018-10-29
Time	11:00
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	2900 S 20th St, Philadelphia, PA, Building 19 aka Kindys

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	No
Number of floors	4
Building age (in years)	75
Is the building insulated?	No
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete, stone brick
Basement type	Full
Basement floor	Concrete
Concrete floor	Unknown
Foundation walls	Block stone
Basement moisture	Damp, Moldy
Basement finish	Unfinished
Sump present?	No
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

Please provide representative photos

19 from W door to 9, facing E

Drain pipe at L56, facing SE, 124ppb, bg:143ppb

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Gap To N hall of bldg 19 , facing N

Floor drain at P/R 56/54, max 144ppb, bg 140ppb

Drain pipe at R56 facing SE

Water pipe thru S wall, facing S. should be same pipe that was getting worked on from

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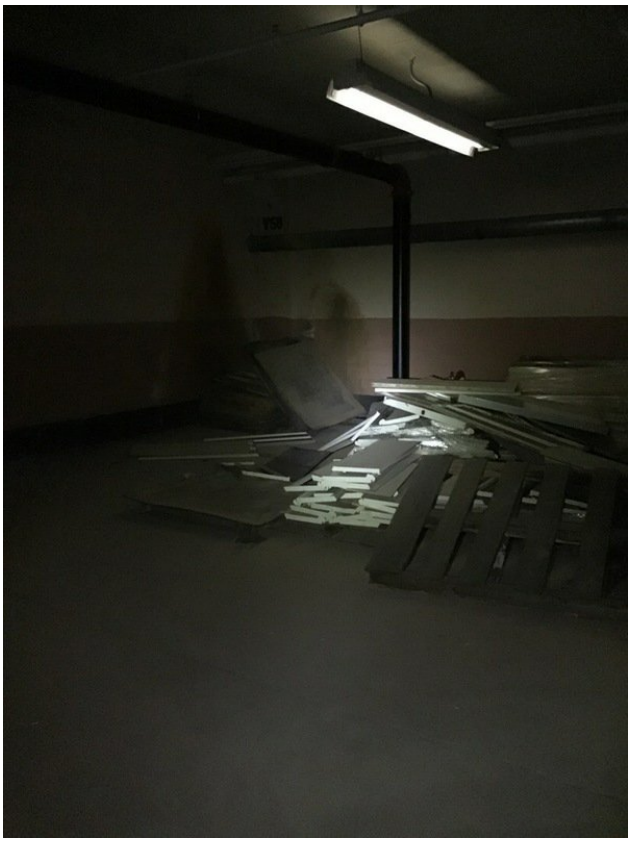
parking lot a few weeks ago , between T and V 58

0.5” crack from T56 to 58, 126ppb, bg 141



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T56 facing SE, slab is cracked and subsiding b/w V/T 56\58, appears pipe leaked or sprinkler did, possible cause of the subsidence?

Floor drain at door towards V54, facing Ne

B/w T/V 54 facing N, floor dips at least 6” here , hole in center for unknown reason, possibly to find water leak or to pump water after leak? Pid places under exposed slab here reads 0ppb, bg: 141ppb, based on this hole slab appears to be 6” thick.

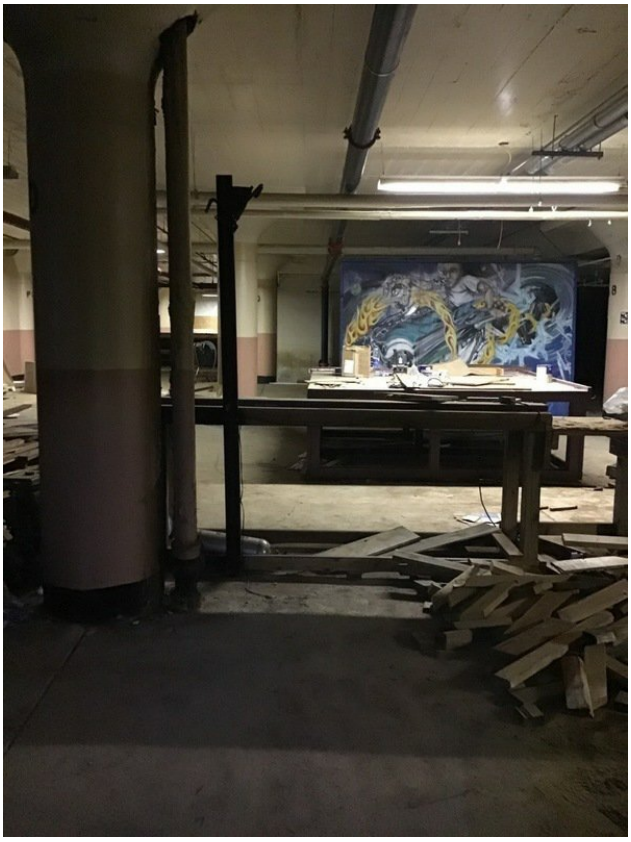
@ V54 facing S, roll up door to ramp at parking lot at center, power hookup at left 13.2kV.

Drain pipe at V56, facing W

Two pipes exiting through vault at V/X 50/52, water present, 96ppb, bg: 146ppb, vault measured at 6.5’ deep.

Sewer vault as found, facing S

Drain pipe at V50 facing SW



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Drain pipe at T50 facing W

Drain pipe at R48, facing S

Door between R/T 46 facing Ne, marked “East Utility tunnel”

From Tunnel door facing N, floor slopes up around steam pipes traveling north under bldg 13, tunnel appears long enough to pass under all of bldg 13's east wing

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Sewer manhole b/w P/R 48/50, 6.4ppm, bg: 192, appears active, approximately 6-7' deep, contains 6" water at least

Sprinkler enclosure at P50, 6" open pipe through slab here reads 181ppb, bg: 209ppb

Floor drain B/w P/R 48, 165ppb, bg: 174ppb

Sewer manhole b/w L 48/50 facing W

Drain thru floor and wall at J48, facing NW, drain thru wall connects to sump barrel

Paint cans , etc stored near L46, facing N

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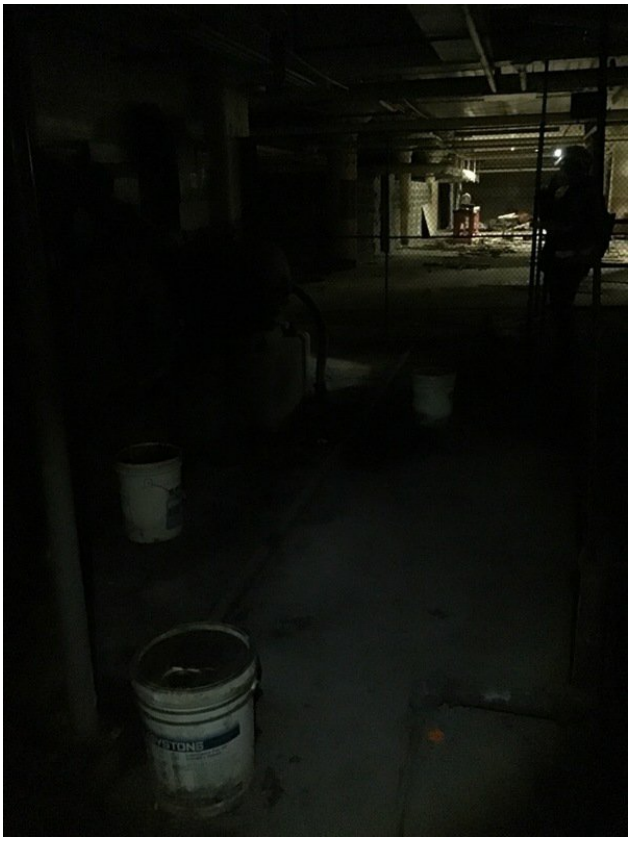
@L48 facing E

Conduits at P46 facing NwW

Motor drain thru floor near N46, facing NW

Equipment drain thru slab near N46, facing SE



Lubricant buckets stored in machine cage near N46, facing E

Additional drain line at N46, facing E

Conduit and bucket of antifreeze at N6, facing N

0.25” Crack at wall by J48/46, 64ppb, bg:201ppb

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Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

UHaul Building 30, [redacted] 2018-11-05

Created	2018-11-05 18:08:47 UTC by [redacted]
Updated	2018-11-06 15:29:06 UTC by [redacted]
Location	39.9152340693771, -75.1872837916717
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-05
Time	13:09
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	UHaul Building 30

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

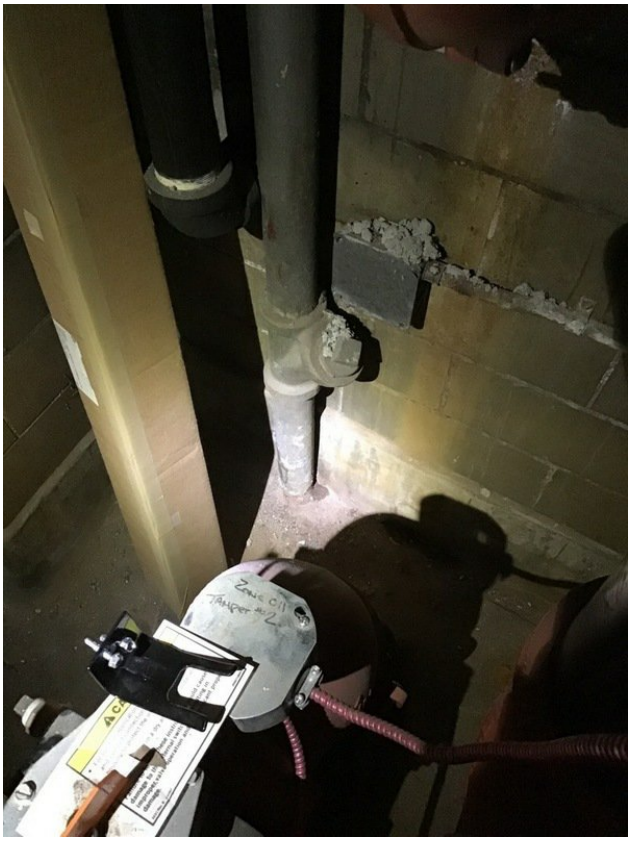
Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	Self storage
Does it include residences?	No
Number of floors	1
Building age (in years)	N/A
Is the building insulated?	No
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

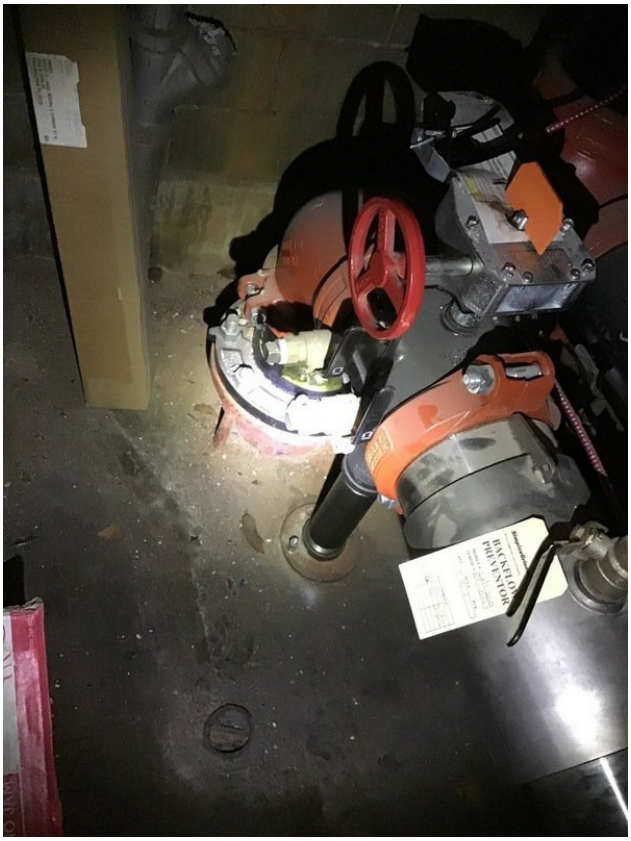
Above grade construction	concrete
Concrete floor	Unknown
Foundation walls	Poured
Sump present?	No
Perimeter drainage system present?	No
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Floor crack north side entrance ~8’



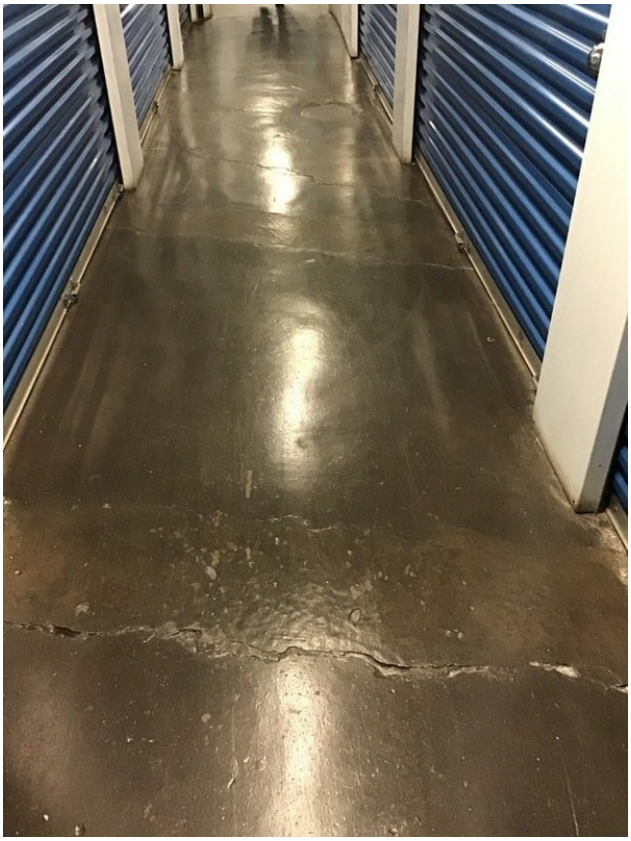
Drain pipe north side by sprinkler system



Sprinkler system north side

Electric conduit west section

Floor crack West section



Floor cracks West section units 1029 & 1027

Floor crack West section units 1025 to 1081

Floor crack West section unit 1076

Floor crack West section unit 1104

Floor crack West section unit 1097

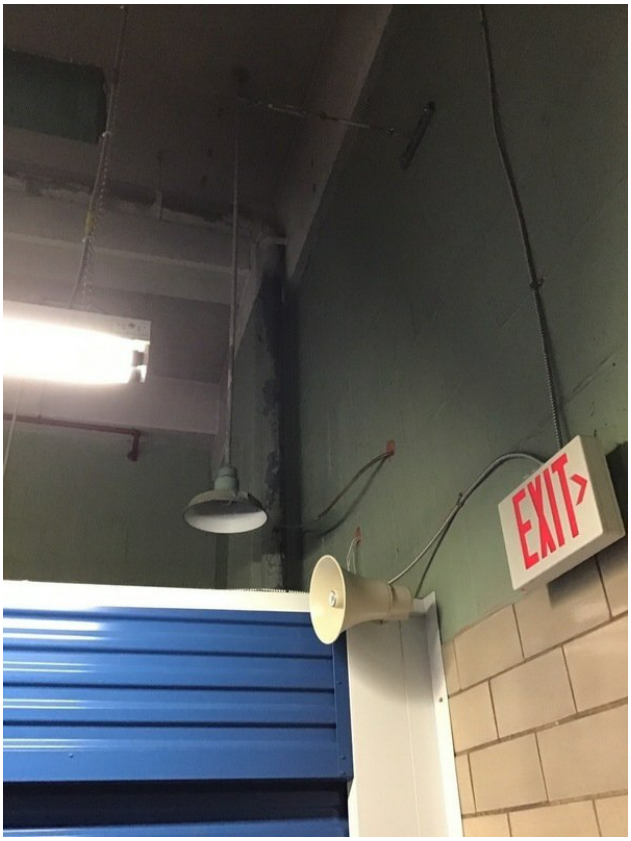
Hole in floor West section unit 1130

Hole in floor west section behind unit 1113

Floor crack West section unit 1107

Roof drain west section units 1194 & 1141

Former rail line West section



Roof drain west section unit 1191

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Roof drain west section unit 1164

Possible cover or lid East section unit 1554

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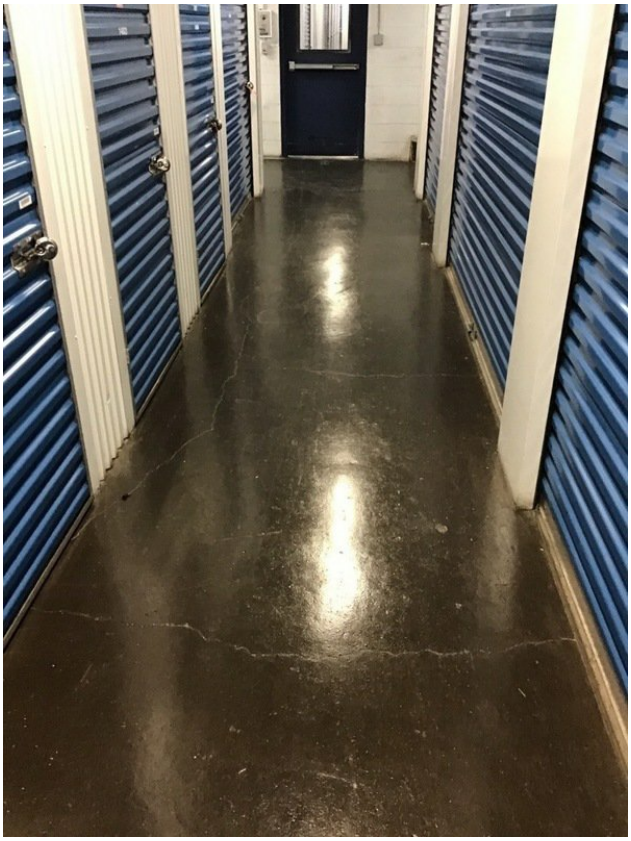
Possible filled in floor drain east section unit 1614

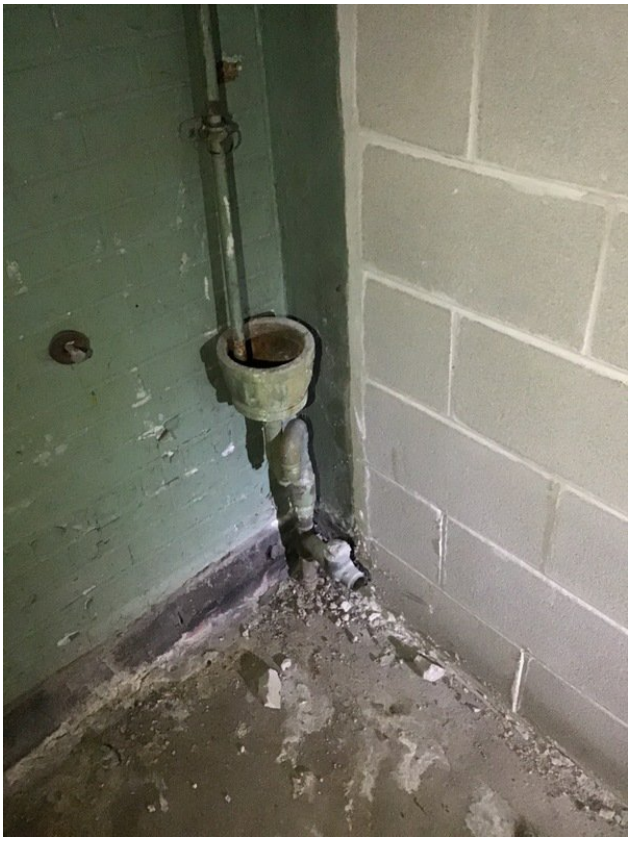
Floor cracks east section unit 1613



Floor cracks east section unit 1482

Floor crack east section unit 1576A

Unknown east section unit 1587



Condensate drain electric room in the east section

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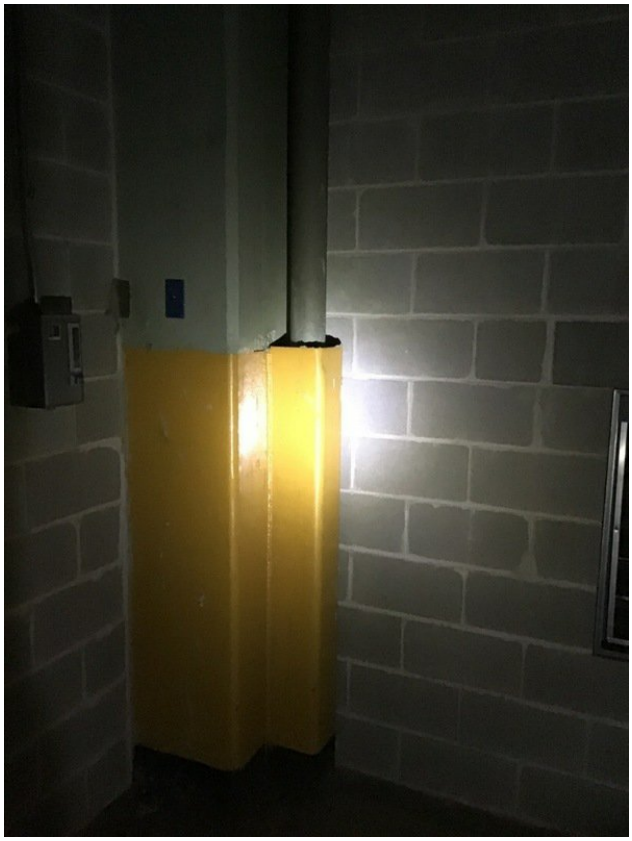
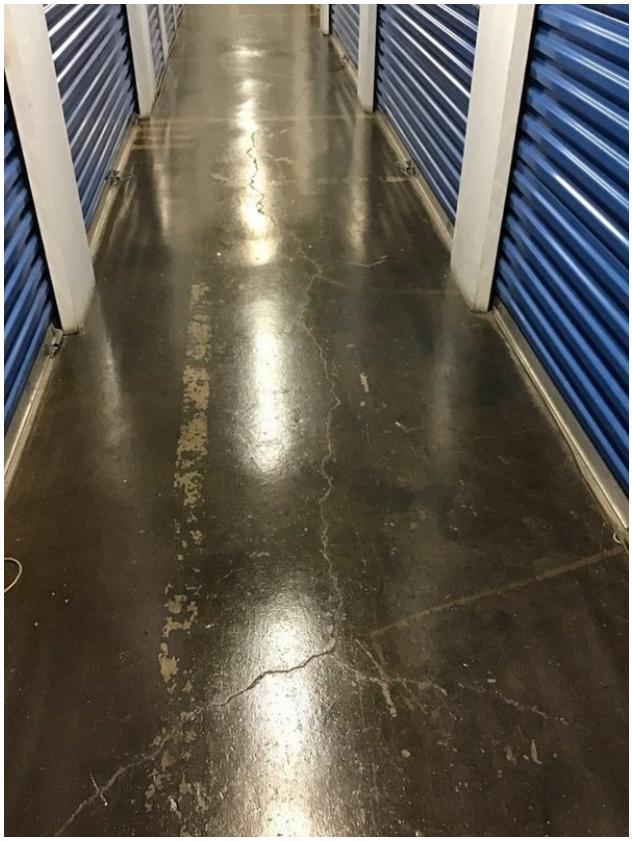


Roof drain electric room in the east section



Floor cracks east section unit 1350

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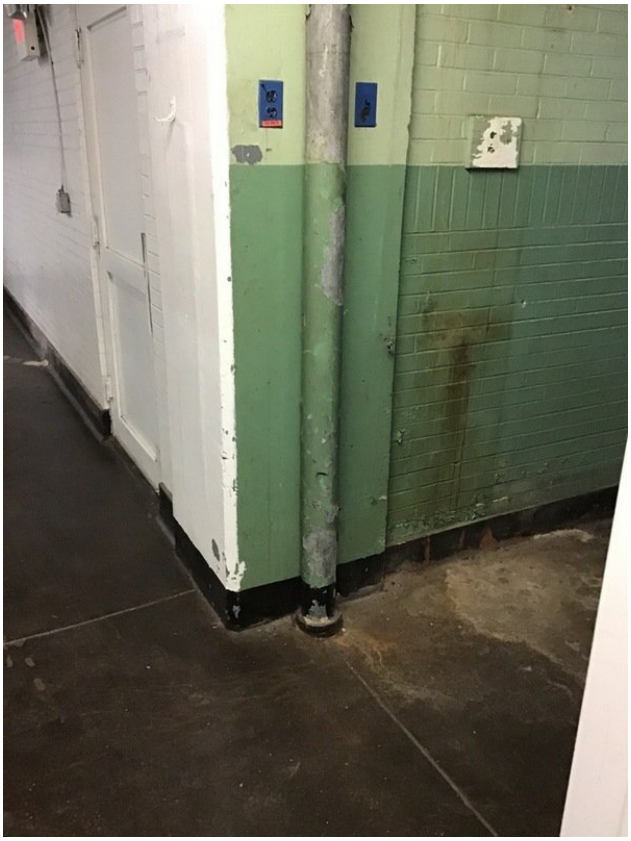
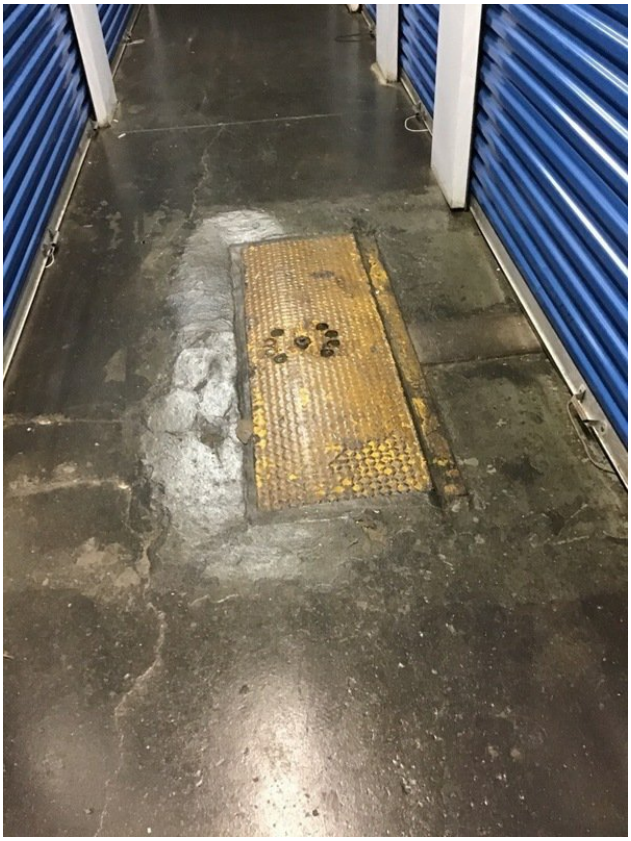


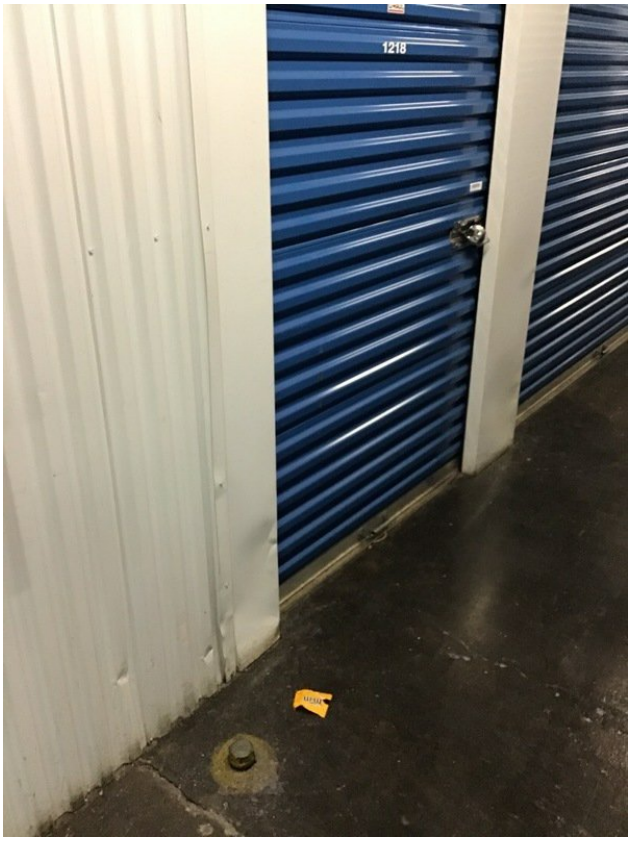
Roof drain east section unit 1601

Manhole east section unit 1601

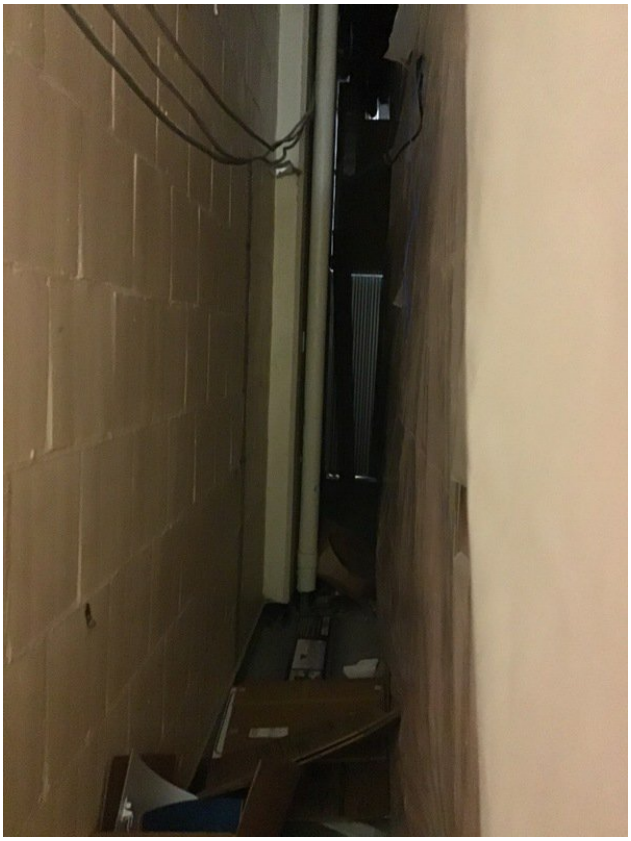


Rail stop east section unit 1603

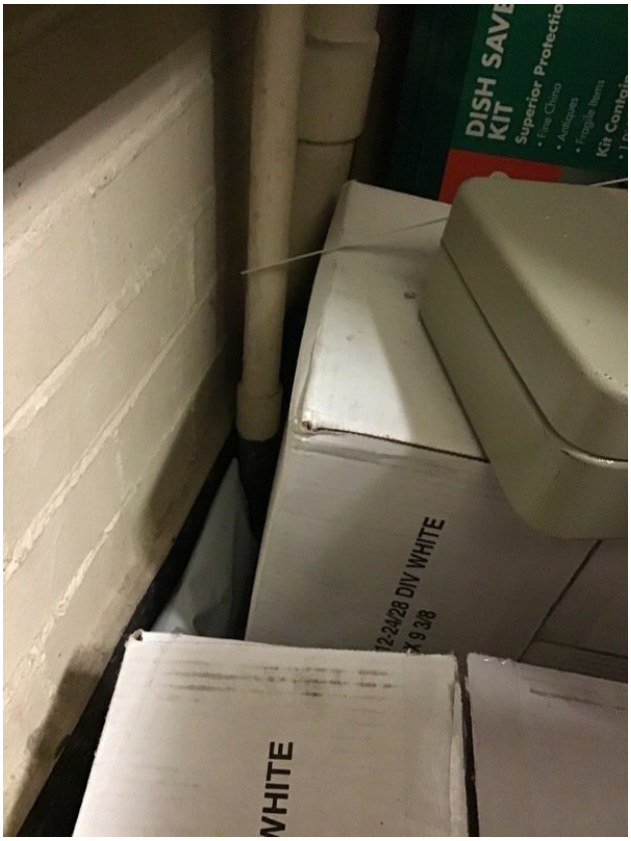
Unknown east section unit 1200



Capped 2” pipe east section unit 1218



Roof drain through doors in rental office



Electric conduit through doors in rental office

Floor crack D&R bay

Concrete trench D&R bay

Roof drain D&R bay

Floor drain D&R bay

Drain D&R bay

Elevated concrete floor in rental office

Roof drain rental office

Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Hot air circulation
Primary type of fuel used	Natural gas
Domestic hot water tank fueled by	Unknown
Boiler/furnace location	Main Floor
Air Conditioning	Central air
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	Self storage
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Does the garage have a separate heating unit?	No
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	No
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	No
Is there smoking in the building?	No
Have cleaning products been used recently?	Yes
When and type of cleaning products?	General
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	No
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	No
Is there a clothes dryer?	No
Has there been a pesticide application?	N/A
Are there odors in the building?	No

Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	No
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	Yes
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	Yes
Describe the general weather conditions	Rain

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Hotel , [redacted] 2018-10-22

Created	2018-10-22 16:44:00 UTC by Chuck Rogers
Updated	2018-10-22 20:04:43 UTC by Chuck Rogers
Location	39.9126716939626, -75.1836585085369
Project Number	06262046.0010
Preparer's Name	[redacted]
Date	2018-10-22
Time	12:46
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	Hotel

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	N/A
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	Hotel
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete
Basement type	None
Concrete floor	Unknown
Foundation walls	Block stone
Sump present?	No
Basement/lowest level depth below grade (feet)	0
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

Please provide representative photos

Server room facing N, from door to electric room, no penetrations noted, two window AC units, 0ppb

Electric room, door from Workshop facing E, door to server room at center, 0ppb, door to laundry at center right

Electric Room, S wall facing S, conduits penetrating slab, 0ppb

Electric room, SE corner facing S, conduits penetrating slab, 0 ppb

Electric Room, SE corner facing N, generator and vent enclosure at center right, door to N parking lot at Center, 0ppb

Workshop, Door to N hall facing N, door to electric room at center, door to sprinkler pump room at left, floor drain at center fore 1ppb

Sprinkler room, door from Workshop facing N

Sprinkler room, workshop door facing NE, floor drain at fore, 4ppb

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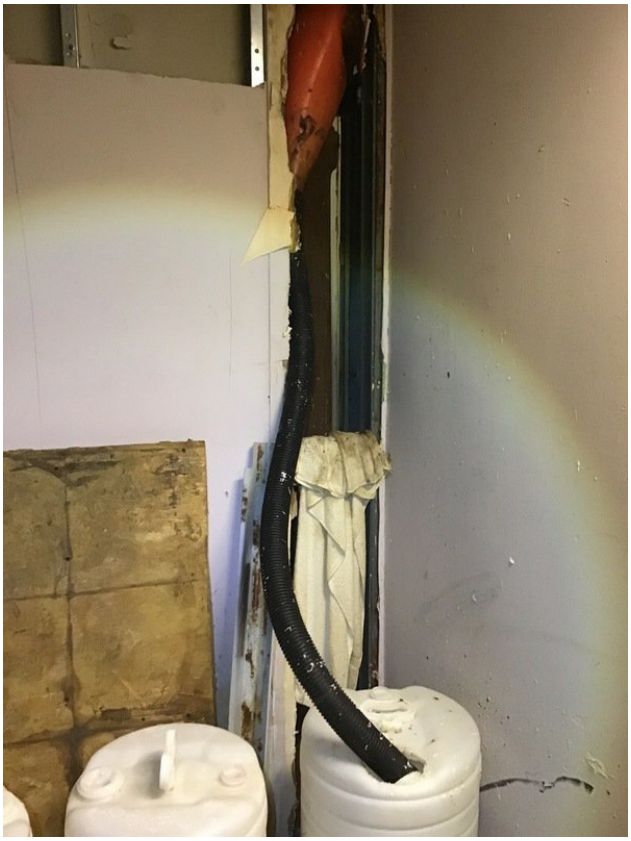
Sprinkler room, NW corner facing NW, water pipe through slab

Center hall, facing E, workshop door at center left, N room 1 at right



N room 1, center facing S, drain pipe through slab in wall

N hall, At workshop door facing N, N stairwell 1 at center, empty carboy, 0ppm

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Window Room, door from N hall facing N, two drain pipes behind drywall appear to penetrate slab, but not confirmed

N Hall, facing W, window room at right, elevator room at center right, elevator door at center, door is sealed with spray foam and electric marked out of service, no penetrations observed or cracks, 0ppb

N Hall, door from center facing N, door to N room 1 at right, door to N stair at center, door to window room center left

Laundry, center facing N, washer drain on NW wall

Laundry, Floor drain at center

Laundry, SW corner facing SW, two drain pipes thru slab, floor drain at center, 0ppb

Laundry storage 2, door from Laundry facing N, no penetrations noted

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Laundry storage 1, door from laundry facing W, drain pipe thru floor, same pipe seen in N room 1 wall

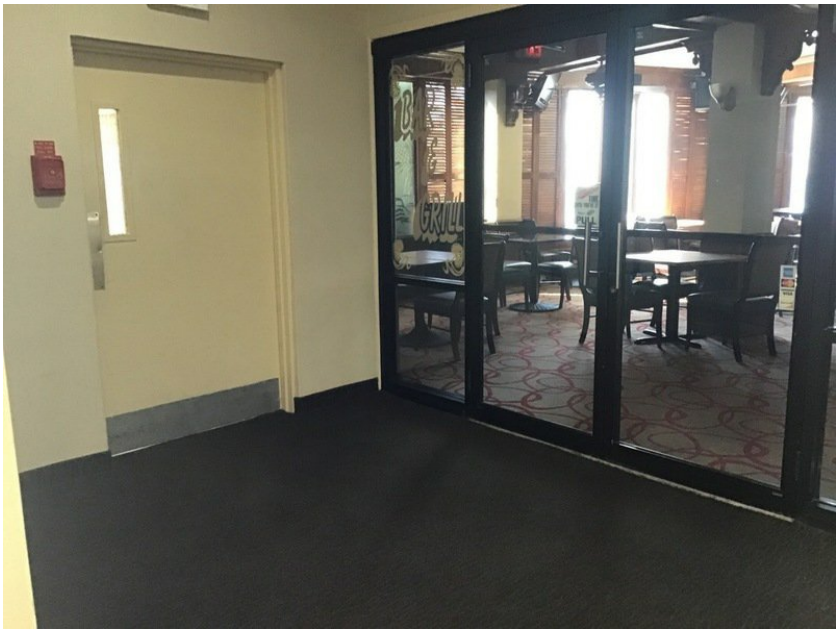
sprinkler closet, door from lobby hall facing N

Lobby hall, door to N hall at center, sprinkler closet at right

Lobby, lobby hall facing N

Lobby, S side facing E

Lobby hall, elevator room to right (locked), Storage room to left, no penetrations/cracks noted in storage room



Lobby facing S, bar at right (locked) and S stair center

Lobby facing S, S stair and sun room, sales offices to left

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Lobby, S end facing E, sales office doors to right

Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Unknown
Primary type of fuel used	Unknown
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Main Floor
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Full-time
Number of hours basement/lowest level occupied per day	24
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	No
Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A

Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	50s, Clear

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Jim's Enterprises , [redacted] , 2018-11-08

Created	2018-11-08 17:57:32 UTC by [redacted]
Updated	2018-11-08 19:05:14 UTC by [redacted]
Location	39.9114859510276, -75.1865733815151
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-08
Time	12:57
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	Outdoor VI Assessment
Building Address/Number/ID	Jim's Enterprises

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	No

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	N/A
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Above grade construction	concrete
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

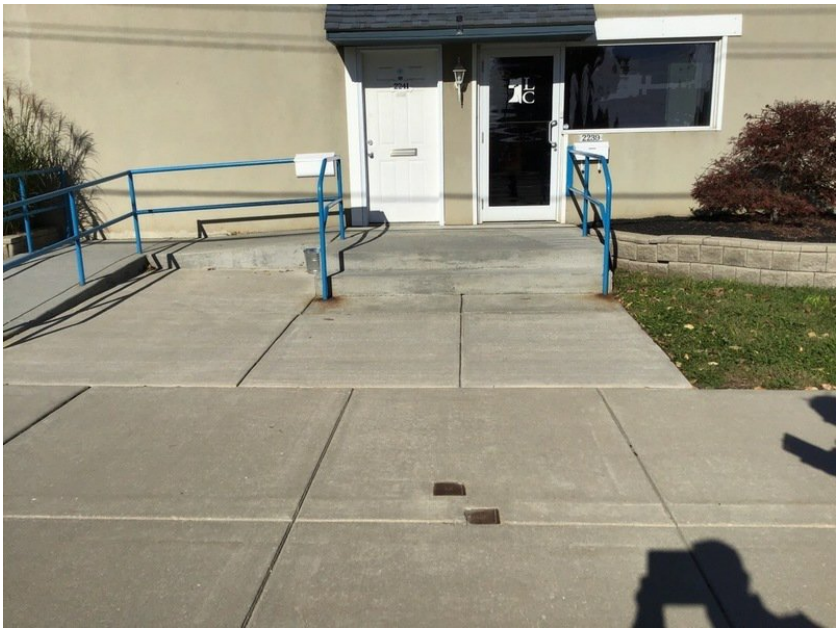
Intersection of Hartranaft and Pennrose ferry

Pennrose ferry, note trench line for gas line

Refrigeration unit outside Jim’s

Refrigeration unit outside Jim’s

Water valves outside Jim’s and Kids martial arts



Water valves outside 2241 & 2239 Hartranaft

Storm drain and down spouts Calabria way

Backside Jim's off of Calabria

Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Unknown
Primary type of fuel used	Unknown
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Unknown
Air Conditioning	Unknown
Are there air distribution ducts present?	N/A

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes

Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

P. Agnes building on West Moyamensing street, [redacted] , 2018-11-12

Created	2018-11-12 15:23:48 UTC by [redacted]
Updated	2018-11-12 15:37:33 UTC by [redacted]
Location	39.912968776226, -75.183341531153
Project Number	06262046.0013
Preparer's Name	[redacted]
Date	2018-11-12
Time	10:24
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	P. Agnes building on West Moyamensing street

Occupant

Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	No

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	N/A
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A
Please provide representative photos	

Gas lines south side of building

Drain and water valve south side of building

Storm drain south side building

Gas line south side building C

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	N/A
Is building within a current contaminant plume?	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

P. Agnes Building Pennrose Ave exterior, [redacted] , 2018-11-12

Created	2018-11-12 16:24:14 UTC by [redacted]
Updated	2018-11-12 16:35:30 UTC by [redacted]
Location	39.9082911713421, -75.1889376249865
Project Number	06262046.0013
Preparer's Name	[redacted]
Date	2018-11-12
Time	11:25
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	P. Agnes Building Pennrose Ave exterior

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	N/A
Owner Address	
Given access to building?	No

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	N/A
Does it include residences?	N/A
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	N/A
Is building within a current contaminant plume?	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

PHA Building exterior , [redacted] , 2018-11-12

Created	2018-11-12 15:48:22 UTC by [redacted]
Updated	2018-11-12 16:24:06 UTC by [redacted]
Location	39.9131546868383, -75.1861582697138
Project Number	06262046.0013
Preparer's Name	[redacted]
Date	2018-11-12
Time	10:48
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	PHA Building exterior

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	N/A
Owner Address	

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	Philadelphia house authority
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Gas lines, passive vent and roof drains north side PHA

Pipe northeast corner PHA building

Passive vent north side middle PHA building

Passive vent northwest corner PHA building

Drain south side PHA building

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A

Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	N/A
Is building within a current contaminant plume?	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

PHA Gym exterior , [redacted] , 2018-11-12

Created	2018-11-12 15:37:35 UTC by [redacted]
Updated	2018-11-12 15:48:15 UTC by [redacted]
Location	39.9107059683777, -75.1855595343177
Project Number	06262046.0013
Preparer's Name	[redacted]
Date	2018-11-12
Time	10:38
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	VI Assessment
Building Address/Number/ID	PHA Gym exterior

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	N/A
Owner Address	
Given access to building?	No

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	N/A
Does it include residences?	No
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Gas line west side of gym building

Exterior gym building

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	N/A
Is building within a current contaminant plume?	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	Clouds

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

PHA, [redacted] 2018-11-13

Created	2018-11-13 16:31:19 UTC by Chuck Rogers
Updated	2018-11-14 18:58:22 UTC by Chuck Rogers
Location	39.9133733556702, -75.1864802087512
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-13
Time	11:31
Preparer's Affiliation	PARS
Purpose of Investigation	VI assessment
Building Address/Number/ID	PHA

Occupant

Occupant Interviewed	Yes
Occupant Last Name	Brady
Occupant First Name	[redacted]
Occupant Address	
Age of Occupants	N/A

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Occupant
Given access to building?	Yes

Building Characteristics

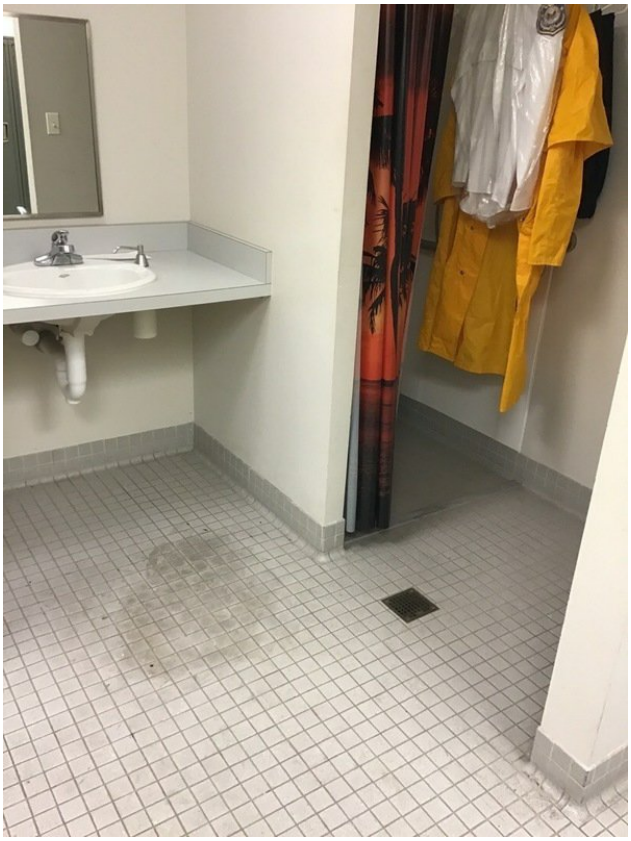
Type of Building	Industrial
If Multiple Units, how many?	3
Does it include residences?	No
Number of floors	1
Building age (in years)	10
Is the building insulated?	Yes
How air-tight?	Average

Basement and Construction Characteristics (select all that apply)

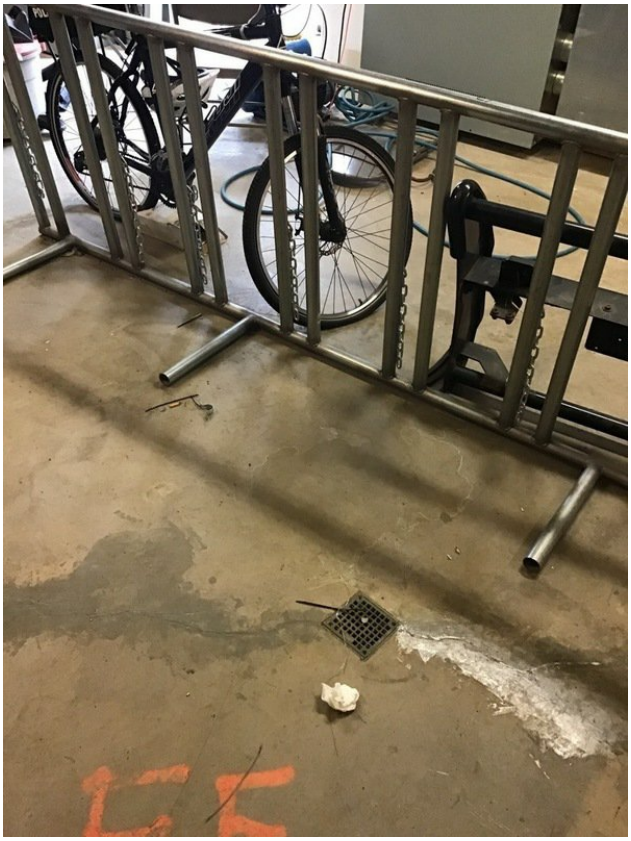
Above grade construction	concrete, stone brick
Basement type	Slab
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A
Please provide representative photos	

Ladies room 2 - PHA, facing N

Ladies room 1 (police station) , facing W



Women’s locker room 1 (police station), facing NW



Utility closet - police station, facing N

Utility closet - police station, facing N

Women’s room across from welding shop - PHA, facing SE

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Floor crack, PHA warehouse to the West of warehouse desk

Crack right in the garage entrance of PHA warehouse

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Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Hot air circulation
Primary type of fuel used	Natural gas
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Main Floor
Air Conditioning	Central air
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Full-time
Number of hours basement/lowest level occupied per day	8
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	Office, storage, workshops
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	Yes
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	Yes
Please specify the petroleum-powered machines	Concrete trucks, generators
Has the building ever had a fire?	No
Is a kerosene or unvented gas space heater present?	No
Is there a workshop or hobby/craft area?	Yes
Where & Type of hobby area	Welding workshop at NW end
Is there smoking in the building?	No
Have cleaning products been used recently?	Yes
When and type of cleaning products?	Bathroom cleaners
Have cosmetic products been used recently?	No
Has painting/staining been done in the last 6 months?	No
Is there new carpet, drapes or other textiles?	No
Have air fresheners been used recently?	Yes
When and type of air freshners?	Bathroom fresheners, regularly
Is there a kitchen exhaust fan?	No

Is there a bathroom exhaust fan?	Yes
Where is the bathroom exhaust fan?	Center of ceiling in each bathroom
Is there a clothes dryer?	No
Has there been a pesticide application?	No
Are there odors in the building?	No
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	Yes
Types of solvents	Paints, propane, building materials in general
Are their clothes washed at work?	No
Is there a radon mitigation system for the building/structure?	No
Is there a vapor intrusion mitigation system for the building/structure?	Yes
Vapor intrustion mitigation system installation date	2007-11-13
Is the VI system active or passive?	Passive
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	Yes
Describe the general weather conditions	Light Rain, 50s

General Observations

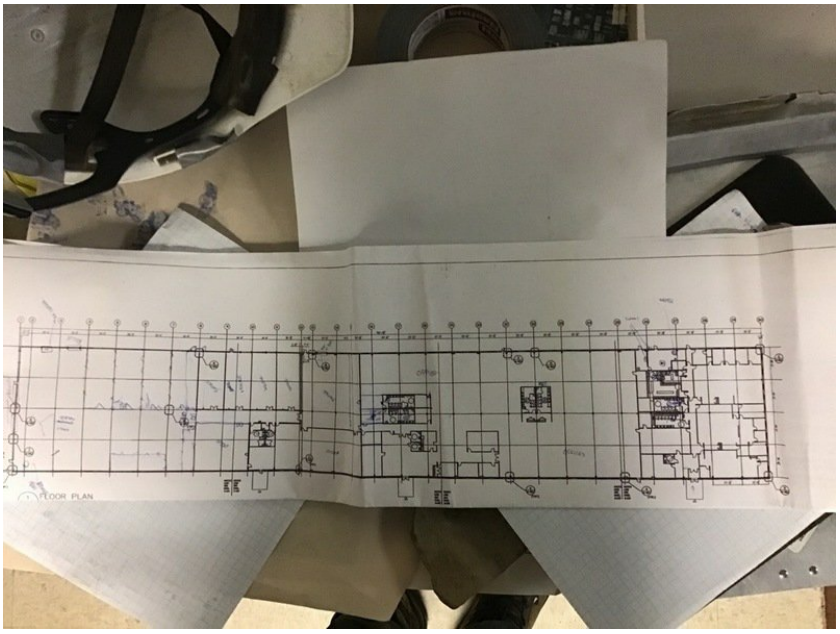
Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Floor Plans

First Floor Plan



Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

SEPTA, [redacted] 2018-11-05

Created	2018-11-05 15:31:57 UTC by Chuck Rogers
Updated	2018-11-05 18:46:40 UTC by Chuck Rogers
Location	39.9165647373141, -75.1818056973396
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-05
Time	10:32
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	SEPTA

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	No

Building Characteristics

Type of Building	Industrial
If Multiple Units, how many?	N/A
Does it include residences?	N/A
Number of floors	3
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Above grade construction	stone brick
Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

SW corner of parking facing N

Grate at SW corner of building along parking lot, facing N

Sewer grate at SW end of building, facing N

Bay 1, facing NE from sidewalk, floor drain at bay door

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Old comms mark out at SW corner of building ~10 ft N of bay 1 door, facing NE

Cracks at base of wall, concrete appears to be base of road deck inside building and is

30.5” above grade, about 1 crack noted every 10’ spanning from ground surface to top of concrete

Storm sewer approximately 40’ north of bay 1 Door, facing N

Cracks b/w 2nd and 3rd facade columns, facing NE

Cracks between 5th and 6th facade columns, at least one crack like this between every

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facade column on W side

Hole for lag bolt through wall, ~8 in between each facade column along wall, facing NE

Storm sewer grate at 13th facade column, facing N

Old comms mark out at 19th facade column, small gap at sidewalk, 0.5”, facing E

Storm sewer at 24th facade column, facing N

Air vent and high voltage sign at 27th and 28th facade columns facing NE

Electric marked at 28th 29th facade columns enter ring building

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Mark outs and vaults at 29th through 33rd facade columns, facing N

Gas line entry and boiler exhausts at 32nd and 33rd facade columns

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NW corner of admin Building facing N

NW corner of admin building facing N, exhaust pipe and drain pipe pictured, basement

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likely exists here

N side of building facing E, sewer manholes noted at drive way entrance

W side of admin building facing S at NE corner, grates likely lead to basement escapes or windows, exhaust pipe noted near where gas enters on W side

N side of building facing W near NE corner, vents noted and Heating Oil sign indicates possible AST and boiler

Sewer manhole at NE corner of building facing SW

NE corner of lot facing SW, small fuel tank

NE corner of lot facing S where wall begins, pars recalls waste oil tanks being located near these bays from when direct push work was completed

Storm sewer grate along 21st street, facing S

Storm sewer grate along 21st facing S

Storm sewer grate along 21st facing S

21st Street storm sewer facing SE

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Drain at end of parking lot on SE corner

SE end of building, facing NW

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Drain at SE of parking lot, facing NW

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	Yes
Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Vacant H5, [redacted] 2018-10-30

Created	2018-10-30 18:39:32 UTC by Chuck Rogers
Updated	2018-11-05 15:31:56 UTC by Chuck Rogers
Location	39.9174284935369, -75.1848496869907
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-10-30
Time	14:39
Preparer's Affiliation	PARS
Purpose of Investigation	Vi Assessment
Building Address/Number/ID	Vacant H5

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Who provided answers to this questionnaire?	Entry team
Given access to building?	Yes

Building Characteristics

Type of Building	Commercial/Multi-use
If Multiple Units, how many?	N/A
Business Type (if commercial property)	Vacant, former AAA
Does it include residences?	No
Number of floors	1
Building age (in years)	14
Is the building insulated?	Yes
How air-tight?	Average

Basement and Construction Characteristics (select all that apply)

Above grade construction	stone brick
Basement type	Slab
Sump present?	N/A
Perimeter drainage system present?	N/A
Basement/lowest level depth below grade (feet)	0
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Transformer and conduit bank at rear facing Nw

Entry facing NE

Main room facing E, comms conduit thru slab

Storeroom SW corner

NE storage room facing NE, no features inside

Breakroom at E end, facing S, no features noted

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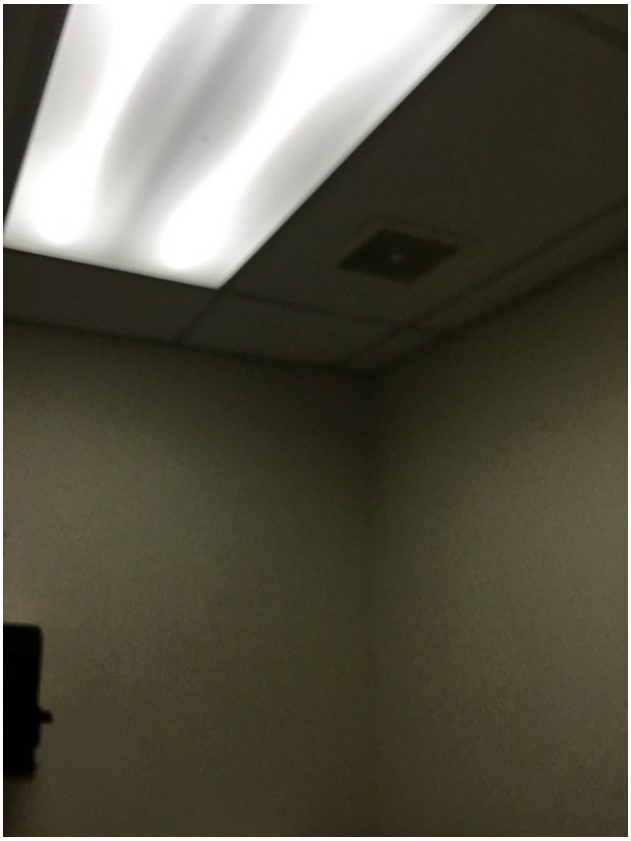
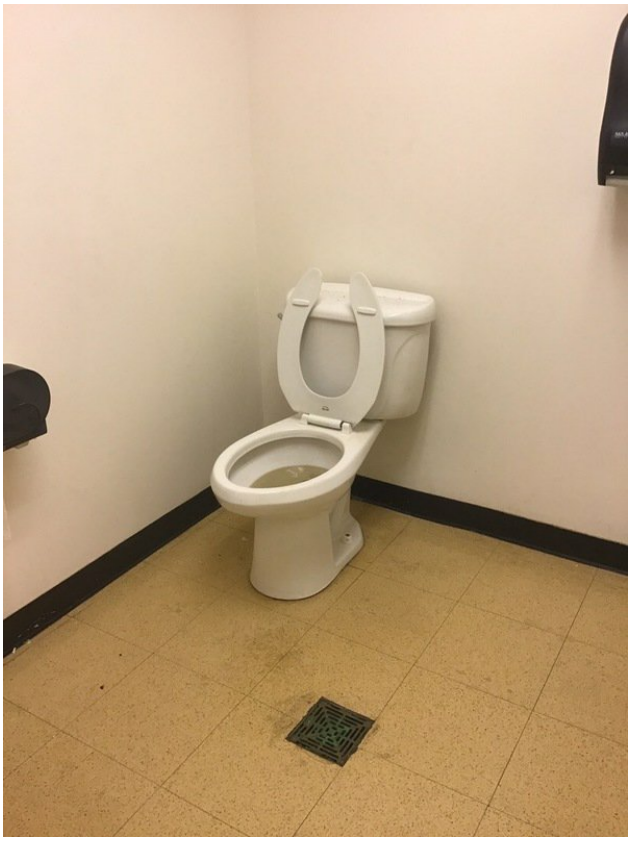
Small office across from break room, facing NW

Floor drain in men’s room facing S



Exhaust fan above toilet in Men’s room



Floor drain in Women’s room. Facing SE

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Exhaust fan in Women’s room, facing SE

Electric room , conduit goes down from ceiling, facing S

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Water main thru slab at closet next to fire exit on E wall, facing E

Fire exit and electric closet, facing E

Women’s room, locked closet, and men’s room around corner, facing SSE, water heater likely in closet

	Hall to breakroom and bathrooms, facing E

Heating, Ventilating, and Air Conditioning

Type of heating system(s) in building (select all that apply)	Hot air circulation
Primary type of fuel used	Natural gas
Domestic hot water tank fueled by	N/A
Boiler/furnace location	Main Floor
Air Conditioning	Central air
Are there air distribution ducts present?	Yes
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

Is basement/lowest level occupied?	Almost never
General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Water and Sewage

Water Supply	Public Water
Sewage Disposal	Public Sewer

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	Lockbox code did not work

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Vacant lot #2, [redacted] , 2018-11-08

Created	2018-11-08 19:06:16 UTC by [redacted]
Updated	2018-11-08 19:40:25 UTC by [redacted]
Location	39.9180612760786, -75.1846827793637
Project Number	06262046.0013
Preparer's Name	[redacted]
Date	2018-11-08
Time	14:06
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	Outdoor VI Assessment
Building Address/Number/ID	Vacant lot #2

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	N/A
Owner Address	
Given access to building?	No

Building Characteristics

If Multiple Units, how many?	N/A
Does it include residences?	N/A
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Water valve northwest of building 6

Vacant lot 2

Vacant lot 2

Vacant lot 2

Vacant lot 2

Storm drain west of Oregon

2x2 vault by street lamp next to Oregon

Manhole and storm drain west of Oregon

Manhole next to fence by Oregon

Storm drain and trench cut northwest of lot

Mystery well northwest of lot by storm drain

Mystery well northwest of lot by storm drain

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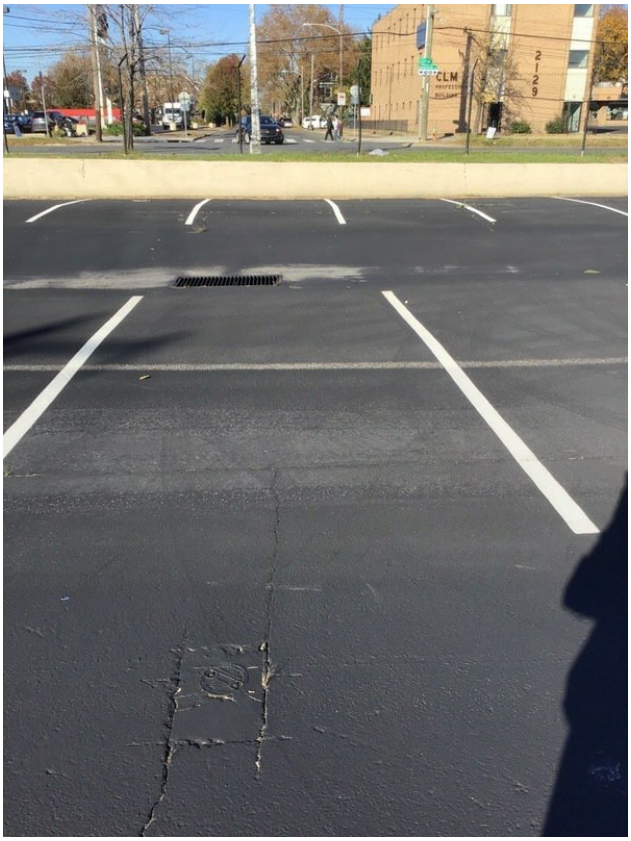

Mystery well northwest of lot by storm drain

Manhole next to Oregon northwest of building 6

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Elevated pad with pipes coming out north of building 6

Storm drain west next to fence behind Home Depot

Storm drain west of building 6 by grass field

Manholes and storm drain west of first tunnel west of building 6

Manholes and storm drain west of first tunnel west of building 6

Storm manhole next to grass west of building 6

Storm drain covers in drainage field west of building 6

Storm drain covers in drainage field west of building 6

Storm drain and manhole south in drainage field

Storm manhole covers southwest corner of lot

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)

Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	N/A
Is building within a current contaminant plume?	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Vacant lot #3, [redacted] , 2018-11-08

Created	2018-11-08 19:40:43 UTC by [redacted]
Updated	2018-11-08 20:09:17 UTC by [redacted]
Location	39.916334487535, -75.1846457552865
Project Number	06262046.0013
Preparer's Name	[redacted]
Date	2018-11-08
Time	14:41
Preparer's Affiliation	Arcadis
Phone Number	[redacted]
Purpose of Investigation	Outdoor VI Assessment
Building Address/Number/ID	Vacant lot #3

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	N/A
Owner Address	
Given access to building?	No

Building Characteristics

If Multiple Units, how many?	N/A
Does it include residences?	N/A
Building age (in years)	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

Storm drain west of building 6

Electric vault south of building 8

Electric vault south of building 8

Electric vault south of building 8 by AST

Rectangle vault south of building 8

Storm cover by Luke’s well behind Home Depot

Square cover and storm cover behind Home Depot

Round cover next to fence behind Home Depot

Electric covers 3 manholes in total north of building 9

Manhole by RW 10

Storm drain next to RW 10

Manhole west of RW 10

Storm cover west of building 6

Electric vault west of building 6 by state police

Manhole and storm drain by tunnel west of building 6

Manhole and storm drain by tunnel west of building 6

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A
Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Contaminated site within 1000-foot radius?	Yes
Specify contaminated site(s)	N/A
Is building within a current contaminant plume?	Yes
Specify contaminant plume detail	N/A
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Lot M, [redacted] 2018-11-02

Created	2018-11-02 15:32:18 UTC by Chuck Rogers
Updated	2018-11-02 15:56:01 UTC by Chuck Rogers
Location	39.9170326162501, -75.1885625348195
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-02
Time	11:35
Preparer's Affiliation	PARS
Purpose of Investigation	VI Assessment
Building Address/Number/ID	Lot M

Occupant

Occupant Interviewed	No
Occupant Address	

Owner or Landlord

Owner Interviewed	No
Owner Address	
Given access to building?	Yes

Building Characteristics

Type of Building	Vacant Lot
If Multiple Units, how many?	N/A
Does it include residences?	N/A
Building age (in years)	N/A
Is the building insulated?	N/A
How air-tight?	Not Tight

Basement and Construction Characteristics (select all that apply)

Sump present?	N/A
Perimeter drainage system present?	N/A
Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A
Are the basement walls or floor sealed with waterproof paint or epoxy coatings?	N/A

Please provide representative photos

E edge of lot M, facing S

NE top of pile facing S

Drum likely filled with soil, facing SW

SE facing N on top of pile

Boring hole at center, facing SE

Top of pile facing N

Drum at midsection of north pile edge, feels like it contains soil, facing S

North edge of Lot, facing E

POWERED BY fulcrum
WWW.FULCRUMAPP.COM

SW corner facing E

SW corner facing N

SE edge facing E

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Are there air distribution ducts present?	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Is there an attached garage?	N/A
Does the garage have a separate heating unit?	N/A
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	N/A
Has the building ever had a fire?	N/A

Is a kerosene or unvented gas space heater present?	N/A
Is there a workshop or hobby/craft area?	N/A
Is there smoking in the building?	N/A
Have cleaning products been used recently?	N/A
Have cosmetic products been used recently?	N/A
Has painting/staining been done in the last 6 months?	N/A
Is there new carpet, drapes or other textiles?	N/A
Have air fresheners been used recently?	N/A
Is there a kitchen exhaust fan?	N/A
Is there a bathroom exhaust fan?	N/A
Is there a clothes dryer?	N/A
Has there been a pesticide application?	N/A
Are there odors in the building?	N/A
Do any of the building occupants use solvents (e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist) at work?	N/A
Is there a radon mitigation system for the building/structure?	N/A
Is there a vapor intrusion mitigation system for the building/structure?	N/A
Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the building survey?	No
Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

[redacted] 2018-11-02

Created	2018-11-02 15:56:03 UTC by Chuck Rogers
Updated	2018-11-02 16:02:01 UTC by Chuck Rogers
Location	39.9171017250418, -75.1883394923761
Project Number	[redacted]
Preparer's Name	[redacted]
Date	2018-11-02
Time	11:56

Occupant

Occupant Address

Owner or Landlord

Owner Address

Building Characteristics

If Multiple Units, how many?	N/A
Building age (in years)	N/A
How air-tight?	Unknown

Basement and Construction Characteristics (select all that apply)

Identify potential soil vapor entry points and size (e.g. cracks, utility ports, drains)	N/A

Please provide representative photos

SE corner facing N

NW corner facing W

SW corner facing NE

Heating, Ventilating, and Air Conditioning

Domestic hot water tank fueled by	N/A
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.	N/A

Occupancy

General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)	
Basement Use	N/A
First Floor Use	N/A
Second Floor Use	N/A
Third Floor Use	N/A
Fourth Floor Use	N/A

Factors That May Influence Indoor Air Quality

Outside Contaminant Sources	
Other stationary sources nearby (e.g., gas stations, emission stacks, etc.)	N/A
Heavy vehicle traffic nearby (or other mobile sources)	N/A
Other factors influencing indoor air	N/A

Meteorological Conditions

Describe the general weather conditions	N/A

General Observations

Please add any other general observations	N/A

Sample Locations Map

Please include a map showing suggested sample locations for the future, if necessary. Include on map any locations where sampling cannot be completed due to owner request or other issue.

Product Inventory Form

Make and model of field instrument used	N/A

List specific products found in the residence or area that have the potential to affect indoor air quality (e.g., gasoline or kerosene storage cans, glues, paints, cleaning solvents/products, polishes/waxes, new furniture/ carpet, nail polish/hairspray/cologne).

Appendix Q

Subsection Three:

Vapor Intrusion Sampling Work Plan

Vapor Intrusion Sampling Work Plan

For the Commercial/Industrial Buildings, Residential Properties and Sewer - Former Defense Supply Center Philadelphia

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

January 2023

Vapor Intrusion Sampling Work Plan

For the Commercial/Industrial Buildings, Residential Properties and Sewer - Former Defense Supply Center Philadelphia

January 2023

Prepared By:
Arcadis U.S., Inc.
[redacted]

Prepared For:
United States Army Corp of Engineers,
[redacted]

Our Ref:
Contract No. [redacted]
Delivery Order: [redacted]

[redacted]

_____

[redacted]
Project Manager

[redacted]

_____

[redacted], PG
Program Manager

[redacted]

_____

[redacted]
Principal Remediation Specialist

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Appendix D – Activity Hazard Analyses

Appendix E – Current PADEP Screening Values and Anticipated Reporting Limits and Method Detection Limits

Acronyms and Abbreviations

ACM	asbestos containing material
AHA	activity hazard analysis
AO	Administrative Order
Arcadis	Arcadis U.S., Inc.
BV-BS	bioventing - biosparging
CFR	Code of Federal Regulations
COC	constituent of concern
DLA	Defense Logistics Agency
DSCP	Former Defense Supply Center, Philadelphia, Pennsylvania
HEPA	high efficiency particulate air
LNAPL	light non-aqueous phase liquid
NIR	Notice of Intent to Remediate
OSHA	Occupational Safety and Health Administration
PADEP	Pennsylvania Department of Environmental Protection
PHA	Philadelphia Housing Authority
PID	photoionization detector
QA/QC	quality assurance/quality control
RRP	renovation, repair, and painting
SDS	safety data sheet
SEPTA	Southeast Pennsylvania Transportation Authority
Site	Former Defense Supply Center, Philadelphia, Pennsylvania
SSDS	sub-slab depressurization system
SSS	site-specific standard
SV_{GW}	Statewide Health Standard VI screening values for groundwater
SV_{IA}	Residential SSS screening values for indoor air
SV_{SS}	Residential SSS screening values for sub-slab soil gas
TGI	Technical Guidance Instruction
TGM	Pennsylvania Land Recycling Program Technical Guidance Manual
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

VES	Vacuum enhanced skimming
VI	vapor intrusion
VOC	volatile organic compound

1 Introduction

This Vapor Intrusion (VI) Sampling Work Plan (VI Sampling Plan) has been developed for the Former Defense Supply Center, Philadelphia, Pennsylvania (DSCP; Site) by the SERES-Arcadis 8(a) Joint Venture (JV), LLC (The JV) to define the VI investigation activities that will be implemented to enable path-to-closure decisions for the Site under the Pennsylvania Land Recycling Program (Voluntary Cleanup Program) which was established as Act 2 of the 1995 legislative session (Act 2). Evaluation of VI risk is necessary for completion of the Site remedial investigation and is a component of the Act 2 process that is required per the Administrative Order (AO), dated 10 December 1999, between the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP) and the Department of the Army and DSCP (collectively the Defense Logistics Agency, or DLA).

To maintain compliance with the AO and meet the closure requirements of Act 2, the DLA tasked the United States Army Corps of Engineers, Philadelphia District (USACE) and the JV to provide work plans for the collection of vapor samples to document the updated VI sampling strategy. The scope of work provided by USACE to the JV specified three separate VI work plans, one for the commercial/industrial buildings, one for the residential properties and one for the Pollock-Packer Sewer. For efficiency, these work plans have been combined into one comprehensive VI Sampling Plan for the Site. Since the specific homes requiring VI samples are not yet known, the residential Sampling Plan is generic based on a typical town home at Siena Place. This VI Sampling Plan is written in accordance with the procedures established by the *Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil Under Act 2* (TGM; PADEP 2021).

The Site is generally defined by the land area bordered by Oregon Avenue, South 20th Street, Penrose Avenue, Penrose Ferry Avenue, and South 26th Street located in Philadelphia, Pennsylvania (location shown on **Figure 1**). The work described in this VI Sampling Plan is being conducted to further evaluate the risk to potential receptors via the VI pathway on the properties that are affected, and potentially affected by the Light Non-Aqueous Phase Liquid (LNAPL) present beneath the Site. The LNAPL and related petroleum hydrocarbon constituents of concern (COC) are found in soil and in the shallow groundwater aquifer (approximately 15 to 40 feet below grade).

The properties with a potentially viable vapor pathway affected by the Site LNAPL plume and related COC consists of approximately 60 buildings located on the mixed use commercial or industrial properties on and around the former DSCP, in addition to residential properties within Siena Place, a community of townhomes constructed to the south of the Site (338 total townhomes with vapor barriers). For the purpose of this VI Investigation only, the Site also includes Acme Markets Inc. (Acme) and the Southeast Pennsylvania Transportation Authority (SEPTA) properties located to the east of South 20th Street (**Figure 1**). The reasoning for why VI pathways must be evaluated for these properties was provided in the *Draft Combined Remedial Investigation Report / Cleanup Plan* (Arcadis, 2021).

This VI Sampling Plan proposes a phased approach to the collection of samples for laboratory analysis to evaluate the VI pathway at the commercial/industrial buildings and residential properties at Siena Place potentially affected by the Site petroleum hydrocarbon plume. The VI Sampling Plan sampling strategy for the Subsurface Utility Corridor of the Pollock-Packer Combined Sewer will evaluate the potential risk to receptors in Siena Place via an evaluation of soil gas concentrations in pipe bedding along and near connection points to the Pollock-Packer Combined Sewer, as well as conduit vapor concentrations inside of the Pollock-Packer Combined Sewer and lateral sewer connections to Siena Place.

The types of samples to be collected as part of the VI investigation consist of a combination of near-source soil vapor, potential preferential pathway soil vapor (in pipe bedding and sewer or utility conduits), sub-slab soil vapor, sub-slab depressurization system (SSDS) influent vapor, indoor air, sewer conduit vapor, and ambient air samples to evaluate the potential for the VI pathway to impact indoor air quality. The results of this investigation will be provided in an Addendum to the *Remedial Investigation Report / Cleanup Plan* (Arcadis 2021).

2 Site Summary

2.1 Site History

The largest component of the Site is the Former DSCP Facility, an 87-acre parcel that was owned and operated by the United States Department of Defense from 1918 to 1999. While in operation, the Former DSCP Facility was responsible for the procurement and distribution of food, clothing, and medical supplies to all branches of the armed forces, as well as other authorized federal agencies and foreign countries (Malcolm Pirnie 1999). Production of finished textile products for the United States Armed Forces also took place at DSCP from the 1940s to 1994 (Environ 2002). Prior to initial construction in 1918, the property was reportedly vacant, unimproved land. In 1993, the Base Realignment and Closure Commission recommended the closure of the Former DSCP Facility and in 1999 all remaining administrative operations were relocated to the DLA Troop Support facility located in Northeast Philadelphia, Pennsylvania. To support post-closure redevelopment, the “air rights” to the Former DSCP Facility were transferred to the Philadelphia Authority for Industrial Development in October 2001, which are defined as the ground surface to 10 feet below ground surface. Due to the presence of LNAPL, first identified in September 1987, the Army retained the subsurface rights deeper than 10 feet.

Shortly after the air rights were transferred, the Philadelphia Authority for Industrial Development began selling portions of the Former DSCP Facility for re-development. In October 2001, Quitclaim Deeds were prepared for the “Eastern” and “Western” parcels of the Former DSCP Facility. The Quitclaim Deeds detail the specific petroleum hydrocarbon impact-related redevelopment restrictions and remediation infrastructure requirements (required by the AO) that occupants of structures on the former DSCP must abide by. These include, but are not limited to, permitting egress for ongoing remediation work, restricting any construction or maintenance activities to a maximum of 10 feet below ground surface, and restricting property to commercial/industrial use excluding childcare.

The next largest Site component is the Former Passyunk Homes Property, a 55-acre plot, that was once a public housing project. Developed in the 1940s, the housing project consisted of 96 apartments in 12 three-story buildings and 778 two-story apartments. These structures were demolished in 2002.

The CSX right of way lies between I-76 and the Former DSCP Facility. This land is primarily utilized by CSX for maintenance of the railway itself and for other rail transportation uses. The CSX right of way hosts a rail spur that links to the adjacent former refinery, currently owned by Chicago-based Hilco Redevelopment Partners. This rail spur and adjoining right of way has been railroad property since construction of the Former DSCP Facility. The former Steen property, immediately adjacent to the CSX right of way located on South 26th Street is currently the site of a privately held outdoor advertising agency.

A comprehensive assessment of the buildings on commercial/industrial properties was conducted in 2018 to investigate and document potential VI exposure pathways in Site buildings to support future Site building-specific risk assessment and mitigation activities as necessary. The results of this assessment as well as recommendations for additional VI investigation were included in the *Vapor Intrusion Assessment Report* (Arcadis 2020). The VI Assessment Report specified sample locations for the commercial/industrial buildings to be included in the VI investigation, which consisted of properties with occupied or habitable structures overlying the LNAPL plume, within the proximity distance to the LNAPL plume (per the TGM) or petroleum hydrocarbon constituents in groundwater above PADEP groundwater screening values (SV_{GW}) or having potential preferential pathways that require investigation. PADEP provided comments to the VI Assessment Report in March 2022. This feedback from PADEP, as well as additional information gleaned since the completion of the VI Assessment Report led to revisions to the sequence and strategy of the sample locations and types proposed in the VI Sampling Plan.

2.2 Land Use and Affected Properties

2.2.1 Land Use

The Former DSCP facility buildings located on the Eastern parcels of the Former DSCP Facility are now owned and managed by a private property management entity which leases parcels to commercial and government (state and federal) interests, although some of the buildings are currently vacant. There are no known vapor mitigation systems or engineering controls in place in these former DSCP facility buildings. On the Western parcel portion of the Former DSCP Site (44 acres), a shopping center known as Quartermaster Plaza was constructed in 2004. It currently contains approximately 18 retail stores and four food establishments. Some of these commercial buildings, including the ones closest to the LNAPL plume were constructed with vapor barriers and passive SSDS though as-builts and records of testing for these engineering controls have not been found.

In 2009, an 80,000 square foot office building was constructed on the northern portion of the Former Passyunk Homes Property for use by the Philadelphia Housing Authority (PHA). This PHA building was also constructed with a vapor barrier and a passive SSDS. Photographic records and design drawings exist for the vapor barrier and SSDS installation, but as-builts and records of testing for these engineering controls have not been found. The construction of new privately-owned residential dwellings (Siena Place Homes) was initiated on the remainder of the Former Passyunk Homes property to the South of the PHA building. Currently, there are approximately 338 as part of the development. These town homes are being constructed with vapor barriers constructed of Liquid Boot® applied to the concrete slab foundation. The testing protocol for these barriers consisted of smoke testing and certification by a third-party contractor to verify integrity prior to framing out the wooden structure of the town houses above.

The former Steen property, immediately adjacent to the CSX right of way is currently the site of a privately held outdoor advertising agency. On the property there is an office building, outside storage for materials and supplies, and parking. The use of the property prior to Steen ownership is unknown, and it is not known if any engineering controls are present. This Sampling Plan assumes that no engineering controls are present, but this will be investigated as part of the building assessment conducted prior to sampling.

2.2.2 Commercial/Industrial Properties or Buildings

The rationale for the inclusion of individual commercial/industrial buildings in the VI investigation may be summarized into one of three possible reasons:

1. Properties or buildings within the current (or historical) LNAPL plume or within the proximity distance of 30-feet of the current (or historical) LNAPL plume.
2. Properties or buildings that are outside of the current (or historical) LNAPL plume but have adjacent wells with LNAPL present, limited available groundwater data, or groundwater volatile organic compound (VOC) concentrations above the SV_{GW} for protection from VI.
3. Properties or buildings that are outside of the current (or historical) extent of the LNAPL plume, adjacent wells are below the SV_{GW} for protection from VI, but the potential for preferential pathways exist and require evaluation.

A matrix showing the commercial/industrial properties or buildings included in the VI Sampling Plan listed in groups according to the rationale for inclusion, and the types of samples to be collected is presented in **Table 1.** This table also includes the findings from the VI Assessment as well as the proposed phased sampling and risk assessment approach for each individual building (the sampling approach is discussed in more detail in **Section 3**). Some buildings have been added to the VI investigation that were constructed since the time of 2018 assessment, and other buildings added where access was not previously granted, and an assessment was not completed. For these buildings, an assessment will be conducted prior to sampling. This VI Sampling Plan assumes that the contractor implementing this scope of work will be successful in securing access to all buildings listed except as noted in this plan. Procedures are also provided in the case that building access is denied.

For the purposes of this VI Sampling Plan, the list of individual properties or buildings included in the investigation are grouped according to VI sampling strategy. A flow chart showing the strategy for each group of buildings is included in **Appendix A, Figure 1**. A flow chart showing the VI sampling strategy for any buildings where access has been denied is shown in **Appendix A, Figure 2**. The locations of the commercial/industrial properties and buildings, VI samples proposed, and the location of potential preferential pathways are shown on **Figures 1 through 5B**. The individual properties or buildings included in the commercial/industrial VI investigation and a summary of the initial VI investigation strategy are listed below:

- Group 1 - Buildings with vapor barrier and passive SSDS which are either over the current (or historical) extent of LNAPL or have the potential for preferential pathways:
  - BJ's
  - Home Depot
  - PHA
  - J – Pet Smart
  - N – Vacant
  - O – Vacant (potentially part of Planet Fitness)
  - P – Planet Fitness, Novacare and H&R Block
- Group 2 – Buildings that are over the current (or historical) LNAPL plume within the 30-foot proximity distance to the site LNAPL. This Sampling Plan assumes that no engineering controls are present in these buildings, but this will be investigated as part of the building assessment conducted prior to sampling:
  - Building 8
  - Building 6

- Building 9
- Building 11
- Building 12
- Building 13
- Building 14
- Building 30
- VES Building
- Former Steen Building
- PHA Gym

- Group 3 - Buildings fall into three categories: 1) Buildings that have adjacent wells with LNAPL present, 2) Buildings with limited available groundwater data, or 3) Buildings with groundwater VOC concentrations above the SV_{GW} for protection from VI. This Sampling Plan assumes that no engineering controls are present in these buildings, but this will be investigated as part of the building assessment conducted prior to sampling.
  - The Group 3 buildings with adjacent wells with LNAPL present are:
    - Aldi's (formerly Vacant Lot 2)
  - The Group 3 buildings with Limited available groundwater data are:
    - Acme Supermarket
    - SEPTA Building
  - The Group 3 buildings with groundwater VOC concentrations above the SV_{GW} for protection from VI are:
    - E – Jim's Enterprises
    - 3) E – Liberty Camera Company
    - 3) E – Leones Computer
    - 3) P. Agnes Moyamensing
    - 3) Building 15
- Group 4 - Buildings that are outside of the current (or historical) extent of the LNAPL plume, adjacent wells are below the SV_{GW} for protection from VI, but the potential for preferential pathways exist and therefore require evaluation. Screening preferential pathways at Group 2 and Group 3 buildings may be used to screen out Group 4 buildings. The Group 4 buildings are:
  - E (Quartermaster Plaza) – Staples
  - I1 – Dress Barn
  - I2 – Kicks USA
  - H1 – Verizon
  - H2 – The Children's Place
  - H3 – Payless Shoes
  - H4 – Mad Rag
  - H5 – Vacant
  - F2 – [redacted] Firm
  - F3 – Casual Male XL
  - Raddison Hotel
  - P. Agnes Penrose

- Group 5 – Buildings are farthest from the LNAPL plume, are outside of the current (or historical) extent of the LNAPL plume, have adjacent wells that are below the SV_{GW} for protection from VI but still have the potential for preferential pathways. Due to their distance from the LNAPL plume, VI Sampling at these buildings may not be necessary if preferential pathways are not confirmed during sampling at buildings in Groups 3 or 4 closer to the source. The Group 5 buildings are:
    - R – Game Stop
    - R – Edible Arrangements
    - R – Dominos Pizza
    - R – Foot Locker
    - B – Bank of America
    - C – Chilis
    - D – Walgreens
    - A – Wendy's
- Properties that are currently vacant lots with no habitable structures onsite will not be evaluated as part of the VI Sampling Plan as VI risk will be mitigated by institutional controls. The current list of vacant lots at the Site are:
    - Lot 3
    - Lot M
    - Lot L
    - Lot S

2.2.3 Residential Properties with Vapor Barriers – Siena Place Homes

The only residential properties that this VI Sampling Plan applies to are the Siena Place Homes community which are constructed with vapor barriers. Vapor barriers consisting of a geotextile fabric coated with Liquid Boot® applied to the concrete foundation of the crawl space were installed and then smoke tested by a third party certifying that the vapor barrier was effective prior to construction of the timber-framed town home (unit) above. There are approximately 338 completed town homes in the Siena Place Homes development. Since the specific units requiring evaluation are not yet known, the residential VI Sampling Plan is generic and based on the typical Siena Place town home. The VI Sampling Plan for a typical Siena Place town home consists of a home assessment followed by indoor air sampling and ambient air sampling at each unit deemed necessary. Due to the vapor barriers at Siena Place Homes, sub-slab soil gas samples will not be utilized so as not to compromise the vapor barrier. However, the VI Sampling Plan for Siena Place Homes will be initiated on specific units based on the findings of the sewer pathway evaluation discussed in **Section 2.2.4,** and VI samples are not proposed for each home in Siena Place as the vapor barriers mitigate the risk of VI from the subsurface. There are no other residential properties within the Site that require a VI investigation based on the shallow groundwater screening. If a future VI investigation were to include residential properties outside of Siena Place, then a separate VI sampling plan will need to be developed for those properties.

2.2.4 Subsurface Utility Corridor - Pollock-Packer Combined Sewer

The Pollock-Packer Combined Sewer is a subsurface utility corridor that crosses the Site generally East to West along the former alignment of Pollock Street and Packer Avenues on what is now the PHA property, the Sienna Place Homes, and the former Steen Property before intercepting the 26th Street Sewer along the South 26th Street alignment and then crossing into the former refinery property. As can be seen on **Figure 6** the Sewer bisects the Site through areas with LNAPL and elevated concentrations of Site COCs. The sewer installation also cut through the naturally occurring silt later found between 10 and 15 feet below grade at the Site, and for this reason is believed to be the conduit along which LNAPL originally migrated. Prior investigations into the Sewer conducted by PADEP and USACE confirmed the presence of LNAPL in the sewer and or VOC vapor related to the LNAPL plume within the sewer.

A sewer venting system is operated by the former refinery adjacent to the Site as an engineering control for the vapor in the sewer from the hydrocarbon plumes from both DSCP and the former refinery. This VI Sampling Plan also includes a sampling strategy for the Pollock-Packer Combined Sewer to evaluate the potential migration of vapors along this preferential pathway. Both conduit samples of vapor inside of the sewer, and soil vapor in pipe bedding on Siena Place along the sewer and lateral connection points to the sewer will be evaluated.

Sewer access manhole locations are shown on **Figure 6**. One of the manholes to be accessed is located on the former Steen property, the remainder are located on the PHA property or in the Philadelphia right-of-way at 19th Street and Moyamensing Avenue located to the east of the Site. Conduit vapor samples will also be collected at manholes and cleanouts located on Siena Place along sanitary sewer laterals that connect to the Pollock-Packer Combined Sewer as proposed in **Table 2**. Analytical data from these conduit vapor samples will be compared to data provided by the operator of the sewer venting system, Evergreen Environmental Services (Evergreen), as well as investigative activities being conducted by Evergreen for the former refinery property. Concentrations of VOCs in the Sewer compared to the sewer venting system inlet will be used to evaluate the effectiveness of the sewer venting system. The analytical results of conduit vapor samples taken from the laterals on Siena Place will be utilized to evaluate a potentially complete VI pathway to the residential properties on Siena Place from these sewer laterals.

The second part of the Sewer investigation will be to evaluate preferential pathways along pipe bedding located around the sewer laterals that cut through the silt layer above the water table when Siena Place Homes were constructed. To evaluate these potential preferential pathways, a direct push drill rig will be utilized to collect soil vapor samples from the pipe bedding materials around the sanitary sewer connection points which could pose a complete VI pathway to specific groups of homes in Siena Place. The locations of these sewer laterals are not fully known, therefore a utility locator service will be used to assess the location of the sewer conduit and where pipe bedding samples will be collected. In addition to utility location services, soft dig technology such as an air-knife will also be used to locate the sewer or other utility conduits. The direct push drill rig will then be utilized to install the sample probe directly adjacent to the air knife location along the utility, in undisturbed soil.

2.2.5 Access Coordination

It is anticipated that the Contractor performing the VI Investigation sampling will coordinate logistics for access to the sample locations with the respective owners during the implementation of the VI sampling activities.

Coordination with the USACE Baltimore District Real Estate, USACE Philadelphia District and the DLA Public Affairs Office will be necessary to successfully complete the VI Sampling Plan. Care should be taken when reviewing existing access agreements to confirm proper notification procedures (i.e., number of business days in advance) and if existing agreements include intrusive work.

At the time of this work plan, the status of access (access agreements and quit claim deeds, as applicable) for the industrial/commercial buildings/property under consideration are included in **Table 1**. A copy of all existing access agreements will be provided by the USACE Baltimore and Philadelphia districts. There are no existing access agreements in place for private residential properties.

For those properties with valid access agreements, notification letters will be sent to all property owners and tenants at a minimum, 72 hours prior to the planned building entries (5 days for the former Steen property). Specific building entries will be scheduled with the owner/tenant.

Numerous commercial properties do not have valid or existing agreements in place for entry to buildings or businesses. They include PHA, PHA Gym, SEPTA, Acme, the former Steen property, and Jim's Enterprises, which includes the businesses of Liberty Camera Company, and Leone's Computer. PHA access can be granted through the PHA easement that grants DLA access; however, a review of this agreement is advised. PHA Gym does fall under the PHA easement; however, it is believed to be leased by the DePaul Group to South 23rd Associates. Jim McGinty of Jim's Enterprises will need to be contacted for access to Jim's Enterprises.

The Contractor should be aware that access to the SEPTA property is unlikely and therefore be prepared to proceed with the VI Investigation procedures for no access outlined below.

Acme access is available but will need coordination with the USACE Baltimore District Real Estate.

Access to private properties (i.e., Siena Place Homes or other privately occupied buildings) does not exist. Additional coordination with the USACE Baltimore District Real Estate will be needed to secure access.

Proper notification and access will be needed to support the sewer utility corridor VI Investigation.

There are samples proposed within public right-of-ways as part of this VI Sampling Plan. Samples on public streets (such as those proposed on South 20th Street or Roma Drive) within the City of Philadelphia require lane closure permits, traffic control plans and hiring the Philadelphia Police Department to regulate traffic.

2.2.6 VI Sampling Plan if Access is Denied

As discussed, the VI Sampling Plan assumes that access will be obtained for all buildings or properties where samples are proposed in accordance with **Table 1**, as well as any residential properties evaluated to require VI Sampling. However, there are properties where access is unlikely to be granted such as the SEPTA bus terminal located on South 20th Street. For these properties a process has been developed for obtaining VI samples that do not require access to the building, such as relying on near source and external preferential pathway samples collected in public right of ways. A flow chart of the process is included in **Appendix A, Figure 2**. In the case of any building where access is not given, the contractor will collect at least two near source samples from the right of way close to the property, and two additional external preferential pathway samples from pipe bedding within the preferential pathway (if warranted). These samples will then be used in concert with groundwater data to model the indoor air concentrations utilizing attenuation factors from the PADEP TGM (PADEP 2021a), the PADEP

spreadsheet version of the Johnson & Ettinger Model (PADEP 2021b), or the literature for use in human health risk assessment.

If the risk assessment finds that calculated risks are less than or equal to PADEP human health protection goals, then no further action will be taken. If calculated risks are greater than PADEP human health protection goals, then further evaluation will be conducted. Additional attempts to gain access will be made so that additional samples (e.g., sub-slab soil gas, preferential pathway bedding or conduit samples, indoor air samples) may be collected. If access is still denied to this building after multiple attempts, then the contractor will perform their due diligence by documenting that access was requested and denied by the property owner, so that a waiver from PADEP can be requested for that property.

2.3 Remedial Status – LNAPL Remediation

Active remediation has been ongoing at the Site since 1996. Remedial activities conducted prior to the third quarter of 2011 were mainly focused on direct recovery of LNAPL in the liquid phase utilizing various techniques which were successful in removing a majority of the readily recoverable LNAPL from the Site. Initial recovery efforts conducted by USACE utilized mainly vacuum extraction truck recovery of LNAPL and water, as well as periodic skimming and pump testing to recover LNAPL. In March 1999, operation of an expanded LNAPL skimming system commenced. The expanded system included two separate fixed pneumatic LNAPL skimming systems at the Former DSCP Facility and the Former Passyunk Homes Property (the PHA Property). This system was upgraded again in 2005 to become the Vacuum Enhanced Skimming (VES) system which is actively being used for remediation. From 2004 to the Third Quarter of 2011, the VES system had been operated using a low vacuum to increase LNAPL thickness in wells to enhance skimming of LNAPL in the liquid phase.

To comply with the LNAPL remediation requirements of the AO, and to enable a path to Site closure under the Act 2 program, several improvements and optimizations to the Site's remediation systems and associated remediation strategy have been implemented since the initiation of LNAPL remediation at the Former DSCP Facility. Starting in the Third Quarter 2011 the VES system was optimized to focus on a subgroup of wells at higher vacuum to increase LNAPL recovery in the vapor phase and to promote in-situ bioremediation. This optimization of the VES system led to dramatic increases in both mass recovery in the vapor phase and mass destroyed in situ by way of aerobic bioremediation. A bioventing-biosparging (BV-BS) pilot system was installed in 2018 into 2019 to accelerate in-situ bioremediation while testing BV-BS in one area of the site. A 6-month period of performance for the BV-BS pilot commenced on 06 March 2019 and ended on 05 September 2019, however the BV-BS pilot system remains online due to favorable results of this pilot study. The overall remedial strategy for the Site is to continue LNAPL remediation until the remedial goal of LNAPL stabilization (reduction in LNAPL transmissivity to below Interstate Technology and Regulatory Council recoverability guidance, and reduction in LNAPL toxicity) is met and potential exposure and risk to nearby receptors are within PADEP human health protection goals.

2.3.1 Regulatory Status

In 1987, the DLA notified the PADEP of the discovery of petroleum hydrocarbon contamination beneath the Former DSCP Facility, and in 1988 subsurface investigations into the source and nature and extent of the impacts began. In 1996, the United States and [then] Sunoco entered into a Consent Order and Agreement with the PADEP to collectively remediate the subsurface LNAPL impacts delineated between 1988 and 1995. The 10 December 1999, PADEP-issued AO required the DLA to remove petroleum hydrocarbon LNAPL to the "maximum extent practicable",

and to attain "one or a combination of the remedial standards set forth in the Land Recycling Act and the regulations found in 25 Pa. Code Chapter 250" (i.e., enter the Act 2 program). To formally enter the Site into the Act 2 program, a Notice of Intent to Remediate (NIR) was submitted to the PADEP in 2004 for a proposed Act 2 Site with a smaller footprint than that shown on **Figure 1**. The 2004 NIR was superseded by a second NIR submitted on 14 April 2017. The 2017 NIR identifies a site-specific standard (SSS), exposure pathway elimination-based path to closure. The standards identified in the NIR reflect the current conceptual site model, the results of remediation efforts and the proposed combination of in-situ remediation and engineering and institutional controls.

To refine the Site remedial approach and to support a comprehensive Site path to closure for all media impacted by petroleum hydrocarbons, various subsurface characterization activities have been conducted. Details on remediation system improvements, optimization strategies, characterization activities as well as updates to the conceptual site model were also reported to the PADEP in quarterly reports as part of AO quarterly reporting requirements.

A combined Remedial Investigation Report and Cleanup Plan was submitted by Arcadis in 2021 which detailed the nature and extend of the petroleum hydrocarbon plume onsite as well as remedial efforts past, current and proposed. This report was disapproved in September 2022. This VI Sampling Plan has been provided to describe the scope of work necessary to evaluate the VI pathway.

2.4 Environmental Conditions

The Site's environmental concerns are associated with the petroleum hydrocarbon COC including LNAPL present onsite above and below the local groundwater table ("trapped LNAPL") and at depths ranging generally from 15 to 40 feet below ground surface. The LNAPL is a middle petroleum distillate similar to a mix of weathered gasoline, aviation gasoline and jet fuel but not necessarily derived from a finished product. Each of the media of concern are discussed briefly in the sections below.

2.4.1 LNAPL

Petroleum hydrocarbon COCs and LNAPL are present in the shallow aquifer at the Site. The current distribution of LNAPL appears to be constrained within an elongated area, following an east-west trend. The extent of the Site's LNAPL as of the Third Quarter of 2022 is shown on **Figure 7**, from the *Third Quarter 2022 Progress Report* (SERES-Arcadis JV 2022). LNAPL is observed largely within the breach area, in now discontinuous, but approximately linear orientation and trending in a southwest to northeast direction. The greatest measured LNAPL thicknesses are observed down the center of the breach in a narrow linear feature also trends southwest to northeast. The measured LNAPL thins to the northwest and southeast and appears to be bounded by the Sewer to the south. The spatial limits of the Site's LNAPL have been affected by ongoing product removal, natural attenuation, and water table fluctuations.

The maximum historical extent of LNAPL (as shown in a Foster Wheeler Environmental Corporation figure dated October 28, 2002), is overlain on the VI Sample location **Figures 3A through 5B**. This historical LNAPL extent reaches north to MW-16, east to MW-12, south to MW-46 (close to Hartranft Street), and west along the former Steen property joining with the LNAPL plume on the former refinery. Historical LNAPL extent has stabilized spatially and not extended beyond what is shown in the figures mentioned above. The record of historical LNAPL thickness includes measurements up to a maximum of 4.98 feet (measured at EPH-MW-39 in 2001); however, Sitewide

average product thickness and the number of wells with any measurable thickness have decreased due to Site remediation efforts. In December of 2022, the maximum LNAPL thickness was 1.3 feet at DSCP-MW-33, and the average LNAPL thickness was 0.46 feet in the 18 wells with measurable LNAPL thickness. Notably, the measurement of LNAPL thickness in monitoring wells is "fraught with uncertainty" (Interstate Technology and Regulatory Council 2018), and particularly so in the practice of estimating the remaining recoverable LNAPL.

2.4.2 Shallow Groundwater

Petroleum hydrocarbon COCs and LNAPL are present in the Site's shallow aquifer zone and dissolved COCs are present in the underlying deep aquifer zone (approximately 40 feet below grade down to as deep as 100 feet below grade). The location of Site LNAPL as defined by inferred thickness-based contour maps provided in quarterly reports (and as shown on **Figure 7**) is coincident with the area where the upper and lower aquifer is hydraulically connected (through a breach in the clay unit that separates them elsewhere on the Site). This spatial relationship is central to the rationale for the type of sampling performed and the planned demonstration of long term LNAPL stability evaluations.

Shallow aquifer zone dissolved phase COC data from wells located within the breach area indicate stable trends over time. Like the LNAPL, the COCs distribution suggests a spatially stable shallow aquifer zone impact area composed of lighter end (e.g., gasoline to middle-distillate) constituents above the central and western portions of the breach, with generally lower concentrations of these constituents elsewhere beneath the Site. These areas are also coincident with an area of the aquifer with downward vertical gradients as indicated by quarterly reported measurements obtained from paired shallow and deep aquifer zone wells. Isoconcentration contours for Benzene, the primary VI risk driver from the LNAPL plume is shown on **Figure 6**.

The extent of dissolved COCs extends father to the southeast in the deep aquifer zone than the shallow aquifer, however only the shallow aquifer zone is relevant to the evaluation of the VI pathway.

2.4.3 Vapor Intrusion Pathways

Petroleum hydrocarbon COCs may volatilize from groundwater and/or LNAPL and enter the vadose zone where they may then migrate radially in all directions from the source medium, including upwards through vadose zone soils towards overlying buildings via diffusion. A secondary mechanism by which COC vapors may migrate into nearby buildings within or near the LNAPL plume is through preferential pathways. PADEP VI Guidance (PADEP Land Recycling Program Technical Guidance Manual [TGM], Section IV – Vapor Intrusion, January 2019) defines two types of preferential pathways: 1) an external preferential pathway that does not penetrate the building foundation (e.g., permeable bedding material around a utility line); and 2) an external preferential pathway that enters the building (e.g., utility conduits). The underground utilities with the most likelihood of potentially conveying vapors are the storm and sanitary sewers, since recent utility installations cut through the silt layer located above the water table across much of the site, creating large pathways through the historical extent of LNAPL, and the potential current (or historical) direct interaction between groundwater/LNAPL and the sewer conduits. An engineering control (i.e., active venting of sewer vapors) to reduce vapor transport through the sewer is operated by Evergreen on the former refinery adjacent to the Site. However, the effectiveness of this control of vapors within

the sewer and lateral conduits as well the potential of preferential pathways outside of the sewer (in pipe bedding) to Siena Place must be evaluated.

2.5 Proposed VI Remedial Approach

Prior investigative work at the Site indicated that there was a potential for the VI pathway to be complete; therefore, a Site building by building assessment, exclusive of the Siena Place portion of the Site (i.e., the residential area currently under development) was performed from 2018 through 2020. The result of this assessment, documented in the *VI Assessment Report* (Arcadis 2020) concluded the following:

- Numerous VI pathways exist in the former DSCP facility buildings which underlie including gaps in foundations, open sumps, and drains.
- Several buildings constructed on the Site as part of redevelopment have vapor barriers and passive SSDS installed. However, records of as-builts or testing after installation were not able to be located and may not exist.
- Preferential pathways on the former DSCP facility include sewers, but also include tunnels for steam, fuel oil and other utilities crossing much of the Site. These preferential pathways may be complete VI pathways for the newer buildings on Site.
- Exterior assessments of buildings without access were conducted and found similar potentials for complete VI preferential pathways.

This VI Sampling Plan builds on the findings of the 2018 VI Assessment. The remedial strategy for estimated VI risk greater than PADEP human health protection goals assessed as a result of this VI investigation will be pathway elimination by the use of engineering controls (i.e., sealing of pathways and the installation of VI mitigation systems, such as active SSDS) and implementation of institutional controls, as necessary, to maintain compliance with the Site Remedial Strategy. Several of the commercial/industrial buildings as well as the Siena Place Homes have some form of VI engineering control in place such as vapor barriers and or passive SSDS. The actions described in this VI Sampling Plan will be utilized to confirm the effectiveness and necessity of these existing controls, and to recommend where other engineering controls will be required to mitigate complete VI pathways. Any building outfitted with an engineering control will be included in the VI pathway portion of the post remedial care plan. All parcels where engineering controls are used to mitigate vapor risk (SSDS, passive SSDS, and or vapor barriers) will require parcel by parcel covenants in compliance with the PADEP Act 68 Uniform Environmental Covenants Act (PADEP 2007) to ensure that the controls are maintained as needed.

SSDS will be installed by a PADEP-certified installer for mitigation systems pursuant to 25 Pennsylvania Code Chapter 240 and will be equipped with infrastructure meeting the design requirements of American National Standards Institute/American Association of Radon Scientists and Technologists Soil Gas Mitigation Standards in Existing Homes SGM-SF-2017. And design for a new SSDS or retrofits to existing systems in any Site building or residence will be stamped by a Licensed Professional Engineer in the Commonwealth of Pennsylvania.

3 Vapor Intrusion Pathway Sampling

The VI sampling approach for the Site is broken out into three major efforts: the commercial buildings, the residential buildings, and the sewer and subsurface utility corridors. The investigation strategy for each of these major efforts consists of a phased approach to the evaluation of the VI pathway starting with the properties or parcels located

either overtop of or closest to the current or former extent of LNAPL. Structures with the highest risk or suspected vapor entry points (as discussed in **Section 2.5**) will be prioritized. The investigation will then step outward to the properties or parcels further from the current (or historical) extent of LNAPL but near monitoring wells with groundwater concentrations above the $SV_{GW,}$ or incomplete data and potentially having preferential pathways requiring evaluation. Finally, the investigation will move to the properties or parcels farthest from the plume but have previously identified potential preferential pathways due to connection to the Sewer and other utilities.

The commercial/industrial investigation is based on the results of the assessments detailed in the 2020 VI Assessment Report (Arcadis 2020), with some changes that include additional buildings that have been built after the publication of the 2020 VI Assessment Report (e.g., Aldi's replaces Vacant Lot #2), and locations that previously had access issues. Building assessments will be completed as part of this VI Sampling program. Residential properties were also not assessed during the VI Assessment phase. Building assessments will be conducted on any residence requiring VI Samples as part of this VI Sampling program. The need for VI Sampling in the Siena Place residences and the number of homes requiring VI sampling is unknown. For this reason, the sampling approach for the residences is based on a typical town home in the Siena Place Homes, and not based on any specific home. The sewer investigation approach is based mainly on evaluating the sewer and its connection points as a preferential vapor pathway to Siena Place residences in both pipe bedding and conduit vapor inside of the sewer. An evaluation of the conduit vapor from inside of the sewer with respect to effectiveness of the sewer venting system is a secondary purpose of this effort.

All phases of VI samples consist of two rounds of samples (an initial sample round and a confirmatory sample round) conducted at least 45 days apart. Both rounds of indoor air sampling will target collection during the heating season when there is a difference of greater than 15 degrees Fahrenheit between the ambient temperature and the indoor temperature. Sewer conduit samples must be collected mid-day (between the hours of 9AM and 3PM) and not during or after 48 hours from a rainfall event.

3.1 Commercial/Industrial Building Sampling Approach

Each group of buildings will be sampled in phases to fully evaluate the VI pathways. A flow chart showing the strategy for each group of buildings is included in **Appendix A, Figure 1.** The sampling phases within each group of buildings (e.g., Group 1 through Group 5) differ, each honoring the differing criteria that apply to the specific group. Phase 1 sampling will be performed first; if the Phase 1 group-specific samples indicate a human health risk exists based on reported concentrations in excess of PADEP Vapor Intrusion Screening Values, then Phase 2 sampling will be conducted. Similarly, if Phase 2 sampling indicates a human health risk exists, Phase 3 sampling will be conducted. However, if no human health risk is indicated after any phases of sampling, then no further action is necessary. At any point during the planned investigation, the decision to bypass additionally investigative sampling and move directly to mitigation system design and installation can be elected.

For the purposes of this VI Sampling Plan, it is assumed that access will be granted for all buildings requiring VI Samples in accordance with **Table 1**. However, a flow chart is also provided showing the VI sampling strategy for any building where access has been denied (see **Appendix A, Figure 2)**. The type and number of samples proposed for each individual building is shown in the VI Investigation Matrix for Commercial/Industrial Buildings (**Table 1)**. The locations of the buildings as well as the proposed locations of each sample to be collected (if known) are shown in **Figures 3A through 5B**. These figures show the location of samples relative to utilities and other suspected preferential pathways. Each set of figures present views of different areas of the Site, with and without

historical utility corridors overlain on the figure, as well as the historical extent of LNAPL. Sample locations are approximate and are likely to be field modified based on a building assessment conducted after utility location, and possibly again on the day of sampling by the field staff if sampling obstructions are encountered.

3.1.1 Group 1 Buildings (J, N, O, P, BJ's, Home Depot and PHA)

The Group 1 buildings are constructed with vapor barriers and passive SSDS collection systems. These systems were designed and installed by the developers of the Quartermaster Plaza and the PHA property. Document reviews have located design drawings for these systems, as well as photographic documentation in the case of the PHA building, but no as-builts or records of testing have been located. For this reason, the purpose of the VI Sampling of Group 1 buildings is to confirm the effectiveness of these engineering controls. The VI Sampling strategy involves sampling sub-slab vapor by collecting samples from within the passive SSDS collection piping and comparing the analytical results to that of samples taken in indoor air and ambient air concurrently. Phase 1 sampling consists of the collection of indoor air samples and samples of the vapor within the SSDS collection system in each building.

Indoor air samples should be collected first, over an 8-hour or 24-hour period, depending on Site access and coordination with the building tenants in accordance with the procedures shown in **Section 3.4.5**. For the purposes of estimating the scope of work, a minimum of five indoor air samples are proposed for each building, however the actual number of samples could be greater or less depending on a building assessment to be conducted by the contractor prior to collecting the indoor air samples following the procedures in **Section 3.4.4**. For the PHA, Home Depot and BJs buildings, two samples will be collected in large open areas of the building, with an additional three samples to be collected in bathrooms and other enclosed areas.

As soon as possible following the completion of indoor air samples, vapor samples will be collected from the vapor in the SSDS collection system within each building following the protocol discussed in **Section 3.4.3**. For the purposes of estimating the scope of work, two samples have been proposed from the SSDS piping, however the actual number of samples will depend on a field assessment and review of engineering drawings to better understand how the piping is connected. This assessment will be conducted by the contractor prior to collecting samples. The sub-slab samples from the SSDS piping will be screened against Non-residential SSS sub-slab screening values (SV_{SS}). Indoor and ambient air samples will be compared to the Non-residential SSS indoor air screening values (SV_{IA}).

The SSDS in each building will be considered to be effective if the analytical results of the indoor air samples are below the Non-residential SSS (SV_{IA}). If COCs are found in the indoor air at concentrations exceeding the Non-residential SSS SV_{IA}, then human health risk assessment calculations will be conducted to evaluate potential risk to building occupants. If calculated risks are greater than the applicable PADEP human health protection goals, then additional investigative activities will be conducted to evaluate the cause. Smoke testing or tracer gas testing or additional indoor air or sub-slab samples may be utilized to pinpoint issues with SSDS piping and provide recommendations for modifications design and construction of retrofits to the SSDS will be implemented. One potential action will be to add fans to the existing SSDS risers to convert the system to an active SSDS.

3.1.2 Group 2 Buildings (8, 11, 12, 13, 6, 9, 14, 30, VES, former Steen property, and PHA Gym)

Group 2 buildings are on properties that are located either overtop of the current (or historical) extent of the LNAPL plume or are within the 30 feet proximity distance to the current (or historical) extent of the LNAPL plume. No VI mitigation controls are present in these buildings. The result of the previously conducted assessment for these buildings documented in the VI Assessment Report (Arcadis 2020) concluded:

- Numerous VI pathways exist in the former DSCP facility buildings which underlie including gaps in foundations, open sumps, and drains.
- Preferential pathways on the former DSCP facility include sewers, but also include tunnels for steam, fuel oil and other utilities crossing much of the Site. These preferential pathways may be complete VI pathways for the newer buildings on Site.
- Exterior assessments of buildings without access were conducted and found similar potentials for complete VI preferential pathways.

The VI Sampling strategy for the Group 2 buildings is intended to be more aggressive than the other groups of buildings because of their location over the current (or historical) extent of the LNAPL plume and due to the potentially complete VI pathways found during the assessment phase. Because the VI sampling strategy is catered to each individual building based on the assessments, the type and location of samples proposed for each individual Group 2 building varies. **Table 1** should be referenced for the type and number of samples proposed for each Group 2 building.

The overall strategy for the Group 2 buildings involves sampling sub-slab vapor wherever possible and collecting samples of potential external preferential pathways found during the assessment phase such as samples collected from conduits and utility pipe bedding. Indoor air and ambient air samples will also be collected concurrently in Phase 1 in buildings where VOCs were found in field screening during the assessment phase and or in buildings where tenants have reported odor issues in the past (such as in the former DSCP facility Buildings 6, 9 and 12). Most of these buildings feature slab-on-grade construction; however, some of the former DSCP facility buildings have basements and tunnels connecting them. Building 9 in particular has a deep basement that may intersect the water table in sumps below elevator shafts, and it also has a floor that is constructed of 43-inches of reinforced concrete, both of these factors make sampling of sub-slab impractical in Building 9. Due to these challenges, Phase 1 sampling for Building 9 consists of exterior near source soil gas samples (e.g., exterior samples proximal to building walls), exterior preferential pathway samples from utility conduits or pipe bedding, and indoor air samples. Groundwater samples will also be collected from sumps where standing water is observed in these buildings.

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Some of these former DSCP facility buildings such as

Buildings 6, 9 and 13 have ventilation fans running in the basement or lowest floor of the building. These ventilation fans must be off when indoor air samples are collected. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

If COCs in the analytical results of the sub-slab soil gas, near source soil gas, conduit vapor, or pipe bedding preferential pathway samples are found to be in exceedance of the screening values, a site-specific risk assessment will be conducted for that building. If calculated health risks are greater than PADEP human health protection goals, or if COCs in indoor air are in exceedance of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

3.1.3 Group 3 Buildings (Aldi's, E/Jim's, Raddison, P. Agnes buildings, 15, Acme, SEPTA)

Group 3 buildings are all located on properties that are outside of the current (or historical) LNAPL plume but have adjacent wells with LNAPL, limited available data, or where groundwater COCs are above the groundwater screening values SV_{GW}. There are no known VI mitigation controls present in these buildings. The assessment phase found varying construction methods for these buildings, potential preferential pathways in the form of sewer and other utility penetrations leading to the buildings, but no known complete VI pathways. Because the VI Sampling strategy is catered to each individual building based on the assessments, **Table 1** should be referenced for the number, type and location of samples proposed for each individual Group 3 building.

The overall strategy for the Group 3 buildings involves sampling of exterior preferential pathways (in utility pipe bedding, and potential vapor conduits), and near source soil gas as part of the Phase 1 followed by preparation of a site-specific risk assessment. Preferential pathway samples along sewer connections will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. These preferential pathway samples will be conducted from where the pathway is nearest the LNAPL plume first, heading towards the building in question to confirm or screen out the utility in question as a complete VI pathway for individual buildings.

If the analytical results of Phase I sampling confirm an exceedance of the SV_{SS} in soil gas samples collected within the bedding material of nearby utilities and conduit vapor samples for a building in Group 3 then Phase 2 samples will be collected at that building involving the collection of sub-slab soil gas and indoor air samples. One exception to this strategy is that no sub-slab vapor pins will be installed buildings constructed with a vapor barrier such as the Aldi's on Oregon Avenue. In these cases, near source soil gas and preferential pathway samples will be collected in Phase 2. One exception to this sequence is that if an exceedance of the SV_{SS} is detected within a vapor conduit sample directly adjacent to a building then Phase 3 indoor air sampling may be required.

If the analytical results of the sub-slab soil gas samples collected in Phase 2 indicate an exceedance of the SV_{SS} then Phase 3 indoor air samples will be collected. If the existence of a preferential pathway is not confirmed by

documentation and multiple lines of evidence in the assessment or from the results of Phase 1 sampling, then indoor air concentrations will be modelled based on the analytical results of the near source soil gas samples and groundwater data in adjacent wells data. No further action will be taken if calculated health risks are less than or equal to PADEP human health protection goals, otherwise, Phase 2 and 3 sub-slab soil gas and indoor air samples will be collected. If calculated health risks are greater than PADEP human health protection goals, or if COCs indoor air are in exceedance of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

3.1.4 Group 4 Buildings (E/Staples, I1, I2, H1, H2, H3, H4, H5, F2, F3)

Group 4 buildings are all located on properties that are the outside of the current (or historical) LNAPL plume, with groundwater COCs are below the SV_{GW} but having the potential of preferential pathways from a historical utility search and building assessments documented in the VI Assessment Report (Arcadis, 2020). These Group 4 buildings will be evaluated, as appropriate, however the evaluation of pipe bedding and utility conduit preferential pathways within the Group 3 could potentially be used to screen individual Group 4 buildings out of the VI Sampling program if complete VI pathways are not confirmed. There are no known VI mitigation controls present in these the Group 4 buildings. The assessment phase found varying construction methods for these buildings, potential preferential pathways in the form of sewer and other utility corridors leading to the buildings, but no complete VI pathways were identified. Because the VI Sampling strategy is catered to each individual building based on the assessments, **Table 1** should be referenced for the number, type and location of samples proposed for each individual Group 4 building.

The Phase 1 investigation of the Group 4 buildings consists of sampling exterior preferential pathways (in utility pipe bedding, and potential vapor conduits) moving from the LNAPL plume out, to evaluate if any of the current (or former) utility corridors at the Site may create a complete preferential pathway for VI to each individual Group 4

building. If COCs are detected at concentrations in excess of the SV_{SS} in the bedding material or utility conduit vapors for any Group 4 building, then Phase 2 will commence consisting of sub-slab soil gas samples in that building. If the analytical results of the sub-slab samples indicate COCs in excess of the SV_{SS} then Phase 3 sampling will commence consisting of indoor air and ambient air samples. One exception to this sequence is that if an exceedance of the SV_{SS} is detected within a vapor conduit sample directly adjacent to a building then Phase 3 indoor air sampling may be required.

If the existence of a preferential pathway is not confirmed by documentation and multiple lines of evidence in the assessment or from the results of Phase 1 sampling, then indoor air concentrations will be modelled based on the analytical results of the closest near source soil gas samples and groundwater data in adjacent wells data. No further action will be taken if calculated health risks are less than or equal to PADEP human health protection goals, otherwise, Phase 2 sub-slab soil gas and Phase 3 indoor air samples will be collected. If calculated health risks are greater than PADEP human health protection goals, or if COCs indoor air are in exceedance of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

3.1.5 Group 5 Buildings (R, B, C, D, A)

Group 5 buildings are all located on properties that are the farthest outside of the current (or historical) LNAPL plume, groundwater COCs are below the SV_{GW} but the potential for preferential pathways must be evaluated. Individual buildings within Group 5 buildings could potentially be screened out of the VI Sampling program if the potential for preferential pathways along Site utilities are not confirmed as part of Group 3 or 4 building sampling closer to the LNAPL plume.

There are no VI mitigation controls are present in these buildings. The assessment phase found varying construction methods for these buildings, potential preferential pathways in the form of sewer and other utility corridors leading to the buildings, but no known complete VI pathways. Because the VI Sampling strategy is catered to each individual

building based on the assessments, **Table 1** should be referenced for the number, type and location of samples proposed for each individual Group 5 building.

There are no samples proposed for Phase 1 investigation of the Group 5 buildings as the preferential pathway sampling for Group 3 and 4 buildings could eliminate the need to sample individual Group 5 buildings. Phase 2 sampling involves sampling exterior preferential pathways such as vapor samples collected from conduits and utility pipe bedding moving from the LNAPL plume out to evaluate if any of the current or former utility corridors at the Site may create a complete preferential pathway to each individual Group 5 building. Near source soil gas samples will also be collected as part of Phase 2 to allow modelling of indoor air concentrations. If COCs are detected at concentration in excess of the SV_{SS} in the bedding material or utility conduit vapors for any Group 5 building, then sub-slab soil gas and indoor air samples will also be collected at that building. If the analytical results of the sub-slab soil gas samples indicate COCs in excess of the SV_{SS} then Phase 3 sampling will commence consisting of indoor air and ambient air samples. One exception to this sequence is that if an exceedance of the SV_{SS} is detected within a vapor conduit sample directly adjacent to a building then Phase 3 indoor air sampling may be required.

If the existence of a preferential pathway is not confirmed by documentation and multiple lines of evidence in the assessment or from the results of Phase 2 sampling, then indoor air concentrations will be modelled based on the analytical results of the closest near source soil gas samples and groundwater data in adjacent wells data. No further action will be taken if calculated health risks are less than or equal to PADEP human health protection goals, otherwise, Phase 2 sub-slab soil gas and Phase 3 indoor air samples will be collected. If calculated health risks are greater than PADEP human health protection goals, or if COCs indoor air are in excess of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

3.1.6 Vacant Lots 3, M, L and S

There are no structures on the parcels identified as vacant lots at DSCP. For this reason, the VI pathway will be managed utilizing institutional controls in place of sampling. Environmental covenants will be filed for each of the

parcels with vacant lots requiring active SSDS (or vapor barriers with passive SSDS) for any new construction on the Site.

3.2 Residential Sampling Approach

As discussed above, the VI Sampling approach for residential properties is specific to the Siena Place townhomes and may only be necessary if preferential pathways are found as discussed in the sewer subsurface utility corridor investigation in (**Section 3.3**). If concentrations of site COCs are found to be in excess of Residential SHS (SV_{SS}) in the pipe bedding vapor samples or within the conduit vapor samples then the VI Sampling Plan for residences adjacent to the utility corridors will commence. The subsurface utility corridor evaluation will be used to decide the specific town homes or units of town homes to be included as discussed in **Section 3.3**.

The VI Sampling Plan for each town home includes a home assessment consisting of a building survey with a chemical inventory, assessment of vapor entry points, and other relevant details using the procedures in **Section 3.4.4** followed by indoor air sampling and ambient (i.e., outdoor) air sampling at each unit deemed necessary. Two indoor air samples will be collected from each townhome. One indoor air sample will be collected from a centralized area within the crawlspace of each townhome, and one indoor air sample will be collected from the first floor living space of each townhome. One ambient air sample will also be collected per sampling event to evaluate background conditions. If possible, ambient air samples will be collected upgradient (i.e., upwind) of sampled buildings. As such, ambient air sampling locations will be selected at the time of sampling and will depend on local conditions on the day of sampling. Weather conditions will be documented at the time of sampling. Automobile traffic and other potential sources will be avoided to the extent possible. Indoor air samples and the simultaneous ambient air sample will be collected over a 24-hour period in accordance with the protocol presented in **Section 3.4.5**. A list of the proposed samples and sampling locations per residence is provided in **Table 2**.

During the confirmatory sampling, two indoor air samples will be collected at each townhome from the same locations used during the initial sampling. One ambient air sample will be collected per sampling event to evaluate background conditions. Because ambient air sampling locations will be selected in the field at the time of sampling and will be collected upgradient of sampled buildings to the extent possible, ambient air sampling locations may differ from those used during the initial sampling. The analytical results of the indoor air samples will be compared to the SV_{IA} and ambient air analytical results.

If the analytical results of the indoor air samples are in exceedance of the SV_{IA}, and calculated health risks are greater than the PADEP human health protection goals, then an active vapor mitigation system (such as SSDS) will be designed and installed for that town home. Sub-slab differential pressure as well as well as confirmatory indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

3.3 Subsurface Utility Corridor – Pollock-Packer Combined Sewer Sampling Approach

The Pollock-Packer Combined Sewer bisects the Site with portions of the sewer in contact with LNAPL and elevated concentrations of Site COCs. As discussed in the VI Assessment report (Arcadis 2020) the Sewer invert elevation

is below that of the average water table onsite, and its alignment cuts through a naturally occurring silt layer present onsite above the water table. It is believed that this silt layer helps, to some degree, mitigate VI concerns over the LNAPL plume. Past investigative and remedial activities onsite also observed that LNAPL is present in the smear zone in contact with the Sewer, and LNAPL has been observed at time to leach into the Sewer. To control the presence of VOC vapors inside of the Sewer the former refinery operates a sewer venting system. One of the objectives of the VI Sampling Plan for the Sewer is to evaluate vapor concentrations within the Sewer and to evaluate the effectiveness of the sewer venting system with respect to potential Site receptors.

During the development activities at Siena place, two new sewer laterals were installed and backfilled in bedding material generally consisting of coarse sands. These new sewer laterals connect the Siena Place neighborhood to the existing Pollock-Packer Combined Sewer, creating potentially complete VI preferential pathways (in both pipe bedding as well as inside the sewer conduits themselves) for the homes connected to these sewer laterals. The potential for VI preferential pathways to the Siena Place townhomes from sanitary sewer connections will be evaluated separately as part of this VI Sampling Plan for the Sewer.

3.3.1 Sewer Conduit Vapor Sampling Approach

During the initial sampling, Sewer conduit vapor sample will be collected at manholes located on the East of the Site on Pollock, Moyamensing and 19th Streets, and on Site at the PHA property, Siena Place and the former Steen Property. Ambient air samples will also be collected for comparison at selected locations. **Table 3** presents a list of the proposed manhole locations where Sewer conduit vapor samplings will be collected, and the total number of Sewer samples and ambient air samples proposed per event. The location of each manhole is shown on **Figure 6**. Sewer conduit vapor samples will be collected according to the procedure described in **Section 3.4.8**. Sample timing will be coordinated to occur on the same day as samples are collected from the sewer venting system on the former refinery by its operator. Samples of sewer conduit vapor must be conducted between the hours of 9AM and 3PM and may not be conducted within 48 hours following a rainfall event.

Ambient (i.e., outdoor) air samples will also be collected per sampling event at the locations proposed on **Table 3** to evaluate background conditions. If possible, ambient air samples will be collected upgradient (i.e., upwind) of sampled manholes. As such, ambient air sampling locations will be selected in the field at the time of sampling and will depend on local conditions on the day of sampling. Automobile traffic and other potential sources will be avoided to the extent possible. Prior to sample collection, for safety considerations, field instruments (a photoionization detector [PID] and a landfill gas meter) will be used to screen and record field data on total VOCs in air, methane, the presence of explosive concentrations of flammable gas reported as lower explosive limit, oxygen and hydrogen sulfide concentrations at each manhole.

A second round of samples will be collected greater than 45 days apart from the same locations used during the initial sampling. One ambient air sample will also be collected at the same manholes per sampling event to evaluate background conditions. Because ambient air sampling locations will be chosen in the field at the time of sampling and will be collected upgradient of sampled manholes to the extent possible, ambient air sampling locations may differ from those used during the initial sampling.

The analytical results of the sewer conduit vapor samples will be utilized to assess the concentration of Site COCs in the sewer. The samples from individual manholes will also be compared to the other locations, including but not limited to, samples collected by the operator of the sewer venting system located on the former refinery to evaluate the approximate area where VI into the sewer is greatest, and to confirm that the sewer venting system is capturing

this VOC vapor (i.e. vapor concentrations should decrease as you move away from the former refinery and its venting system). Samples collected along 19th street are included as "upgradient" sample locations.

3.3.2 Sewer Lateral Pipe Bedding and Conduit Vapor Sampling

Since the location of all Sewer connection points are not known, a document review of Siena Place As-Builts will be completed by the contractor along with a site assessment using a private utility locating service (in addition to PA One Call) to locate the sanitary sewer laterals that connect the Siena Place Homes on Roma Drive to the Sewer and the storm sewer collection overflow connection points to the Sewer. Preferential pathway samples (soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes) will then be collected along sanitary sewer connection laterals as proposed in **Table 3** in the locations proposed on **Figure 8**. The contractor will field adjust the sample locations as necessary to prevent utility strikes and to meet the intent of this VI Sampling Plan

Pipe bedding vapor samples along the sewer laterals will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected from manholes or cleanouts in accordance with the procedures in **Section 3.4.8.** If COCs are detected at concentrations in excess of the sub-slab soil gas screening values SV_{SS} at any lateral, then the residential VI sampling discussed above in **Section 3.2** will commence at the residences connected by or adjacent to the preferential pathway.

3.4 Field Methods

3.4.1 Sub-Slab Soil Gas Sampling Probe Installation

Permanent sub-slab soil gas sampling points will be installed where indicated in this VI Sampling Plan. Sampling points will be placed at least 5 feet from the perimeter foundation walls in accordance with the TGM (PADEP 2021). Shallow sub-slab vapor probes (Vapor Pins®) will be installed in the basement floor and in locations where the main floor is slab-on-grade construction. The Vapor Pins® will be installed in the proposed locations shown on **Figures 3A through 5B**. The location of sub-slab soil gas sampling points will be field verified and moved as necessary so as not to interfere with utilities, footers, or floor drains. The locations may also be modified based on access requirements, clearance issues, or input from property owners or occupants. The Vapor Pin® consists of a press-fitted stainless-steel barb fitting installed into a silicone liner through a 5/8" hole drilled through the concrete floor. The finished installation is recessed into a 1 ½" hole and includes a sealed stainless-steel cover to prevent damage and vapor intrusion. A detail showing a typical Vapor Pin® is included as **Figure 9**. Installation of the sub-slab vapor probes will involve the following:

- The Respirable Silica Exposure Plan will be implemented as prescribed in the Accident Prevention Plan and activity hazard analyses (AHAs) for this work discussed in **Section 3.8**.
- The Vapor Pins® will be installed with a hammer drill in accordance with the Technical Guidance Instruction (TGI) for Sub-Slab Soil Gas Sampling Point Installation Using Vapor Pin® Approach (included in **Attachment B**).

- Each sampling point will be screened with a PID and the landfill gas meter during installation of the Vapor Pin® to ensure there is no exposure to VOCs and methane or lower explosive limit to ensure safety of personnel.
- Following installation, at least 24 hours will elapse before any Vapor Pin® is used for sampling.
- Additional details pertaining to the installation of the Vapor Pins® are presented in the manufacturer's standard operating procedures also included in **Attachment B**.

3.4.2 Sub-Slab Soil Gas Sampling

Sub-slab soil gas sampling will be conducted in accordance with the PADEP TGM, (2021) and the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using Whole Air Canisters Analyzed via USEPA Method TO-15 PADEP Short-list for Petroleum Hydrocarbons (PHC) only provided in **Appendix C**. Sub-slab soil gas samples will be collected from the permanent sub-slab soil vapor sampling points Vapor Pins® described above. A list of the proposed sample numbers and locations per building are presented in **Table 1**.

Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. One sub-slab soil gas field duplicate sample will be collected per sampling event. A helium tracer gas will be used as a quality assurance/quality control (QA/QC) measure to verify the integrity of the exterior access port and to confirm the absence of ambient air infiltration into the port. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021), and consistent with the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using Whole Air Canisters Analyzed via USEPA Method TO-15 (**Appendix B**).

3.4.3 Sub-Slab Soil Gas Sampling Using SSDS Collection Piping

Sub-slab soil gas sampling utilizing the SSDS collection piping will be conducted in buildings that have vapor barriers and passive SSDS systems installed in order to obtain sub-slab vapor without damaging the integrity of the vapor barrier. These samples will be conducted in accordance with the PADEP TGM, (2021) and the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using SSDS Piping provided in **Appendix B**.

This VI Sampling Plan proposed that sub-slab soil gas samples will be collected from two of the SSDS vapor collection system risers on each building via the exterior access ports located on the outside of each building. However, the contractor must evaluate the engineering drawings and conduct a building assessment to understand how the SSDS piping is connected to the risers. More samples may be required if the risers are independent and not interconnected to the rest of the system. A list of the proposed number samples, sample collection methods, and analyses are presented in **Table 1**. Two weeks prior to the collection of samples, the SSDS collection pipe to be sampled will be isolated by closing the valve to the riser pipe. This is necessary for to allow time for sub-slab vapor to accumulate in the piping without being removed or diluted by atmospheric pressure differences from the open riser pipe. If there is no isolation valve on the piping, the contractor will need to install a valve. Sample ports will be installed at the same time, if necessary, if not already in place on the SSDS collection piping below the isolation valve. Sub-slab soil gas sampling will be conducted immediately following completion of indoor air sample collection in the same building, but at least 2 weeks after the SSDS riser is isolated. Tubing will be purged, then Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. One sub-slab soil gas field duplicate sample will be collected per sampling event.

A helium tracer gas will be used as a QA/QC measure to verify the integrity of the exterior access port and to confirm the absence of ambient air infiltration into the port. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021), and consistent with the TGI for Sub-Slab Soil Vapor Sampling Using SSDS Piping included in (**Appendix B**).

3.4.4 Building Survey Prior to Indoor Air Sampling

Field personnel will conduct a building survey of each building prior to initial and confirmatory sampling in accordance with the PADEP TGM (2021) and the Arcadis TGI for Building Surveying Prior to Vapor Intrusion Indoor Air Sampling (**Appendix C**). Results of the survey will be documented on the Indoor Air Building Survey Form (**Appendix C**). The building surveys will be used to gather additional information on building construction and layout; potential future occupancy/usage patterns; heating, ventilation, and air conditioning system settings; potential presence of indoor background sources; and to select indoor air sampling locations. A PID will also be used to field screen to check for potential sources of VOCs. It is anticipated that the residences or buildings will be occupied during each building survey and sampling event. For this reason, the access for the sampling work must be coordinated with the owners/occupiers of each residence and building. A fact sheet and instructions for the owner/occupier of the residence/building will be provided to educate them on the purpose of the sample and what is needed from them to ensure an accurate sample is collected. These fact sheets and instructions are included in **Appendix C**.

Prior to completing building surveys at industrial buildings, the contractor will request safety data sheets (SDSs) from the owner/occupiers for all chemical products used during building cleaning and normal activities. The contractor will also obtain SDSs from the internet for any additional chemical products identified during the building surveys. The SDSs will be reviewed to identify potential background sources of VOCs detected in samples and present due to activities within the buildings. The contractor will also request that potential indoor background sources (i.e., chemicals being used and stored for cleaning or other activities) are removed as possible prior to indoor air sampling.

3.4.5 Indoor Air and Ambient Air Sampling

Indoor air and ambient air samples will be collected in accordance with the PADEP TGM (2021) and the Arcadis TGI for Indoor or Ambient Air Sampling and Analysis via USEPA Method TO-15 provided in **Appendix C**. A list of the number of proposed samples, sample collection methods, and analyses are presented in **Table 1** for the commercial/industrial buildings and in **Table 2** for the residential properties.

Ambient air samples will be collected concurrently with indoor air samples. Indoor and ambient air samples will be supported or suspended at a height of approximately 3 to 5 feet above the ground surface, at approximate breathing zone height. Ambient air samples will be secured to permanent structures. Indoor and ambient air samples in residential properties will be collected over a 24-hour sampling period using 6-liter stainless steel canisters and flow controllers provided by the laboratory. In the commercial/industrial buildings, samples may be collected over an 8-hour period if access allows.

One field duplicate indoor air sample will be collected per sampling event at a minimum ratio of 1 field duplicate for every 20 samples collected.

Both the initial and confirmatory indoor air sampling will be targeted during the heating season when heating, ventilation, and air conditioning is operational (i.e., set to typical operating conditions), when there is at least a 15-degree Fahrenheit temperature difference between the interior and exterior, and at least 45 days apart. Doors and windows will need to remain closed for the duration of the sampling event if possible.

3.4.6 Near Source Soil Vapor Sampling

Near-source soil vapor sampling is selected for locations where access is not available, where sub-slab soil vapor sampling is not possible, and/or to supplement other sampling methodologies to assist with modeling of potential indoor air concentrations utilizing an attenuation factor. Direct push drill rig will be used to advance the soil vapor probes. These and all other temporary soil gas probes needed should utilize a Geoprobe® Permanent Soil Vapor Probe Implant (or similar expendable tip soil gas implant) to allow the direct push rig to install the probe then move to another point. This will also allow the soil vapor monitoring point to be utilized again for the confirmatory samples after 45 days without needing to mobilize the drill rig again. The soil vapor probe should be installed in accordance with the Geoprobe® Permanent Soil Vapor Probe Implant operation guide utilizing ¼" or larger OD stainless steel or Teflon™ tubing. The point is constructed using glass beads placed down around the implant, the 16-mesh bentonite mix to the surface. The surface completion for all points installed in right of ways or other public areas should be protected using a 4-inch flush-mount access point with a bolted cover set in concrete. The soil gas probes will be installed within the vadose zone, no less than 5 feet below ground surface and targeting a location within 1 foot of the anticipated top of capillary fringe in accordance with the PADEP TGM (2021). The capillary fringe is expected to vary and may be between 0.5 foot (for porous fill like sand) and 2 – 5 feet (for silt loam) above the water table. After installation, the near-source soil gas sampling point will be allowed to equilibrate for a minimum of 24 hours before sample collection. Sampling will not be conducted within 48-hours of a precipitation event of ½ inch or greater. A list of sample numbers and locations for the commercial/industrial buildings are presented in **Table 1**.

Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. One near source soil vapor field duplicate sample will be collected per sampling event. A helium tracer gas will be used as a QA/QC measure to verify the integrity of the connection to the soil gas probe and to confirm the absence of ambient air infiltration. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021). After completion of all rounds of sampling, the soil vapor probe will be abandoned in place by grouting up the tubing as much as possible, cutting off the tubing below grade, remove the access cover then backfilling the access point with concrete to restore the surface to a flush appearance.

3.4.7 Utility/Pipe Bedding Vapor Preferential Pathway Sampling

Sampling of soil vapor in utility pipe bedding is proposed to evaluate if any utilities with permeable, non-native soil, bedding material may be acting as a vapor preferential pathway from the source area to a building. A utility location service will be utilized to locate sewer laterals and other preferential pathways being evaluated. Soil gas samples will be collected from within the utility bedding material if the bedding material is assessed in the field to be permeable and not native soil. The proposed sampling locations (shown on **Figures 3A through 5B**) are located along potential utility corridors. These potential preferential pathways along utility corridors will be evaluated beginning where it intersects or is closest to the LNAPL plume working outward to buildings with potential receptors. If the evaluation indicates that there are no vapor concerns in the utility corridor then additional samples farther

from the source are not required. Likewise, if it the evaluation indicates that there is no VI pathway from that utility corridor at the first building then additional buildings along the same utility corridor farther from the LNAPL plume will not be evaluated. If there are vapor concerns at the first building along a utility corridor, additional utility/pipe bedding vapor samples will be conducted if they continue to buildings farther from the source.

Collection of samples from shallow bedding material (up 5 feet below grade) will be conducted by hand auguring. If the area is unpaved, samples will be collected from at least five feet below ground surface. If the area is paved, surface asphalt/concrete will be saw cut and the samples will be collected at least 1 foot below the asphalt or concrete layer via hand auger. Collection of samples from the bedding material of deeper utilities (such as sewer laterals) will be collected by direct push rig. The contractor must exercise extreme care in these cases to avoid utility strikes. It is anticipated that the driller and a private utility locator will work closely so that a soil vapor probe can be advanced close to the utility corridor without striking it. In addition to utility location services, soft dig technology such as an air-knife or high vacuum will also be used to locate the sewer or other utility conduits. The direct push drill rig will then be utilized to install the sample probe directly adjacent to the air knife location along the utility, in undisturbed soil. Ideally, soil vapor probes would be placed below the sewer in pipe bedding material if not submerged. However, the contractor should attempt to at a minimum install the vapor probes in the pipe bedding material adjacent to the sewer. The AHA for intrusive soil drilling included in **Appendix D** requires that three lines of evidence (preferably as-builts, utility location scan and site owner knowledge) to clear locations before work begins.

These and all other temporary soil gas probes needed should utilize a Geoprobe® Permanent Soil Vapor Probe Implant (or similar expendable tip soil gas implant) to allow the direct push rig to install the probe then move to another point. This will also allow the soil vapor monitoring point to be utilized again for the confirmatory samples after 45 days without needing to mobilize the drill rig again. The soil vapor probe should be installed in accordance with the Geoprobe® Permanent Soil Vapor Probe Implant operation guide utilizing ¼" or larger OD stainless steel or Teflon™ tubing. The point is constructed using glass beads placed down around the implant, the 16-mesh bentonite mix to the surface. The surface completion for all points installed in right of ways or other public areas should be protected using a 4-inch flush-mount access point with a bolted cover set in concrete. After installation, the soil gas sampling points will be allowed to equilibrate for a minimum of 24 hours before sample collection. A list of sample numbers and locations for the commercial/industrial buildings are presented in **Table 1**. Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. At least one field duplicate sample will be collected per sampling event at a ratio of one field duplicate for every 20 samples collected. A helium tracer gas will be used as a QA/QC measure to verify the integrity of the connection to the soil gas probe and to confirm the absence of ambient air infiltration. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021).

After completion of all rounds of sampling, the soil vapor probe will be abandoned in place by grouting up the tubing as much as possible, cutting off the tubing below grade, remove the access cover then backfilling the access point with concrete to restore the surface to a flush appearance.

3.4.8 Sewer Conduit Vapor Sampling

The Sewer conduit vapor samples will be conducted similar to the collection of indoor air samples, as such Arcadis TGI for Indoor or Ambient Air Sampling and Analysis via USEPA Method TO-15 provided in **Appendix B** may be followed for the collection of these samples, with the exceptions noted below:

As discussed above, an initial sample will be collected from the manholes listed on **Table 3** and a confirmatory sample will be conducted at the same locations at least 45 days after the initial sample. Ambient air samples will also be collected during both events as specified on **Table 3**.

To collect samples from large sewers such as manholes on the Pollock-Packer Combined Sewer or the two Siena Place laterals, the summa canister will be connected to a length of Teflon™ tubing allowed to hang into the sewer through the hole in the manhole cover. The end of the tubing should be suspended at a height of approximately 1 foot above bottom invert of the sewer, or if water is present, 1-foot above the surface of the water. An interface probe may be utilized to measure the total depth of the sewer and the depth of water below the manhole cover in order to calculate the appropriate length of tubing to achieve the desired location of the sample. The tubing should be looped to help control moisture entrainment, and low-VOC clay should be used to seal the holes on the manhole cover around the tubing, and other holes noted during sample setup.

Samples collected from sewer cleanouts and other smaller conduits will be collected by using a Teflon™ cover or seal to connect tubing directly to the cleanout or conduit. Conduits smaller than 1.5 inches can be sampled by inserting the Teflon™ tube into the conduit and sealing around the tubing with low-VOC clay.

Ambient air samples will be secured to permanent structures near the sewer sample location. Ambient air samples will be collected over a 30-minute sampling period using 6-liter stainless steel canisters and flow controllers provided by the laboratory. Sewer conduit vapor samples may be collected as a grab sample using either a 1-liter or 6-liter stainless steel canister utilizing a 15-minute sample period using flow controllers provided by the laboratory. Samples of sewer conduit vapor must be conducted between the hours of 9AM and 3PM and may not be conducted within 48 hours following a rainfall event.

At least one field duplicate sample will be collected per sampling event at a ratio of one field duplicate for every 20 samples collected. At least one upgradient and downgradient samples should be collected when evaluating sewer laterals.

3.5 Analytical Methods and Data Quality Objectives

Soil gas, indoor air, and ambient air samples will be submitted under chain-of-custody procedures to Eurofins Air-Toxics, LLC., located at 180 Blue Ravine Road, Folsom, California 95630 or other Pennsylvania Registered and National Environmental Laboratory Accreditation Program (NELAP) certified laboratory. Samples will be analyzed via USEPA Method TO-15. Indoor air samples may be analyzed for a subset of analytes via USEPA Method TO-15 using select ion monitoring to achieve reporting and/or method detection limits less than or equal to screening values presented in the TGM (PADEP, 2021). The subset of analytes will include at a minimum the PADEP Petroleum Hydrocarbon short list of analytes (specific to gasoline, aviation gas, and jet fuel including methyl tert butyl ether, hexane and cyclohexane). Samples will be analyzed under a standard turnaround time of approximately 15 days, unless a shorter turnaround time is requested by the contractor due to scheduling issues. Laboratory reporting limits will achieve the applicable detection limits necessary to meet the PADEP residential SSS screening values for TO-15 analysis for PADEP Short-list Petroleum Hydrocarbons. The current PADEP screening values are presented in **Appendix E** for sub-slab soil gas, near source soil gas, and indoor air samples.

For all types of vapor samples included in this VI Sampling Plan, one field duplicate sample will be collected per sampling event at a ratio of one field duplicate for every 20 samples collected. Samples should be labeled according to the building ID naming convention used in this VI Sampling Plan, or sewer/lateral manhole ID, or

residential address first. Then the type of sample (i.e., sub-slab, indoor air, etc.) followed by the sequential number and date. All sampling containers and flow meters will be provided by the laboratory. Prior to sample collection, sample containers will be clearly labeled with the sample identification, date of collection, and analysis to be performed. The vacuum pressure gauge will be checked against the laboratory provided list of vacuum pressures for each canister to ensure that no leaks developed during shipping. Additionally, the starting and ending vacuum pressure for each canister must be recorded before and after completion of each sample. It is best practice to leave some vacuum pressure in each canister at the completion of sampling (ideally in the range of 3 to 5 in Hg), so that the analytical laboratory can confirm that no leaks developed during the return shipping.

Once filled, sampling containers will be immediately transferred to laboratory provided shipping containers and then returned to the laboratory via Federal Express under chain of custody protocol. Preparation of chain-of-custody forms, sampling handling, packaging, and shipping will be conducted in accordance with Arcadis TGM.

A helium tracer gas will be used as a QA/QC for all sub-slab and soil vapor samples as a measure to verify the integrity of the exterior access port, or the connection to the soil gas probe, and to confirm the absence of ambient air infiltration into the port. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021), and consistent with the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using Whole Air Canisters Analyzed via USEPA Method TO-15 (**Appendix B**).

All field equipment used for vapor screening will be calibrated at the start of each day in accordance with equipment manufacturer guidelines with calibration checks being conducted mid-day and at the conclusion of the sampling event and will be documented accordingly. The equipment will be recalibrated if calibration checks fall outside of equipment manufacturer guidelines.

3.6 Data Evaluation and Reporting

Sub-slab vapor and/or indoor air samples collected during initial and confirmatory sampling events will be compared to SSS PADEP VI screening values for non-residential land use for the commercial/industrial buildings, and residential land use for the residential properties and potential preferential pathways leading to residential properties. Analytical results for sub-slab soil gas samples, sewer conduit vapor and pipe bedding vapor samples will be compared to the SV_{SS}, analytical results for indoor air samples will be compared to SV_{IA}, and analytical results for near source soil vapor samples will be compared to SV_{NS}.

The results of the initial sampling, including sub-slab soil gas, sewer conduit and pipe bedding vapor, indoor air, ambient air, and near source soil vapor analytical results; building survey information; historical soil and groundwater results; and any other applicable information, will be reviewed to evaluate whether the VI pathway is potentially complete in each building. Assuming no preferential pathways are identified, sub-slab soil gas results for site-related COCs must be greater than the SV_{SS}, and indoor air results for site-related COCs must be greater than the SV_{IA} and ambient air results for the VI pathway to be complete. If preferential pathways are identified (such as in sewer conduit vapor or pipe bedding vapor), pathway media results for site-related COCs must be greater than screening values (e.g., SV_{SS}), and indoor air results for site-related COCs must be greater than the SV_{IA} and ambient air results for the preferential pathway to be complete. If indoor air results for site-related COCs are less than the SV_{IA}, then the VI pathway is incomplete and/or not impacting indoor air quality.

The results of the confirmatory sampling, including indoor air and ambient air analytical results; building survey information; and any other applicable information, will be reviewed to evaluate whether the SSDS is operating as designed (if applicable) or if indoor air concentrations of site-related COCs are within PADEP human health protection goals. If indoor air results for site-related COCs are greater than SV_{IA} (residential for residential properties, non-residential otherwise) and ambient air results, then human health risk calculations may be conducted. The analytical results of 8-hour indoor air samples in commercial/industrial buildings may be compared to Occupational Safety and Health Administration (OSHA) permissible exposure limits in place of the SV_{IA}, specifically in locations where site COCs are used, stored, or handled.

Initial and confirmatory sampling methods and results will be summarized in an Addendum to the Remedial Investigation Report / Cleanup Plan for the Site, which will be submitted to PADEP following completion of other this VI Sampling scope of work as well as other site investigative activities required by PADEP.

3.7 Schedule

Phase 1 sampling of the industrial/commercial buildings is anticipated to commence within 30 days following USACE issuance of a Task Order to the contractor but dependent on weather conditions as best practice indicates that soil vapor samples and sewer conduit samples should not be sampled for 48 hours following a rainfall of greater than 0.5-inch. A tentative schedule is as follows:

- Summer 2023:
  - Provide notifications and secure access to properties
  - Phase 1 preferential pathway (pipe bedding vapor, conduit / utility corridor sampling), and near source soil vapor sampling
- Late Summer and Fall 2023:
  - Second round of preferential pathway (pipe bedding vapor, conduit / utility corridor sampling), and near source soil vapor sampling
  - Phase 1 and Phase 2 sub-slab soil vapor sampling
- Winter 2023 and Spring 2024:
  - Second round of sub-slab soil vapor sampling
  - Phase 1 and Phase 2 indoor air sampling during heating season

This proposed schedule is subject to modification due to field conditions, laboratory equipment (i.e., canister and flow controller availability, laboratory analytical equipment availability and reporting capabilities), laboratory certification of any COCs, access agreement delays, and other project-related scheduling constraints.

3.8 Health and Safety Considerations

During the field VI Assessment, field team members identified health and safety concerns for future intrusive work (i.e., vapor intrusion sampling), specifically, exposure to silica dust, asbestos containing materials (ACM) and lead

containing paint. When drilling through floor slabs in support of vapor intrusion evaluations, exposure to silica dust, ACM, and/or lead containing paint (if concrete floor slab is painted) must be considered. OSHA standards for silica dust (29 Code of Federal Regulations [CFR] 1926.1153), ACM (29 CFR 1926.1101), and lead paint (29 CFR 1926.62) exposure should be considered during project planning stages to ensure compliance. All materials other than bare concrete (e.g., all types of floor coverings including tiles, linoleum, glues, mastics, adhesives) should be considered as ACM unless testing proves otherwise. When potential ACM material is present, the first step should be avoiding disturbing this material altogether (i.e., move to another location nearby that has bare concrete). Precautions should be taken to mitigate exposure risks and ensure proper disposal of any cuttings/spoils and waste from our work. All drilling through concrete requires compliance with applicable OSHA standards. The exposure controls discussed below will ensure compliance with the OSHA silica, asbestos, and lead occupational exposure regulations.

3.8.1 No ACM is Present

Where no ACM is present, i.e., where there is bare or painted concrete, the following steps should be taken:

- A dust extractor and high efficiency particulate air (HEPA) vacuum meeting renovation, repair, and painting (RRP) requirements should be used to maintain compliance with OSHA silica dust exposure requirements of 29 CFR 1926.1153.
- If the concrete is painted, the contractor should assume that it is lead paint based on the age of the buildings being evaluated. The use of the dust extractor and HEPA vacuum meeting RRP requirements will maintain compliance with the OSHA lead dust exposure requirements of 29 CFR 1926.62.
- Use of wet methods to control generating airborne dust should be used at all times, especially when collecting and cleaning up drilling cuttings.

3.8.2 ACM may be Present

Where ACM may be present (any type of floor covering or mastic/adhesive/leveling compound), the following steps should be taken:

- Notification to building owner(s) and occupant(s) will be coordinated including obtaining permission to have potential ACM materials analyzed.
- A certified ACM inspector will be used to chip away a 1-inch diameter section of the material and have it analyzed by a qualified laboratory to determine if ACM is present.
- Sub-slab or other sample collection points may be installed by drilling into the section of concrete where the material has been removed from (but not beyond this 1-diameter area).
- This procedure must be followed for each location where ACM may be present.

3.8.3 Other Health and Safety Considerations

In addition to the procedures above, the 2020 VI Assessment in the Former DSCP facility buildings concluded that other hazards should be addressed by the contractor in the form of preparing an APP addendum with the appropriate AHAs prior to initiating work. The AHAs that must be developed for this work include but are not limited to:

- Mold
- Silica dust
- Lead paint
- ACM
- Management of rodents/mice
- VOCs and or methane in soil vapor

4 References

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PADEP. 2019. Land Recycling Program Technical Guidance Manual [TGM], Section IV – Vapor Intrusion, January.

PADEP. 2021. Land Recycling Program Technical Guidance Manual. Doc. No. 261-0300-101. March 26.

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Tables

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Phase 1 (two events > 45 days apart)						Phase 2 and 3 (if needed) - (each phase has two events > 45 days apart)						VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
												Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)			
1	BJ's	Yes - Vapor Barrier and Passive SSDS	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-15 DTW 19.24' DSCP-MW-3A DTW 19.44' (DTP 18.99') DSCP-MW-4A DTW 20.43' DSCP-RW-2 DTW 17.95' (DTP 17.02')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Janitor drains, bathroom drains 2)Large cooler. would assume floor drain. 3)Utility pipes going through slab 4)roof drains through slab	Yes- Cleaning products/solvents, Haz Waste	0	0	0	0	5	2	0	0	0	0	5	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Home Depot	Yes - Vapor Barrier and Passive SSDS	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-14 DTW 15.57' DSCP-MW-2B DTW 18.20' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-RW-8DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Drains in sprinkler room and utilities going through slab 2)Bathroom drains, janitor drains 3)Trench drains in retail space. 46' long 4)Few cracks in the slab. Some large ones in retail space 5)large floor drain in tool rental	Yes	0	0	0	0	5	2	0	0	0	0	5	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	PHA (and easement)	Yes - Vapor Barrier and Passive SSDS	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	PH-PH-16 DTW 16.68' PH-PH-17 DTW 15.75' (DTP 15.27') PH-PH-18 DTW 17.02' (DTP 16.05') PH-PH-19 DTW 17.03' PH-PH-20 DTW 18.29' (DTP 17.9') PH-PH-3 DTW 18.36' PH-RW-C DTW 18.95' (DTP 18.30') PH-RW-CA DTW 18.54' (DTP 17.46') PH-RW-D DTW 17.03' PH-RW-E-DTW 16.47' PH-RW -T DTW 17.00' PH-RW-U DTW 16.20'	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Bathroom drains 2)Utility closet drains 3)Floor Crack in the warehouse	Yes	0	0	0	0	5	2	0	0	0	0	5	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building J - Pet Smart	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Potential for Preferential Pathways	DSCP-MW-17-DTW 18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drain in bathroom and laundry room 2) Trench drain at salon kennel 3) Floor drain (tub) in janitor's room 4) Electrical lines going through ceiling in receiving	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building N - Spirit Halloween (vacant)	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms 2) Assumed floor drains in janitors closet	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building O - (vacant - may be part of Planet Fitness)	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms 2) Assumed floor drains in janitors closet	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building P - Planet Fitness (contains Novacare and H&R Block)	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Potential for Preferential Pathways	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in showers of locker rooms 2) Water line penetrates slab at west wall 3) Water line and fire suppression main penetrate slab at rear (west) wall	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
2	VES Building	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-65 DTW 18.86 (DTP 18.2') DSCP-RW-1A 15.98' (DTP 15.94')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	NA	Yes - Remediation System building with Class I Div II VES Room	2	1	1	1	2	0	0	0	0	0	0	0	Within current extent of LNAPL, Remediation system piping and equipment are potential preferential pathways and sources of indoor vapor concerns. Conduct near source, sub-slab, indoor air in office and control room, and evaluate preferential pathways.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and SS. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 6 (Bay A)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Crack in DMARK room bay A 2)Drains in mechanical room, bathrooms, locker rooms, janitor's room 3)Hole in sprinkler room through slab 4)Utility going through slabs 5)0.5" inch crack in slab	None identified	2	2	0	0	2	0	0	0	0	0	0	0	Over or within proximity to current and historical plume, Multiple utility penetrations into slab and foundation walls. Conduct sub-slab, near source and indoor air samples.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS, SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 6 (Bay B)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Large pipes penetrating through slab 2)Other various pipes in the bay penetrating through slab 3)Drains in the bathroom, and would assume in janitor's area	None identified	4	0	1	1	3	0	0	0	0	0	0	0	Over or within proximity to current and historical plume, Multiple utility penetrations into slab and foundation walls. Collect sub-slab samples, evaluate potential preferential pathways and collect indoor air samples.	SV_{SS} (sub-slab, preferential pathways), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
2	Building 6 (Bay C)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab. Some dirt floors	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	1)Refrigerant storage in old bathroom. Assume drains 2)Dirt floor in parts of building (0ppb) 3)Drains in boiler room 4)Pipes penetrating through slab where present 5)Large below grade vault. (0ppb) 6)Large floor drains with water at base. (0ppb) 7)Few cracks in the slab	1) 55-gallon drums. All marked but have caution stickers	2	0	0	0	2	0	0	0	0	0	0	0	Over or within proximity to current and historical plume. Collect sub-slab samples and collect indoor air samples.	SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 6 (Bay D&E)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Pipes going through floor 2)Floor drains in bathroom, and other parts of the building 3)Floor trench in mechanical room 4)Large manhole to mechanical room	None identified	4	0	1	1	2	0	0	0	0	0	0	0	Over or within proximity to current and historical plume, Multiple utility penetrations into slab and foundation walls. Collect sub-slab samples, evaluate potential preferential pathways and collect indoor air samples.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 8	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	No	No	Partial Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	1)Broken drains 2)sprinkler pumps going through slab 3)trench 7.5' below slab with piping 4) Workshop with gas powered vehicles (150 ppb & 2,500 ppb) 5)drains in bathroom. 6) Various spots where pipe goes through slab. 7)Elevator shafts	1)Chemical pails 2)large drums of tar in the building 3)Gas cans, and paint. 4)Gas powered vehicles	0	0	2	2	2	0	0	0	0	0	0	0	Multiple utility penetrations into slab and foundation walls, elevated PID readings at workshop (150 and 2,500 ppm)- one in workshop and one in pump room (near sump room). No SS - because basement appears submerged. Evaluate potential preferential pathways and collect indoor air samples. Collect GW samples from sumps if present.	SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Basement (Bay A)	No - only basement fans	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	1) Elevated PID readings around column 49K (north end of bldg). PID readings are different on opposing sides and can be correlated to cracks.(60 ppm) 2) Elevator shaft filled with water. Shaft goes deeper than foundation (59' deep). 3) Potential steam piping on north end 4) Gaps where pillars meet foundation 5) Fans operating in building. Background PID readings slowly increased when traveling further from fans. 6) When rollup doors are open, odors are less. When rollup doors are closed, PID measures 40-60ppb background. 7) Gap between buildings 9 and 13 at NE corner.	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Basement (Bay B)	No - only basement fans	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	1) Gaps where pillars meet foundation 2) Fans operating in building. Background PID readings slowly increased when traveling further from fans. 3) When rollup doors are open, odors are less. When rollup doors are closed, PID measures 40-60ppb background.	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay C	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	1) Numerous pipes in walls, likely penetrate slab 2) Separation of floor from wall at several locations but appear to have been resealed (0 ppb) 3) SE corner at B41, drain pipe penetrates slab (17ppb) 4) D38, two sprinkler penetrate slab, 38 ppb 5) Cracks in slab near D/E 40/41, 230 ppb (air), 670 ppb (ground) 6) At E39, floor drain at base of South ramp, 400 ppb	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay D	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	1) Numerous pipes/drains penetrating slab 2) Numerous cracks in slab	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay E	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	1) Numerous pipes/drains penetrating slab 2) Numerous cracks in slab	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay F	No - only basement fans	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	1) Slab is measured at 43.25" thick 2) Water and gas line penetration of slab at NW corner 3) Numerous drains through slab 4) Mold in some rooms	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.

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2	Building 11	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-53 DTW 14.64'	No	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No (?) - need to confirm basement has no dirt floors Partially finished basement	1) Drains in bathroom 2) 4" diameter open pipe penetrating wall in generator room 3) Numerous pipes penetrating slab 3) Drains in basement 4) Sump (PID 11 ppb)and floor drains in sump room	No	2	0	2	2	2	0	0	0	0	0	0	0	Building is situated within the historical extent of LNAPL, multiple utility penetrations into slab and foundation walls, elevated PID reading at sump. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 12	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-12 - DTW 15.29' DSCP-MW-13 - DTW 16.01 DSCP-MW-54 - DTW 15.65' DSCP-MW-59 - DTW 12.60' (product 12.57')	No	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Numerous pipes/drains penetrating slab and foundation walls 2) Numerous cracks in slab 3) One notable crack (1/4" at NW wall of wing NE1, PID 134 ppb) 4) Two drain pipes penetrate west wall of wing NE1, PID 102 ppb)	Yes	4	0	3	3	4	0	0	0	0	0	0	0	Building is situated on historical extent of LNAPL, LNAPL is observed in one nearby monitoring well (DSCP-MW-59), multiple utility penetrations into slab and foundation walls, elevated PID reading at two drain pipes that penetrate foundation wall. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 13	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-IW-13 DTW 17.28' DSCP-MW-11 DTW NM DSCP-MW-34 DTW-6.78' DSCP-MW-59 DTW 12.60' (DTP 12.57') SEPTA-SEPTAMW-4 DTW NM	No	Yes	Full Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	1)Floor drains at stair well (5.5ppm) 2)S Hall corner has a gap between boiling 9 and 13 (21.25 ppm) 3) Floor drains of SWMR (0ppb) 4)multiple floor drains in building 5)Drain in shower in locker-room (max 3.4ppm) 6)floor drain in locker room (12ppb) 7)Hatch in stair 9 lobby (max 25 ppm) 8)Shop 31 drain (18.5ppm)	Yes	6	0	3	3	4	0	0	0	0	0	0	0	Building is situated on historical extent of LNAPL, LNAPL is observed in one nearby monitoring well (DSCP-MW-59), multiple utility penetrations into slab and foundation walls, elevated PID readings at gap between buildings, one floor drain and hatch. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 14	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-IW-13 DTW 17.28' DSCP-MW-11 DTW NM DSCP-MW-13 DTW 16.01' DSCP-RW-9 DTW 14.53' (DTP 13.86')	No	Yes	Basement Full	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, sump	1)Multiple Floor drains-kitchen, bathroom, basement 2)Pipes going through floor 3)Pipes going through wall 4) Sump filled with water 5) Floor cracks in air handler room (center of bldg 14) 6) Water penetrating northwest building wall	Yes	4	0	2	2	2	0	0	0	0	0	0	0	Building is situated within proximity of current extent of LNAPL, multiple utility penetrations into slab and foundation walls. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 30	Unknown	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-30 DTW 17.84' (DTP 17.81') DSCP-MW-31 DTW 16.99' DSCP-MW 32 DTW 17.9' (DTP 16.1') DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-5 DTW 14.81' DSCP-MW-65 DTW 18.86' (DTP 18.20') DSCP-RW-8 DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)floor crack. 8' long 2)Drain pipe through slab 3)many floor cracks throughout the building 4)Holes in floor 5)small manhole with cracks along the seal 6)capped pipe that goes through slab 7)concrete trench 8)Floor drains. Bathroom, janitors closet,	None identified	4	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls. Conduct near source sampling, sub-slab sampling, potential preferential pathway evaluation, indoor air sampling.	SV_{SS} (sub-slab, preferential pathway), SV_{NS} (near source) SV_{IA} (indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Steen	Unknown	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	STEEN-IW-08 DTW 19.99' STEEN-IW-09 DTW 19.84' STEEN-MW-61 DTW 23.33' STEEN-MW-63 DTW NM STEEN-MW-64 DTW 21.47' STEEN-PH-11 DTW 20.18'	No	Yes		Unknown	Unknown			0	2	2	2	0	0	2	0	0	0	2	0	Building is situated on historical extent of LNAPL no current access. Conduct near source sampling, potential preferential pathway evaluation. Phase 2 sub-slab and indoor air sampling if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Secure access and collect Phase 2 SS and Phase 3 IA if risk is unacceptable. Document multiple lines of evidence if no access. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	PHA Gym	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	EPH-MW-50 DTW 14.06' EPH-MWS-11 DTW 13.22' PH-MW-40 DTW 12.24' PH-MW-41 DTW NM PH-MW-51 DTW 13.91' PH-PH-24 DTW NM	No	Yes	Slab	Unknown	Unknown	All details here are assumed 1)Bathroom drains 2)Utility closet drains 3)Floor Crack in the warehouse	Unknown	0	2	0	0	0	0	2	0	0	0	2	0	Building is situated on historical extent of LNAPL no current access. Conduct near source sampling, potential preferential pathway evaluation. Phase 2 sub-slab and indoor air sampling if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Secure access and collect Phase 2 SS and Phase 3 IA if risk is unacceptable. Document multiple lines of evidence if no access. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
3	Building 15	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	DSCP-MW-54 DTW 15.65'	No	No	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	1) Storm drains outside the building	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Conduct near source samples and potential preferential pathway evaluation. Phase 2 sub-slab and phase 3 indoor air sampling if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA in ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence and NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
3	Aldi's (Formerly Vacant Lot 2 during the Assessment Phase)	No - Building has a vapor barrier but no SSDS collection system	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	DSCP-MW-1 DTW 19.83' DSCP-MW-44A DTW 18.06'	No	No	NA	Yes, numerous utilities crossing the vacant lot	No	1) Storm drains 2) Unidentified monitoring well 3) Manhole and electrical vault along fenceline	Unknown - Building has a vapor barrier but no SSDS collection piping	0	2	2	2	0	0	0	0	0	0	2	0	Building constructed with vapor barrier only. Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), then collect Phase 2 IA. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.

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VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
3	Building E - Jim Enterprises	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data or above the SVGW	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	Building E - Liberty Camera Company	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data or above the SVGW	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	Building E - Leones Comp	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data or above the SVGW	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	P. Agnes (Moyamensing)	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MWS-5 DTW 12.26'	No	Yes	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	1) Storm drains outside the building 2) Gas line appears to enter building wall	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with GW > SV_{GW} and potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	ACME	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	DSCP-MW-53 DTW 14.64' DSCP-MW-12 DTW 15.29'	No	No	Unknown	Unknown	Unknown	1) Sewer 60' from SW Corner outside building 2)Assume drains in bathrooms and janitors closet. 3)Gas line observed approximately 10' from building in sidewalk	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with GW > SVGW and potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	SEPTA	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	Ssepta-PH-8 DTW 14.30' DSCP-MW-12 DTW 15.29' DSCP-MW-59 DTW 12.60 (DTP 12.57')	No	No	Yes	Unknown	Unknown	1)Floor drains at bay door 2)Cracks at base of wall 3)Air vents leading to inside of building 4) Probable storm sewers, gas lines and electrical lines penetrating slab	Vehicle exhaust	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with GW > SV_{GW} and potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
4	Hotel	Unknown	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MW-48 DTW 11.86' EPH-MW-49 DTW 14.41' EPH-MW-50 DTW 14.06' EPH-MWS-10 DTW 12.80' EPH-MWS-5 DTW 12.26'	No	No	Slab	Yes, numerous utilities entering the building	No	1) Electric room - south wall and SE corner has conduits penetrating slab (0 ppb) 2) Generator in electric room (0 ppb) 3) Floor drain in workshop (1 ppb) 4) Floor drain in sprinkler room (4 ppb) and water pipe penetrates slab 5) Two drain pipes possibly penetrate slab in wondown room, but not confirmed. 6) elevator shaft (out of order) no cracks or penetrations (0 ppb) 7) Laundry room floor drains (0 ppb)	No	0	2	0	0	0	0	2	0	0	0	2	0	Not in current or historic plume nearby wells with GW exceedances. Conduct near source sampling. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
4	P. Agnes (Penrose)	Unknown	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MWS-5 DTW 12.26'	No	No	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	1) Storm drains outside the building 2) Gas line appears to enter building wall	Unknown	0	2	0	0	0	0	2	0	0	0	2	0	Not in current or historic plume nearby wells with GW exceedances. Conduct near source sampling.. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
4	Building E - Staples	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms and janitor closet 2) Water line penetrates slab in NE corner of building 3) Roof drains penetrate asphalt at exterior of building.	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if necessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building I1 - Dress Barn	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms and janitor closet 2) Roof drain penetrates asphalt at exterior of building 3) Water lines through floor	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if necessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
4	Building I2 - Kicks USA	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drain in bathroom 2) Roof drain and gas line penetrate asphalt at exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H1 - Verizon	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Water line penetrates slab on East wall 2) Electric conduit and roof drain penetrate asphalt at rear exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H2 - The Children's Place	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Water line penetrates slab at East wall 2) Probable floor drain in former bathroom (not visible due to clutter) 3) Floor drain in active bathroom 4) Roof drain penetrates asphalt at rear and exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H3 - Payless	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drain in bathroom 2) Water line penetrates slab in utility enclosure 2) Roof drain and gas line penetrate asphalt at exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H4 - MadRag	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Water line penetrates slab at East wall 2) probable floor drain in bathroom (unable to observe due to clutter).	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H5 - Vacant	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Communications conduit penetrates slab 2) Floor drain in men/women's bathrooms 3) Water main penetrates slab on east wall	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building F2 - [redacted] Firm	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Bathroom drains 2)Air ducts in bathrooms 3) Drain in utility room 4)pipes penetrating slabs in utility room	Strong cleaner odor in utility closet	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Buildings F3 - Casual Male XL	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Drains in bathroom	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building R - Game Stop	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Drains in bathroom	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building R - Edible Arrangements	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Large drain in kitchen 2)Drain in janitors closet 3)Drain in hallway 4)Drain in freezer	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building R - Domino Pizza	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Gas line through roof at exhaust fan 2)Floor drain at rear 3)Drain at rear sink 4)Water main through slab in electrical room 5)Sprinkler through slab in electrical room	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesment presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.

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Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
5	Building R - Foot Locker	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Drain in bathroom	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building B - Bank of America	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-20-DTW 19.89' DSCP-MW-45A-DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Drain in janitors closet 2)Drain in bathroom 3)Electrical utilities entering through roof	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building C - Chilis	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-20 DTW 19.89' DSCP-MW-45A DTW 19.04' DSCP-MW-21A DTW 17.34'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Numerous Kitchen floor drains 2)Bathroom drains 3)Water and sprinkler lines through slab in utility closet	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building D - Walgreens	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A DTW 17.34' DSCP-MW-45A DTW 19.04'.	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Sprinkler system through slab 2)Conduit and other utilities through floor 3)drains in bathrooms, janitor closets, and storage rooms	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building A - Wendy's	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-20 DTW 19.89' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Numerous drains in kitchen, below counter, bathroom. 2)Water entry through floor in janitors closet 3)Gas utility through ceiling 4) Large manholes outside building	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
NA	Vacant Lot S	NA	No habitable structures onsite	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities crossing the vacant lot	No	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0	Risk to be mitigted by Quit Claim Deed and Environmental Coventant that will require VI mitigation system be designed and installed for any future development that includes a structure designed for human occupation	NA	No current risk. Future hypothetical risk to be addressed by vapor mitigation requirement in quit claim deed and environmental covenant
NA	Vacant Lot M	NA	No habitable structures onsite	DSCP-MW-1 DTW 19.83' DSCP-MW-44A DTW 18.06'	No	Yes	NA	Yes, numerous utilities crossing the vacant lot	NA	1)Drums. Most likely filled with soil	NA	0	0	0	0	0	0	0	0	0	0	0	0	Risk to be mitigted by Quit Claim Deed and Environmental Coventant that will require VI mitigation system be designed and installed for any future development that includes a structure designed for human occupation	NA	No current risk. Future hypothetical risk to be addressed by vapor mitigation requirement in quit claim deed and environmental covenant
NA	Vacant Lot 3	NA	No habitable structures onsite	DSCP-MW-14 DTW 15.57' DSCP-MW-1A NM DSCP-MW-27A DTW 21.29' DSCP-RW-10 DTW 14.02'	Yes	Yes	NA	Yes, numerous utilities running along the perimeter and crossing the vacant lot	NA	1)Storm drains 2)electrical vault 3)storm cover 4)multiple manholes	NA	0	0	0	0	0	0	0	0	0	0	0	0	Risk to be mitigted by Quit Claim Deed and Environmental Coventant that will require VI mitigation system be designed and installed for any future development that includes a structure designed for human occupation	NA	No current risk. Future hypothetical risk to be addressed by vapor mitigation requirement in quit claim deed and environmental covenant
											Total Estimated Number of Samples														
											Estimated Number of Samples in Phase 1 (two events)	**570**	34	41	67	67	62	14								
											Estimated Number of Duplicates in Phase 1 (two events)	**36**	2	3	4	4	4	1								
											Estimated Number of Samples in Phases 2 and 3 (two events)	**374**							58	0	16	16	83	14			
											Estimated Number of Duplicates in Phases 2 and 3 (two events)	**22**							3	0	1	1	5	1			
											Total Estimated Number of Samples (all events)	**1002**														

Table 2
VI Sampling Plan for the Residential Properties (Siena Place)

Development Lot Numbr	Street Name	Street Number	Active SSDS Installed?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Property Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Phase 1 (two events > 45 days apart)		VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
													Number of Indoor Air Samples (including one ambient air sample per event)	Number of Ambient Air Samples (per event)			
XXX	Typical Home	XXXX		Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	PH-PH-41 DTW 18.21' PH-PH-23 DTW 18.53' PH-MWS-2A DTW 14.89' PH-RW-H DTW 16.69'	No	Yes	Concrete foundation crawl space					2	1	Home constructed with a Vapor Barrier for VI mitigation. Indoor air and ambient air samples to be collected. If COCs are found in indoor air the SV_{IA}, then active SSDS installation will be installed.	Residential SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
Total Estimated number of sampled to be collected - (to be updated based on total number of residences)												**6**	2	1			
Total number of duplicate samples (to be updated based on total number of residences)												**2**	1				
Total number of samples estimated (to be updated based on total number of residences)												**8**					

Table 3
VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Two events > 45 days apart			VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
						Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)			
Pollock-Packer	MH-Steen	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	MH-A	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	MH-B	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system

Table 3
VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Pollock-Packer	MH-C	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	MH-G	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	19th Street Near Cut Through	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system

Table 3

VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Pollock-Packer	19th and Moyamensing East	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	19th and Moyamensing West	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	Pollock and Moyamensing	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Siena Lateral 2	A Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	2	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Siena Lateral 2	B Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	0	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system

Table 3

VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Siena Lateral 1	C Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	2	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Siena Lateral 1	D Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	0	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system.
Pollock-Packer	Lot #267 alley behind Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences

Table 3
VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Pollock-Packer	Lot #269 alley behind Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Siena Lateral 1	Between Lots #264 and 265 behind Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Siena Lateral 1	On Roma Drive in front of Lots #264 and 265	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences

Table 3

VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Siena Lateral 2	In driveway between Lots #284 and 285 near alley	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Siena Lateral 2	In driveway between Lots #284 and 285 near Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Total proposed number of Samples to be Collected per type						12	34	12			
Number of duplicate samples per event						1	2	1			
Total proposed number of Samples to be Collected						**62**					

Figures

Pump House?
Wendy's (A)
Chili's (C)
Bank of America (B)
Edible Arrangements (R)
Game Stop (R) Domino
Pizza (R) Foot Locker (R)
Kicks USA(I2) Dress barn(I1)
Vacant(H5) MadBag(H4)
Payless(H3) The Children's Place(H2)
Verizon(H1) Shoe Carnival(G)
Aldi's, Approximate Location
(Formerly Vacant Lot 2)
Walgreen's (D)
Building 6
Casual Male XL (F3)
[redacted] Firm (F2)
Planet Fitness (P)
Vacant (O) Spirit
Halloween (Temp) (N)
Pet Smart (J)
Vacant Lot S
Building 15
Acme Markets
Building 11
Building 12
Building 8
Lot M
Vacant Lot 3
Home Depot (K1)
Building 14
Building 13
BJ's Wholesale (L)
SEPTA Property
Building 30
VES Building
Building 9
Former STEEN Property
P Agnes
PHA Property
Hotel
PHA Gym
Siena Place Homes
P Agnes
Jim's Ice Liberty
Camera Company
Leones Computer

PASSYUNK AVE
DOVER ST
VARE AVE
24TH ST
22ND ST
21ST ST
LAMBERT ST
OPAL ST
GARNET ST
ROSEBERRY ST
RITNER ST
SHUNK ST
19TH ST
CLEVELAND ST
18TH ST
COLORADO ST
17TH ST
PORTER ST
BOUVIER ST
CHADWICK ST
BANCROFT ST
16TH ST
MOLE ST
HICKS ST
15TH ST
CARLISLE ST
OREGON AVE
JOHNSTON ST
20TH ST
SMEDLEY ST
STOCKER ST
MOYAMENSING AVE
BIGLER ST
SYDENHAM ST
POLLOCK ST
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
MOYAMENSING RD
PACKER AVE
CURTIN TER
CURTIN ST
HOMESTEAD ST
SCHLEY ST
LANVALE PL
UBER ST
CROATAN PL
FORRESTAL ST
BOISE PL
DENFIELD PL
DAVINCI DR
LEYTE PL
GEARY ST
HULSEMAN ST
HARTRANFT ST
PATTISON AVE
BROAD ST
CHAUCER ST
TAYLOR TER
BIGLER TER
23RD TER
HEMBERGER TER
CROSKEY TER
BUCKNELL TER
BONSALL TER
24TH ST
23RD ST
HULSEMAN TER
BASTIAN TER
HOYT TER
RAMBO TER
PATTISON TER
JARDEN TER
PENROSE AVE
PENROSE FERRY RD
26TH ST
SHEAFF LN

Legend:
- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- Basement Fans

0 145 290 580 Feet

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SITE LAYOUT

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 1

1/20/2023 2:36:15 PM Last saved by

Legend

UtilityPoints_Site2013FigureC130_20170306

- Existing Manhole
- Proposed Manhole

UtilityLines_Site2013FigureC130_20170306

- Existing Electric
- Existing Gas
- Existing Storm
- Existing Water
- Proposed Interior Storm
- Proposed Storm

UtilityLines_DSCP_Figure6_1958

- 24” Comb. St. Sewer & U'drain
- 3’-6” sewer
- 8’-10” sewer

UtilityPoint_GeneralGasMap_1986

- Gas Meter
- Manhole
- Valve

UtilityLines_GeneralGasMap_1986

- Gas
- Oil

UtilityPoints_GeneralElectricalMap_1986

- Manhole
- Handhole
- Transformer
- Light Pole
- Luminaire
- Steel Standard
- Flood Light
- Sub Station

UtilityLines_GeneralElectricalMap_1986

- AER
- U G

UtilityPoints_GeneralSewerandStormMap_1986

- Catch Basin
- Manhole

UtilityLines_GeneralSewerandStormMap_1986

- Sewer

UtilityPoints_GeneralWaterMap_1986

- Fire Hydrant
- Post Indicator
- Tower
- Valve
- Water Meter

UtilityLines_GeneralWaterMap_1986

- Fire Protection
- Water

UtilityPoints_GeneralHeatingAndProcessSteammap_1986

- Boiler Plant
- Manhole

UtilityLines_GeneralHeatingAndProcessSteammap_1986

- Steam Return
- Steam Supply
- Steam Supply & Return

UtilityLines_SetA_Figure3_1993

- Fuel Oil Tunnel

UtilityLines_Figure10_1918

- 2200 Volt Lines
- City’s water main
- Drainage
- High Pressure Water Fire Protection Lines
- Steam Heating Mains
- Water Supply

UtilityPoints_SetA_Figure5_2003

- Vault

UtilityLines_SetA_Figure5_2003

- Fuel Tunnel
- Steam Tunnel

UtilityLines_SetA_Figure7_2003

- Drainage
- Fire
- Gas
- Proposed Utilities Below 7'
- Water

UtilityPoints_SetA_figure9_1950

- Catch Basin
- Manhole

UtilityLineS_SetA_Figure9_1950

- Sewer

Buildings_Figure10_1918

- Building

UtilityPoints_SetA_Figure11_1952

- Catch Basin
- Manhole

UtilityLines_SetA_Figure11_1952

- Drainage

Utilities_SetA_Figure12_1984

- UST_Tank
- Preferential Pathway Phase1
- Preferential Pathway Phase2
- In-Door Air
- Near Source
- Sub-slab
- Mitigation System

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES MAP LEGEND

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE **2B**

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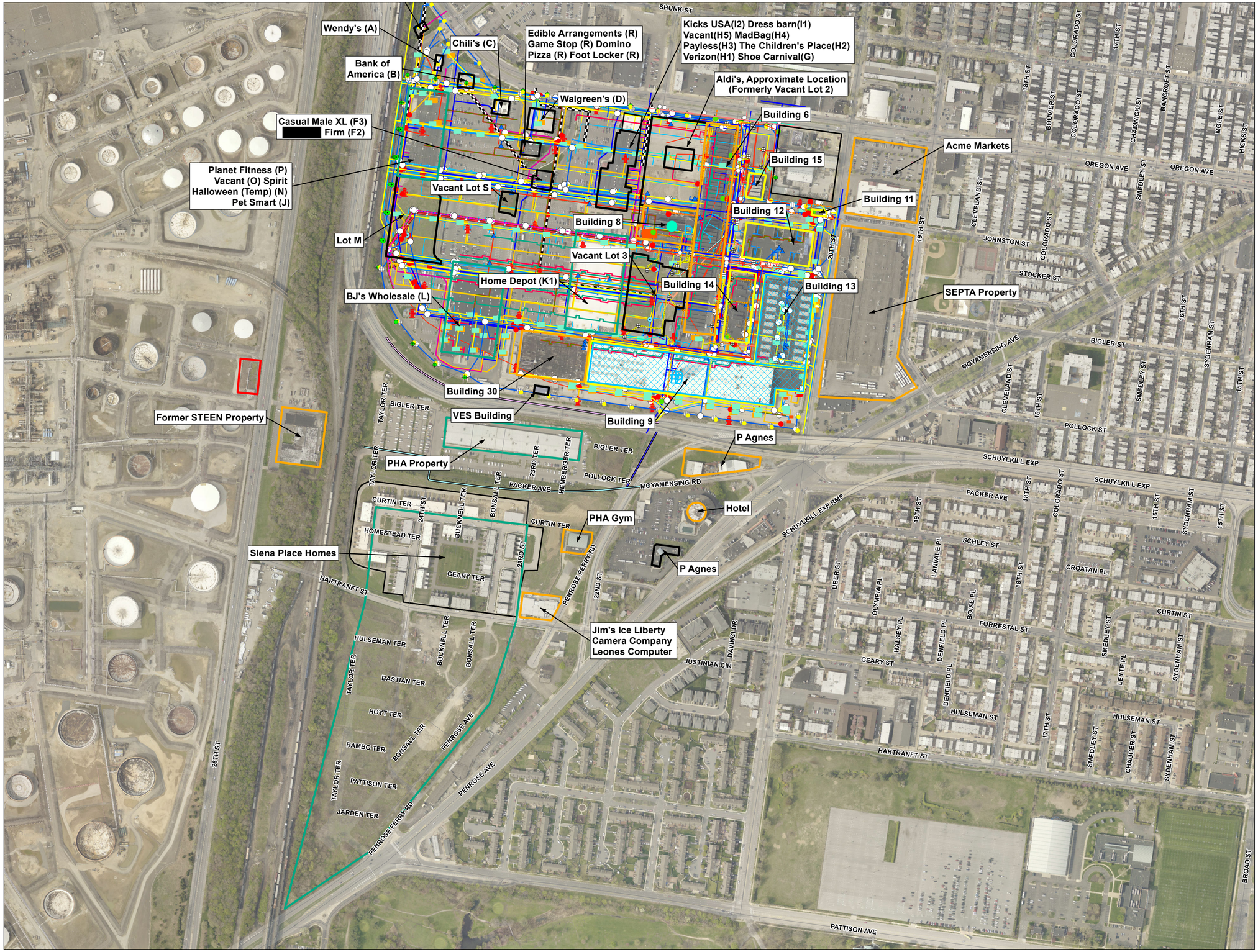
PATH



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- Basement Fans

0 125 250 500 Feet

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SITE LAYOUT AND HISTORICAL UTILITIES

SERES Engineering & Services, LLC
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FIGURE
2B

1754

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

VARE AVE
24TH ST
Pump House?
Wendy's (A)
Bank of America (B)
Chili's (C)
Walgreen's (D)
OREGON AVE
Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)
21ST ST
Two sample locations per individual store to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.
Aldi's, Approximate Location (Formerly Vacant Lot 2)
OREGON AVE
Acme Markets
Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)
Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)
Casual Male XL (F3)
Firm (F2)
Two sample locations per individual store in Building R to be field selected for both Phase 3 sub-slab samples and Phase 3 indoor air samples, if needed.
Building 15
Lot M
Vacant Lot S
Building 6
Building 11
Building 8
JOHNSTON ST
SEPTA Property
Building 12
Home Depot (K1)
BJ's Wholesale (L)
Building 14
20TH ST
19TH ST
Building 13

0 90 180 270 360
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES AND PROPOSED SAMPLING LOCATIONS VIEW 1

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 3A

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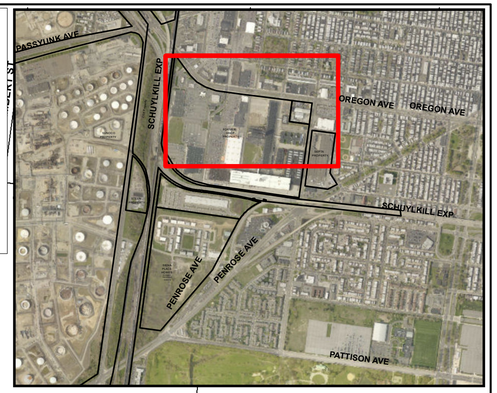
PATH:

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)



VARE AVE
24TH ST
Pump House?
Wendy's (A)
Bank of America (B)
Chili's (C)
Walgreen's (D)
OREGON AVE
Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)
21ST ST
Two sample locations per individual store to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.
Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)
Aldi's, Approximate Location (Formerly Vacant Lot 2)
OREGON AVE
Acme Markets
Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)
Casual Male XL (F3)
Firm (F2)
Two sample locations per individual store in Building R to be field selected for both Phase 3 sub-slab samples and Phase 3 indoor air samples, if needed.
Building 15
Building 6
Building 11
Lot M
Vacant Lot S
Building 8
JOHNSTON ST
SEPTA Property
Building 12
Home Depot (K1)
0 90 180 270 360
SCALE IN FEET
Building 14
20TH ST
19TH ST
BJ's Wholesale (L)
Building 13
Vacant Lot 3

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PATH:

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

PROPOSED SAMPLING LOCATIONS VIEW 1

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE **3B**

Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)

Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)

Aldi's, Approximate Location
(Formerly Vacant Lot 2)

Two sample locations per individual store to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.

Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)

Casual Male XL (F3)
Firm (F2)

Two sample locations per individual store in Building R to be field selected for both Phase 3 sub-slab samples and Phase 3 indoor air samples, if needed.

Lot M

Vacant Lot S

Building 8

Building 6

Building 15

Building 11

Home Depot (K1)

Building 12

Building 14

Vacant Lot 3

SEPTA Property

Building 13

Acme Markets

BJ's Wholesale (L)

Building 30

Building 9
Partial Basement

P Agnes

SCHUYLKILL EXP

OREGON AVE

JOHNSTON ST

20TH ST

BIGLER ST

POLLOCK ST

TAYLOR TER

BIGLER TER

CROSKEY TER

POLLOCK TER

SCHUYLKILL EXP RMP

MOYAMENSING RD

PENROSE AVE

PACKER AVE

PASSYUNK AVE

PATTISON AVE

0 100 200 300 400
SCALE IN FEET

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES AND PROPOSED SAMPLING LOCATIONS VIEW 2

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4A

PATH: 1/20/2023 2:46:22 PM Last save by:

Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)

Chili's (C)

Walgreen's (D)

Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)

Casual Male XL (F3)
Firm (F2)

Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)

Aldi's, Approximate Location
(Formerly Vacant Lot 2)

Lot M

Vacant Lot S

Building 8

Building 6

Building 15

Building 11

Home Depot (K1)

Building 12

Building 14

Vacant Lot 3

Acme Markets

SEPTA Property

Building 13

BJ's Wholesale (L)

Building 30

VES Building

PHA Property

Building 9
Partial Basement

P Agnes

SCHUYLKILL EXP

OREGON AVE

JOHNSTON ST

20TH ST

BIGLER ST

POLLOCK ST

MOYAMENSING AVE

SCHUYLKILL EXP RMP

MOYAMENSING RD

PENROSE AVE

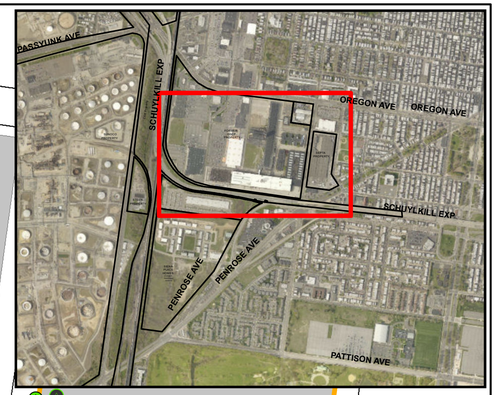
PACKER AVE

BIGLER TER

TAYLOR TER

CROSKEY TER

POLLOCK TER



0 100 200 300 400
SCALE IN FEET

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

PROPOSED SAMPLING LOCATIONS VIEW 2

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4B

PATH: 1/20/2023 2:51:31 PM Last save by:

Former STEEN Property

PHA Property

VES Building

Building 9
Partial Basement

P Agnes

Hotel

PHA Gym

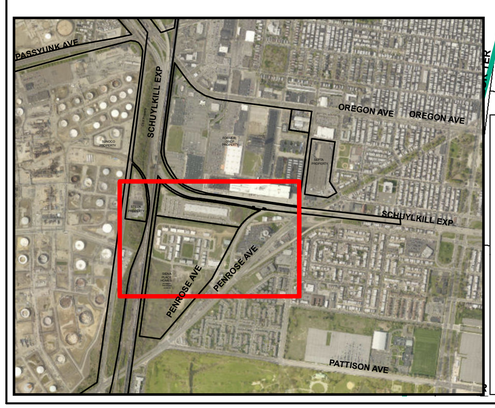
P Agnes

Jim's Ice
Liberty Camera Company
Leones Computer

SIENNA PLACE HOMES

BIGLER TER
POLLOCK TER
PACKER TER
PACKER AVE
CURTIN TER
HOMESTEAD TER
GEARY TER
HULSEMAN TER
HOMESTEAD ST
BIGLER TER
POLLOCK TER
CURTIN TER
GEARY ST

26TH ST
PHA DRIVEWAY
TAYLOR TER
BUCKNELL TER
BONSALL TER
23RD TER
HEMBERGER TER
CROSKEY TER
23RD ST
24TH ST
22ND ST
20TH ST
HARTRANFT ST
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
MOYAMENSING RD
PENROSE FERRY RD
PENROSE AVE
JUSTINIAN CIR
DAVINCI DR



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

0 100 200 300 400
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES AND PROPOSED SAMPLING LOCATIONS VIEW 3

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 5A

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PATH:

Former STEEN Property

PHA Property

VES Building

Building 9
Partial Basement

P Agnes

P Agnes

Hotel

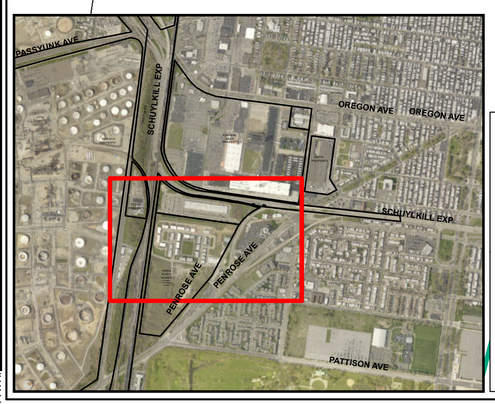
PHA Gym

Building E
Jim's Ice
Liberty Camera Company
Leones Computer

Two sample locations per individual business in Building E to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.

SIENNA PLACE HOMES

26TH ST
TAYLOR TER
BIGLER TER
POLLOCK TER
PHA DRIVEWAY
PACKER TER
PACKER AVE
BUCKNELL TER
23RD TER
HEMBERGER TER
CROSKEY TER
SCHUYLKILL EXP
MOYAMENSING RD
CURTIN TER
24TH ST
BONSALL TER
HOMESTEAD TER
GEARY TER
23RD ST
PENROSE FERRY RD
SCHUYLKILL EXP RMP
PENROSE AVE
HARTRANFT ST
HULSEMAN TER
22ND ST
HOMESTEAD ST
20TH ST
JUSTINIAN CIR
DAVINCI DR
GEARY ST



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

0 0 100 200 300 400
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

PROPOSED SAMPLING LOCATIONS VIEW 3

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE **5B**

PATH: 1/20/2023 3:01:07 PM Last save by:

SUNOCO PROPERTY

CSX Property

FORMER DSCP PROPERTY

SEPTA PROPERTY

Pollock-Packer Sewer

MH Steen

FORMER STEEN PROPERTY

PHA PROPERTY

MH A

MH B

MH C

MH D

MH E

MH F

MH G

MH H

MH Cluster at 19th and Moyamensing

Pollock-Packer Sewer

26th Street Sewer

SIENA PLACE HOMES
(FORMER PASSYUNK HOMES)

1

10

100

Legend:

- DSCP Shallow Benzene Iso-Concentration Contours - 2019
- DSCP Shallow Benzene Iso-Concentration Contours - 2022

DSCP Shallow Benzene Iso-Concentration Contours 2019

Contour Interval

- 1 µg/L
- 10 µg/L
- 100 µg/L
- 1000 µg/L
- Manhole
- Sewer Line
- Interpreted Limits of the** "Hole/Breach"
- GWElev4Q2020

Notes:

(µg/L) = micrograms per liter

** Approximate edges of the breach in the confining bed between the Site's shallow and deep aquifer zones as discussed during the March 6, 2013 meeting with the PADEP, DLA and USACE

Imagery Source:
Maxar, 10/3/2020, accessed via ESRI World Imagery Service

0 250 500 750 1,000

SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SHALLOW GROUNDWATER BENZENE ISO-CONCENTRATION CONTOURS 2019-2022 OVERLAY

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ARCADIS a joint venture

FIGURE 6

PATH 1/20/2023 3:06:50 PM Last saved by

SUNOCO PROPERTY

CSX Property

FORMER DSCP PROPERTY

SEPTA PROPERTY

STEEN PROPERTY

PHA PROPERTY

SIENA PLACE HOMES (FORMER PASSYUNK HOMES)

Packer Avenue Sewer

26th Street Sewer

Legend:

- Inferred Extent of Product
- 0.01 Reported LNAPL Thickness (feet)
- Monitoring Well
- Recovery Well
- Manhole
- Sewer Line
- Interpreted Limits of the** "Hole/Breach"

Notes:

1. Figure shows new presentation of apparent LNAPL extent, which does not necessarily indicate consistent in-situ LNAPL saturation, volume, mobility, or recoverability. This is a new presentation of the apparent LNAPL extent; which was approved by the PADEP during the May 30, 2017 teleconference.
2. LNAPL thickness in Recovery Well DSCP-RW-6 could not be gauged due to emulsified LNAPL that prevents probe penetration.

** Approximate edges of the breach in the confining bed between the Site's shallow and deep aquifer zones as discussed during the March 6, 2013 meeting with the PADEP, DLA and USACE

City 2020 Imagery 2020 Source: ArcGIS Map Service, image accessed via internet from https://metadata.phila.gov/#home/datasetdetails/569684f4c99154d56b426105/

0 250 500 750 1,000

SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

LNAPL EXTENT IN MONITORING AND RECOVERY WELLS SEPTEMBER 20, 2022

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 7

12/19/2022 4:18:10 PM Last saved by: K

PA

1762

SIENNA PLACE HOMES

PHA PROPERTY

RECHARGE SYSTEM (TYP.)

DRIVEWAY INLET (TYP.)

8" REAR YARD DRAIN (TYP.)

TRIESTE WAY

NAPOLI WAY

PIETRO WAY

CATANIA WAY

SIENNA DRIVE

HARTRANFT STREET

FORMER POLLOCK STREET (VACATED FOR SEWER, MAINTENANCE AND DRAINAGE PURPOSES)

BASIN "B"

BASIN "C" (LINED)

VAPOR INTRUSION SAMPLING WORK PLAN

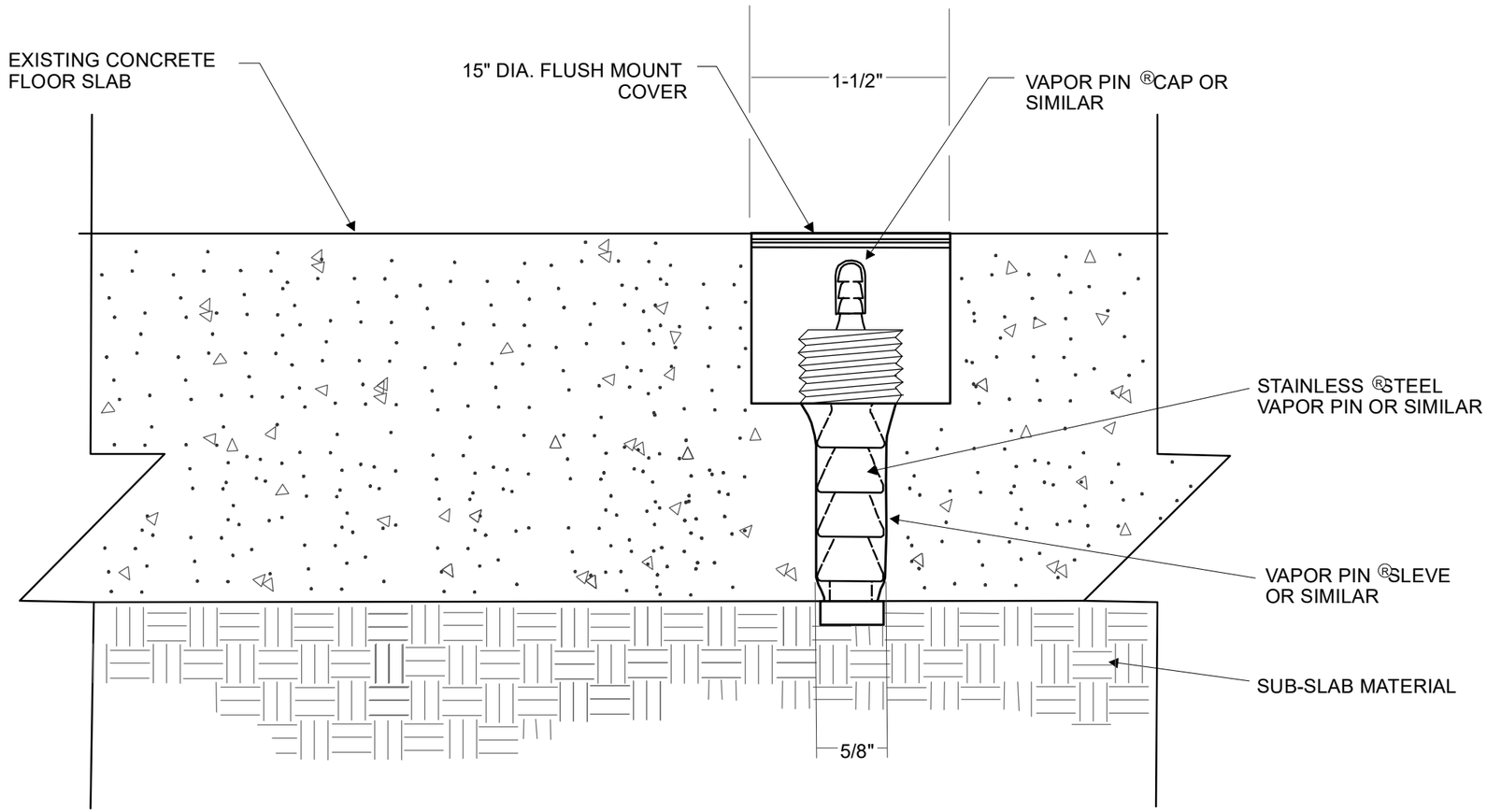
SEWER LATERAL CONNECTIONS TO SIENNA PLACE

SERES Engineering & Services, LLC

ARCADIS a joint venture

FIGURE 8

PATH:



FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

TYPICAL VAPOR PIN SUBSLAB MONITORING POINT DETAIL

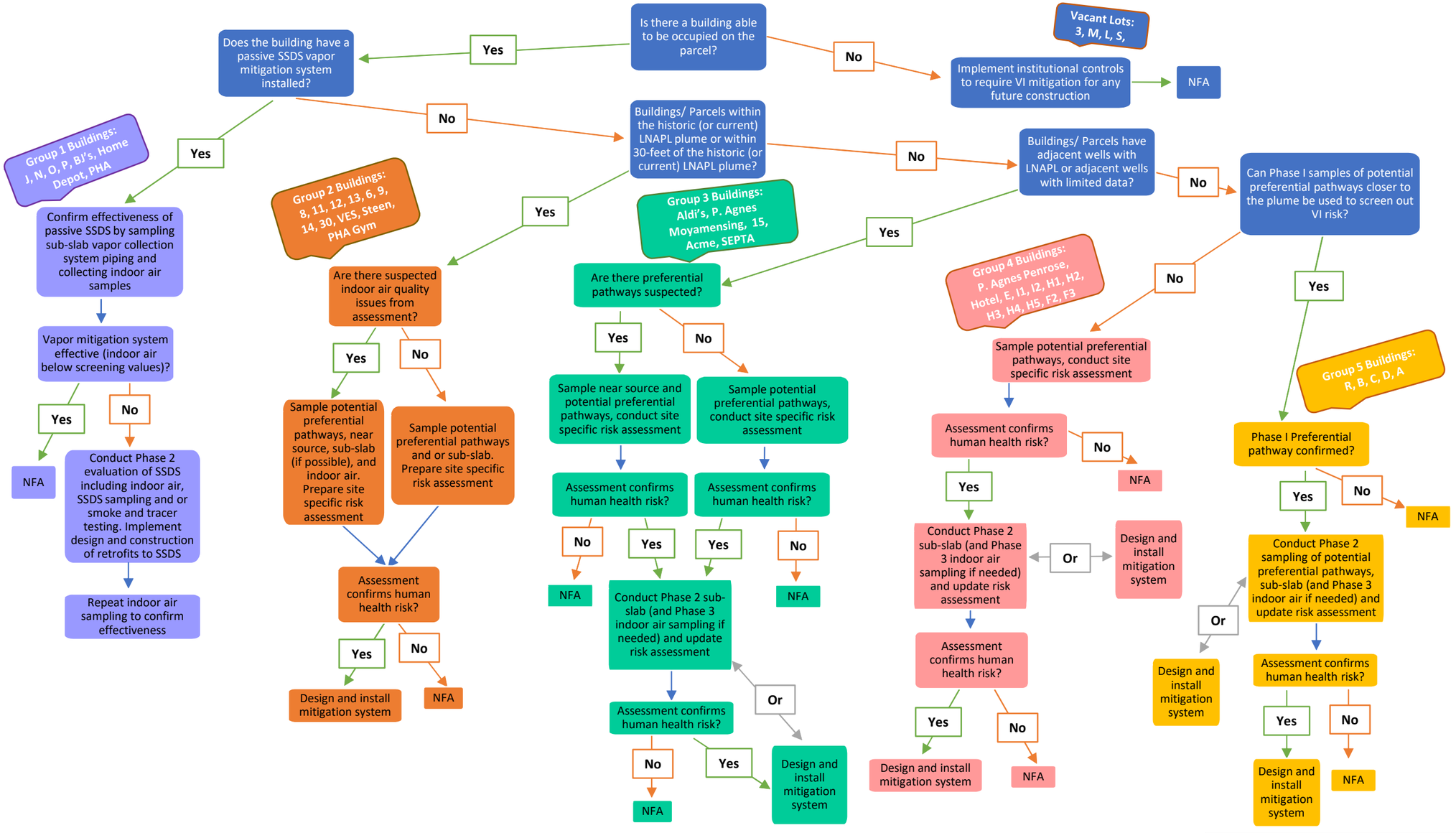
SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
9

1/20/2023 3:26:28 PM Last saved by
PATH

Appendix A

VI Sampling Plan Decision-Making Flow Charts



SSDS: Sub-slab Depressurization System
NFA: No Further Action
LNAPL: Light Non-aqueous Phase Liquid
VL: Vacant Lot

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

VI INVESTIGATION STRATEGY FLOW CHART FOR COMMERCIAL-INDUSTRIAL BUILDINGS AT THE FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

SERES Engineering & Services, LLC
ARCADIS a joint venture

APPENDIX A
1

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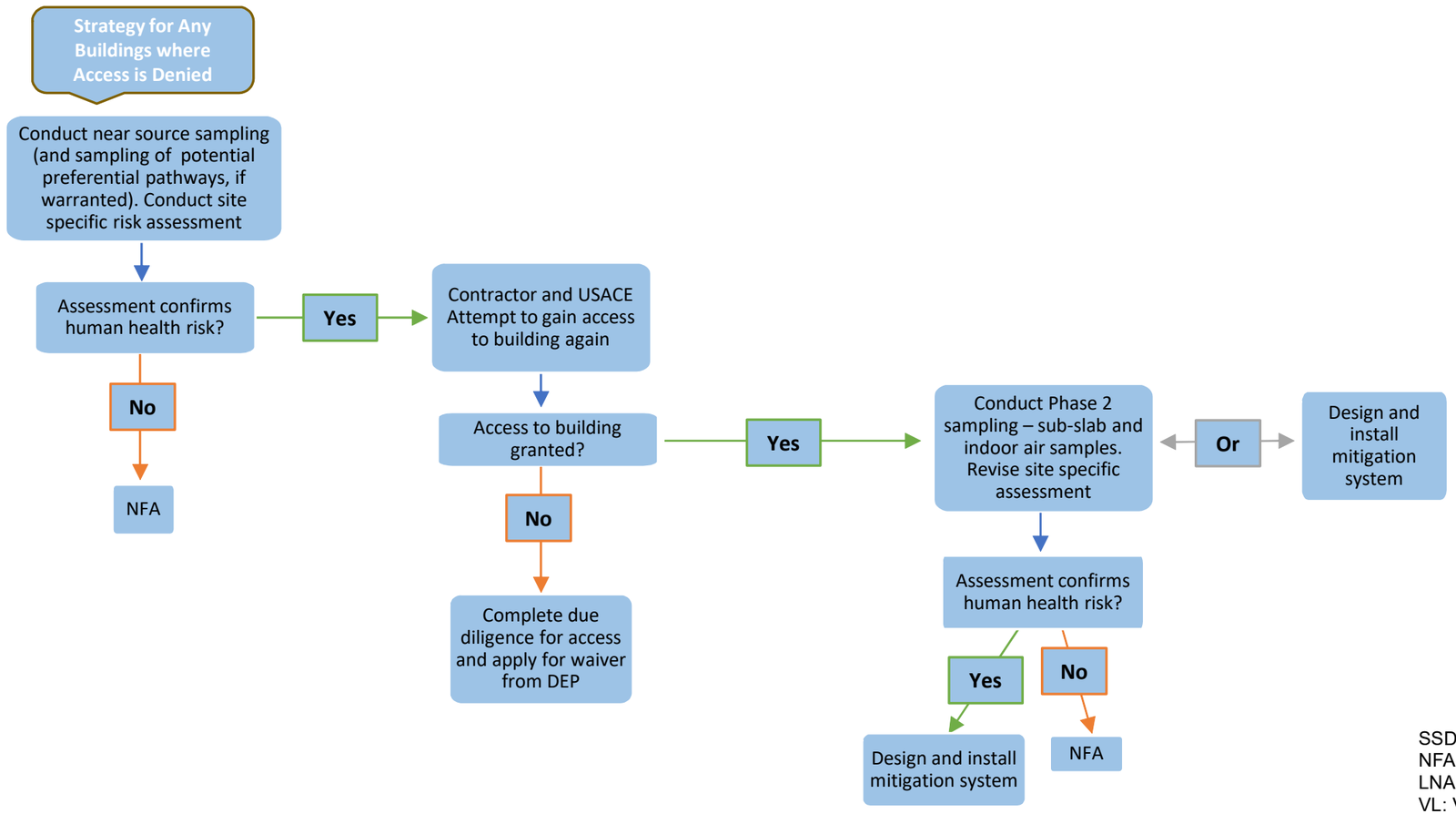

SSDS: Sub-slab Depressurization System
NFA: No Further Action
LNAPL: Light Non-aqueous Phase Liquid
VL: Vacant Lot

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

VI INVESTIGATION STRATEGY FLOW CHART FOR ANY COMMERCIAL-INDUSTRIAL BUILDING WHERE ACCESS HAS BEEN DENIED AT THE FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

SERES Engineering & Services, LLC
ARCADIS a joint venture

APPENDIX A
2

12/22/2022 11:33:26 AM Last saved by:
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Appendix B

Arcadis Technical Guidance Instructions

TGI - Sub-Slab Soil Gas Sampling Point Installation Using Vapor PIN™ Approach

Rev: 2

Rev Date: December 30, 2021

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
	1	July 20, 2017	All	Original/Rev 1	[redacted]
	2	December 30, 2021	All	Rev 2 for QMS Library / Updates	[redacted]

Approval Signatures

Prepared by:	[redacted]	7/20/2017
	[redacted] (Preparer)	Date
Reviewed by:	[redacted]	12/30/2021
	[redacted] (Subject Matter Expert)	Date

1 Introduction

This Technical Guidance Instruction (TGI) provides the methods and procedures for installing sub-slab vapor ports using the Vapor Pin™ approach.

2 Intended Use and Responsibilities

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

It is the responsibility of the Arcadis Certified Project Manager (CPM) to provide this document to the persons conducting services that fall under the scope and purpose of this procedure, instruction, and/or guidance. The Arcadis CPM will also ensure that the persons conducting the work falling under this document are appropriately trained and familiar with its content. The persons conducting the work under this document are required to meet the minimum competency requirements outlined herein, and inquire to the CPM regarding any questions, misunderstanding, or discrepancy related to the work under this document.

This document is not considered to be all inclusive nor does it apply to all projects. It is the CPM's responsibility to determine the proper scope and personnel required for each project. There may be project- and/or client- and/or state-specific requirements that may be more or less stringent than what is described herein. The CPM is responsible for informing Arcadis and/or Subcontractor personnel of omissions and/or deviations from this document that may be required for the project. In turn, project staff are required to inform the CPM if or when there is a deviation or omission from work performed as compared to what is described herein.

In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

3 Scope and Application

This document describes the procedures for installing permanent sub-slab sampling probes using the Vapor Pin™ approach. These sample probes can then be used for the collection of sub-slab soil gas samples, for vacuum readings, or other uses. When not in use, the probes can be sealed in place without having to abandon the point.

The following sections list the necessary materials, equipment, and detailed instructions for installing sub-slab sampling points using the Vapor Pin™ approach.

4 Personnel Qualifications

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, site-specific training, first-aid, and cardiopulmonary resuscitation (CPR), as

needed. Arcadis field sampling personnel will be well versed in the relevant standard operating procedures (SOPs), technical guidance instructions (TGIs) and possess the required skills and experience necessary to successfully complete the desired field work. Arcadis personnel responsible for leading sub-slab soil gas sampling point installation activities must have previous sub-slab soil gas sampling point installation experience.

5 Equipment List

- Appropriate personal protective equipment (PPE), as required by the site-specific Health and Safety Plan (HASP) and the job safety analysis (JSA)
- Electric hammer drill (big – e.g., Bosch, Hilti, etc.)
- 5/8-inch and 1 ½-inch concrete drill bits for impact drill (drill bit length contingent on slab thickness)
- 2-inch concrete coring drill bit (for stainless steel flush mount cover installation)
- Contractor Cox Colvin Vapor Pin™ Kit that includes:
  - Decontaminated Stainless Steel Vapor Pin™ with barbed fitting (0.5-inch outside diameter at end, 0.8125-inch diameter at middle, 3.5-inch in length)
  - Vapor Pin™ sleeves
  - Vapor Pin™ rubber protective caps
  - Secure, steel flush mount covers or plastic flush mount cover
  - Spanner screwdriver
  - Stainless steel drilling guide
  - Installation/Extraction tool
  - Bottle brush
  - Vapor Pin™ SOP
- Photoionization detector (PID) with appropriate eV lamp for site related contaminants of concern (COCs)
- Dead blow hammer
- Pliers
- Whisk broom and dustpan or shop vacuum with clean fine-particle filter
- Spray bottle with distilled water
- Paper towels
- Nitrile gloves
- Work gloves
- Knee pads
- Ground fault circuit interrupter (GFCI)
- Extension cords capable of amperage required for hammer drill
- Plastic sheeting
- Field notebook and/or FieldNow® application

6 Cautions

The following cautions and field tips should be reviewed and considered prior to installing or collecting a sub-slab soil gas sample.

- When drilling sample collection holes, be mindful of utilities that may be in the area. Always complete utility location, identification and marking before installing sub-slab ports as required by the Arcadis Utility Location Policy and Procedure. Be aware that public utility locator organizations frequently do not provide location information within buildings so alternative lines of evidence must be used. If the driller is concerned about a particular location, consult the project manager about moving it to another location. Do not hesitate to use Stop Work Authority; if something doesn't seem right stop and remedy the situation.
- Use of Vapor Pins™ and drill bit length will be based on the thickness of the slab encountered. Every effort will be made to establish the thickness of the slab during the preliminary investigation activities, such as interviews with site personnel, review of construction drawings, building walk through and utility clearance process. If slab is determined to be too thin for Vapor Pins™ – install a standard port using the permanent probe approach consistent with the corresponding TGI.
- Sampling personnel should not handle hazardous substances (such as gasoline), permanent marking pens (sharpies), use hand sanitizer, wear/apply fragrances, or smoke cigarettes/cigars before and/or during the installation event.
- Only a clean decontaminated hammer drill and drill bits should be used for installation. A hammer drill dedicated to VI work is preferred. Be extra cautious if using rental equipment.
- Field personnel will properly seal the sub-slab soil gas sampling point at the slab surface to prevent leaks of atmosphere into the sub-slab soil gas sampling point during purging and sampling. Permanent ports will be fit snug into the predrilled hole by ensuring that the silicone sleeve is fitted properly around the Vapor Pin™ before installation and expands sufficiently inside the hole during installation. A protective cap will be installed on the end of the barb fitting. If this is not done properly, the integrity of the sample port may be compromised.
- If possible, have equipment shipped two to three days before the scheduled start of the installation event so that all materials can be checked. Order replacements if needed.

7 Health and Safety Considerations

All sampling personnel should review the appropriate HASP and JSA prior to beginning work to be aware of all potential hazards associated with the job site and the specific task. Field sampling must be carefully performed to minimize the potential for injury and the spread of hazardous substances. For sub-slab soil gas sampling point installation, drilling with an electric concrete impact drill should be done only by personnel with prior experience using such a piece of equipment or directly supervised by an experienced person and with the appropriate health and safety measures in place as presented in the JSA. It is possible to encounter high concentrations of VOCs in sub-slab soil gas, so the amount of time the borehole remains open should be minimized. For the same reason, when installing sub-slab soil gas sampling points in spaces with minimal dilution potential, such as closets, it is advisable to provide local ventilation. Finally, sub-slab soil gas sampling point installation should be completed at least 24 hours in advance or after any indoor air sampling to avoid cross contamination of the indoor air samples.

Proper procedures should be used to eliminate exposure to silca dust when drilling through concrete and asbestos containing materials such as floor tile, etc.

8 Procedure

Permanent sub-slab soil gas sampling points are installed using a hammer drill and manual placement of the Vapor Pin™ probe. After a dry fit, the vapor probe is inserted into the hole and installed using a dead blow hammer to tap the installation/extraction tool over the Vapor Pin™ to protect the barb fitting. The vapor probe is equipped with a rubber protective cap that is used to close the sampling port when not in use. A figure presenting a properly installed Vapor Pin™ is below:

Figure 1 - Cross-section of properly installed Vapor Pin™(Cox-Colvin Vapor Pin™ Installation SOP [2016])

The Vapor Pin™ and tubing will be purged prior to collecting the soil gas sample. Detailed installation methods are as follows:

1. Complete the procedure in the Arcadis Utility Location and Clearance Standard prior to drilling activities.
2. Remove, only to the extent necessary, any covering on top of the slab (e.g., carpet) if present.
3. Lay down plastic sheeting to keep the work area clean. Check to make sure shop vacuum is working properly and fine concrete particles will not pass through filter.
4. Advance the 1½-inch drill bit approximately 1.75 inches into the slab (Please note that if the stainless-steel flush mount is being used, advance the 2-inch drill bit approximately 1/8 inch into the slab first before using the 1½-inch drill bit). This hole is drilled deep enough to permit the top of the Vapor Pin™ to be set flush with the slab when the Vapor Pin™ is inserted into the 5/8-inch hole drilled under Step 7, below. Careful not to advance too far into the slab. This will cause the threaded portion of the Vapor Pin™ to be set too deeply to engage with stainless-steel cover. Clean up cuttings with shop vacuum, bottle brush, and dust pan.
5. Drill a 5/8-inch-diameter hole into the concrete slab using the hammer drill. Do not fully penetrate the slab at this time. Stop drilling approximately 1-inch short of penetrating the slab.
6. Use the shop vacuum, bottle brush and dust broom to clean up the work area and material that may have fallen into and around the drill hole.

7. Advance the 5/8-inch drill bit the remaining thickness of the slab and approximately 3 inches into the sub-slab material to create an open cavity. Record any observations from the drill cuttings, if possible, regarding approximate soil type(s), presence of soil moisture/water, and presence or absence of a plastic sub-slab sheet. Record PID readings.
8. Use the bottle brush, dust broom and dust pan to clean material around and within the hole. Do not use the shop vacuum to clean up the drill hole after the full thickness of the slab has been penetrated.
9. Using a Vapor Pin™ without the silicone sleeve fitted, test fit the components so that the proper depth of the 1½-inch hole provides enough space for the Vapor Pin™. Adjust so that the Vapor Pin™ will lie flush with the slab surface and does not create a tripping hazard.
10. Re-drill the 5/8-inch hole to ensure it remains clear. This can also be accomplished using a piece of steel rod, sample tubing or a piece of heavy wire (e.g., coat hanger).
11. Assemble the Vapor Pin™ for installation by fitting the silicone sleeve over the lower end of the pin.
12. Place the lower end of Vapor Pin™ assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the Vapor Pin™ to protect the barb fitting, and tap the Vapor Pin™ into place using a dead blow hammer. Make sure the installation/extraction tool is aligned with the Vapor Pin™ to avoid damaging the barb fitting. Place the rubber protective cap over the Vapor Pin™ barb so that it covers the first barb. Do not push the cap down so that it is flush as this will make it very difficult to remove when preparing to sample.
13. For flush mount installations, cover the Vapor Pin™ with a flush mount cover, using either the plastic cover or by threading the stainless-steel secure cover onto the Vapor Pin™. Replace the surface covering (e.g., carpet) if warranted. Sample collection location should be returned to pre-sampling conditions to the extent feasible given the presence of a permanent probe.
14. All permanent sub-slab soil gas sampling points should be allowed to equilibrate for a minimum of 24 hours before proceeding to sample collection.

9 Waste Management

Silica dust generated from drilling through concrete must be captured and disposed of properly. If drilling through known or potential asbestos containing materials (e.g., floor tile, linoleum, etc.), discuss with the project manager and VI lead for proper management and disposal of dust and cuttings.

10 Data Recording and Management

Digital data collection is the Arcadis standard using available FieldNow® applications that enable real-time, paperless data collection, entry, and automated reporting. Paper forms should only be used as backup to FieldNow® digital data collection and/or as necessary to collect data not captured by available FieldNow® applications. The Field Now® digital form applications follow a standardized approach, correlate to most TGIs and are available to all projects accessible with a PC or capable mobile device. Once the digital forms are saved within FieldNow®, the data is instantly available for review on a web interface. This facilitates review by project management team members and SMEs enabling error or anomalous data detection for correction while the staff are still in the field. Continual improvements of FieldNow® applications are ongoing, and revisions are made as necessary in response to feedback from users and subject [redacted] experts.

11 Quality Assurance

Conduct quality assurance as required by the project-specific work plan and/or Quality Assurance Project Plan (QAPP).

12 References

Cox-Colvin & Associates, Inc. 2016. Standard Operating Procedure Installation and Extraction of the Vapor Pin™. http://vaporpin.coxcolvin.com/wp-content/uploads/2016/09/Vapor-Pin-SOP-09-2016-Web.pdf

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ARCADIS Design & Consultancy for natural and built assets

TGI - SUB-SLAB SOIL VAPOR OR SOIL VAPOR SAMPLING USING WHOLE AIR CANISTERS ANALYZED VIA USEPA METHOD TO-15

Rev #: 1

Date: September 18, 2016

SOP VERSION CONTROL

Revision No	Revision Date	Page No(s)	Description	Reviewed by
1	9/18/2016	All	Updated Rev0	[redacted]

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APPROVAL SIGNATURES

Prepared by: [redacted] Date: 9/18/2016

Reviewed by: [redacted] Date: 9/18/2016
[redacted] (Technical Expert)

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I. INTRODUCTION

This Technical Guidance Instruction (TGI) document describes the procedures to conduct a building survey prior to indoor air sampling.

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

It is the responsibility of the Arcadis Certified Project Manager (CPM) to provide this document to the persons conducting services that fall under the scope and purpose of this procedure, instruction, and/or guidance. The Arcadis CPM will also ensure that the persons conducting the work falling under this document are appropriately trained and familiar with its content. The persons conducting the work under this document are required to meet the minimum competency requirements outlined herein, and inquire to the CPM regarding any questions, misunderstanding, or discrepancy related to the work under this document.

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In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

II. SCOPE AND APPLICATION

This document describes the procedures for collecting exterior soil vapor or sub-slab soil vapor (herein referred to as "soil vapor") samples using whole air canisters for the analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15 (TO-15). This document assumes a sample port – either sub-slab or exterior soil vapor – has already been installed. This document covers the above ground assembly and sampling methods.

Method TO-15 uses a 1-liter 3-liter or 6-liter SUMMA® passivated stainless steel canister to collect a whole-air sample. The whole-air sample is then analyzed for VOCs using a quadrupole or ion-trap gas chromatograph/mass spectrometer (GS/MS) system to provide typical compound detection limits of 0.5 parts per billion volume (ppbv).

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The following sections list the necessary equipment and detailed instructions for collecting soil vapor samples for VOC analysis.

III. PERSONNEL QUALIFICATIONS

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, site-specific training, first-aid, and cardiopulmonary resuscitation (CPR), as needed. Arcadis field sampling personnel will be well versed in the relevant technical guidance instructions (TGIs) and possess the required skills and experience necessary to successfully complete the desired field work. Arcadis personnel responsible for leading soil vapor sample collection activities must have previous soil vapor sampling experience.

IV. EQUIPMENT LIST

The equipment required for soil vapor sample collection is presented below:

- 1,3, or 6 – liter stainless steel SUMMA® canisters (order at least one extra, if feasible) (batch certified canisters or individual certified canisters as required by the project);
- Flow controllers with in-line particulate filters and vacuum gauges; flow controllers are pre-calibrated to specified sample duration (e.g.,5-, 10, or 30- minutes) or flow rate (e.g., < 200 milliliters per minute [mL/min]); confirm with the laboratory that the flow controller comes with an in-line particulate filter and pressure gauge (order at least one extra, if feasible);
- 1/4-inch OD tubing (Teflon®, or similar);
- Extra 1/4-inch Swagelok front and back compression sleeves
- Decontaminated stainless steel Swagelok or comparable “T” fitting and ball or needle valve for isolation of purge leg of sample train;
- Stainless steel duplicate “T” fitting provided by the laboratory (if collecting duplicate [i.e., split] samples);
- 60-mL syringe equipped with a three-way leur lock valve;
- Appropriate equipment and materials for quality assurance testing as laid out in the respective quality assurance TGIs (i.e., helium leak testing, water dam testing, methane testing);
- Appropriate-sized open-end wrench (typically 9/16-inch and ½”);
- Tedlar® bag to collect purge air for venting outside a structure if working inside;
- Portable weather meter, if appropriate;

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- Chain-of-custody (COC) form;
- Sample collection log (attached);
- Nitrile gloves;
- Work gloves; and
- Field notebook

V. CAUTIONS

The following cautions and field tips should be reviewed and considered prior to installing or collecting a soil vapor sample.

- Sampling personnel should not handle hazardous substances (such as gasoline), permanent marking pens (sharpies), wear/apply fragrances, or smoke cigarettes/cigars before and/or during the sampling event.
- Ensure that the flow controller is pre-calibrated to the proper sample collection duration (confirm with laboratory). Sample integrity can be compromised if sample collection is extended to the point that the canister reaches atmospheric pressure. Sample integrity is maintained if sample collection is terminated prior to the target duration and a measurable vacuum (e.g., 3 -7 – inches Hg) remains in the canister when sample collection is terminated.
- The integrity of the sample train will be tested in accordance with the project specific requirements. These procedures are contained in their own TGI documents and include helium leak testing, water dam testing, and methane screening.
- It is important to record the canister pressure, start and stop times, and sample identification on a proper field sampling form. You should observe and record the time/pressure at the start, and then again one or two hours after starting the sample collection. It is a good practice to lightly tap the pressure gauge with your finger before reading it to make sure it is not stuck. If the canister is running correctly for a 24-hour period, the vacuum will have decreased slightly after one or two hours (for example from 29 inches to 27 inches). Consult your project manager, risk assessor or air sampling expert by phone if the SUMMA canister does not appear to be working properly.
- Ensure that there is still measurable vacuum in the SUMMA® after sampling. Sometimes the gauges sent from labs have offset errors, or they stick.
- When sampling carefully consider elevation. If your site is over 2,000’ above sea level or the difference in elevation between your site and your lab is more than 2,000’ then pressure effects will be significant. If you take your samples at a high elevation they will contain less air for a given ending pressure reading. High elevation samples analyzed at low elevation

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will result in more dilution at the lab, which could affect reporting limits. Conversely low elevation samples when received at high elevation may appear to not have much vacuum left in them. http://www.uigi.com/Atmos_pressure.html.

- If possible, have equipment shipped a two to three days before the scheduled start of the sampling event so that all materials can be checked. Order replacements if needed.

- Requesting extra canisters and flow controllers from the laboratory should also be considered to ensure that you have enough equipment on site in case of an equipment failure.

- Check the seal around the soil vapor sampling port by using a tracer gas (e.g., helium) or other method established in the appropriate guidance document. See TGI library and project specific instructions for appropriate TGIs.

VI. HEALTH AND SAFETY CONSIDERATIONS

All sampling personnel should review the appropriate health and safety plan (HASP) and job safety analysis (JSA) prior to beginning work to be aware of all potential hazards associated with the job site and the specific task. Field sampling must be carefully performed to minimize the potential for injury and the spread of hazardous substances.

VII. SOIL VAPOR SAMPLE COLLECTION

Sample Train Assembly

The following procedures should be used to collect a soil vapor sample using a whole air canister (i.e., SUMMA canister). These methods can be used for both exterior soil vapor samples and interior sub-slab soil vapor samples collected from both permanent or temporary sample points installations. A schematic of the suggested sample train set up is included below

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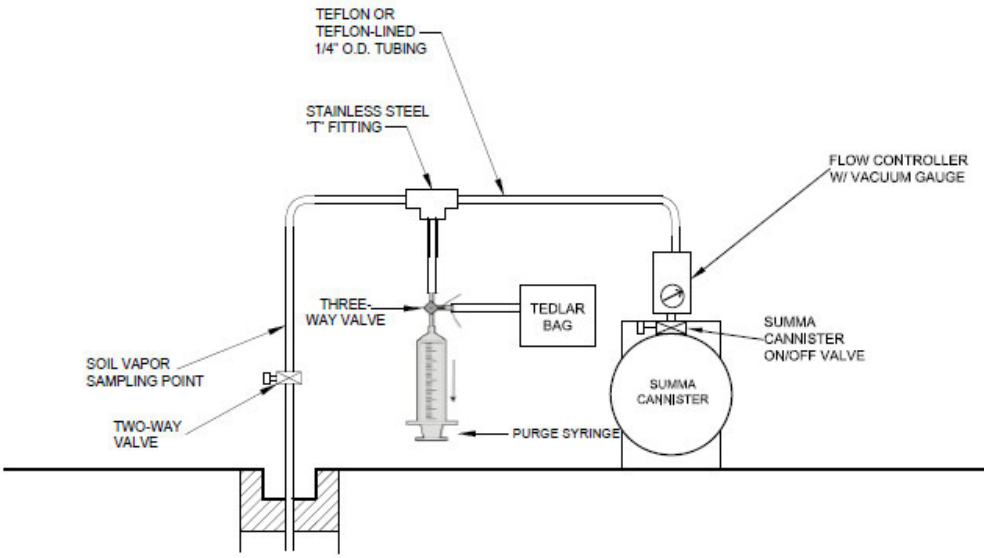

1. Assemble the sample train by removing the cap from the SUMMA canister and connecting the flow controller with in-line particulate filter and vacuum gauge. The flow controller attaches directly to the canister and dictates the sample duration. This piece will come preset from the laboratory.

2. Attach the canister and flow controller assembly to a stainless steel T-fitting using a short length of 1/4-inch OD Teflon tubing. This T-fitting adds a leg to the sample train that will be used to purge “dead” air from the sample train in order to collect a more representative sample.

3. Connect the purge syringe with three-way valve to one of the free ends of the T-fitting using a length of Teflon sample tubing, Swagelok compression fittings and silicon tubing.

4. Attach the Swagelok two-way valve to the remaining free end of the T-fitting using a short length of ¼-inch OD Teflon tubing. The two-way valve will be immediately adjacent to the sample point in the train assembly. This valve is used to isolate the sample train from the sample point prior to sampling in order to test the sample train’s integrity.

5. When collecting duplicate or other quality assurance/quality control (QA/QC) samples as required by applicable regulations and guidance, couple two SUMMA canisters using stainless steel Swagelok duplicate sample T-fitting supplied by the laboratory. Attach flow controller with in-line particulate filter and vacuum gauge to duplicate sample T-fitting provided by the laboratory.

6. Attach the terminal end of the two-way Swagelok valve to the sample port as appropriate. This may be done using the options below:

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a. Use a section of silicon tube to connect the Teflon sample tubing to the barbed fitting of a Vapor Pin™ port.

b. Use Swagelok compression fittings to connect Teflon tubing to sampling port. Teflon tape should never be used on Swagelok compression fitting connections.

c. Wrap the Teflon tubing with Teflon tape to seal around the slab then use VOC free clay to further seal around the slab if using temporary points.

Sample Documentation

1. Record on the sample log and COC form the flow controller number with the appropriate SUMMA® canister number.

2. Record the following information on the sample log, if appropriate (contact the local airport or other suitable information source [e.g., site-specific measurements, weatherunderground.com] to obtain the information):

   a. wind speed and direction;

   b. ambient temperature;

   c. barometric pressure; and

   d. relative humidity.

3. Take a photograph of the SUMMA® canister and surrounding area.

Sample Collection

1. Perform a leak-down-test by closing the two-way valve to the sample port. Open the three-way valve to the syringe and pull a vacuum. Quickly close the three-way valve and record the pressure indicated on the gauge connected to the canister. If there are no leaks in the system this vacuum should be held. If vacuum holds proceed with sample collection; if not attempt to rectify the situation by tightening fittings.

2. Open the two-way valve and purge the soil vapor sampling port and tubing with the portable sampling pump. Purge approximately three volumes of air from the soil vapor sampling port and sampling line using a flow rate of 200 mL/min. Purge volume is calculated by the following equation “purge volume = 3 x Pi x inner radius of tubing^2 x length of tubing. Purge air will be collected into a Tedlar bag to provide that VOCs are not released into interior spaces. Perform quality control method tests concurrently, as appropriate

3. Close the three-way valve to the syringe in order to isolate this leg of the sample train.

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4. Open the SUMMA® canister valve to initiate sample collection. Record on the sample log (attached) the time sampling began and the canister pressure.

   If the initial vacuum pressure registers less than -25 inches of Hg, then the SUMMA® canister is not appropriate for use and another canister should be used.

5. Check the SUMMA canister approximately half way through the sample duration and note progress on sample logs.

Termination of Sample Collection

1. Arrive at the SUMMA® canister prior to the end of sample collection.

2. Record the final vacuum pressure. Stop collecting the sample by closing the SUMMA® canister valves. The canister should have a minimum amount of vacuum (approximately 5 inches of Hg or slightly greater).

3. Record the date and local time (24-hour basis) of valve closing on the sample collection log and COC form.

4. Disconnect sample tubing from the sample port; replace any coverings or abandon as appropriate to mitigate tripping hazards.

5. Remove the particulate filter and flow controller from the SUMMA® canister, re-install the brass plug on the canister fitting, and tighten with the appropriate wrench.

6. Package the canister and flow controller per Department of Transportation regulations for return shipment to the laboratory. These regulations can be found at the Transportation Safety Program's Team Site on the Source. The SUMMA® canister does not require preservation with ice or refrigeration during shipment.

7. Complete the appropriate forms and sample labels as directed by the laboratory (e.g., affix card with a string).

8. Complete the COC form and place the requisite copies in a shipping container. Close the shipping container and affix a custody seal to the container closure. Ship the container to the laboratory via overnight carrier (e.g., Federal Express) for analysis.

VIII. WASTE MANAGEMENT

No specific waste management procedures are required.

IX. DATA RECORDING AND MANAGEMENT

Measurements will be recorded on the sample log at the time of measurement with notations of the project name, sample date, sample start and finish time, sample location (e.g., GPS

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coordinates, distance from permanent structure [e.g., two walls, corner of room]), canister serial number, flow controller serial number, initial vacuum reading, and final pressure reading. Field sampling logs and COC records will be transmitted to the Project Manager.

X. QUALITY ASSURANCE

Duplicate samples should be collected in the field as a quality assurance step per project requirements. Generally, duplicates are taken from 10% of samples, but project specific requirements should take precedence.

XI. REFERENCES

DiGiulio et. al. 2003. Draft Standard Operating Procedure (SOP) for Installation of Sub-Slab Vapor Probes and Sampling Using EPA TO-15 to Support Vapor Intrusion Investigations. http://www.cdphe.state.co.us/hm/indoorair.pdf (Attachment C)

Di Giulio et. Al. 2006. Assessment of Vapor intrusion in Homes Near the Raymark Superfund Site Using Basement and Sub-Slab Air Samples. USEPA. EPA/600/R-05/147.

New York State Department of Health (NYSDOH). 2005. DRAFT “Guidance for Evaluating Soil Vapor Intrusion in the State of New York” February 23, 2005.

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TGI – DECONTAMINATION OF COMPONENTS FOR VAPOR INTRUSION SAMPLING

Rev #: 0

November 18, 2020

VERSION CONTROL

Revision No	Revision Date	Page No(s)	Description	Reviewed by
0	11/13/2020	All	Development of TGI	Megan Hamilton

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Approval Signatures

Prepared by: [redacted] 11/13/2020

[redacted] Date:

Technical Expert Reviewed by: [redacted] 11/18/2020

[redacted] Date:

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1 Introduction

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2 Scope and Application

This Technical Guidance Instruction (TGI) document describes the procedures to decontaminate components used during the installation and sampling of soil vapor monitoring locations (sub-slab and exterior soil gas probes).

3 Personnel Qualifications

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site-specific training, first aid, and cardiopulmonary resuscitation (CPR), as needed. Arcadis field sampling personnel will be competent in the relevant procedures and possess the required skills and experience necessary to successfully complete the desired decontamination procedures and field work.

4 Equipment List

Precautions regarding cross-contamination should be strongly considered. Laboratory reporting limits for soil vapor samples are in the parts-per billion (ppb) and equipment contamination could affect overall data quality. Only confirmed clean or new equipment should be used for decontamination.

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Specific components required for decontamination may vary depending on project scope of work and objectives for the site. Relevant components to decontaminate are listed below.

Sampling Components	Installation Components
Stainless-steel valves, nuts, caps, ferrules	Hammer drill bits
Stainless-steel Vapor Pins including extensions	Hand auger
Stainless-steel vapor screens (exterior soil gas)	Drill rig tooling

Reusable drill rig tooling and equipment decontamination procedures are provided in other associated TGIs. Arcadis recommends following approved procedures for the decontamination of drilling subcontractor equipment.

The equipment required to complete decontamination of the above components is listed below:

- Stainless-Steel Bowl or Bucket for Drill Bits
- Personal Protective Equipment including Nitrile Gloves and Safety Glasses
- Paper Towels
- Brushes – bottle brush or toothbrush, wire brush
- Distilled Water
- Trisodium Phosphate (TSP), Alconox, Liquinox or equivalent (TSP preferred)

Sampling components should be decontaminated prior to mobilization to the site.

5 Cautions and Health and Safety Considerations

Take safety precautions as with handling any heavy-duty cleaner using nitrile gloves and safety glasses throughout the decontamination process.

6 Procedure

Decontamination procedures should be completed prior to arrival at the project site and will vary dependent upon the application as detailed below.

- Place supplies (valves, nuts, caps, ferrules, tees, vapor pins, vapor pin extensions, and/or vapor screens) into the stainless-steel bowl or plastic bucket for drill bits.
  - Used components need to be completely broken down (tubing and ferrules cannot be reused).
  - Valves should be in the open position.
- Pour a mixture of distilled water and TSP (or equivalent) into the bowl completely covering all components. Follow the TSP (or equivalent) mixing instructions.
- Mix applicable components and soapy mixture.
- Use the toothbrush or bottle brush to clean components.
- Drain the soapy mixture from the stainless-steel bowl into a bucket or sanitary sewer, leaving the components.

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- Rinse components in distilled water and completely empty the rinsate into a bucket or sanitary sewer. Repeat the rinsing process two additional times or continue rinsing until soapy mixture is not visible.
- Shake water from components and place on clean, dry paper towels.
- Allow all components to completely dry by using paper towels, a fan, air dry, or a combination of these prior to assembly/use.

Hammer drill bits used during the installation of sub-slab ports need to be decontaminated prior to use at each new installation location in the field and is outlined below:

- Create a solution of TSP cleaner (or equivalent) and distilled water in a clean spray bottle.
- Prepare another spray bottle with clean distilled water for rinsing.
- Remove any soil clinging to hammer drill bits with a wire brush.
- Place the drill bit into a clean, new, 5-gallon bucket.
- Spray the drill bit with the cleaning solution over enough paper towels to absorb the water and capture the solution into the bucket.
- Thoroughly clean the drill bit with a scrub brush.
- Repeat process with cleaning solution.
- Rinse by spraying the drill bit with clean distilled water and capture the rinse water in the bucket.
- Wipe drill bit down with paper towels.
- Repeat rinsing process.
- Completely dry drill bits with clean paper towels.

7 Waste Management

Used cleaning solution water and rinsate water utilized for decontaminating sampling components can be disposed directly into the sanitary sewer. Used cleaning solution water and rinsate water utilized for decontaminating installation components should be containerized and disposed of in accordance with project specifications.

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Appendix C

Indoor Air Building Survey Form and Indoor Air Sampling Technical Guidance Instructions

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: _____ Date: _____

Site Name:

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: _____

Property Contact: _____ Owner / Renter / other: _____

Contact's Phone: home _____ work _____ cell _____

Building occupants: Children under age 13 _____ Children age 13–18 _____ Adults _____

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors—below grade: _____ (full basement / crawl space / slab) at or above grade: _____

Basement size: _____ ft^2 Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):

hot air circulation	hot air radiation	wood	steam radiation	hot water radiation
kerosene heater	electric baseboard	heat pump	other (specify): _____	

Type of ventilation system (circle all that apply):

central air conditioning	mechanical fans	bathroom ventilation fans
individual air conditioning units	kitchen range hood fan	other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / No* Irrigation/private well? *Yes / Yes (but not used) / No*

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Does the building have an attached garage? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / No*

Have the occupants noticed any unusual odors in the building? *Yes / No*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / No*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / No

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

TGI - Indoor or Ambient Air Sampling and Analysis Via USEPA Method TO-15

Rev: 2

Rev Date: December 30, 2021

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
	1	August 19, 2016	All	Update Rev 0	[redacted]
	2	December 30, 2021	All	Updated Rev 1 and for QMS Relaunch	[redacted]

Approval Signatures

Prepared by: [redacted] 12/30/2021

[redacted] (Subject Matter Expert) Date

Reviewed by: [redacted] 12/30/2021

[redacted] (Subject Matter Expert) Date

1 Introduction

This document describes specific procedures and considerations to be used by Arcadis staff to collect indoor air or ambient air samples in passivated stainless-steel canisters (e.g., SUMMA®) for the analysis of volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Compendium Method TO-15 (TO-15).

2 Intended Use and Responsibilities

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

It is the responsibility of the Arcadis Certified Project Manager (CPM) to provide this document to the persons conducting services that fall under the scope and purpose of this procedure, instruction, and/or guidance. The Arcadis CPM will also ensure that the persons conducting the work falling under this document are appropriately trained and familiar with its content. The persons conducting the work under this document are required to meet the minimum competency requirements outlined herein, and inquire to the CPM regarding any questions, misunderstanding, or discrepancy related to the work under this document.

This document is not considered to be all inclusive nor does it apply to all projects. It is the CPM's responsibility to determine the proper scope and personnel required for each project. There may be project- and/or client- and/or state-specific requirements that may be more or less stringent than what is described herein. The CPM is responsible for informing Arcadis and/or Subcontractor personnel of omissions and/or deviations from this document that may be required for the project. In turn, project staff are required to inform the CPM if or when there is a deviation or omission from work performed as compared to what is described herein.

In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

3 Scope and Application

This Technical Guidance Instruction (TGI) document describes the methods and procedures for collecting indoor air or ambient air samples with passivated stainless-steel canisters (e.g., SUMMA®) and the subsequent analysis of volatile organic compounds (VOCs) using USEPA TO-15.

4 Personnel Qualifications

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, site-specific training, first aid, and cardiopulmonary resuscitation (CPR), as

needed. Arcadis field sampling personnel will be competent in the relevant procedures and possess the required skills and experience necessary to successfully collect indoor air and ambient air samples and the desired field work. Arcadis personnel responsible for directing indoor air and/or ambient air sample collection activities must have previous indoor air sampling experience and be able to complete the field work without direct supervision.

5 Equipment List

The equipment required for indoor air and ambient air collection is presented below:

- 6-liter, stainless steel passivated canisters (e.g., SUMMA®). Request one canister for each sampling location, plus duplicate canisters per project-specific requirements. If feasible, order extra canisters at a rate of 10 to 20% of the total number of sampling canisters (including duplicates).
- Flow controllers with in-line particulate filters and vacuum gauges. Flow controllers are pre-calibrated by the laboratory to the sampling duration [typically 8-hours in commercial/industrial settings and 24-hours in residential settings] specified by the project team). Vacuum gauges are also generally supplied by the laboratory. Flow controllers can be connected to the canister via 9/16-inch compression fittings or quick-connect fittings.
- Open-end wrench. Typical canister caps require 9/16-inch wrenches.
- Chain-of-custody (COC) form.
- Sample collection log (attached) or the Fulcrum Application: FieldNow® – TO-15 Indoor/Outdoor Air Collection Log Version 2.0 (Tier 1).
- Box, chair, tripod, or similar to hold canister above the ground surface at approximate breathing height (3-5 feet).
- Hand-held weather meter (optional).
- Nitrile gloves
- Camera (if photography is permitted at sampling locations).
- Chain and padlock or bike lock (for securing ambient air canisters).
- Zip ties
- Independent digital gauge (optional).
- Outdoor Air Sampling Tag noting: “Environmental Testing – Do Not Disturb”

For abnormal situations (i.e., sumps, crawlspaces with no access, where canisters must be hidden, etc.), Teflon tubing may be used to collect an air sample. In these situations, ¼-inch Swagelok fittings (including nut, front sleeve, and back sleeve) or other methods may be appropriate to affix tubing to canister. Teflon tubing may be connected to various lengths of electrical fish rods with zip ties (do not use tape) to direct the end of the tubing into a crawlspace or other area.

6 Cautions

Care must be taken to minimize the potential for introducing interferences during the sampling event. As such, keep canisters away from heavy pedestrian traffic areas (e.g., main entranceways, walkways), if possible. Sampling personnel should not handle hazardous substances (such as gasoline), permanent marking pens (sharpies), wear/apply fragrances, use hand sanitizer, or smoke cigarettes before and/or during the sampling event.

Specify sample collection duration with the laboratory when ordering equipment and confirm with the laboratory upon equipment receipt. Sample integrity can be compromised if sample collection is extended to the point that the canister reaches atmospheric pressure. Sample integrity is maintained if sample collection is terminated prior to the target sample duration and a measurable vacuum (e.g., 5 inches Hg) remains in the canister when sample collection is terminated. In extreme cold temperature, it is suggested the final measurable vacuum remains higher (e.g., 10 inches of Hg) to account for pressure loss. Digital gauges are recommended.

7 Health and Safety Considerations

All sampling personnel should review the appropriate health and safety plan (HASP) and job safety analysis (JSA) prior to beginning work to be aware of all potential hazards associated with the job site and the specific task.

8 Procedure

Preparation of Passivated Canister and Collection of Sample

1. Record the following information on the sampling form (use a hand-held weather meter, contact the local airport or other suitable information source [e.g., weatherunderground.com] to obtain the following information):
   - Ambient temperature
   - Barometric pressure
   - Wind speed
   - Relative humidity
   - Significant recent precipitation
   - Snow/ice cover
1. For indoor air sampling, note whether the heating, ventilation, and air conditioning (HVAC) system is operational and record settings.
2. For outdoor air sampling, canisters should be initiated at least 30 minutes prior to initiating the first indoor air sample and should be placed upwind of the structure(s) being sampled.
2. Attach an outdoor air tag to each outdoor air canister using a zip tie as applicable. Outdoor air tags are usually only required for off-site locations where disturbance of the canister may occur. The outdoor air tag should include the words, “Environmental Testing – Do Not Disturb”. If possible, place the outdoor air canister(s) in areas with less foot traffic.
3. Choose the sampling location in accordance with the project sampling plan. If a breathing zone sample is required, place the canister on a box, chair, tripod, or other similar stand to locate the canister orifice 3 to 5 feet above the ground or floor surface. The canister may be affixed to wall/ceiling support with nylon rope or placed on a stable surface. In general, areas near windows, doors, air supply vents, and/or other potential sources of “drafts” shall be avoided.
4. Record canister serial number and flow controller number on the sampling log or FieldNow® application and COC form. Assign sample identification (ID) and record on canister ID tag on the sample collection log or FieldNow® application and COC form.
5. Remove the brass dust cap from the canister with the wrench. Attach the independent gauge provided by the laboratory or a digital gauge to the canister. For compression fittings tighten with fingers first, then gently with

the wrench (roughly a quarter turn). Use caution not to over tighten fittings. For quick-connect fittings simply attach the gauge to the canister. Open the canister and record the initial vacuum on the sampling log or FieldNow® application and COC form. Close the canister and remove the gauge. The initial pressure reading should be evaluated with respect to project-specific and regulatory jurisdictional requirements. If the initial pressure registers less than -25 inches of Hg, then the canister is not appropriate for use, and another canister should be used. Note: confirm specific project jurisdiction regulatory requirements for initial pressure.

6. Attach the flow controller and integrated vacuum gauge to the canister with the wrench. Tighten with fingers first, then gently with the wrench (roughly a quarter turn). Use caution not to over tighten fittings. Some laboratories ship the canister and flow controller pre-assembled. Confirm that connections are appropriately tight. For quick-connect fittings simply attach to the canister. Caution – some quick-connect canisters do not have valves and begin sampling as soon as the flow controller is attached.
7. Open the canister valve to initiate sample collection. Record the date and local time (24-hour basis) of valve opening on the sample collection log and COC form. Collection of duplicate samples will include collecting two samples side by side at the same time or by using a duplicate tee. Duplicate tees can be requested from the laboratory and made from Teflon tubing and Swagelok fittings.
8. Check the initial canister pressure using the vacuum gauge. Ensure the initial pressure on the flow controller vacuum gauge matches the pressure from the independent gauge, note difference in the canister on the sample log.
9. Photograph the canister and surrounding area within the FieldNow® application; if photography is permitted at sampling locations. Also photograph the sample tag.
3. If feasible, check the canister approximately half-way through the sample duration and note progress on sample logs.

Termination of Sample Collection

1. Arrive at the sampling location at least 1 to 2 hours prior to the end of the sampling interval (e.g., 6 hours following sample initiation for an 8-hour sampling duration).
2. The appropriate canister pressure for termination of sampling is between -2 and -10 inches of Hg with the optimal ending pressure of -5 inches of Hg. Leaving some vacuum in the canister provides a way to ensure that the sample was collected over the appropriate duration and to evaluate whether the canister leaks before it reaches the laboratory. Stop collecting the sample by turning the valve on the canister when the canister pressure reaches approximately -5 inches of Hg and when the desired sample time has elapsed. If the canister pressure is outside of the appropriate range at the end of the sampling duration, consult with the project manager before ending the sample.
3. Record the final canister pressure. Record the date and local time (24-hour basis) of valve closing on the sample collection log or FieldNow® application and COC form.
4. Remove the flow controller from the canister. Connect the independent gauge to confirm the final canister pressure using the procedure as described above. Re-install brass cap on canister fitting and tighten with the wrench.
5. Package the canister and flow controller in accordance with Department of Transportation regulations available on the Transportation Health and Safety's Team Site on the Source for return shipment to the laboratory. The canister does not require preservation with ice or refrigeration during shipment.
6. Complete the forms and sample labels provided by the laboratory as directed (e.g., affix card with string).

7. Complete the COC form; copy, photograph, or scan a version for the project file (if possible); and place the form in the shipping container. Close the shipping container and affix the custody seal to the container closure. Transmit canisters via courier delivery service (e.g., Federal Express or UPS) to laboratory for analysis.

9 Waste Management

No specific waste management procedures are required.

10 Data Recording and Management

Digital data collection is the Arcadis standard using available FieldNow® applications that enable real-time, paperless data collection, entry, and automated reporting. Paper forms should only be used as backup to FieldNow® digital data collection and/or as necessary to collect data not captured by available FieldNow® applications. The Field Now® digital form applications follow a standardized approach, correlate to most TGIs and are available to all projects accessible with a PC or capable mobile device. Once the digital forms are saved within FieldNow®, the data is instantly available for review on a web interface. This facilitates review by project management team members and SMEs enabling error or anomalous data detection for correction while the staff are still in the field. Continual improvements of FieldNow® applications are ongoing, and revisions are made as necessary in response to feedback from users and subject matter experts.

Notes and pictures taken during the sampling process that cannot be collected using the FieldNow® application will be compiled and uploaded to the project specific folder on SharePoint and/or Collaboration Hub.

11 Quality Assurance

Conduct quality assurance as required by the project-specific work plan and/or Quality Assurance Project Plan (QAPP). Additionally:

4. Canisters should be pre-cleaned by an accredited laboratory and individually certified clean.
5. Communicate with laboratory to insure that project-specific reporting limits and deliverables are met.
6. If tubing is used during sampling activities, the tubing should be Teflon or Teflon-lined tubing.
7. All fittings should be stainless-steel.
8. Ambient (outdoor) air sample(s) should be collected each day of the indoor air sampling event to evaluate background VOC concentrations.

12 References

Not Applicable

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Appendix D

Activity Hazard Analyses

Activity Hazard Analysis (AHA)

Activity/Work Task: **Direct Push Activities**	Overall Risk Assessment Code (RAC) (Use highest code)	**L**
Project Location: Siena Place	**Risk Assessment Code (RAC) Matrix**	
Contract Number: [redacted]		
Date Prepared: 3-24-15		
Prepared by (Name/Title): [redacted] Project Manager		
Reviewed by (Name/Title): [redacted] – CIH, SSHO		
Notes: (Field Notes, Review Comments, etc.)		

Severity	**Probability**				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**E**	**E**	**H**	**H**	**M**
Critical	**E**	**H**	**H**	**M**	**L**
Marginal	**H**	**M**	**M**	**L**	**L**
Negligible	**M**	**L**	**L**	**L**	**L**

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Job Steps	Hazards	Controls	RAC
Direct Push Geoprobe Well Installation	1. Overhead / underground utilities 2. Slips and Falls 3. Striking/struck by, caught-between operating equipment 4. Noise 5. Severe Weather 6. Sunburn 7. Heat/Cold Stress 8. Exposure to contaminated soils and ground water	1. Overhead and underground utilities shall be identified prior to any ground intrusive activities. Manual digging or an air knife shall be employed to clear shaft locations down to eight feet. 2. Keep tools, truck tackle, chains and load straps out of walking lanes 3. Isolate equipment operating areas; make eye contact with operators before approaching equipment; provide back-up alarms on all operating equipment; equipment shall not be used within regulated areas surrounding overhead utilities; Workers shall know the location of drill/geoprobe kill switches; moving shafts, drivel belts, etc shall be guarded 4. Use hearing protection working near operating equipment 5. Review weather data and anticipated conditions prior to work activities; maintain contact with (via cell phone or computer) with national weather service or similar weather data sources. 6. Use sunscreen as necessary 7. Monitor worker activity relative to ambient temperature/related conditions and follow APP/SSHP protocols 8. Wear appropriate PPE, (eye, face, and hand protection) when handling cataloging soil, sediments captured by direct push equipment	**L** **L** **M** **L** **L** **L** **L** **L**

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
Geo-probe drill rig Related hand tools and maintenance equipment PPE: Face shield, goggles, nitrile gloves, and rain suit or water resistant coveralls	Annual OSHA HAZWOPER Training 29 CFR 1910.120 / 1926.65 Project site orientation and AHA reviews	daily safety inspections daily equipment inspection

Appendix E

Current PADEP Screening Values and Anticipated Reporting Limits and Method Detection Limits

Table 1. Groundwater Statewide Health Standard Vapor Intrusion Screening Values (SV_{GW})

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
ACETALDEHYDE	75-07-0	5,300	SV	67,000	SV	22,000	SV
ACETONE	67-64-1	37,000,000	SV	470,000,000	SV	160,000,000	SV
ACETONITRILE	75-05-8	75,000	SV	940,000	SV	310,000	SV
ACROLEIN	107-02-8	6.8	SV	86	SV	29	SV
ACRYLAMIDE	79-06-1	3,200,000	SV	120,000,000	SV	41,000,000	SV
ACRYLIC ACID	79-10-7	150,000	SV	1,900,000	SV	650,000	SV
ACRYLONITRILE	107-13-1	110	SV	1,700	SV	560	SV
ALLYL ALCOHOL	107-18-6	1,000	SV	13,000	SV	4,300	SV
AMMONIA	7664-41-7	230,000	SV	2,900,000	SV	960,000	SV
ANILINE	62-53-3	27,000	SV	340,000	SV	110,000	SV
BENZENE	71-43-2	23	SV	350	SV	120	SV
BENZYL CHLORIDE	100-44-7	58	SV	870	SV	290	SV
BETA PROPIOLACTONE	57-57-8	0.012	MSC	0.063	MSC	0.063	MSC
BIPHENYL, 1,1-	92-52-4	91	MSC	970	SV	430	MSC
BIS(2-CHLOROETHYL)ETHER	111-44-4	240	SV	3,600	SV	1,200	SV
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	1,700	SV	25,000	SV	8,500	SV
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0040	SV	0.060	SV	0.020	SV
BROMOCHLOROMETHANE	74-97-5	1,200	SV	15,000	SV	5,000	SV
BROMODICHLOROMETHANE	75-27-4	80	MSC	200	SV	80	MSC
BROMOMETHANE	74-83-9	26	SV	330	SV	110	SV
BUTADIENE, 1,3-	106-99-0	0.39	SV	5.9	SV	2.0	SV
CARBON DISULFIDE	75-15-0	2,000	SV	25,000	SV	8,200	SV
CARBON TETRACHLORIDE	56-23-5	6.0	SV	91	SV	30	SV
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	330,000	SV	1,400,000	Sol.	1,400,000	SV
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	3.8	SV	48	SV	16	SV
CHLOROBENZENE	108-90-7	760	SV	9,600	SV	3,200	SV
CHLORODIBROMOMETHANE	124-48-1	80	MSC	670	SV	220	SV
CHLORODIFLUOROMETHANE	75-45-6	110,000	MSC	540,000	SV	440,000	MSC
CHLOROETHANE	75-00-3	35,000	SV	440,000	SV	150,000	SV
CHLOROFORM	67-66-3	80	MSC	180	SV	80	MSC
CHLOROPRENE	126-99-8	0.16	MSC	0.90	SV	0.83	MSC
CHLOROPROPANE, 2-	75-29-6	230	SV	2,900	SV	970	SV
CRESOL(S)	1319-77-3	20,000,000	Sol.	20,000,000	Sol.	20,000,000	Sol.

Table 1. Groundwater Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (□g/L)	Type	Nonresidential (□g/L)	Type	Converted Residential (□g/L)	Type
CUMENE (ISOPROPYL BENZENE)	98-82-8	1,900	SV	24,000	SV	8,000	SV
CYCLOHEXANE	110-82-7	13,000	MSC	53,000	MSC	53,000	MSC
CYCLOHEXANONE	108-94-1	4,000,000	SV	37,000,000	Sol.	17,000,000	SV
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.57	SV	22	SV	7.2	SV
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	2.9	SV	44	SV	15	SV
DIBROMOMETHANE	74-95-3	220	SV	2,800	SV	920	SV
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.42	SV	6.3	SV	2.1	SV
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.42	SV	6.4	SV	2.1	SV
DICHLOROBENZENE, 1,2-	95-50-1	5,400	SV	69,000	SV	23,000	SV
DICHLOROBENZENE, P-	106-46-7	75	MSC	680	SV	230	SV
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	1,000	MSC	1,000	MSC	1,000	MSC
DICHLOROETHANE, 1,1-	75-34-3	110	SV	1,600	SV	550	SV
DICHLOROETHANE, 1,2-	107-06-2	34	SV	510	SV	170	SV
DICHLOROETHYLENE, 1,1-	75-35-4	300	SV	3,800	SV	1,300	SV
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	600	SV	7,600	SV	2,500	SV
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	7,600	SV	95,000	SV	32,000	SV
DICHLOROPROPANE, 1,2-	78-87-5	37	SV	560	SV	190	SV
DICHLOROPROPENE, 1,3-	542-75-6	75	SV	1,100	SV	380	SV
DICYCLOPENTADIENE	77-73-6	0.63	MSC	2.6	MSC	2.6	MSC
DIOXANE, 1,4-	123-91-1	30,000	SV	450,000	SV	150,000	SV
EPICHLOROHYDRIN	106-89-8	930	SV	12,000	SV	3,900	SV
ETHOXYETHANOL, 2- (EGEE)	110-80-5	22,000,000	SV	280,000,000	SV	94,000,000	SV
ETHYL ACETATE	141-78-6	23,000	SV	290,000	SV	98,000	SV
ETHYL ACRYLATE	140-88-5	1,100	SV	14,000	SV	4,700	SV
ETHYL BENZENE	100-41-4	700	MSC	860	SV	700	MSC
ETHYL METHACRYLATE	97-63-2	29,000	SV	370,000	SV	120,000	SV
ETHYLENE GLYCOL	107-21-1	420,000,000	SV	1,000,000,000	Sol.	1,000,000,000	Sol.
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	2,000	MSC	3,600	SV	2,000	MSC
FORMALDEHYDE	50-00-0	200,000	SV	3,000,000	SV	990,000	SV
FORMIC ACID	64-18-6	69,000	SV	880,000	SV	290,000	SV
FURFURAL	98-01-1	700,000	SV	8,800,000	SV	2,900,000	SV

Table 1. Groundwater Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (□g/L)	Type	Nonresidential (□g/L)	Type	Converted Residential (□g/L)	Type
HEXACHLOROETHANE	67-72-1	31	SV	480	SV	160	SV
HEXANE	110-54-3	1,500	MSC	6,200	MSC	6,200	MSC
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	410	SV	6,200	SV	2,100	SV
METHACRYLONITRILE	126-98-7	5,400	SV	68,000	SV	23,000	SV
METHANOL	67-56-1	41,000,000	SV	510,000,000	SV	170,000,000	SV
METHOXYETHANOL, 2-	109-86-4	3,000,000	SV	38,000,000	SV	13,000,000	SV
METHYL ACRYLATE	96-33-3	4,400	SV	56,000	SV	19,000	SV
METHYL CHLORIDE	74-87-3	53	SV	810	SV	270	SV
METHYL ETHYL KETONE	78-93-3	3,900,000	SV	49,000,000	SV	16,000,000	SV
METHYL HYDRAZINE	60-34-4	320	SV	4,000	SV	1,300	SV
METHYL ISOBUTYL KETONE	108-10-1	1,000,000	SV	13,000,000	SV	4,300,000	SV
METHYL ISOCYANATE	624-83-9	44	SV	550	SV	180	SV
METHYL METHACRYLATE	80-62-6	110,000	SV	1,300,000	SV	450,000	SV
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	16,000	SV	200,000	SV	66,000	SV
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	960	SV	12,000	SV	4,000	SV
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	6,300	SV	96,000	SV	32,000	SV
METHYLNAPHTHALENE, 2-	91-57-6	380	SV	4,800	SV	1,600	SV
NAPHTHALENE	91-20-3	100	MSC	1,300	SV	440	SV
NITROBENZENE	98-95-3	1,400	SV	21,000	SV	7,000	SV
NITROPROPANE, 2-	79-46-9	3.4	SV	52	SV	17	SV
NITROSODIETHYLAMINE, N-	55-18-5	3.3	SV	120	SV	42	SV
NITROSODIMETHYLAMINE, N-	62-75-9	19	SV	710	SV	240	SV
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	91	SV	1,400	SV	460	SV
PCB-1221 (AROCLOR)	11104-28-2	3.5	SV	53	SV	18	SV
PCB-1232 (AROCLOR)	11141-16-5	3.6	SV	55	SV	18	SV
PHENOL	108-95-2	34,000,000	SV	84,000,000	Sol.	84,000,000	Sol.
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	1,200,000	SV	16,000,000	SV	5,200,000	SV
PROPYLBENZENE, N-	103-65-1	4,900	SV	52,000	Sol.	21,000	SV
PROPYLENE OXIDE	75-56-9	3,700	SV	56,000	SV	19,000	SV
STYRENE	100-42-5	18,000	SV	220,000	SV	75,000	SV
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	70	MSC	980	SV	330	SV
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	54	SV	820	SV	270	SV
TETRACHLOROETHYLENE (PCE)	127-18-4	110	SV	1,300	SV	440	SV

Table 1. Groundwater Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (□g/L)	Type	Nonresidential (□g/L)	Type	Converted Residential (□g/L)	Type
TETRAHYDROFURAN	109-99-9	26	MSC	130	MSC	130	MSC
TOLUENE	108-88-3	34,000	SV	430,000	SV	140,000	SV
TRIBROMOMETHANE (BROMOFORM)	75-25-2	2,000	SV	30,000	SV	10,000	SV
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	63,000	MSC	170,000	Sol.	170,000	Sol.
TRICHLOROBENZENE, 1,2,4-	120-82-1	80	SV	1,000	SV	340	SV
TRICHLOROBENZENE, 1,3,5-	108-70-3	59	SV	740	SV	250	SV
TRICHLOROETHANE, 1,1,1-	71-55-6	12,000	SV	160,000	SV	52,000	SV
TRICHLOROETHANE, 1,1,2-	79-00-5	11	SV	140	SV	48	SV
TRICHLOROETHYLENE (TCE)	79-01-6	9.0	SV	110	SV	38	SV
TRICHLOROPROPANE, 1,2,3-	96-18-4	44	SV	560	SV	190	SV
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.83	SV	10	SV	3.5	SV
TRIETHYLAMINE	121-44-8	2,200	SV	27,000	SV	9,100	SV
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	59	SV	750	SV	250	SV
TRIMETHYLBENZENE, 1,3,5-	108-67-8	420	MSC	1,200	MSC	1,200	MSC
VINYL ACETATE	108-05-4	18,000	SV	220,000	SV	74,000	SV
VINYL BROMIDE (BROMOETHENE)	593-60-2	2.2	SV	34	SV	11	SV
VINYL CHLORIDE	75-01-4	2.0	MSC	52	SV	17	SV
XYLENES (TOTAL)	1330-20-7	10,000	MSC	12,000	SV	10,000	MSC

Note: These groundwater screening values apply to depths of five feet or greater below the bottom of the building foundation.
Screening values for depths less than five feet are the used aquifer groundwater MSCs (Title 25 Pa. *Code* Ch. 250, Appendix A, Table 1)

Type: SV—calculated screening value
MSC—medium specific concentration (Title 25 Pa. *Code* Ch. 250, Appendix A, Table 1)
Sol.—aqueous solubility

Table 2. Soil Statewide Health Standard Vapor Intrusion Screening Values (SV_{SOIL})

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
ACETALDEHYDE	75-07-0	0.23	SGN	0.96	SGN	0.96	SGN
ACETONE	67-64-1	430	SGN	4,700	SV	1,200	SGN
ACETONITRILE	75-05-8	1.5	SGN	9.6	SV	6.0	SGN
ACROLEIN	107-02-8	0.00047	SGN	0.0020	SGN	0.0020	SGN
ACRYLAMIDE	79-06-1	37	SV	2,400	SV	480	SV
ACRYLIC ACID	79-10-7	1.9	SV	40	SV	8.1	SV
ACRYLONITRILE	107-13-1	0.010	SGN	0.051	SGN	0.051	SGN
ALLYL ALCOHOL	107-18-6	0.0068	SV	0.14	SV	0.029	SV
AMMONIA	7664-41-7	360	SGN	360	SGN	360	SGN
ANILINE	62-53-3	1.3	SV	27	SV	5.4	SV
BENZENE	71-43-2	0.13	SGN	0.13	SGN	0.13	SGN
BENZYL CHLORIDE	100-44-7	0.059	SGN	0.30	SGN	0.30	SGN
BETA PROPIOLACTONE	57-57-8	0.00015	SGN	0.00076	SGN	0.00076	SGN
BIPHENYL, 1,1-	92-52-4	40	SGN	190	SGN	190	SGN
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.0056	SV	0.14	SV	0.028	SV
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	8.0	SGN	8.0	SGN	8.0	SGN
BIS(CHLOROMETHYL)ETHER	542-88-1	0.000012	SGN	0.000060	SGN	0.000060	SGN
BROMOCHLOROMETHANE	74-97-5	1.6	SGN	1.6	SGN	1.6	SGN
BROMODICHLOROMETHANE	75-27-4	2.7	SGN	2.7	SGN	2.7	SGN
BROMOMETHANE	74-83-9	0.54	SGN	0.54	SGN	0.54	SGN
BUTADIENE, 1,3-	106-99-0	0.0086	SGN	0.041	SGN	0.041	SGN
CARBON DISULFIDE	75-15-0	130	SGN	530	SGN	530	SGN
CARBON TETRACHLORIDE	56-23-5	0.26	SGN	0.26	SGN	0.26	SGN
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	1,800	SGN	7,300	SGN	7,300	SGN
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	0.049	SGN	0.20	SGN	0.20	SGN
CHLOROBENZENE	108-90-7	6.1	SGN	6.1	SGN	6.1	SGN
CHLORODIBROMOMETHANE	124-48-1	2.5	SGN	2.5	SGN	2.5	SGN
CHLORODIFLUOROMETHANE	75-45-6	2,800	SGN	10,000	SAT	10,000	SAT
CHLOROETHANE	75-00-3	5.4	SGN	26	SGN	26	SGN
CHLOROFORM	67-66-3	2.0	SGN	2.0	SGN	2.0	SGN
CHLOROPRENE	126-99-8	0.0038	SGN	0.020	SGN	0.020	SGN
CHLOROPROPANE, 2-	75-29-6	16	SGN	67	SGN	67	SGN
CRESOL(S)	1319-77-3	310	SV	6,600	SV	1,300	SV

Table 2. Soil Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
CUMENE (ISOPROPYL BENZENE)	98-82-8	600	SGN	2,500	SGN	2,500	SGN
CYCLOHEXANE	110-82-7	1,700	SGN	6,900	SGN	6,900	SGN
CYCLOHEXANONE	108-94-1	84	SV	1,800	SV	350	SV
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.0092	SGN	0.0092	SGN	0.0092	SGN
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.0012	SGN	0.0013	SV	0.0012	SGN
DIBROMOMETHANE	74-95-3	0.32	SGN	1.4	SGN	1.4	SGN
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.00067	SGN	0.0034	SGN	0.0034	SGN
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.00078	SGN	0.0039	SGN	0.0039	SGN
DICHLOROBENZENE, 1,2-	95-50-1	59	SGN	59	SGN	59	SGN
DICHLOROBENZENE, P-	106-46-7	10	SGN	10	SGN	10	SGN
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	SGN	100	SGN	100	SGN
DICHLOROETHANE, 1,1-	75-34-3	0.75	SGN	3.9	SGN	3.9	SGN
DICHLOROETHANE, 1,2-	107-06-2	0.10	SGN	0.10	SGN	0.10	SGN
DICHLOROETHYLENE, 1,1-	75-35-4	0.19	SGN	0.19	SGN	0.19	SGN
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	2.3	SGN	2.3	SGN	2.3	SGN
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	0.076	SGN	1.5	SV	0.30	SV
DICHLOROPROPANE, 1,2-	78-87-5	0.11	SGN	0.11	SGN	0.11	SGN
DICHLOROPROPENE, 1,3-	542-75-6	0.13	SGN	0.61	SGN	0.61	SGN
DICYCLOPENTADIENE	77-73-6	0.13	SGN	0.56	SGN	0.56	SGN
DIOXANE, 1,4-	123-91-1	0.23	SV	5.9	SV	1.2	SV
EPICHLOROHYDRIN	106-89-8	0.042	SGN	0.27	SV	0.17	SGN
ETHOXYETHANOL, 2- (EGEE)	110-80-5	190	SV	4,100	SV	820	SV
ETHYL ACETATE	141-78-6	3.9	SGN	16	SGN	16	SGN
ETHYL ACRYLATE	140-88-5	0.58	SGN	2.7	SGN	2.7	SGN
ETHYL BENZENE	100-41-4	46	SGN	46	SGN	46	SGN
ETHYL METHACRYLATE	97-63-2	10	SGN	43	SGN	43	SGN
ETHYLENE GLYCOL	107-21-1	3,000	SV	10,000	SAT	10,000	SAT
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	87	SGN	87	SGN	87	SGN
FORMALDEHYDE	50-00-0	12	SGN	34	SV	12	SGN
FORMIC ACID	64-18-6	0.40	SV	8.9	SV	1.8	SV
FURFURAL	98-01-1	5.2	SV	110	SV	22	SV

Table 2. Soil Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
HEXACHLOROETHANE	67-72-1	0.56	SGN	0.56	SGN	0.56	SGN
HEXANE	110-54-3	1,400	SGN	5,600	SGN	5,600	SGN
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.0025	SV	0.063	SV	0.013	SV
METHACRYLONITRILE	126-98-7	0.069	SGN	1.2	SV	0.24	SV
METHANOL	67-56-1	270	SV	5,600	SV	1,100	SV
METHOXYETHANOL, 2-	109-86-4	18	SV	380	SV	75	SV
METHYL ACRYLATE	96-33-3	1.0	SGN	5	SGN	5	SGN
METHYL CHLORIDE	74-87-3	0.38	SGN	0.38	SGN	0.38	SGN
METHYL ETHYL KETONE	78-93-3	76	SGN	1,100	SV	210	SV
METHYL HYDRAZINE	60-34-4	0.0020	SV	0.041	SV	0.0082	SV
METHYL ISOBUTYL KETONE	108-10-1	51	SGN	210	SV	140	SGN
METHYL ISOCYANATE	624-83-9	0.029	SGN	0.12	SGN	0.12	SGN
METHYL METHACRYLATE	80-62-6	20	SGN	84	SGN	84	SGN
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	1.6	SGN	6.4	SGN	6.4	SGN
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	47	SGN	200	SGN	200	SGN
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	0.28	SGN	1.4	SV	0.28	SGN
METHYLNAPHTHALENE, 2-	91-57-6	680	SGN	1,900	SGN	1,900	SGN
NAPHTHALENE	91-20-3	25	SGN	25	SGN	25	SGN
NITROBENZENE	98-95-3	3.6	SGN	10	SGN	10	SGN
NITROPROPANE, 2-	79-46-9	0.00029	SGN	0.0015	SGN	0.0015	SGN
NITROSODIETHYLAMINE, N-	55-18-5	0.000039	SV	0.0025	SV	0.00049	SV
NITROSODIMETHYLAMINE, N-	62-75-9	0.00015	SV	0.0094	SV	0.0019	SV
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.017	SGN	0.25	SV	0.078	SGN
PCB-1221 (AROCLOR)	11104-28-2	0.18	SGN	0.83	SGN	0.83	SGN
PCB-1232 (AROCLOR)	11141-16-5	0.14	SGN	0.7	SGN	0.7	SGN
PHENOL	108-95-2	380	SV	7,900	SV	1,600	SV
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	15	SV	300	SV	61	SV
PROPYLBENZENE, N-	103-65-1	400	SGN	1,700	SGN	1,700	SGN
PROPYLENE OXIDE	75-56-9	0.052	SGN	1.1	SV	0.24	SGN
STYRENE	100-42-5	24	SGN	79	SV	24	SGN
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	18	SGN	18	SGN	18	SGN
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.026	SGN	0.13	SGN	0.13	SGN
TETRACHLOROETHYLENE (PCE)	127-18-4	0.43	SGN	0.43	SGN	0.43	SGN

Table 2. Soil Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
TETRAHYDROFURAN	109-99-9	0.57	SGN	2.8	SGN	2.8	SGN
TOLUENE	108-88-3	44	SGN	44	SGN	44	SGN
TRIBROMOMETHANE (BROMOFORM)	75-25-2	3.5	SGN	3.5	SGN	3.5	SGN
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	10,000	SAT	10,000	SAT	10,000	SAT
TRICHLOROBENZENE, 1,2,4-	120-82-1	27	SGN	27	SGN	27	SGN
TRICHLOROBENZENE, 1,3,5-	108-70-3	31	SGN	31	SGN	31	SGN
TRICHLOROETHANE, 1,1,1-	71-55-6	7.2	SGN	7.4	SV	7.2	SGN
TRICHLOROETHANE, 1,1,2-	79-00-5	0.15	SGN	0.15	SGN	0.15	SGN
TRICHLOROETHYLENE (TCE)	79-01-6	0.17	SGN	0.17	SGN	0.17	SGN
TRICHLOROPROPANE, 1,2,3-	96-18-4	3.2	SGN	3.2	SGN	3.2	SGN
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.037	SGN	0.15	SGN	0.15	SGN
TRIETHYLAMINE	121-44-8	0.36	SGN	1.5	SGN	1.5	SGN
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	8.4	SGN	35	SGN	35	SGN
TRIMETHYLBENZENE, 1,3,5-	108-67-8	74	SGN	210	SGN	210	SGN
VINYL ACETATE	108-05-4	5.0	SGN	21	SGN	21	SGN
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.073	SGN	0.38	SGN	0.38	SGN
VINYL CHLORIDE	75-01-4	0.027	SGN	0.027	SGN	0.027	SGN
XYLENES (TOTAL)	1330-20-7	990	SGN	990	SGN	990	SGN

Type: SV—calculated screening value
SGN—generic soil-to-groundwater numeric value (Title 25 Pa. *Code* Ch. 250, Appendix A, Table 3B)
SAT—residual saturation limit

Table 3. Near-Source Soil Gas Statewide Health Standard Vapor Intrusion Screening Values (SV_{NS})

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
ACETALDEHYDE	75-07-0	1,900	39,000	7,900
ACETONE	67-64-1	6,500,000	140,000,000	27,000,000
ACETONITRILE	75-05-8	13,000	260,000	53,000
ACROLEIN	107-02-8	4.2	88	18
ACRYLAMIDE	79-06-1	19	1,200	250
ACRYLIC ACID	79-10-7	210	4,400	880
ACRYLONITRILE	107-13-1	72	1,800	360
ALLYL ALCOHOL	107-18-6	21	440	88
AMMONIA	7664-41-7	21,000	440,000	88,000
ANILINE	62-53-3	210	4,400	880
BENZENE	71-43-2	620	16,000	3,100
BENZYL CHLORIDE	100-44-7	99	2,500	500
BETA PROPIOLACTONE	57-57-8	1.2	31	6.1
BIPHENYL, 1,1-	92-52-4	83	1,800	350
BIS(2-CHLOROETHYL)ETHER	111-44-4	15	370	74
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	490	12,000	2,500
BIS(CHLOROMETHYL)ETHER	542-88-1	0.079	2.0	0.40
BROMOCHLOROMETHANE	74-97-5	8,300	180,000	35,000
BROMODICHLOROMETHANE	75-27-4	130	3,300	660
BROMOMETHANE	74-83-9	1,000	22,000	4,400
BUTADIENE, 1,3-	106-99-0	160	4,100	820
CARBON DISULFIDE	75-15-0	150,000	3,100,000	610,000
CARBON TETRACHLORIDE	56-23-5	810	20,000	4,100
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	10,000,000	220,000,000	44,000,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	210	4,400	880
CHLOROBENZENE	108-90-7	10,000	220,000	44,000
CHLORODIBROMOMETHANE	124-48-1	180	4,500	910
CHLORODIFLUOROMETHANE	75-45-6	10,000,000	220,000,000	44,000,000
CHLOROETHANE	75-00-3	2,100,000	44,000,000	8,800,000
CHLOROFORM	67-66-3	210	5,300	1,100
CHLOROPRENE	126-99-8	16	410	82
CHLOROPROPANE, 2-	75-29-6	21,000	440,000	88,000

Table 3. Near-Source Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
CRESOL(S)	1319-77-3	130,000	2,600,000	530,000
CUMENE (ISOPROPYL BENZENE)	98-82-8	83,000	1,800,000	350,000
CYCLOHEXANE	110-82-7	1,300,000	26,000,000	5,300,000
CYCLOHEXANONE	108-94-1	150,000	3,100,000	610,000
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.32	20	4.1
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	8.1	200	41
DIBROMOMETHANE	74-95-3	830	18,000	3,500
DICHLORO-2-BUTENE, 1,4-	764-41-0	1.2	29	5.8
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	1.2	29	5.8
DICHLOROBENZENE, 1,2-	95-50-1	42,000	880,000	180,000
DICHLOROBENZENE, P-	106-46-7	440	11,000	2,200
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	21,000	440,000	88,000
DICHLOROETHANE, 1,1-	75-34-3	3,000	77,000	15,000
DICHLOROETHANE, 1,2-	107-06-2	190	4,700	940
DICHLOROETHYLENE, 1,1-	75-35-4	42,000	880,000	180,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	13,000	260,000	53,000
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	130,000	2,600,000	530,000
DICHLOROPROPANE, 1,2-	78-87-5	490	12,000	2,500
DICHLOROPROPENE, 1,3-	542-75-6	1,200	31,000	6,100
DICYCLOPENTADIENE	77-73-6	63	1,300	260
DIOXANE, 1,4-	123-91-1	630	16,000	3,200
EPICHLOROHYDRIN	106-89-8	210	4,400	880
ETHOXYETHANOL, 2- (EGEE)	110-80-5	42,000	880,000	180,000
ETHYL ACETATE	141-78-6	15,000	310,000	61,000
ETHYL ACRYLATE	140-88-5	1,700	35,000	7,000
ETHYL BENZENE	100-41-4	1,900	49,000	9,800
ETHYL METHACRYLATE	97-63-2	63,000	1,300,000	260,000
ETHYLENE GLYCOL	107-21-1	83,000	1,800,000	350,000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	150,000	3,100,000	610,000
FORMALDEHYDE	50-00-0	370	9,400	1,900
FORMIC ACID	64-18-6	63	1,300	260
FURFURAL	98-01-1	10,000	220,000	44,000

Table 3. Near-Source Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
HEXACHLOROETHANE	67-72-1	490	12,000	2,500
HEXANE	110-54-3	150,000	3,100,000	610,000
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	1.0	25	5.0
METHACRYLONITRILE	126-98-7	6,300	130,000	26,000
METHANOL	67-56-1	830,000	18,000,000	3,500,000
METHOXYETHANOL, 2-	109-86-4	4,200	88,000	18,000
METHYL ACRYLATE	96-33-3	4,200	88,000	18,000
METHYL CHLORIDE	74-87-3	2,700	68,000	14,000
METHYL ETHYL KETONE	78-93-3	1,000,000	22,000,000	4,400,000
METHYL HYDRAZINE	60-34-4	4.2	88	18
METHYL ISOBUTYL KETONE	108-10-1	630,000	13,000,000	2,600,000
METHYL ISOCYANATE	624-83-9	210	4,400	880
METHYL METHACRYLATE	80-62-6	150,000	3,100,000	610,000
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	6,300	130,000	26,000
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	8,300	180,000	35,000
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	19,000	470,000	94,000
METHYLNAPHTHALENE, 2-	91-57-6	630	13,000	2,600
NAPHTHALENE	91-20-3	140	3,600	720
NITROBENZENE	98-95-3	120	3,100	610
NITROPROPANE, 2-	79-46-9	1.8	45	9.1
NITROSODIETHYLAMINE, N-	55-18-5	0.045	2.9	0.57
NITROSODIMETHYLAMINE, N-	62-75-9	0.14	8.8	1.8
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	3.0	77	15
PCB-1221 (AROCLOR)	11104-28-2	8.5	220	43
PCB-1232 (AROCLOR)	11141-16-5	8.5	220	43
PHENOL	108-95-2	42,000	880,000	180,000
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	42,000	880,000	180,000
PROPYLBENZENE, N-	103-65-1	210,000	4,400,000	880,000
PROPYLENE OXIDE	75-56-9	1,300	33,000	6,600
STYRENE	100-42-5	210,000	4,400,000	880,000
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	660	17,000	3,300
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	84	2,100	420
TETRACHLOROETHYLENE (PCE)	127-18-4	8,300	180,000	35,000

Table 3. Near-Source Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
TETRAHYDROFURAN	109-99-9	2,500	63,000	13,000
TOLUENE	108-88-3	1,000,000	22,000,000	4,400,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	4,400	110,000	22,000
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	6,300,000	130,000,000	26,000,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	420	8,800	1,800
TRICHLOROBENZENE, 1,3,5-	108-70-3	420	8,800	1,800
TRICHLOROETHANE, 1,1,1-	71-55-6	1,000,000	22,000,000	4,400,000
TRICHLOROETHANE, 1,1,2-	79-00-5	42	880	180
TRICHLOROETHYLENE (TCE)	79-01-6	420	8,800	1,800
TRICHLOROPROPANE, 1,2,3-	96-18-4	63	1,300	260
TRICHLOROPROPENE, 1,2,3-	96-19-5	63	1,300	260
TRIETHYLAMINE	121-44-8	1,500	31,000	6,100
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	1,500	31,000	6,100
TRIMETHYLBENZENE, 1,3,5-	108-67-8	1,500	31,000	6,100
VINYL ACETATE	108-05-4	42,000	880,000	180,000
VINYL BROMIDE (BROMOETHENE)	593-60-2	150	3,800	770
VINYL CHLORIDE	75-01-4	160	14,000	2,700
XYLENES (TOTAL)	1330-20-7	21,000	440,000	88,000

Table 4. Sub-Slab Soil Gas Statewide Health Standard Vapor Intrusion Screening Values (SV_{SS})

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
ACETALDEHYDE	75-07-0	360	5,100	1,500
ACETONE	67-64-1	1,200,000	17,000,000	5,200,000
ACETONITRILE	75-05-8	2,400	34,000	10,000
ACROLEIN	107-02-8	0.80	11	3.4
ACRYLAMIDE	79-06-1	3.7	160	47
ACRYLIC ACID	79-10-7	40	560	170
ACRYLONITRILE	107-13-1	14	230	69
ALLYL ALCOHOL	107-18-6	4.0	56	17
AMMONIA	7664-41-7	4,000	56,000	17,000
ANILINE	62-53-3	40	560	170
BENZENE	71-43-2	120	2,000	610
BENZYL CHLORIDE	100-44-7	19	320	96
BETA PROPIOLACTONE	57-57-8	0.23	3.9	1.2
BIPHENYL, 1,1-	92-52-4	16	220	67
BIS(2-CHLOROETHYL)ETHER	111-44-4	2.8	48	14
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	94	1,600	470
BIS(CHLOROMETHYL)ETHER	542-88-1	0.015	0.25	0.076
BROMOCHLOROMETHANE	74-97-5	1,600	22,000	6,700
BROMODICHLOROMETHANE	75-27-4	25	430	130
BROMOMETHANE	74-83-9	200	2,800	840
BUTADIENE, 1,3-	106-99-0	31	520	160
CARBON DISULFIDE	75-15-0	28,000	390,000	120,000
CARBON TETRACHLORIDE	56-23-5	160	2,600	790
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	2,000,000	28,000,000	8,400,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	40	560	170
CHLOROBENZENE	108-90-7	2,000	28,000	8,400
CHLORODIBROMOMETHANE	124-48-1	35	580	170
CHLORODIFLUOROMETHANE	75-45-6	2,000,000	28,000,000	8,400,000
CHLOROETHANE	75-00-3	400,000	5,600,000	1,700,000
CHLOROFORM	67-66-3	41	680	210
CHLOROPRENE	126-99-8	3.1	52	16
CHLOROPROPANE, 2-	75-29-6	4,000	56,000	17,000

Table 4. Sub-Slab Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
CRESOL(S)	1319-77-3	24,000	340,000	100,000
CUMENE (ISOPROPYL BENZENE)	98-82-8	16,000	220,000	67,000
CYCLOHEXANE	110-82-7	240,000	3,400,000	1,000,000
CYCLOHEXANONE	108-94-1	28,000	390,000	120,000
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.062	2.6	0.79
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	1.6	26	7.9
DIBROMOMETHANE	74-95-3	160	2,200	670
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.22	3.7	1.1
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.22	3.7	1.1
DICHLOROBENZENE, 1,2-	95-50-1	8,000	110,000	34,000
DICHLOROBENZENE, P-	106-46-7	85	1,400	430
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	4,000	56,000	17,000
DICHLOROETHANE, 1,1-	75-34-3	590	9,800	3,000
DICHLOROETHANE, 1,2-	107-06-2	36	610	180
DICHLOROETHYLENE, 1,1-	75-35-4	8,000	110,000	34,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	2,400	34,000	10,000
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	24,000	340,000	100,000
DICHLOROPROPANE, 1,2-	78-87-5	94	1,600	470
DICHLOROPROPENE, 1,3-	542-75-6	230	3,900	1,200
DICYCLOPENTADIENE	77-73-6	12	170	51
DIOXANE, 1,4-	123-91-1	120	2,000	610
EPICHLOROHYDRIN	106-89-8	40	560	170
ETHOXYETHANOL, 2- (EGEE)	110-80-5	8,000	110,000	34,000
ETHYL ACETATE	141-78-6	2,800	39,000	12,000
ETHYL ACRYLATE	140-88-5	320	4,500	1,300
ETHYL BENZENE	100-41-4	370	6,300	1,900
ETHYL METHACRYLATE	97-63-2	12,000	170,000	51,000
ETHYLENE GLYCOL	107-21-1	16,000	220,000	67,000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	28,000	390,000	120,000
FORMALDEHYDE	50-00-0	72	1,200	360
FORMIC ACID	64-18-6	12	170	51
FURFURAL	98-01-1	2,000	28,000	8,400

Table 4. Sub-Slab Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
HEXACHLOROETHANE	67-72-1	94	1,600	470
HEXANE	110-54-3	28,000	390,000	120,000
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.19	3.2	1.0
METHACRYLONITRILE	126-98-7	1,200	17,000	5,100
METHANOL	67-56-1	160,000	2,200,000	670,000
METHOXYETHANOL, 2-	109-86-4	800	11,000	3,400
METHYL ACRYLATE	96-33-3	800	11,000	3,400
METHYL CHLORIDE	74-87-3	520	8,700	2,600
METHYL ETHYL KETONE	78-93-3	200,000	2,800,000	840,000
METHYL HYDRAZINE	60-34-4	0.80	11	3.4
METHYL ISOBUTYL KETONE	108-10-1	120,000	1,700,000	510,000
METHYL ISOCYANATE	624-83-9	40	560	170
METHYL METHACRYLATE	80-62-6	28,000	390,000	120,000
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	1,200	17,000	5,100
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	1,600	22,000	6,700
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	3,600	61,000	18,000
METHYLNAPHTHALENE, 2-	91-57-6	120	1,700	510
NAPHTHALENE	91-20-3	28	460	140
NITROBENZENE	98-95-3	23	390	120
NITROPROPANE, 2-	79-46-9	0.35	5.8	1.7
NITROSODIETHYLAMINE, N-	55-18-5	0.0086	0.37	0.11
NITROSODIMETHYLAMINE, N-	62-75-9	0.026	1.1	0.34
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.59	10	3.0
PCB-1221 (AROCLOR)	11104-28-2	1.6	28	8.3
PCB-1232 (AROCLOR)	11141-16-5	1.6	28	8.3
PHENOL	108-95-2	8,000	110,000	34,000
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	8,000	110,000	34,000
PROPYLBENZENE, N-	103-65-1	40,000	560,000	170,000
PROPYLENE OXIDE	75-56-9	250	4,300	1,300
STYRENE	100-42-5	40,000	560,000	170,000
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	130	2,100	640
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	16	270	81
TETRACHLOROETHYLENE (PCE)	127-18-4	1,600	22,000	6,700

Table 4. Sub-Slab Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
TETRAHYDROFURAN	109-99-9	480	8,100	2,400
TOLUENE	108-88-3	200,000	2,800,000	840,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	850	14,000	4,300
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	1,200,000	17,000,000	5,100,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	80	1,100	340
TRICHLOROBENZENE, 1,3,5-	108-70-3	80	1,100	340
TRICHLOROETHANE, 1,1,1-	71-55-6	200,000	2,800,000	840,000
TRICHLOROETHANE, 1,1,2-	79-00-5	8.0	110	34
TRICHLOROETHYLENE (TCE)	79-01-6	80	1,100	340
TRICHLOROPROPANE, 1,2,3-	96-18-4	12	170	51
TRICHLOROPROPENE, 1,2,3-	96-19-5	12	170	51
TRIETHYLAMINE	121-44-8	280	3,900	1,200
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	280	3,900	1,200
TRIMETHYLBENZENE, 1,3,5-	108-67-8	280	3,900	1,200
VINYL ACETATE	108-05-4	8,000	110,000	34,000
VINYL BROMIDE (BROMOETHENE)	593-60-2	29	490	150
VINYL CHLORIDE	75-01-4	30	1,700	520
XYLENES (TOTAL)	1330-20-7	4,000	56,000	17,000

Table 5. Indoor Air Statewide Health Standard Vapor Intrusion Screening Values (SV_{IA})

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
ACETALDEHYDE	75-07-0	9.4	39
ACETONE	67-64-1	32,000	140,000
ACETONITRILE	75-05-8	63	260
ACROLEIN	107-02-8	0.021	0.088
ACRYLAMIDE	79-06-1	0.096	1.2
ACRYLIC ACID	79-10-7	1.0	4.4
ACRYLONITRILE	107-13-1	0.36	1.8
ALLYL ALCOHOL	107-18-6	0.10	0.44
AMMONIA	7664-41-7	100	440
ANILINE	62-53-3	1.0	4.4
BENZENE	71-43-2	3.1	16
BENZYL CHLORIDE	100-44-7	0.50	2.5
BETA PROPIOLACTONE	57-57-8	0.0061	0.031
BIPHENYL, 1,1-	92-52-4	0.42	1.8
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.074	0.37
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	2.4	12
BIS(CHLOROMETHYL)ETHER	542-88-1	0.00039	0.0020
BROMOCHLOROMETHANE	74-97-5	42	180
BROMODICHLOROMETHANE	75-27-4	0.66	3.3
BROMOMETHANE	74-83-9	5.2	22
BUTADIENE, 1,3-	106-99-0	0.81	4.1
CARBON DISULFIDE	75-15-0	730	3,100
CARBON TETRACHLORIDE	56-23-5	4.1	20
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	52,000	220,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	1.0	4.4
CHLOROBENZENE	108-90-7	52	220
CHLORODIBROMOMETHANE	124-48-1	0.90	4.5
CHLORODIFLUOROMETHANE	75-45-6	52,000	220,000
CHLOROETHANE	75-00-3	10,000	44,000
CHLOROFORM	67-66-3	1.1	5.3
CHLOROPRENE	126-99-8	0.081	0.41
CHLOROPROPANE, 2-	75-29-6	100	440
CRESOL(S)	1319-77-3	630	2,600

Table 5. Indoor Air Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
CUMENE (ISOPROPYL BENZENE)	98-82-8	420	1,800
CYCLOHEXANE	110-82-7	6,300	26,000
CYCLOHEXANONE	108-94-1	730	3,100
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.0016	0.020
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.041	0.20
DIBROMOMETHANE	74-95-3	4.2	18
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.0058	0.029
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.0058	0.029
DICHLOROBENZENE, 1,2-	95-50-1	210	880
DICHLOROBENZENE, P-	106-46-7	2.2	11
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	440
DICHLOROETHANE, 1,1-	75-34-3	15	77
DICHLOROETHANE, 1,2-	107-06-2	0.94	4.7
DICHLOROETHYLENE, 1,1-	75-35-4	210	880
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	63	260
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	630	2,600
DICHLOROPROPANE, 1,2-	78-87-5	2.4	12
DICHLOROPROPENE, 1,3-	542-75-6	6.1	31
DICYCLOPENTADIENE	77-73-6	0.31	1.3
DIOXANE, 1,4-	123-91-1	3.2	16
EPICHLOROHYDRIN	106-89-8	1.0	4.4
ETHOXYETHANOL, 2- (EGEE)	110-80-5	210	880
ETHYL ACETATE	141-78-6	73	310
ETHYL ACRYLATE	140-88-5	8.3	35
ETHYL BENZENE	100-41-4	9.7	49
ETHYL METHACRYLATE	97-63-2	310	1,300
ETHYLENE GLYCOL	107-21-1	420	1,800
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	730	3,100
FORMALDEHYDE	50-00-0	1.9	9.4
FORMIC ACID	64-18-6	0.31	1.3
FURFURAL	98-01-1	52	220
HEXACHLOROETHANE	67-72-1	2.4	12
HEXANE	110-54-3	730	3,100

Table 5. Indoor Air Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.0050	0.025
METHACRYLONITRILE	126-98-7	31	130
METHANOL	67-56-1	4,200	18,000
METHOXYETHANOL, 2-	109-86-4	21	88
METHYL ACRYLATE	96-33-3	21	88
METHYL CHLORIDE	74-87-3	14	68
METHYL ETHYL KETONE	78-93-3	5,200	22,000
METHYL HYDRAZINE	60-34-4	0.021	0.088
METHYL ISOBUTYL KETONE	108-10-1	3,100	13,000
METHYL ISOCYANATE	624-83-9	1.0	4.4
METHYL METHACRYLATE	80-62-6	730	3,100
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	31	130
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	42	180
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	94	470
METHYLNAPHTHALENE, 2-	91-57-6	3.1	13
NAPHTHALENE	91-20-3	0.72	3.6
NITROBENZENE	98-95-3	0.61	3.1
NITROPROPANE, 2-	79-46-9	0.0090	0.045
NITROSODIETHYLAMINE, N-	55-18-5	0.00022	0.0029
NITROSODIMETHYLAMINE, N-	62-75-9	0.00069	0.0088
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.015	0.077
PCB-1221 (AROCLOR)	11104-28-2	0.043	0.22
PCB-1232 (AROCLOR)	11141-16-5	0.043	0.22
PHENOL	108-95-2	210	880
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	210	880
PROPYLBENZENE, N-	103-65-1	1,000	4,400
PROPYLENE OXIDE	75-56-9	6.6	33
STYRENE	100-42-5	1,000	4,400
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	3.3	17
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.42	2.1
TETRACHLOROETHYLENE (PCE)	127-18-4	42	180
TETRAHYDROFURAN	109-99-9	13	63
TOLUENE	108-88-3	5,200	22,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	22	110

Table 5. Indoor Air Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	31,000	130,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	2.1	8.8
TRICHLOROBENZENE, 1,3,5-	108-70-3	2.1	8.8
TRICHLOROETHANE, 1,1,1-	71-55-6	5,200	22,000
TRICHLOROETHANE, 1,1,2-	79-00-5	0.21	0.88
TRICHLOROETHYLENE (TCE)	79-01-6	2.1	8.8
TRICHLOROPROPANE, 1,2,3-	96-18-4	0.31	1.3
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.31	1.3
TRIETHYLAMINE	121-44-8	7.3	31
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	7.3	31
TRIMETHYLBENZENE, 1,3,5-	108-67-8	7.3	31
VINYL ACETATE	108-05-4	210	880
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.76	3.8
VINYL CHLORIDE	75-01-4	0.79	14
XYLENES (TOTAL)	1330-20-7	100	440

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Appendix Q

Subsection Four:

Phase I Vapor Intrusion Investigation

A JOINT VENTURE

Phase I Vapor Intrusion Investigation
PADEP Deficiency #5 - Subsurface Vapor Assessment
Former Defense Supply Center Philadelphia (DSCP)
Philadelphia, Pennsylvania

Prepared for: **United States Army Corps of Engineers, Philadelphia District**

Prepared by: **VERINA-PARS Joint Venture**

Contract/TO: [redacted]

October 2025

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Acronyms and Abbreviations

AA	Ambient Air
AO	Administrative Order
ARMY	United States Army
BRAC	Base Realignment and Closure Program
BV-BS	Biovent-Biosparge
COC	Constituents of Concern
CSM	Conceptual Site Model
DLA	Defense Logistics Agency
DSCP	Defense Supply Center at Philadelphia
IA	Indoor Air
JV	VERINA-PARS Joint Venture
LNAPL	Light Non-Aqueous Phase Liquid
LOD	Limit of Detection
NIR	Notice of Intent to Remediate
NS	Near Source
PADEP	Pennsylvania Department of Environmental Protection
PAID	Philadelphia Authority for Industrial Development
PAL	Project Action Limit
PHA	Philadelphia Housing Authority
PID	Photoionization Detector
PP	Preferential Pathway
PWS	Performance Work Statement
QA/QC	Quality Assurance/Quality Control
RIR	Remedial Investigation Report
SDS	Safety Data Sheet
SSDS	Sub-Slab Depressurization System
SSSG	Sub-Slab Soil Gas
SCV	Sewer Conduit Vapor
SVGW	PADEP's Groundwater Statewide Health Standard Vapor Intrusion Screening Values
USACE	United States Army Corps of Engineers
TGM	Technical Guidance Manual
VES	Vacuum-Enhanced Skimming
VI	Vapor Intrusion
VOC	Volatile Organic Compound
WLM	Water Level Meter

1.0 INTRODUCTION

This Vapor Intrusion (VI) Investigation report was prepared by the VERINA-PARS Joint Venture (JV) to document activities completed at the former Defense Supply Center at Philadelphia (DSCP), Pennsylvania (the "Site") for the U.S. Army Corps of Engineers, Philadelphia District (USACE) under Contract W912BU22D0003, Delivery Order W912BU24F0001, and corresponding Performance Work Statement (PWS), titled "Vapor Intrusion Investigation" dated 15 September 2023.

This VI Investigation and report were completed in response to Deficiency #5 provided by the Pennsylvania Department of Environmental Protection (PADEP) in its "Disapproval of Combined Remedial Investigation Report/Cleanup Plan Defense Supply Center Philadelphia" memorandum dated 13 September 22, 2022 (Arcadis, 2022). Deficiency #5 reads:

> ***Section 8.2 Subsurface Vapor Assessment****. All vapor intrusion (VI) sampling data, analytical summary tables, and sample locations should be provided from previous VI investigations. Additionally, the delineated VI proximity distances around the delineated/modeled extent of the groundwater plume should also be provided. While it is recognized that additional vapor intrusion sampling for the on-site buildings is proposed, these data need to be provided in the RIR at the time of report submission (25 Pa. Code §§ 250.404(a), 408(b)(2), (c), and (d)).*

This report will serve as an Appendix to the revised RIR/CP where the information presented herein will be integrated with the supporting Human Health Risk Assessment (HHRA) that will provide detailed risk profiles and corresponding conclusions. The HHRA is being prepared by others under separate cover.

The former DSCP sits atop a large quantity of petroleum hydrocarbon light non-aqueous phase liquid (LNAPL) that occurs in the shallow unconfined aquifer beneath the Site. There are approximately 60 commercial, industrial, and mixed-use buildings at the former DSCP that have a potentially complete vapor pathway imparted by the underlying LNAPL plume and related constituents of concern (COCs). These COCs were defined in the Site's Administrative Order (AO), dated 10 December 1999, between the PADEP, and the Department of the Army and DSCP (collectively the Defense Logistics Agency [DLA]). In addition, there are 338 townhomes to the south of the former DSCP, south of I-76 that comprise the Siena Place residential townhome development. Each of these townhomes was constructed with a passive vapor barrier membrane installed between the foundations and the indoor living spaces.

The objective of this VI Investigation was to collect, analyze, and evaluate vapor samples from buildings and environmental media at the former DSCP Site as stipulated in the *Vapor Intrusion Sampling Work Plan for the Commercial/Industrial Buildings, Residential Properties and Sewer - Former Defense Supply Center Philadelphia* prepared by the SERES-Arcadis 8(a) Joint Venture under Contract No. W912BU19D0008, Delivery Order [redacted] dated January 2023. The *VI Sampling Work Plan* was developed in accordance with the procedures established by the Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil Under Act 2 (TGM; PADEP 2021). An abridged version of the *VI Sampling Work Plan* is provided in **Appendix A**.

Completion of the VI Investigation was necessary to gather data with which to complete the VI Risk Assessment component of the Remedial Investigation Report (RIR) which is required under the Pennsylvania Department of Environmental Protection Land Recycling Program Act (Voluntary Cleanup Program) which was established as Act 2 of the 1995 legislative session (Act 2). The risk assessment was

completed by the Arcadis-Seres Joint Venture under separate cover. Together with on-going LNAPL removal via skimming, vapor-phase hydrocarbon mass removal, and groundwater monitoring, the work will further enable path-to-closure decisions for the Site under a Site-Specific Standard pathway elimination approach for PADEP Short List for Petroleum Products- Leaded Gasoline, Aviation Gasoline, and Jet Fuel under Act 2 as documented in the Notice of Intent to Remediate (NIR) dated 14 April 2017.

This work builds on a VI assessment conducted in 2018 aimed at documenting potential VI exposure pathways in Site buildings to support the building-specific risk assessments performed as part of Site's RIR. Results of the 2018 assessment were presented in the *Vapor Intrusion Assessment Report* (Arcadis 2020), which recommended the VI sampling locations and types addressed in this VI investigation. As is detailed herein, these locations included properties with occupied or habitable structures overlying the LNAPL plume, properties within the proximity distance to the LNAPL plume (per the TGM) or petroleum hydrocarbon constituents in groundwater above PADEP groundwater screening values (SVGW) or those having potential preferential pathways that require investigation. PADEP feedback on the 2018 Assessment Report led to revisions to the sequence and strategy of the sample locations and types of samples collected as part of this VI Investigation.

2.0 SITE BACKGROUND AND VI FRAMEWORK

The former DSCP sits atop a large quantity of LNAPL that resides in the shallow (i.e., water table) aquifer, and encompasses an area of approximately 100-acres in South Philadelphia. The DSCP "Site" includes the former DSCP property and the adjacent former Passyunk Homes property (**Figure 1**, adapted from the *VI Sampling Work Plan*). The former DSCP was closed under the 1993 Base Realignment and Closure (BRAC) program. In 2001, the United States Army (ARMY) transferred the air and surface rights to the Philadelphia Authority for Industrial Development (PAID). Across Interstate-76 (I-76) south of the former DSCP property, the Philadelphia Housing Authority's (PHA) new building has been constructed along with a redevelopment of the former Passyunk Homes property, which was purchased by Penrose Park Developers. The former Sunoco oil refinery property lies across I-76 to the west of the former DSCP and former Passyunk Homes.

The former DSCP facility buildings located on the eastern portion of the Site are now owned and managed by a private property management entity which leases parcels to commercial and government (state and federal) interests, although some of the buildings are currently vacant. There are no known vapor mitigation systems or engineering controls in place in these former DSCP facility buildings. Quartermaster Plaza was constructed on the western portion of the Site in 2004 which contains approximately 18 retail stores and four food establishments. Some of these commercial buildings, including the ones closest to the LNAPL plume were constructed with vapor barriers and passive sub-slab depressurization systems (SSDS) though as-builts and records of testing for these engineering controls have not been found.

For over 25 years, subsurface LNAPL impacts have been and continue to be investigated. In 1987, the DLA notified the PADEP of the discovery of petroleum hydrocarbon contamination beneath the Former DSCP Facility, and in 1988 subsurface investigations into the source and nature and extent of the impacts began. In 1996, the United States and [then] Sunoco entered into a Consent Order and Agreement with the PADEP to collectively remediate the subsurface LNAPL impacts delineated between 1988 and 1995.

LNAPL remediation at the Former DSCP Facility began in 1996 with skimmer pumps installed in the shallow aquifer zone wells. In 1999, the AO established Act 2 as the regulatory framework for remediation activities and set specific cleanup objectives for LNAPL in the shallow aquifer zone. A full-scale vacuum enhanced skimming (VES) system was installed in 2005 in response to declining LNAPL recovery rates and to continue to support the AO objectives. Several optimization strategies to improve both the rate of petroleum hydrocarbon recovery as well as subsurface, in-situ destruction of Site LNAPL have been implemented since 2011. Most recently (2019), an integrated Biovent-Biosparge (BV-BS) system that operates in tandem with the Site VES system has been brought on-line and still operates as of the time of this report.

The current distribution of LNAPL appears to be constrained within an elongated area, following an east-west trend. Presently, the LNAPL extent is largely constrained to what is known as "the breach" which is a similarly oriented absence of a confining unit that separates the LNAPL-containing shallow aquifer from the underlying deep aquifer. The maximum historical extent of LNAPL reached north almost to Oregon Avenue, east to MW-12, south to almost Hartranft Street, and west along 23rd Street where it co-mingled with the LNAPL plume on the former refinery. With on-going remediation focused on the LNAPL, the LNAPL extent has largely contracted to the extent observed today.

Earlier LNAPL/petroleum hydrocarbon-focused human health risk assessments (Environ 2002) assumed the Site's subsurface future land use would be restricted to commercial/industrial use. Various engineering controls, such as venting systems and vapor barriers, were designed, constructed, and installed prior to full understanding of the Conceptual Site Model (CSM), knowledge of future land use and re-development activities, and prior to publication of the 2017 PADEP Act 2 VI TGM. For these reasons, and since the Site commercial structures that rely on these controls are already occupied and in use (e.g., Quartermaster Plaza and Siena Place), specific VI-focused characterization and eventual remediation activities were competed to support revisions to the Site-Specific Human Health Risk Assessment.

3.0 VI INVESTIGATION RATIONALE AND SAMPLING APPROACH

The 2018 VI Assessment identified the potential for the VI pathway to be complete for several reasons including:

- Numerous VI pathways exist in the former DSCP facility buildings which underlie gaps in foundations, open sumps, and drains.
- Several buildings constructed on the Site as part of redevelopment have vapor barriers and passive SSDS installed. However, records of as-builts or testing after installation were not able to be located and/or may not exist.
- Preferential pathways on the former DSCP facility include sewers, but also include tunnels for steam, fuel oil and other utilities crossing much of the Site. These preferential pathways may be complete VI pathways for the newer buildings on Site.
- Exterior assessments of buildings without access were conducted and found similar potentials for complete VI preferential pathways.

Per the PADEP VI TGM, buildings were categorized based on their position relative to known sources of subsurface contamination, the extent to which nearby groundwater impacts are known, and whether there exists the potential for preferential pathways connecting the building with distal contamination:

1. Properties or buildings within the current (or historical) LNAPL plume or within the proximity distance of 30-feet of the current (or historical) LNAPL plume.
2. Properties or buildings that are outside of the current (or historical) LNAPL plume but have adjacent wells with LNAPL present, limited available groundwater data, or groundwater volatile organic compound (VOC) concentrations above the SVGW for protection from VI.
3. Properties or buildings that are outside of the current (or historical) extent of the LNAPL plume, adjacent wells are below the SVGW for protection from VI, but the potential for preferential pathways exist and require evaluation.

Taken together, these VI assessment results and regulatory framework led to the organization of buildings into groups where each building in a particular group share a similar situation and subsequent sampling strategy. Five groups were established as follows:

- Group 1 – Buildings with vapor barrier and passive SSDS which are either over the current (or historical) extent of LNAPL or have the potential for preferential pathways.
- Group 2 – Buildings that are over the current (or historical) LNAPL plume within the 30-foot proximity distance to the site LNAPL.
- Group 3 – Buildings fall into three categories: 1) Buildings that have adjacent wells with LNAPL present, 2) Buildings with limited available groundwater data, or 3) Buildings with groundwater VOC concentrations above the SVGW for protection from VI.
- Group 4 – Buildings that are outside of the current (or historical) extent of the LNAPL plume, adjacent wells are below the SVGW for protection from VI, but the potential for preferential pathways exist and therefore require evaluation. Screening preferential pathways at Group 2 and Group 3 buildings may be used to screen out Group 4 buildings.
- Group 5 – Buildings are farthest from the LNAPL plume, are outside of the current (or historical) 198 extent of the LNAPL plume, have adjacent wells that are below the SVGW for protection from

VI but still have the potential for preferential pathways. Due to their distance from the LNAPL plume, VI Sampling at these buildings may not be necessary if preferential pathways are not confirmed during sampling at buildings in Groups 3 or 4 closer to the source.

Due to the LNAPL remaining on-site, the selected Project Action Limits (PALs) for each Phase 1 VI sample collected, as described in the remainder of this report, was 1/10th of the respective PADEP Act 2 TGM non-residential soil vapor screening value for the given sample matrix (near source soil gas, sub-slab soil gas, or indoor air).

As described, the buildings located at the former DSCP site were split into five different groups based on their implemented engineering controls, their location with respect to the current and historical LNAPL plume, and their location relative to a monitoring well with LNAPL present or COCs exceeding their standard.

Based on Table 1 of the *VI Sampling Work Plan*, and based on the characteristics of each group, each group of buildings was subject to different sample types. Outlined below are the sampling types assigned to each group:

- Group 1 – Indoor Air (IA) and Sub-Slab Depressurization System (SSDS)
- Group 2 – Indoor Air (IA), Sub-Slab Soil Gas (SSSG), Preferential Pathway (PP), Near Source (NS), Sewer Conduit Vapor (SVC)
- Group 3 – Preferential Pathway (PP), Near Source (NS), Sewer Conduit Vapor (SVC)
- Group 4 – Preferential Pathway (PP), Near Source (NS), Sewer Conduit Vapor (SVC)

All sampling activities completed during the VI investigation are expanded upon in the following sections of this report and are in accordance with the PADEP VI TGM (2021) and the Arcadis TGI for IA or Ambient Air (AA) Sampling and Analysis. Necessary deviances had to be taken from the sampling methods outlined in the *VI Sampling Work Plan*, which are also further expanded upon in in the following sections of this report. All samples were collected using flow controllers and summa canisters provided to us by the laboratory, ALS Global of Simi Valley, California. At the completion of each sample, they were packaged and sent back to the lab for analysis via USEPA Method TO-15.

Phase I of this project consists of two events, an initial event and a confirmatory event, performed at least 45 days apart. The two events were to be completed during the heating and non-heating seasons of the year, when heating, ventilation, and air conditioning are potentially operational, with at least a 15-degree Fahrenheit temperature difference between the interior and exterior of the buildings. These rules are mainly prevalent for indoor air samples. All samples collected during the confirmatory events were attempted at identical locations as their respective initial round samples.

The number of samples to be collected per type per building were based off Tables 1 and 3 of the *VI Sampling Work Plan*. Due to circumstances out of the JV's control, not every sample could be collected, but all discrepancies are expanded upon further in Section 4.0 of this report.

The JV's initial event lasted from January 2024 to March 2024, when the heating is typically turned on inside buildings. The JV's confirmatory event lasted from the end of April 2024 to the beginning of June 2024, when businesses typically begin turning on their air conditioning. There were some instances when samples could not/were not collected during the initial event, from January to March. Therefore, their

initial samples were taken in the April through June event, and their confirmatory event occurred in August 2024. These samples are highlighted and are further expanded upon in Section 4.0 of this report.

3.1. Indoor Air (IA)

Prior to completing any work, Indoor Air Building Surveys were completed by the JV according to the specifications outlined in section 3.4.4 of the *VI Sampling Work Plan*. Field staff conducted a building survey of each building prior to initial and confirmatory sampling and recorded observations on Indoor Air Building Survey Form (**Appendix B**). The building surveys were used to gather additional information on building construction and layout; potential future occupancy/usage patterns; heating, ventilation, and air conditioning system settings; potential presence of indoor background sources; and to select indoor air sampling locations within the buildings. Safety data sheets (SDSs) were requested from the owner/occupiers for all chemical products used during building cleaning and normal activities. Additional SDSs were obtained from the internet for additional chemical products identified during the building surveys. The SDSs were reviewed to identify potential background sources of VOCs detected in samples and present due to activities within the buildings. A portable Photoionization Detector (PID) was also used prior to field screen to check for potential sources of VOCs. Additionally, sampling logs for each sample type collected during this project are provided in **Appendices C through G**.

Indoor air samples were collected in Group 1 and Group 2 buildings only, following the methods outlined in Section 3.4.5 of the *VI Sampling Work Plan*. Indoor and ambient air, see Section 3.2.7, samples were collected in 6-liter stainless steel summa canisters deployed at a height of approximately 3 to 5 feet above the ground surface, corresponding approximately to the breathing zone height. The summa canisters were left in place for a 24-hour period to collect time-integrated samples via flow controllers provided by the laboratory. Doors and windows were instructed to be kept closed during the sampling period if possible. A ratio of one duplicate sample was collected for every twenty indoor air samples collected.

3.2. Sub-Slab Depressurization System (SSDS)

Sub-slab soil gas sampling utilizing the SSDS collection piping was conducted in buildings that have vapor barriers and passive SSDS systems installed, to obtain sub-slab vapor without damaging the integrity of the vapor barrier. Samples were collected from two selected SSDS vapor collection system risers on each building via the exterior access ports located on the outside of each building. Two weeks prior to the collection of samples, the SSDS collection pipes were isolated by closing the valve to the riser pipe to allow time for sub-slab vapor to accumulate in the piping without being removed or diluted by atmospheric pressure differences from the open riser pipe. Due to the time constraints faced by the JV, the collection pipes were isolated one week prior to the collection of the SSDS samples. SSDS samples were collected concurrently with the collection of corresponding IA samples from the same buildings, on Group 1 buildings only. Immediately after the collection of SSDS samples, the SSDS valves were then opened so the systems could continue operating as intended. They were only closed again one week prior to collecting the confirmatory round of IA and SSDS samples.

Per the *VI Sampling Work Plan*, Section 3.4.3, shut-in and leak testing were conducted in accordance with PADEP TGM (2021), prior to the collection of the samples were collected into 1-liter summa canisters. Deviating from Section 3.4.3 of the *VI Sampling Work Plan*, a helium tracer gas was not used as a quality assurance/quality control (QA/QC) measure to verify the integrity of the exterior access port and samples

were not collected over a 30-minute sampling period. After conducting the shut-in and leak tests as QA/QC measures, samples were collected over a 5-minute sampling period using the 1-liter stainless steel canisters and flow controllers provided by the laboratory. A ratio of one duplicate sample was collected for every twenty SSDS samples collected (1/20; 5%).

3.3. Sub-Slab Soil Gas (SSSG)

SSSG samples were collected from permanent sub-slab soil gas sampling probes (Vapor Pins®) installed at the target locations where the main floor is slab-on-grade construction. The Vapor Pin® consists of a press-fitted stainless-steel barb fitting installed into a silicone liner through a 5/8" hole drilled through the concrete floor. The finished installation was recessed into a 1 ½" hole and includes a sealed stainless-steel cover to prevent damage and vapor intrusion. The Vapor Pins® were installed using a hammer drill in accordance with the Technical Guidance Instruction (TGI) for Sub-Slab Soil Gas Sampling Point Installation Using Vapor Pin® Approach. The Vapor Pin® was allowed to sit for 24 hours before sample collection.

SSSG samples were collected in accordance with the methods outlined in Section 3.4.2 of the *VI Sampling Work Plan.* Prior to sampling, a helium tracer gas was used as a QA/QC measure to verify the integrity of the exterior access port and to confirm the absence of ambient air infiltration into the port. Once the helium test had passed, shut-in testing and leak testing of the entire sampling train was also conducted to ensure the integrity of the sample train. Deviating from the above-mentioned *VI Sampling Work Plan* samples were collected over a 5-minute sampling period using a 1-liter stainless steel air canister and flow controller, which were provided by the laboratory. A ratio of one duplicate sample was collected for every twenty SSSG samples collected (1/20; 5%).

3.4. Preferential Pathway (PP)

Soil vapor from identified utility pipe bedding preferential pathways (PP) was sampled to evaluate if any utilities with permeable, non-native soil, bedding material may be acting as a vapor preferential pathway from the source area to a building. Soil gas samples were collected from within the utility bedding which are known to be located along potential utility corridors.

Vapor probes were installed in shallow borings advanced using a direct-push drill rig after screening the area with ground-penetrating radar to avoid utility strikes. A Geoprobe® Permanent Soil Vapor Probe Implant (or similar expendable tip soil gas implant) was installed to allow multiple sampling events. The soil vapor probe was installed in accordance with the Geoprobe® Permanent Soil Vapor Probe Implant operation guide utilizing ¼" Teflon™ tubing. The points were constructed using glass beads placed down around the implant, with 16-mesh bentonite mix to the surface. The surface completion for all points installed in right of ways or other public areas were completed at the surface within 4-inch flush-mount access point with a bolted cover set in concrete. Each probe was allowed to equilibrate for a minimum of 24 hours before sample collection.

PP samples were collected in accordance with the methods outlined in Section 3.4.6 of the *VI Sampling Work Plan*. Prior to sampling, a helium tracer was used as a QA/QC measure to verify the integrity of the connection to the soil gas probe and to confirm the absence of ambient air infiltration. After successful completion of the helium test, shut-in testing and leak testing were also conducted to ensure the integrity of the sample chain. After the completion of all QA/QC tests, the sample was then collected. Deviating from the above-mentioned *VI Sampling Work Plan*, samples were collected over a 5-minute sampling

period using a 1-liter stainless steel air canister and flow controller, which were provided by the laboratory. A ratio of one duplicate sample was collected for every twenty PP samples collected (1/20; 5%).

3.5. Near Source (NS)

Near Source (NS) vapor samples were collected in much the same way as the PP samples. The same Geoprobe® Permanent Soil Vapor Probe Implants were installed in borings advanced using the direct push rig and secured at the surface within 4-inch flush-mount access points with bolted covers set in concrete. These samples, however, were collected from deeper intervals positioned just above the water table within 1-foot of the capillary fringe in accordance with the PADEP TGM, typically deeper than 10 feet below grade and closer to 15 feet below grade in most instances.

NS samples were collected in accordance with the methods outlined in Section 3.4.6 of the *VI Sampling Work Plan*. Prior to sampling, a helium tracer was used as a QA/QC measure to verify the integrity of the connection to the soil gas probe and to confirm the absence of ambient air infiltration. After completion of the helium test, shut-in testing and leak testing were also conducted to ensure the integrity of the sample chain. After the completion of all QA/QC tests, the sample was then collected. Deviating from the above-mentioned *VI Sampling Work Plan*, samples were collected over a 5-minute sampling period using a 1-liter stainless steel air canister and flow controller, which were provided by the laboratory. A ratio of one duplicate sample was collected for every twenty NS samples collected (1/20; 5%).

3.6. Sewer Conduit Vapor (SCV)

The SCV samples were collected in accordance with the methods outlined in Section 3.4.8 of the *VI Sampling Work Plan*.

To collect samples from large sewers such as manholes on the Pollock-Packer Combined Sewer or the two Siena Place laterals, the summa canister was connected to a length of Teflon™ tubing allowed to hang into the sewer through the hole in the manhole cover. The end of the tubing was suspended at a height of approximately 1-foot above the bottom invert of the sewer, or 1-foot above any liquid in the sewer pipe the surface of the water. Prior to sampling, a water level meter (WLM) was utilized to determine the depth of the bottom of the sewer, or the depth of water, if applicable. The tubing was looped to help control moisture entrainment, and all other openings in the manhole (or sewer grate) were sealed from the atmosphere using either VOC free plumbers' putty, or a shroud made of thick plastic which was taped to the grate.

Samples collected from sewer cleanouts and other smaller conduits were collected by using a cover/seal to connect tubing directly to the cleanout or conduit. Conduits smaller than 1.5 inches were sampled by inserting Teflon™ tubing into the conduit and sealing around the tubing with a shroud.

Deviating from the above-mentioned *VI Sampling Work Plan*, SCV samples were collected as grab samples using a 1-liter stainless air canister over a 5-minute sample period using flow controllers provided by the laboratory. Ambient air samples were collected concurrently with the SCV samples to evaluate the ambient atmospheric air quality. Ambient air samples (section 3.2.7 below) were collected over a 30-minute sampling period using 6-liter stainless steel canisters and flow controllers provided by the laboratory. These were collected either upgradient or downgradient of the SCV location, depending on

the direction of the wind. It was required that SCV samples could only be collected during the 30-minute sampling period of an AA sample.

It was instructed that SCV samples were to be collected only between the hours of 9:00 AM and 3:00 PM, but this could not be followed due to time constraints faced by the JV, and some samples were collected outside of these hours. Following the previously mentioned methods outlined in the *VI Sampling Work Plan*, samples were not collected within 48 hours following a rainfall event. A ratio of one duplicate sample was collected for every twenty SCV samples collected.

3.7. Ambient Air (AA)

AA samples were collected concurrently with all indoor air and SCV samples collected. All AA samples were collected in accordance with the methods outlined in Section 3.4.5 of the *VI Sampling Work Plan*.

Alongside every set of indoor air samples collected per building, an AA sample was placed outside, at a height of 3-5 feet, secured to a permanent structure, when possible. Ambient air samples were collected in 6-liter summa canisters and flow controllers sent by the laboratory and sat for 24-hours when associated with indoor air canisters, and 30-minutes when associated with SCV samples. A ratio of one duplicate sample was collected for every twenty AA samples collected.

4.0 VAPOR INTRUSION PATHWAY SAMPLING AND RESULTS

As stated in Section 3.0 of the *VI Sampling Work Plan*, the VI sampling approach for the Site was divided into three major efforts: the commercial buildings, the residential buildings, and the sewer and subsurface utility corridors. The investigation strategy for each of these major efforts consisted of a phased approach to the evaluation of the VI pathway starting with the properties or parcels located either overtop of, or closest to, the current or former extent of LNAPL. Structures with the highest risk or suspected vapor entry points will be prioritized. The investigation will then step outward to the properties or parcels further from the current (or historical) extent of LNAPL but near monitoring wells with groundwater concentrations above the SVGW, or incomplete data and potentially having preferential pathways requiring evaluation. Finally, the investigation moved to the properties or parcels farthest from the plume but have previously identified potential preferential pathways due to connection to the Sewer and other utilities.

The commercial/industrial investigation was based on the results of the assessments detailed in the 2020 VI Assessment Report, with some changes that include additional buildings that have been built after the publication of the 2020 VI Assessment Report (e.g., Aldi's replaces Vacant Lot #2), and locations that previously had access issues. The need for VI Sampling in the Siena Place residences and the number of homes requiring VI sampling was unknown prior to the completion of this investigation. For this reason, the sampling approach for the residences was based on a typical town home in Siena Place Homes and not based on any specific home. The sewer investigation approach was based on evaluating the sewer and its connection points as a preferential vapor pathway to Siena Place residences in both pipe bedding and conduit vapor inside of the sewer. A further explanation is provided in Section 4.2 of this report.

4.1. Commercial/Industrial Building Sampling Approach and Results

Each group of buildings was sampled in phases to fully evaluate the VI pathways. The sampling phases within each group of buildings (e.g., Group 1 through Group 5) differ, each honoring the differing criteria that apply to the specific group. In Section 3.1 the reasoning for placing the buildings in each specific group is provided. Phase 1 sampling will be performed first; if the Phase 1 group-specific samples indicate a human health risk then Phase 2 sampling will be conducted. Similarly, if Phase 2 sampling indicates a human health risk exists, Phase 3 sampling will be conducted. However, if no human health risk is indicated after any phases of sampling, then no further action is necessary.

This report will only refer to Phase I events that occurred. Recommendations, based off the risk assessment, if the JV feels any action is needed for Phase II can be found in the conclusions and recommendations below in Section 5.0. All activities performed for each building can be found below broken-down Group by Group and building by building.

4.1.1. Group 1 Buildings (BJ's, Home Depot, PHA, and Building P, O, N, J)

Group 1 buildings include buildings identified as PONJ, BJ's, PHA, and Home Depot. The sample types collected for this group and their methods can be found in Section 3.2 above.

4.1.1.1. BJ's Samples and Results

In January, after conducting an Indoor Air Building Survey and shutting the SSDS valves one-week prior, indoor air samples BJs-IA-1-012924 through BJs-IA-5-012924 and BJs-AA-1-012924 were collected.

After the collection of the initial indoor air samples, SSDS samples were taken from two SSDS riser pipes along the east and south side of the building. In February, samples BJs-SSDS-1-020224 and BJs-SSDS-2-020224 were collected.

More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In April, one week after shutting the SSDS vales, indoor air samples BJs-IA-1-042924 through BJs-5-042924 and BJs-AA-1-042924 were collected. In May 2024, SSDS samples BJs-SSDS-1-050824 and BJs-SSDS-2-050824 were collected.

As seen in **Figure 2**, for all January indoor air samples, ethylbenzene and 1,2-Dibromoethane exceeded their respective standard. For the April round of indoor air samples, Naphthalene and 1-,2-Dibromoethane exceed their respective standard for all samples, except for BJs-IA-5-042924, which does not show an exceedance for Naphthalene. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's Limit of Detection (LOD) for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

As seen in **Figure 2**, none of the samples in either round of sampling displayed an exceedance of the IA screening value for any compounds detected in the BJ's SSDS samples.

4.1.1.2. Home Depot Samples and Results

In January, after conducting an Indoor Air Building Survey and shutting the SSDS valves one-week prior, indoor air samples Home Depot-IA-1-013024 through Home Depot-IA-5-013024, Home Depot-IA-DUP-013024, and Home Depot-AA-1-013024 were collected. The duplicate sample was collected concurrently with sample Home Depot-IA-3-013024.

During the 24-hour sample period, sample Home Depot-IA-1-013024 was moved by employees, but not shut, so it was submitted for analysis. Due to a malfunction during analysis at the laboratory, samples Home Depot-IA-2-013024 through Home Depot-IA-4-013024 had to be considered void. In February 2024, the samples were retaken in identical locations, named Home Depot-IA-2-022024 through Home Depot-IA-4-022024 and Home Depot-IA-DUP-022024. An associated ambient air sample was not completed for the indoor air samples collected on February 20th, 2024.

Immediately after the collection of the initial indoor air samples, SSDS samples were taken from two SSDS riser pipes along the east side of the building. In February 2024, samples Home Depot-SSDS-1-020224 and Home Depot-SSDS-2-020224 were collected.

More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In April, one week after shutting the SSDS valves, samples Home Depot-IA-1-050624 through Home Depot-IA-5-050624, Home Depot-DUP-050624, and Home Depot-AA-1-050624 were collected. In May 2024, SSDS samples Home Depot-SSDS-1-050924 and Home Depot-SSDS-2-050924 were collected.

As seen in **Figure 3**, for the initial round of indoor air samples, a mixture of Benzene, Ethylbenzene, 1,2-Dibromoethane, Naphthalene, and/or Total Xylenes exceeded their standard in the samples collected. For the May round of indoor air samples, a mixture of Benzene, Ethylbenzene, 1,2,4-Trimethylbenzene, 1,2-Dibromoethane, Naphthalene and/or Total Xylenes exceed their standard in the samples collected. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

As seen in **Figure 3**, none of the samples in either round of sampling displayed an exceedance of the IA screening value for any compounds detected in the Home Depot SSDS samples.

4.1.1.3. PHA (Philadelphia Housing Authority) Samples and Results

In January, after conducting an Indoor Air Building Survey and shutting the SSDS valves one-week prior, indoor air samples PHA-IA-1-012924 through PHA-IA-5-012924 and PHA-AA-1-012924 were collected. Samples PHA-IA-3-012924 and PHA-IA-4-012924 were disturbed overnight, tampered with by employees. They were then recollected in more secure locations, in February, becoming PHA-IA-3-020124 and PHA-IA-020124 respectively.

Immediately after the collection of PHA indoor air samples 3 and 4, SSDS samples were taken from SSDS riser pipes along the north side of the building. In February 2024, samples PHA-SSDS-1-020124 and PHA-SSDS-2-020124 were collected. Due to a malfunction during analysis at the laboratory, sample PHA-SSDS-2-020124 became void. It was recollected later in February as PHA-SSDS-2-022124. The same procedure was followed and the SSDS valve this sample was collected from had been shut one week prior to collecting this sample. Immediately after the collection of each SSDS sample, the valve was reopened to ensure the engineering controls set in place could continue to function.

More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In April, one week after shutting the SSDS vales, samples PHA-IA-1-042924 through PHA-IA-5-042924 and ambient air sample PHA-AA-1-042924 were collected. In May 2024, SSDS samples PHA-SSDS-1-050824 and PHA-SSDS-2-050824 were collected.

As seen in **Figure 4**, for the initial round of indoor air samples, a mixture of Benzene, 1,2-Dibromoethane and/or Naphthalene exceed their standard in all samples. For the Aprill round of indoor air samples, a mixture of Benzene, Ethylbenzene, 1,2-Dibromoethane and/or Naphthalene exceed their standard in at least one of the samples collected. It must be noted that due to the $1/10^{th}$ rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

As seen in **Figure 4**, none of the samples in either round of sampling displayed an exceedance of the IA screening value for any compounds detected in the PHA SSDS samples.

4.1.1.4. Building PONJ Samples and Results

Building P, Building O, Building N, and Building J were all listed in the *VI Sampling Work Plan* as separate buildings, but they are in fact different stores all located in one structure. Therefore, there are a few discrepancies with the sample names. Sometimes the sample can be associated with one specific store, and this will be made clear in the name, but other times you will see a sample associated with the entire building, and this will be identified by having PONJ in the name. Building P is a Planet Fitness (PF) and Nova Care Physical Therapy (NC), Building J is a Pet Smart (PS), Building O no longer exists and has become part of Building P, and Building N is currently vacant, but undergoing renovation to become a Sprouts Grocery Store.

Due to the layout and conditions of Building PONJ, the JV had to deviate slightly from Table 1 of the *VI Sampling Work Plan*. The sampling plan called for eight (8) indoor air samples total and eight (8) SSDS samples in Building PONJ, averaging 2 indoor air and 2 SSDS samples per building. Because Building N was

vacant and under restoration, the JV felt dust may be an issue and did not collect any samples from this space. Since Building P and Building O combined, and Building O no longer exists, the JV collected 4 indoor air samples from Building P to account for the space that was Building O. Along the exterior of Building PONJ, there were six (6) SSDS riser pipes, meaning two (2) per building would have been impossible. Instead, two (2) SSDS samples were taken for the entirety of the building.

In January, after conducting an Indoor Air Building Survey and shutting the SSDS valves one week prior, indoor air samples Building J (PS)-IA-1-012924, Building J (PS)-IA-2-012924, Building P (PF)-IA-1-012924 through Building P (PF)-IA-3-012924, Building P (NC)-IA-4-012924, and PONJ-AA-1-012924 were collected. After the collection of the initial indoor air samples, SSDS samples PONJ-SSDS-1-020224 and PONJ-SSDS-2-020224 were collected. Sample PONJ-SSDS-DUP-020224 was taken concurrently with sample PONJ-SSDS-1-020224.

More than 45 days after the initial sampling round, the confirmatory sample round was collected. In April, indoor air samples Building J (PS)-IA-1-042924, Building J (PS)-IA-2-042924, Building P (PF)-IA-1-042924 through Building P (PF)-IA-3-042924, Building P (NC)-IA-4-042924, and PONJ-AA-1-042924 were collected.

Following the collection of the indoor air samples, and prior to reopening the SSDS valves, the confirmatory sample round was collected. In May, samples PONJ-SSDS-1-050824 and PONJ-SSDS-2-050824 were collected. Sample PONJ-SSDS-DUP-050824 was taken concurrently with sample PONJ-SSDS-1-050824.

As seen in **Figure 5**, for Building J, for the January indoor air samples, 1,2-Dibromoethane exceeds its respective standard for all samples. Results for the April round of indoor air samples show that a mixture of 1,2-Dichloroethane, 1,2-Dibromoethane, and/or Naphthalene exceed their respective standard in all samples. It must be noted that due to the $1/10^{th}$ rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

As seen in **Figure 5**, for Building P, for the January indoor air samples, 1,2-Dibromoethane and Naphthalene exceed their respective standard for all samples except for sample Building P (NC)-IA-4, which does not have Naphthalene present. For the April round of indoor air samples, 1,2-Dibromoethane and Naphthalene exceed their respective standard for samples 3 and 4, while samples 1 and 2 only show an exceedance for 1,2-Dibromoethane. It must be noted that due to the $1/10^{th}$ rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

As seen in **Figure 5**, none of the samples in either round of sampling displayed an exceedance for any compounds detected in the PONJ SSDS samples.

4.1.2. Group 2 Buildings (VES, 6, 8, 9, 11, 12, 13, 14, 30, former STEEN and PHA Gym)

Group 2 buildings include VES, 6, 8, 9, 11, 12, 13, 14, 30, STEEN, and PHA Gym Buildings. The sample types collected for this group and their methods can be found in Section 3.2.

4.1.2.1. VES Building

In February, indoor air samples were collected in the VES Building: VES-IA-1-020224, VES-IA-2-020224, and VES-AA-1-020224. More than 45 days after the initial sampling round, the JV returned to collect the

confirmatory sample round. In May, samples VES-IA-1-050124, VES-IA-2-050124, and VES-AA-1-050124 were collected.

As seen in **Figure 6**, for both the initial and confirmatory rounds of indoor air samples, Benzene, Naphthalene, and 1,2-Dibromoethane exceed their standard in both samples. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

In February sub-slab soil gas (SSSG) samples were collected from vapor pins in the VES Building, VES-SSSG-1-021424 and VES-SSSG-2-021424. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples VES-SSSG-1-051324 and VES-SSSG-2-051324 were collected.

As seen in **Figure 7**, none of the samples in either round of sampling displayed an exceedance for any compound detected in the VES Building SSSG samples.

In February one (1) preferential pathway (PP) sample was collected at the VES Building, VES Building-PP-A-022924. More than 45 days later, in May, the JV returned to collect the confirmatory sample, Sample VES Building-PP-A-052024.

As seen in **Figure 8**, an exceedance was not detected in any compound across both events for sample VES Building-PP-A.

In March, a near source (NS) sample at the VES Building, sample VES Building-NS-A-031424. More than 45 days later, in May, the JV returned to collect the confirmatory sample, VES Building-NS-A-052024.

As seen in **Figure 9**, an exceedance was not detected in any compound across both events for sample VES Building-NS-A.

In February, a sewer conduit vapor sample was collected in front of the VES Building. Sample VES-SCV-1-020824. This sample was collected alongside the Building 30 SCV samples, mentioned in Section 4.1.2.8, therefore, the Building 30-SCV/AA-1 sample also accounted as the ambient air for this VES SCV sample. More than 45 days later, in June, the confirmatory SCV sample was collected at Building 30, VES-SCV-1-060524. A standalone SCV/AA sample was not completed for this sample.

As seen in **Figure 10**, an exceedance was not detected in any compound across both events for sample VES Building-SCV-1.

4.1.2.2. Building 6

Unlike previously mentioned buildings, Building 6 had a different make-up than the rest. Building 6 can best be described as a 2-story warehouse with no basement. The building is split into 5 different bays: Bay A through Bay E. The first floor of Bay A is occupied by the Philadelphia Police Department and the second floor is occupied by the Pennsylvania State Police Department. Bay B is occupied by a city bike company, who also use part of Bay C as storage for their bicycles. Bays D and E are vacant. The letter within the parenthesis in the sample name indicates in which Bay the sample was collected from. In February, indoor air samples were collected on the first floor of Building 6. Two (2) samples were collected in Bay A, three (3) samples were collected in Bay B, three (3) samples, including a DUP, were collected in Bay C, one (1) sample was collected in Bay D, and one (1) sample was collected in Bay E. An ambient air canister was

placed outside of the building. Due to malfunctions with the canisters and their flow controllers, the only valid sample from February 5th was sample Building 6 (B)-IA-3-020524. Two days later the remaining samples were collected in Building 6 to replace the malfunctioning ones. Samples Building 6 (A)-IA-1-020724, Building 6 (A)-IA-2-020724, Building 6 (B)-IA-4-020724, Building 6 (B)-IA-5-020724, Building 6 (C)-IA-6-020724, Building 6 (C)-IA-7-020724, Building 6 (D)-IA-8-020724, Building 6 (E)-IA-9-020724, and Building 6-AA-1-020724 were collected. Sample Building 6-IA-DUP-020724 was collected concurrently with sample Building 6 (C)-IA-6-020724. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 6 (A)-IA-1-050724, Building 6 (A)-IA-2-020724, Building 6 (B)-IA-3-050725, Building 6 (B)-IA-4-050724, Building 6 (B)-IA-5-050724, Building 6 (C)-IA-6-050724, Building 6 (C)-IA-7-050724, Building 6 (D)-IA-8-050724, Building 6 (E)-IA-9-050724, and Building 6-AA-1-050724 were collected. Sample Building 6-IA-DUP-050724 was collected concurrently with sample Building 6 (C)-IA-6-050724.

As seen in **Figures 11A and 11B**, February indoor air samples showed a mixture of Benzene, Naphthalene and 1,2-Dibromoethane exceed their respective standards, except for sample Building 6 (A)-IA-2-020724, which does not show any compounds exceeding their standard. For the May round of indoor air samples, a mixture of Benzene, Naphthalene and/or 1,2-Dibromoethane are present in every sample, and exceed their respective standard. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

In February, 11 sub-slab soil gas (SSSG) samples were collected from vapor pins on the ground floor of Building 6: Building 6 (B)-SSSG-1-022224, Building 6 (B)-SSSG-2-022224, Building 6 (B)-SSSG-3-022224, Building 6 (C)-SSSG-4-022224, Building 6 (C)-SSSG-5-022224, Building 6 (A)-SSSG-6-022224, Building 6 (A)-SSSG-7-022224, Building 6 (D)-SSSG-8-022224, Building 6 (D)-SSSG-9-022224, Building 6 (D)-SSSG-10-022224, and Building 6 (E)-SSSG-11-022224. The duplicate sample, sample Building 6-SSSG-DUP-022224 was collected concurrently with sample Building 6 (E)-SSSG-11-022224. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 6 (B)-SSSG-1-051624, Building 6 (B)-SSSG-2- 051624, Building 6 (B)-SSSG-3- 051624, Building 6 (C)-SSSG-4-051624, Building 6 (C)-SSSG-5- 051624, Building 6 (A)-SSSG-6- 051624, Building 6 (A)-SSSG-7- 051624, Building 6 (D)-SSSG-8- 051624, Building 6 (D)-SSSG-9- 051624, Building 6 (D)-SSSG-10- 051624, and Building 6 (E)-SSSG-11- 051624 were collected. The duplicate sample, sample Building 6-SSSG-DUP-051624 was collected concurrently with sample Building 6 (E)-SSSG-11- 051624.

It must be noted that in laboratory report P2402001 from the May sampling event, the laboratory sample ID P2402001-036 was mistakenly given field sample ID Building 6 (A)-SSSG-6-051624. This sample was incorrectly named, and sample P2402001-036 should be named Building 6 (A)-SSSG-7-051624. On Figure 17A, the data shown for the May 16th, 2024, sample of Building 6 (A)-SSSG-7 is that of sample P2402001-036.

As seen in **Figures 12A and 12B**, between every sample collected across both sampling events, the only exceedance that occurred was for Naphthalene in sample Building 6 (B)-SSSG-1, in the initial round of sampling.

In March a preferential pathway (PP) sample was collected from the vapor pin installed adjacent to Building 6, Building 6-PP-A-030424. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, Building 6-PP-A-050624 was collected. As seen in **Figure 13**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In March, near source (NS) samples were collected from the vapor pins installed adjacent to Building 6, Building 6-NS-A-030724 and Building 6-NS-B-030724. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 6-NS-A-043024 and Building 6-NS-B-050624 were collected.

As seen in **Figure 14**, the compounds Naphthalene, 1,2-Dichloroethane, and 1,2-Dibromoethane exceeded their standards in both rounds of sampling for sample Building 6-NS-A. It must be noted that all results contain a U, qualifier, which means they were not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LODs exceeded their respective PALs for these compounds.

In February, SCV samples were collected from the sewer grates adjacent to Building 6, Building 6-SCV/AA-1-020924, Building 6 (D)-SCV-1-020924 and Building 6 (C)-SCV-2-020924. The letter in parenthesis in the sample name indicates the nearest bay the sewer grates were located to. More than 45 days after the initial sampling round, the JV returned to collect the required confirmatory sample round. In June, samples Building 6/Building 15-SCV/AA-1-06104, Building 6 (D)-SCV-1-061024 and Building 6 (C)-SCV-2-061024 were collected. The SCV ambient air sample also acted as the ambient air sample for Building 15's SCV samples, therefore it was indicated in the sample name.

As seen in **Figure 15**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.3. Building 8

In February indoor air samples Building 8-IA-1-020624, Building 8-IA-2-020624, and Building 8-AA-1-020624 were collected. Due to issues with the canister and flow controller used for sample Building 8-IA-1-020624, this sample was redone the next day as sample Building 8-IA-1-020724. An associated ambient air sample was not redone with this sample. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In April, the samples Building 8-IA-1-042924, Building 8-IA-2-042924, and Building 8-AA-1-042924 were collected.

As seen in **Figure 16**, for the February indoor air samples, Benzene, 1,2-Dibromoethane, and Naphthalene exceed their respective standard in Sample Building 8-IA-1, and only 1,2-Dibromomethane exceeds its standard in sample Building 8-IA-2. For the April round of indoor air samples, Benzene, 1,2-Dibromoethane, and Naphthalene exceed their respective standard in Sample Building 8-IA-2, and only 1,2-Dibromomethane exceeds its standard in sample Building 8-IA-1. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

In March preferential pathway (PP) samples Building 8-PP-A-030124, Building 8-PP-B-030124, and Building 8-PP-DUP-030124 were collected. Sample Building 8-PP-DUP-030124 was collected concurrently with sample Building 8-PP-A-030124. More than 45 days after the initial sampling round, the JV returned to

collect the confirmatory sample. In May, the samples Building 8-PP-A-050624, Building 8-PP-B-050624, and Building 8-PP-DUP-050624 were collected. Sample Building 8-PP-DUP-050624 was collected concurrently with sample Building 8-PP-A-050624.

As seen in **Figure 17**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

Sewer conduit vapor samples were collected from the sewer grates in the parking lot adjacent to the south side of Building 8, along with their associated SCV Ambient Air (SCV/AA) sample. Samples Building 8-SCV/AA-1-020924, Building 8-SCV-1-020924, and Building 8-SCV-2-020924 were collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, samples Building 8-SCV/AA-1-061024, Building 8-SCV-1-061024, and Building 8-SCV-2-061024 were collected.

As seen in **Figure 18**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.4. Building 9

Like the previously mentioned Building 6, Building 9 can be mostly described as a multiple story warehouse split up into different bays. Building 9 contains six (6) distinct bays: Bay A through F. All bays are owned by U-Haul but serve different purposes. Bays A and B are considered the basement of the building. It does not span under the length of the entirety of Building 9. Bays C through F span the rest of the building and are all used for different purposes which include, available for rent storage units, a parking lot, and warehouse areas where supplies are stored, and cars can drive through. All indoor samples not collected in Bays A and B were collected on the ground floor. The letter within the parenthesis in the sample names indicates which bay the sample was taken in, or outside of.

In Bays A and B, the basement, there are two exhaust fans. Prior to sampling these were shut off and locked to avoid being turned on. In February, indoor air samples Building 9 (A)-IA-1-021324, Building 9 (A)-IA-2-021324, Building 9 (B)-IA-3-021324, Building 9 (B)-IA-4-021324, Building 9 (D)-IA-5-021324, Building 9 (D)-IA-6-021324, Building 9 (E)-IA-7-021324, Building 9 (E)-IA-8-021324, Building 9 (F)-IA-9-021324, Building 9 (F)-IA-10-021324, Building 9 (C)-IA-11-021324, Building 9 (C)-IA-12-021324 and Building 9-AA-1-021324 were collected. Sample Building 9-IA-DUP-021324 was collected concurrently with sample Building 9 (A) -IA-1-021324. After the completion of all samples, the basement exhaust fans were turned back on. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample. In May, after shutting off the exhaust fand again, samples Building 9 (A)-IA-1-050124, Building 9 (A)-IA-2-050124, Building 9 (B)-IA-3-050124, Building 9 (B)-IA-4-050124, Building 9 (D)-IA-5-050124, Building 9 (D)-IA-6-050124, Building 9 (E)-IA-7-050124, Building 9 (E)-IA-8-050124, Building 9 (F)-IA-9-050124, Building 9 (F)-IA-10-050124, Building 9 (C)-IA-11-050124, Building 9 (C)-IA-12-050124 and Building 9-AA-1-050124 were collected. Sample Building 9-IA-DUP-050124 was collected concurrently with sample Building 9 (A) -IA-1-050124. During the 24-hour sample period, a truck leaking oil had driven into Bay E and leaked oil onto the building floor. This was noticed the next morning and was noted on the affected air canister labels.

As seen in **Figures 19A and 19B**, for the February indoor air samples, a mixture of Benzene, Ethylbenzene, Naphthalene, and/or 1,2-Dibromoethane exceed their respective standard in every sample. For the May

round of indoor air samples, a mixture of Benzene, Ethylbenzene, 1,2-Dichloroethane, 1,2-Dibromoethane, Naphthalene, and/or Total Xylenes exceed their respective standard in every sample. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

In February, preferential pathway (PP) vapor pins were installed alongside Building 9. These locations were labeled A through N and were sampled on various dates between February 23rd and March 14th. Three (3) of the pins, E, G, and J, could not be sampled due to water in the sampling port. Various attempts were made throughout that period, but the issue remained. Therefore, 11 PP samples were collected at Building 9. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. This time around, only pin E contained water in the sampling port, and 13 samples were able to be collected. These counted as the initial samples for locations G and J, and confirmatory samples for these two locations were not able to be collected.

As seen in **Figures 20A and 20B** 1,2-Dibromoethane exceeded its standard across multiple PP samples collected across both events. It must be noted that many exceedances contain the U, qualifier, which means the compound was not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LOD exceeded the PAL for these compounds.

In February, eleven (11) near source (NS) vapor pins were installed alongside Building 9. These locations were labeled A through K and were sampled on various dates between February 23rd and March 14th. One (1) of the pins, K, could not be sampled due to water in the sampling port. Various attempts were made throughout that period, but the issue remained. Therefore, ten (10) NS samples were collected at Building 9. More than 45 days later, the JV returned to collect the confirmatory sample round. This time, pins E and K contained water in the sampling port, and nine (9) samples were able to be collected. Various attempts were made during this round of sampling with these two ports, but the issue remained.

As seen in **Figures 21A and 21B**, a mixture of the compounds Benzene, Ethylbenzene Naphthalene, 1,2-Dichloroethane, and 1,2-Dibromoethane exceed their standards across multiple NS samples collected across both events. Samples Building 9-NS-D, Building 9-NS-E, and Building 9-NS-H displayed no exceedances in either round of sampling for any compound. It must be noted that many exceedances contain a U, qualifier, which means the compound was not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LODs exceeded the PALs for these samples.

On February 12th, sewer conduit vapor samples were collected from the sewer grates adjacent to the north, east, and west sides of Building 9, Building 9-SCV-1-021224 through Building 9-SCV-12-021224 and Building 9-SCV/AA-1-021224 through Building 9-SCV/AA-4-021224. Sample Building 9-SCV-DUP-021224 was collected concurrently with sample Building 9-SCV-5-021224. More than 45 days later, the JV returned to collect the confirmatory sample round. In June, the samples collected across three different dates, June 4th, June 5th, and June 10th. Twelve SCV samples were taken with a duplicate being taken at sample Building 9-SCV-5-060524. This time around only three SCV ambient air samples were needed, and the first one accounted for SCV samples taken at Building 9 and Building 30. This was noted by altering the sample name to be Building 9/30-SCV/AA-1-061024.

As seen in **Figures 22A and 22B**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.5. Building 11

In February, indoor air samples Building 11-IA-1-020124, Building 11-IA-2-020124, and Building 11-AA-1-020124 were collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round in identical locations as their respective samples in the initial round of sampling. In April, samples Building 11-IA-1-042924, Building 11-IA-2-042924, and Building 11-AA-1-042924 were collected.

As seen in **Figure 23**, for all February indoor air samples, 1,2-Dibromoethane exceeds its respective standard. For the April round of indoor air samples, Naphthalene and 1,2-dibromoethane exceed their respective standard for all samples. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although the compound was non-detect.

In February, SSSG samples were collected from vapor pins in the basement of Building 11, Building 11-SSSG-1-021424 and Building 11-SSSG-2-021424. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 11-SSSG-1-051324 and Building 11-SSSG-2-051324 were collected.

As seen in **Figure 24**, only Naphthalene exceeded its standard, and this occurred in sample Building 11-SSSG-1 in the initial round of sampling. There were no exceedances recorded in the confirmatory round of sampling.

In February, preferential pathway (PP) samples were collected from vapor pins installed adjacent to Building 11, Building 11-PP-A-022624 and Building 11-PP-B-022624. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 11-PP-A-050124 and Building 11-PP-B-050124 were collected.

As seen in **Figure 25**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In February, sewer conduit vapor samples were collected from the sewer grates adjacent to the north and south sides of Building 11, along with their associated SCV Ambient Air (SCV/AA) sample. Samples Building 11-SCV/AA-1-020824, Building-11-SCV-1-020824, and Building 11-SCV-2-020824 were collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, samples Building 11-SCV/AA-1-061024, Building 11-SCV-1-061024, and Building 11-SCV-2-061024 were collected.

As seen in **Figure 26**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.6. Building 12

In February, indoor air samples were collected in the basement of Building 12, Building 12-IA-1-020524 through Building 12-IA-4-020524, and Building 12-AA-1-020524. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 12-IA-1-050624, Building 12-IA-2-050624, Building 12-IA-3-050624, Building 12-IA-4-050624, and Building 12-AA-1-050624 were collected.

As seen in **Figure 27**, for all February indoor air samples, a mixture of Naphthalene 1,2-Dichloroethane, and 1,2-Dibromoethane exceed their respective standards. For the May round of indoor air samples, Naphthalene and 1-2,Dibromoethane exceed their respective standard for all samples. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although this compound was non-detect.

In February, sub-slab soil gas (SSSG) samples were collected from vapor pins in the basement of Building 12, Building 12-SSSG-1-021624 through Building 12-SSSG-4-021624. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 12-SSSG-1-051324 through Building 12-SSSG-4-051324 were collected.

As seen in **Figure 28**, a mixture of the compounds 1,2-Dibromoethene, Naphthalene, Benzene, and 1,2-Dichloroethane exceeded their standards across all four samples, in both rounds of sampling. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the reporting limits for 1,2-Dichloroethane and 1,2-Dibromoethane exceed the PALs.

In February, PP samples were collected from the vapor pins installed adjacent to Building 12, Building 12-PP-A-022624 Building 12-PP-B-022624 and Building 12-PP-C-022624. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample g. In May, the samples Building 12-PP-A-050124 Building 12-PP-B-050124 and Building 12-PP-C-050124 were collected.

As seen in **Figure 29**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In March NS samples Building 12-NS-A-030724 and Building 12-NS-B-030724 were collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 12-NS-A-050724 and Building 12-NS-B-050724 were collected.

As seen in **Figure 30**, none of the NS samples in either round of sampling displayed an exceedance for any compounds detected.

In February, sewer conduit vapor samples were collected from the sewer grates adjacent to the south side of Building 12, Building 12-SCV/AA-1-020724, Building-12-SCV-1-020724, Building 12-SCV-2-020724 and Building 12-SCV-3-020724. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 12-SCV/AA-1-051424, Building-12-SCV-1-051424, Building 12-SCV-2-051424 and Building 12-SCV-3-051424 were collected.

As seen in **Figure 31**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.7. Building 13

According to Table 1 of the *VI Sampling Work Plan*, six (6) SSSG, three (3) PP, three (3) sewer conduit vapor, and 4 IA samples were to be collected from Building 13. Although notification letters were sent out, and numerous attempts to cooperate with the owner of Building 13 were made, the JV was not allowed access into the Building. As a result, IA and SSSG samples were not collected at this Building.

In February a preferential pathway (PP) sample was collected from a vapor pin installed adjacent to Building 13, Building 13-PP-A-022724. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In April, sample Building 13-PP-A-043024 was collected.

As seen in **Figure 32**, neither of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In February, sewer conduit vapor samples were collected from the sewer grates adjacent to the east and west sides of Building 13, Building 13-SCV/AA-1-020924, Building-13-SCV-1-020924, Building 13-SCV-2-020924 and Building 13-SCV-3-020924. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, samples Building 13-SCV/AA-1-060524, Building-13-SCV-1-060524, Building 13-SCV-2-06054 and Building 13-SCV-3-060524 were collected.

As seen in **Figure 33**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.8. Building 14

In February, indoor air samples were collected in the basement of Building 14, Building 14-IA-1-020524, Building 14-IA-2-020524, and Building 12-AA-1-020524. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 14-IA-1-042924, Building 14-IA-2-042924, and Building 12-AA-1-042924 were collected.

As seen in **Figure 34**, for February indoor air samples, 1,2-Dibromoethane exceeds its respective standard. Naphthalene exceeds its standard in sample Building 14-IA-1 but is not present in Building 14-IA-2. For the April round of indoor air samples, Naphthalene and 1,2-Dibromoethane exceed their respective standard for all samples. It must be noted that due to the $1/10^{th}$ rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL.

In February, SSSG samples were collected from vapor pins in the basement of Building 14; Building 14-SSSG-1-022024 through Building 14-SSSG-4-022024. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 14-SSSG-1-051524, Building 14-SSSG-2-051524, Building 14-SSSG-3-051524, and Building 14-SSSG-4-051524 were collected.

As seen in **Figure 35**, a mixture of the compounds Benzene, Ethylbenzene, Naphthalene, 1,2-Dichloroethane, and 1,2-Dibromoethane exceeded their standard in all SSSG samples collected at Building 14. It must be noted that exceedances for Ethylbenzene, Naphthalene, 1,2-Dichloroethane, and 1,2-Dibromoethane contain a U qualifier, which means the compounds were not detected, but due to the $1/10^{th}$ rule being applied for the PALs on this project, the laboratory LODs exceeded the PALs for these compounds.

In February three preferential pathway (PP) samples were collected from the vapor pins installed adjacent to Building 14; Building 14-PP-A-022724 Building 14-PP-B-022724 and Building 14-PP-C-022724. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 14-PP-A-043024 Building 14-PP-B-050124 and Building 14-PP-C-043024 were collected.

As seen in **Figure 36**, the compounds Naphthalene, 1,2-Dichloroethane and 1,2-Dibromoethane exceeded their standards for sample Building 14-PP-A. It must be noted that all exceedances contain a U, qualifier, which means they were not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LODs exceeded the PALs for these compounds.

In February, sewer conduit vapor samples were collected Building 14, Building 14-SCV/AA-1-021224, Building-14-SCV-1-021224 and Building 14-SCV-2-021224. Sample Building 14-SCV-1-021224 was collected from a sewer grate outside of Building 14, and sample Building 14-SCV-2-021224 was collected from a drain on the floor inside the basement of Building 14. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 14-SCV/AA-1-051424, Building-14-SCV-1-051424 and Building 14-SCV-2-051424 were collected.

As seen in **Figure 37**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.9. Building 30

In February, indoor air samples were collected in Building 30, Building 30-IA-1-020524, Building 30-IA-2-020524, and Building 30-AA-1-020524. It must be noted that Building 30 contains a "garage" area where maintenance is performed on U-Haul trucks. The air canisters were not set up in this area. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 30-IA-1-050124, Building 30-IA-2-050124, and Building 30-AA-1-050124 were collected.

As seen in **Figure 38**, for both February indoor air samples, Benzene, 1,2-Dibromoethane, and Naphthalene exceed their respective standard. The same was true for the May sampling event except for sample Building 30-IA-2, in which Benzene did not exceed its standard. It must be noted that due to the 1/10th rule being applied for the PALs on this project, the laboratory's LOD for 1-2, Dibromoethane exceeds the PAL although this compound was non-detect.

On February 14th, SSSG samples were collected from vapor pins on the ground floor of Building 30; Building 30-SSSG-1-021424, through Building 30-SSSG-4-021424, and Building 30-SSSG-DUP-021424. The duplicate sample was collected concurrently with SSSG sample 4. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples Building 30-SSSG-1-051724 through Building 30-SSSG-4-051724, and Building 30-SSSG-DUP-051724 were collected. Again, the duplicate sample was collected concurrently with SSSG sample 4.

As seen in **Figure 39**, only Naphthalene appeared as an exceedance in the SSSG samples collected at Building 30, specifically in the February round of sampling in sample Building 30-SSSG-4 and its associated DUP.

In February two (2) preferential pathway (PP) pins were drilled adjacent to Building 30. Unfortunately, the PIN associated with "Sample A" was filled with water, therefore it could not be sampled. Only one sample was collected from the vapor pins installed adjacent to Building 30, sample Building 30-PP-B-030624. More than 45 days later, in May, the confirmatory samples were attempted but the same issue remained for the pin associated with "Sample A" so again, only sample Building 30-PP-B-052024 was collected.

As seen in **Figure 40**, the PP sample collected in either round of sampling did not display an exceedance for any compounds detected.

In March, near source samples were collected at Building 30, Building 30-NS-A-031524, Building 30-NS-DUP-031524, and Building 30-NS-B-030524. More than 45 days later, the JV returned to collect the confirmatory sample round. In May, Building 30-NS-A-052024 and Building 30-NS-B-052024 were collected. A duplicate was not collected.

As seen in **Figure 41**, a mixture of the compounds Benzene, Naphthalene, 1,2-Dichloroethane and 1,2-Dibromoethane were detected above their standard in samples Building 30-NS-A and Building 30-NS-DUP during the initial round of sampling. It must be noted that all exceedances *except* Benzene contain a U qualifier, which means the compound was not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LOD exceeded the PAL for these compounds.

In February, sewer conduit vapor samples were collected Building 30-SCV/AA-1-020824, Building 30-SCV-1-020824, Building 30-SCV-2-020824. The duplicate sample, Building 30-SCV-DUP-020824 was collected concurrently with sample Building 30-SCV-2-020824. More than 45 days later, in June, the confirmatory samples were attempted to be collected. Sample Building 30-SCV-061024 was collected but sample for Building 30-SCV-2 could not be collected due to the manhole cover being blocked by a U-Haul trailer. Sample Building 30-SCV/AA-1 was not duplicated, as mentioned in Section 4.1.2.6. The first SCV/AA sample for Building 9 also accounted for the Building 30 SCV samples.

As seen in **Figure 42**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.10. Former STEEN Property

In March, preferential pathway (PP) samples were collected at the former STEEN property, STEEN-PP-A-031524 and STEEN PP-B-031524. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round In May, samples STEEN-PP-A-052324, STEEN-PP-DUP-052324, and STEEN-PP-B-052324 were collected. The duplicate sample was collected concurrently with sample STEEN-PP-A-052324.

As seen in **Figure 43**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In March, near source samples were collected the former STEEN property, STEEN-NS-A-031224 and STEEN-NS-B-031224. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples STEEN-NS-A-052324, STEEN-NS-DUP-2-052324, STEEN-NS-B-052324, and STEEN-NS-DUP-1-052324 were collected. Sample DUP-2 was collected concurrently with NS-A, and sample DUP-1 was collected concurrently with sample NS-B.

As seen in **Figure 44**, a mixture of the compounds Benzene, Naphthalene, 1,2-Dichloroethane, and 1,2-Dibromoethane exceeded their standard in both events, for samples STEEN-NS-A and STEEN-NS-DUP-2. It must be noted that some exceedances contain a U qualifier, which means the compounds were not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LOD exceeded the PAL for these compounds.

In February, sewer conduit vapor (SCV) samples were collected at the former STEEN property, STEEN-SCV/AA-1-021924, STEEN-SCV-1-021924 and STEEN-SCV-2-021924. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, samples STEEN-SCV/AA-1-060424, STEEN-SCV-1-060424 and STEEN-SCV-2-060424 were collected.

As seen in **Figure 45**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.2.11. PHA Gym

In March, near source samples were collected on the PHA Gym property, PHA Gym-NS-A-031124 and PHA Gym-NS-B-031424. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, samples PHA Gym-NS-A-052324 and PHA Gym-NS-B-052324 were collected.

As seen in **Figure 46**, none of the NS samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.3. Group 3 Buildings (Building 15, Aldi's, Jim's Ice, Hotel, P. Agnes, Acme, SEPTA)

Group 3 buildings include Aldi's, Jim's Ice (Building E), Hotel, P. Agnes N, P. Agnes S, Building 15, Acme, and SEPTA. The sample types collected for this group and their methods can be found in Section 3.2 above.

4.1.3.1. Aldi's

In February, two (2) sewer conduit vapor were collected from sewer grates near the south side of the Aldi's building, Aldi-SCV-1-021224, Aldi-SCV-2-021224, and Aldi-SCV/AA-1-021224. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample. In May, the samples Aldi-SCV-1-051424, Aldi-SCV-2-051424, and Aldi-SCV/AA-1-051424 were collected.

As seen in **Figure 47**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

In March, one (1) preferential pathway sample was collected adjacent to the Aldi, Aldi-PP-A-031424. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample. In May, the sample Aldi-PP-A-050624 was collected.

As seen in **Figure 48**, an exceedance was not detected for any compound across both events for sample Aldi-PP-A.

4.1.3.2. Building E/Jim's Ice

In Table 1 of the *VI Sampling Work Plan*, this location was broken up into three (3) different Building E's: Building E (Jims Enterprises), Building E (Liberty Camera), and Building E (Leones). After inspection, we decided to narrow this down to Building E in the sample nomenclature to avoid long sample names. After further discussion, it was decided to change to name to "Jim's Ice" in the sample nomenclature to avoid any confusion with the Group 4, Building E. Therefore, in this report, you will see samples from this building referred to as both Building E and Jim's Ice.

In March, preferential pathway (PP) samples were collected from vapor pins installed adjacent to Building E/Jim's Ice, Building E-PP-A-030824 and Building E-PP-B-030824. More than 45 days after the initial

sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building E-PP-A-052124 and Building E-PP-B-052124 were collected.

As seen in **Figure 49**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In March, near source (NS) samples were collected from vapor pins installed adjacent to Building E/Jim's Ice, Building E-NS-A-030824 and Building E-NS-B-030824. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round In May, the samples Building E-NS-A-052124 and Building E-NS-B-052124 were collected.

As seen in **Figure 50**, none of the NS samples in either round of sampling displayed an exceedance for any compounds detected.

During the initial phase of sampling, from January to March, due to miscommunication, sewer conduit vapor samples were not collected at this location. Instead, the initial round of sewer conduit vapor samples occurred in June, and the confirmatory samples were collected in August. In June, samples JimsIce-SCV-1-061224, JimsIce-SCV-2-061224, JimsIce-SCV-3-061224, and JimsIce-SCV/AA-1-061224 were collected, and in August confirmatory samples, JimsIce-SCV-1-080624, JimsIce-SCV-2-080624, JimsIce-SCV-3-080624, and JimsIce-SCV/AA-1-080624 were collected.

As seen in **Figure 51**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.3.3. Hotel

The "Raddison" referred to in the text of the *VI Sampling Work Plan*, is now a Holiday Inn Hotel. This was shortened down to "Hotel" in the sample nomenclature to avoid a lengthy sample name.

Listed as a Group 3 building in Section 3.1.3 of the *VI Sampling Work Plan,* the hotel is then grouped with the Group 4 buildings in Table 1 of the same document. Staying consistent with the text of that report, we decided to list this as a Group 3 building.

In March, during the initial round of sampling, near source (NS) samples were collected at the Hotel, Hotel-NS-A-031124 and Hotel-NS-B-031124. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Hotel-NS-A-052124 and Hotel-NS-B-052124 were collected.

As seen in **Figure 52**, none of the NS samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.3.4. P. Agnes Buildings

In the *VI Sampling Work Plan*, there were two P. Agnes locations outlined, P. Agnes of Moyamensing Road and P. Agnes of Penrose Ave. In the text they were referred to as Group 3 Buildings, while in Table 1 they were split between Group 3 and Group 4. P. Agnes of Moyamensing was placed in Group 3 while P. Agnes of Penrose Ave was placed in Group 4. Both will be referenced in this section. To avoid long sample names, the different locations were identified by which was north (N) and which was south (S). P. Agnes of Moyamensing was referred to as P. Agnes N, and P. Agnes of Penrose was referred to as P. Agnes S.

In Table 1 of the *VI Sampling Work Plan*, it was instructed to collect 2 preferential pathway, 2 near source, and 3 sewer conduit vapor (SCV) samples at P. Agnes N. During the initial round of sampling from January to March, this street could not be accessed due to ongoing construction, so no samples were able to be taken. Once surveyed, it was found there were too many utilities to safely drill the vapor pins, so preferential pathway and near source samples had to be ruled out at this location. During the second round of sampling, from May to June, sewer conduit vapor samples were able to be collected here. Samples PAgnesN-SCV-1-061124, PAgnesN-SCV-2-061124, and PAgnes N-SCV/AA-1-061124 were collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In August, the samples PAgnesN-SCV-1-080624, PAgnesN-SCV-2-080624, and PAgnes N-SCV/AA-1-080624 were collected.

As seen in Figure 53, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

In March, near sources (NS) samples were collected at P. Agnes S during the initial round of sampling: P. Agnes S-NS-A-031124, P. Agnes S-NS-DUP-031124, and P. Agnes S-NS-B-031124. The duplicate sample was collected concurrently with sample P. Agnes S-NS-A. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples PAgnesS-NS-A-052124 and PAgnesS-NS-B-052124 were collected.

As seen in Figure 54, none of the NS samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.3.5. Building 15

In February, two (2) PP samples were collected from vapor pins installed adjacent to Building 15, Building 15-PP-A-022724 and Building 15-PP-B-022724. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Building 15-PP-A-050124 and Building 15-PP-B-050124 were collected.

As seen in **Figure 55**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In February, two (2) sewer conduit vapor samples were collected from sewer grates adjacent to the west side of Building 15, Building 15-SCV-1-020824, Building 15-SCV-2-020824, and Building 15-SCV/AA-1-020824. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, the samples Building 15-SCV-1-061024 and Building 15-SCV-2-061024 were collected. A dedicated ambient air was not collected for these samples due to the time and proximity of the Building 6 SCV samples being collected. Because of this, as referenced in Section 4.1.2.5, we were able to combine the SCV/AA sample for these with that of Building 6.

As seen in **Figure 56**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.3.6. Acme

According to Table 1 of the *VI Sampling Work Plan*, two (2) near source (NS) and two (2) preferential pathway (PP) samples were planned for the Acme supermarket located at 1901 Johnston Street,

Philadelphia, PA 19145. Multiple attempts were made to access this area by speaking with the property owner, but the JV was unsuccessful in being granted access to drill on this property. The JV, however, was able to collect sewer conduit vapor (SCV) samples, along with an associated ambient air (AA) sample, from sewer grates in the parking lot of this property. On February, samples ACME-SCV-1-021624, ACME-SCV-2-021624, and ACME-SCV/AA-1-021624 were collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, the samples ACME-SCV-1-051424, ACME-SCV-2-051424, and ACME-SCV/AA-1-051424 were collected.

As seen in **Figure 57**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.3.7. SEPTA

According to Table 1 of the *VI Sampling Work Plan* two (2) near source (NS) and two (2) preferential pathway (PP) samples were planned for the SEPTA property located on the corner of Johnston Street and S 20th Street in Philadelphia, PA 19145. Multiple attempts were made to access this area by speaking with the property owner, but the JV was unsuccessful in being granted access to drill on this property. The JV, however, was able to collect sewer conduit vapor (SCV) samples, along with an associated ambient air (AA) sample, from sewer grates located on the property.

The first round of SCV samples was not able to be collected during the initial round of sampling due to site access issues. In June, the JV was able to get access to and collect the samples SEPTA-SCV-1-061124, SEPTA-SCV-2-061124, and SEPTA-SCV/AA-1-061124. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In August, the samples SEPTA-SCV-1-080624, SEPTA-SCV-2-080624, and SEPTA-SCV/AA-1-080624 were collected.

As seen in **Figure 58**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.4. Group 4 Buildings (E/Staples, I1, I2, H1, H2, H3, H4, H5, F2, F3)

Group 4 buildings include Building E/Staples, Building I1, Building I2, Building H1, Building H2, Building H3, Building H4, and Building H5. All samples were completed in accordance with methods outlined in Section 3.2 above

4.1.4.1. Staples/I1/I2/H1/H2/H3/H4/H5

According to Table 1 of the *VI Sampling Work Plan*, two (2) preferential pathway (PP) and two (2) sewer conduit vapor (SCV) samples were to be collected at each of the following buildings: Building E/Staples, Building I1, Building I2, Building H1, Building H2, Building H3, Building H4, and Building H5. The JV was under the presumption that these were all stand-alone buildings based on the *VI Sampling Work Plan*, but after conducting a site walk through, it was noted each building was connected and is actually one large building. Therefore, an adjustment to the sampling strategy was necessary due to the physical distance of the individual tenant spaces to one another and the number of sewer grates available for sampling.

In March, two (2) PP samples were collected, Staples-PP-A-030824 and Staples-PP-B-030824. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In May, the samples Staples-PP-A-050624 and Staples-PP-B-050624 were collected.

As seen in **Figure 59**, none of the PP samples in either round of sampling displayed an exceedance for any compounds detected.

In February, SCV samples were collected. Due to the number of available sewer grates, two samples per store were not possible. The initial round of samples included Building H3-SCV-1-022124, Building H1-SCV-1-022124, Building H4-SCV-1-022124, Building I1/I2-SCV-1-022124, Building E-SCV-1-022124, and Building E-SCV-1-022124. Two (2) SCV/AA samples were collected alongside these, Building H1/H3-SCV-1-022124 and Building H4/I1/I2/E-SCV-2-022124. A sewer conduit vapor sample could not be collected for buildings H2 and H5, as there were sewer lines that lined up with either, but it can be noted that Buildings I1 and H5 have been turned into one store on the inside. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, the samples Building H3-SCV-1-061024, Building H1-SCV-1061024, Building H4-SCV-1-061024, Building E-SCV-1-061024, Building E-SCV-2-061024, Building H4/E-SCV/AA-1-061024, Building I1/I2-SCV-1-061224, and Building I1/I2-SCV/AA-1-061224 were collected.

As seen in **Figure 60**, the only exceedance occurred between both sampling events, across all samples, was for Benzene in samples Building E-SCV-1 in the confirmatory sampling event and sample Building H4-SCV-1 in the initial sampling event.

4.1.4.2. F2/F3

According to Table 1 of the *VI Sampling Work Plan,* two (2) preferential pathway (PP) and two (2) sewer conduit vapor (SCV) samples were to be collected at each Building F2 and Building F3. The JV was under the presumption that these were all stand-alone buildings based on the *VI Sampling Work Plan*, but after conducting a site walk through, it was noted each building was connected and is actually one large building and was currently occupied by a [redacted] Firm store.

In March, one (1) PP sample was collected, [redacted] Firm-PP-A-030824. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, the sample [redacted] Firm-PP-A-050624 was collected.

As seen in **Figure 61**, there is no exceedance for any compound detected, across both sampling events, for sample [redacted] Firm-PP-A.

Due to it being one building, instead of two (2) SCV samples per building, the JV collected two (2) samples for the entire building. During the initial round of samples in February, samples F2(MF)-SCV-1-021924, F3(HS)-SCV-1-021924, and F2F3-SCV/AA-1-021924 were collected. The letters in parenthesis in the sample name indicate which store the sewer grate was closest to: “MF” stands for [redacted] Firm and “HS” stands for Hand and Stone Massage. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In June, the samples F2(MF)-SCV-1-061024, F3(HS)-SCV-1-061024, and F2F3-SCV/AA-1-061024 were collected.

As seen in **Figure 62**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

4.1.5. Group 5 Buildings (R, B, C, D, A)

According to Table 1 of the *VI Sampling Work Plan*, no samples were proposed for the Phase 1 VI investigation at any Group 5 Buildings. The results of the risk assessment being performed with this Phase 1 VI sampling will determine if it is necessary to return to these locations to conduct the proposed Phase 2 samples. See Section 5.0 below.

4.1.6. Vacant Lots 3, M, L, and S

See Section 3.1.6 of the *VI Sampling Work Plan* for all future plans associated with the above-mentioned vacant lots.

4.2. Residential Sampling Approach and Results (Siena Place Sewer)

Referring to Section 3.3 of the *VI Sampling Work Plan,* it was noted that the Pollock-Packer Combined Sewer bisects the Site, with portions of the sewer being in contact with LNAPL and elevated concentrations of Site COCs. Past investigative and remedial activities on site have revealed that LNAPL is present in the smear zone in contact with the Sewer, and LNAPL has been observed in the sewer. During development activities at Siena Place, a residential condominium complex, two new sewer laterals were installed and connect the Siena Place neighborhood to the existing Pollock-Packer Combined Sewer. Although engineering controls had been installed in the Pollock-Packer sewer to control the presence of VOC vapors inside the sewer, the addition of the two sewer laterals creates the potential for VI preferential pathways, in the pipe bedding and the pipe itself.

Due to these potential exposure pathways, sewer conduit vapor (SCV) and preferential pathway samples (PP) were taken at the Siena Place complex, to account for both the sewer lines themselves and the bedding they are sitting in.

Between May and June, sewer conduit vapor samples were collected based on the locations and amounts outlined in Table 3 of the *VI Sampling Work Plan*. The sample name varied depending on which lateral sewer they were taken from and which townhome they say closest to. The samples collected included: SienaL2-SCV-MH-ARoma-053124, SienaL2-SCV-MH-BRoma-053124, SienaL1-SCV-MH-CRoma-060324, SienaL1-SCV-DUP-060324, SienaL1-SCV-MH-DRoma-060424, SienaL2-SCV/AA-MH-ARoma-053124, SienaL1-SCV/AA-CRoma-060324. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In August, the samples SienaL2-SCV-MH-ARoma-081224, SienaL2-SCV-MH-BRoma-081224, SienaL1-SCV-MH-CRoma-081224, SienaL1-SCV-MH-DRoma-081224, SienaL2-SCV/AA-MH-ARoma-081224, SienaL1-SCV/AA-CRoma-081224 were collected.

As seen in **Figure 63**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

In addition to the SCV samples collected at the Siena Place residential complex, PP samples were also collected based on Table 3 of the *VI Sampling Work Plan*. Six (6) PP vapor pins were installed. Samples Siena-PP-B-053024 through Siena-PP-F-053024 were collected, along with a duplicate sample, Siena-PP-DUP-053024, taken with sample F. The sample port designated for Siena-PP-A could not be used due to water in the port, so that sample was not able to be collected. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In August, the samples Siena-PP-B-082224, Siena-PP-C-082224, Siena-PP-D-080624, and Siena-PP-E-082224 were collected. The samples

from the ports designated Seina PP-A and Siena-PPA-F could not be collected in August 2024 due to water in the ports.

As can be seen in **Figure 64**, all PP samples in either round of sampling displayed an exceedance for any compounds detected, except for sample Sienna-PP-B in the August confirmatory round of sampling. This sample displayed exceedances for both Naphthalene and 1,2-Dibromomethane, but it must be noted that both results contain a U qualifier, which means the compounds were not detected, but due to the 1/10th rule being applied for the PALs on this project, the laboratory LOD exceeded the PAL for these compounds.

4.3. Subsurface Utility Corridor – Pollock-Packer Combined Sewer Sampling Approach

As mentioned in Section 4.2 of this report, the Pollock-Packer Combined Sewer bisects the Site, with portions of the sewer being in contact with LNAPL and elevated concentrations of Site COCs. Section 3.3 of the *VI Sampling Work Plan* emphasizes that the sewer invert elevation is below that of the average water table on site, and although the naturally occurring silt layer the sewer sits in may mitigate VI concerns, past investigative and remedial activities on site have revealed that LNAPL is present in the smear zone in contact with the Sewer, and LNAPL has been observed in the sewer. Engineering controls, such as a ventilation system, had been installed in the Pollock-Packer sewer to control the presence of VOC vapors inside the sewer. Sewer conduit vapor samples will be taken to evaluate the effectiveness of the venting system

Between May and June, the following sewer conduit vapor samples had been taken from the sewer grates connected to the Pollock-Packer Combined Sewer; PolPac-SCV-MH-A-053124, PolPac-SCV-MH-B-053124, PolPac-SCV-MH-C-053124, PolPac-MH-G-053124, PolPac-SCV-DUP-053124, PolPac-SCV/AA-MH-C-053124, PolPac-SCV/AA-DUP-053124, PolPac-SCV-MH-19Cut-060324, PolPac-SCV/AA-MH-19Cut-060324, PolPac-SCV-MH-19E-060424, PolPac-SCV-MH19W-060324, PolPac-SCV/AA-MH-19W-060324, and PolPac-SCV-MH-PolMoy-060324. More than 45 days after the initial sampling round, the JV returned to collect the confirmatory sample round. In August, the samples PolPac-SCV/AA-MH-C-081224, PolPac-SCV-MH-B-081224, PolPac-MH-G-081224, PolPac-SCV-MH-DUP-081224, PolPac-SCV/AA-MH-19W-081224, PolPac-SCV-MH-19W-081224, PolPac-SCV-MH-A-081224, PolPac-SCV-MH-PolMoy-081224, PolPac-SCV-MH-19E-081224, PolPac-SCV-MH-19Cut-081224, and PolPac-SCV-MH-DUP-081224 were collected.

As seen in **Figures 65A through 65C**, none of the SCV samples in either round of sampling displayed an exceedance for any compounds detected.

5.0 CONCLUSION AND RECOMMENDATIONS

Benzene, ethylbenzene, naphthalene, and 1,2-dibromoethane were the most detected compounds across all building groups and sample types. In general, all the exceedances observed were only slightly above the respective screening values, and only a select few exceeded its respective screening value by a factor of 10 (i.e., the Statewide health standard vapor intrusion screening values). Also, the second sampling event generally yielded higher concentrations that were measured during the initial (heating season) event. It is important to note that in several instances, results are flagged as exceedances, but were non-detect at a detection limit that was higher than the screening value. This was most common with IA and AA samples.

The conclusions presented herein are mainly descriptive and aim to compare results to screening values; the risk implications of these results are presented and discussed in the revised Human Health Risk Assessment (HHRA) being prepared under separate cover by others. The results of this VI Investigation together with the results of the revised HHRA based on these results addresses Deficiency #5: Section 8.2 Subsurface Vapor Assessment

5.1. Group 1 Buildings (BJ's, Home Depot, PHA, Building P, O, N, J)

Group 1 Buildings were subject to IA and SSDS sampling. As shown on **Figures 2 through 5**, several short-list chemicals exceeded their respective 1/10 of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA) in each of the Group 1 Buildings. Benzene, ethylbenzene, naphthalene, and 1,2-dibromoethane were detected and exceeded their respective IA SVIA values most often. These same four chemicals were also detected in the SSDS samples, but at higher concentrations than in the IA samples, suggesting the existing passive systems are effective. Total xylenes were detected and exceeded its SVIA in the Home Depot samples (**Figure 3**). Naphthalene and 1,2-dibromoethane were the most often detected in the ambient air samples. 1,2-dibromoethane has a very low screening value (0.02 $\mu g/m^3$) and triggered the relatively low-level detections as exceedances.

5.2. Group 2 Buildings (VES, 6, 8, 9, 11, 12, 13, 14, 30, former STEEN and PHA Gym)

Group 2 Buildings were subject to IA, SSSG, PP, NS, SCV and AA sampling. As shown on **Figures 6 through 46**, and as was the case with the Group 1 Buildings, benzene, ethylbenzene, naphthalene, and 1,2-dibromoethane were detected and exceeded their respective IA SVIA values most often. These same chemicals were also the most often detected in all sample types. Where sampled, SSSG results contained the same chemicals as their corresponding IA samples; and while SSSG 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS) were rarely exceeded, SSSG results were generally at higher concentrations than corresponding IA results.

Building 6 (**Figure 12A**), Building 11 (**Figure 24**), and Building 30 (**Figure 39**) each had only one exceedance of naphthalene in the SSSG samples. Buildings 12 (**Figure 28**) and 14 (**Figure 35**), returned exceedances of naphthalene as well as benzene, ethylbenzene, 1,2-dichloroethane and 1,2-dibromoethane, but again these were non-detect values with elevated laboratory detection limits. The other Group 2 Buildings either were not sampled for SSSG or did not exceed a SVSS.

Preferential Pathway (PP) samples results were compared to the SVSS as PP samples do not have a dedicated screening value. The exceedances of 1,2-dibromoethane at Building 9 (**Figures 20A and 20B**),

and exceedances of naphthalene, 1,2-dichloroethane and 1,2-dibromoethane at Building 14 (**Figure 36**) are all non-detect values with elevated laboratory detection limits.

Near Source (NS) exceedances of the 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS) were observed at Building 6 (naphthalene, 1,2-dichloroethane, 1,2-dibromoethane; **Figure 14**), and Building 9, Building 30, and Steen (benzene naphthalene, 1,2-dichloroethane, and 1,2-dibromoethane; **Figures 21A/B, Figure 41, Figure 44, respectively**). These locations lie over the core of the historical LNAPL plume extent or are on the western edge of the Site closest to the former refinery (Steen).

Sewer Conduit Vapor samples (SCV) were compared to the SVSS as SCV samples do not have a dedicated screening value. None of the results exceeded a SVSS value.

5.3. Group 3 Buildings (Aldi's, Jim's Ice, Hotel, P. Agnes buildings, 15, Acme, SEPTA)

Group 3 Buildings were subject to PP and SCV sampling. As shown on **Figures 47 through 58**, no samples exceeded a respective screening value.

5.4. Group 4 Buildings (E/Staples, I1, I2, H1, H2, H3, H4, H5, F2, F3)

Group 4 Buildings were subject to PP, NS, and SCV sampling. As shown on **Figures 58 through 62**, Benzene concentrations exceeded the SVSS values at two locations near Building E and Building H (**Figure 60**); however, these results were not consistent across the two sampling events.

5.5. Group 5 Buildings (R, B, C, D, A)

According to Table 1 of the *VI Sampling Work Plan*, no samples were proposed for the Phase 1 VI investigation at any Group 5 Buildings. The results of the risk assessment being performed (by others) will determine if it is necessary to return to these locations to conduct the proposed Phase 2 samples.

5.6. Vacant Lots 3, M, L, and S

No sampling was performed at Vacant Lots 3, M, L, or S.

5.7. Residential Buildings – Siena Place Homes

The residential buildings (Siena Place) were evaluated through the collection of SCV and PP samples (**Figures 63 and 64**, respectively) from the two sewer laterals that tee off the Pollock-Packer sewer main towards the townhomes. None of the SCV samples collected exceeded the SVSS values to which they were compared (**Figure 63**). 1,2-dibromoethane exceeded its screening value at three locations while naphthalene exceeded at one location (**Figure 64**). Each of these exceedances were from samples collected along the northern side of the townhome clusters.

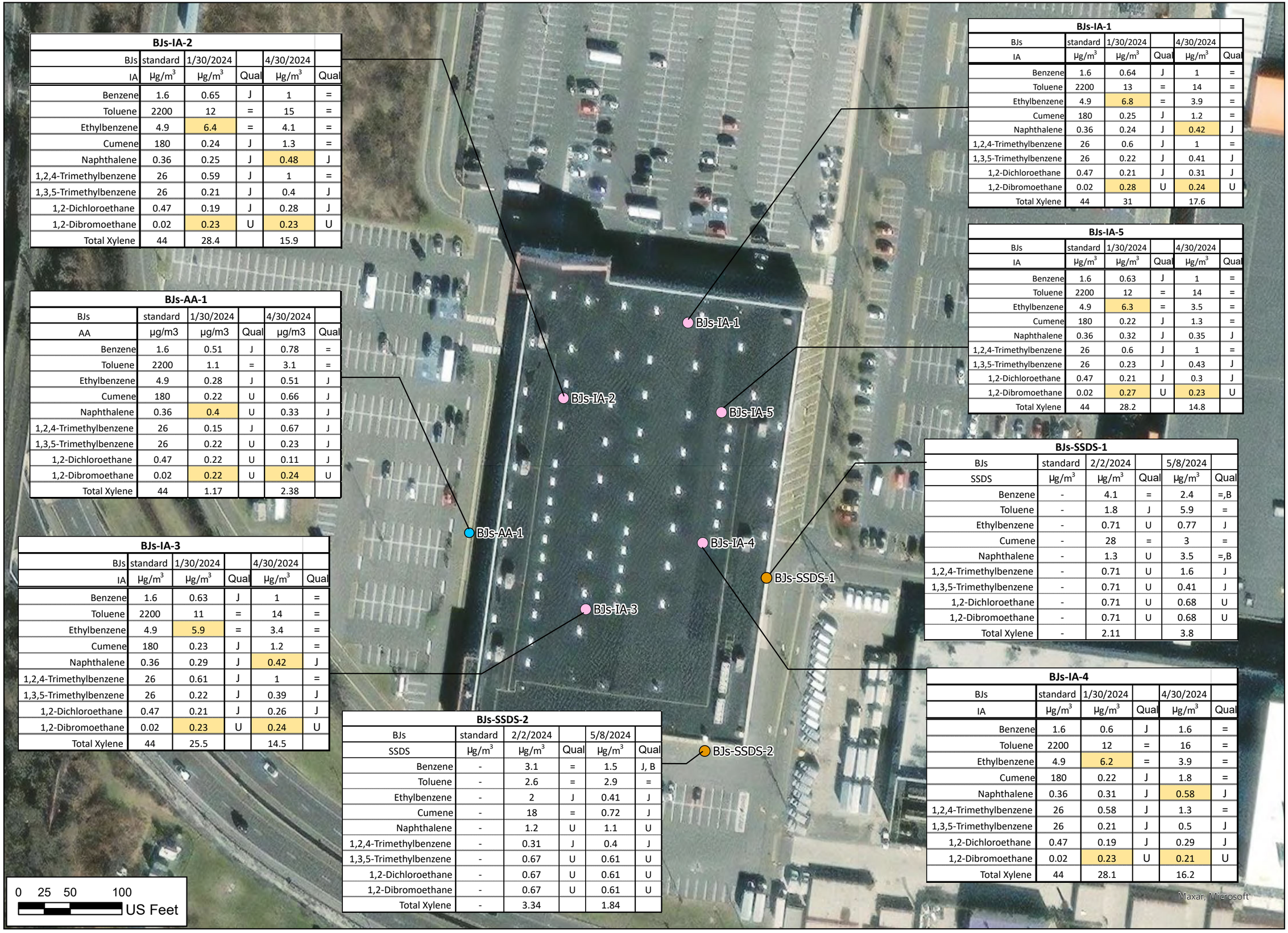
5.8. Subsurface Utility Corridor – Pollock-Packer Combined Sewer

None of the SCV samples collected from manholes along the combined Pollock-Packer sewer (11 locations) exceeded screening value (SVSS; **Figures 65A/B/C**).

5.9. Subsurface Utility Corridor – Pollock-Packer Combined Sewer

None of the SCV samples collected from manholes along the combined Pollock-Packer sewer (11 locations) exceeded screening value (SVSS; **Figures 65A/B/C**).

Figures



BJs-IA-2

BJs	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.65	J	1	=
Toluene	2200	12	=	15	=
Ethylbenzene	4.9	6.4	=	4.1	=
Cumene	180	0.24	J	1.3	=
Naphthalene	0.36	0.25	J	0.48	J
1,2,4-Trimethylbenzene	26	0.59	J	1	=
1,3,5-Trimethylbenzene	26	0.21	J	0.4	J
1,2-Dichloroethane	0.47	0.19	J	0.28	J
1,2-Dibromoethane	0.02	0.23	U	0.23	U
Total Xylene	44	28.4		15.9	

BJs-AA-1

BJs	standard	1/30/2024		4/30/2024	
AA	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	1.6	0.51	J	0.78	=
Toluene	2200	1.1	=	3.1	=
Ethylbenzene	4.9	0.28	J	0.51	J
Cumene	180	0.22	U	0.66	J
Naphthalene	0.36	0.4	U	0.33	J
1,2,4-Trimethylbenzene	26	0.15	J	0.67	J
1,3,5-Trimethylbenzene	26	0.22	U	0.23	J
1,2-Dichloroethane	0.47	0.22	U	0.11	J
1,2-Dibromoethane	0.02	0.22	U	0.24	U
Total Xylene	44	1.17		2.38	

BJs-IA-3

BJs	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.63	J	1	=
Toluene	2200	11	=	14	=
Ethylbenzene	4.9	5.9	=	3.4	=
Cumene	180	0.23	J	1.2	=
Naphthalene	0.36	0.29	J	0.42	J
1,2,4-Trimethylbenzene	26	0.61	J	1	=
1,3,5-Trimethylbenzene	26	0.22	J	0.39	J
1,2-Dichloroethane	0.47	0.21	J	0.26	J
1,2-Dibromoethane	0.02	0.23	U	0.24	U
Total Xylene	44	25.5		14.5	

BJs-SSDS-2

BJs	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	-	3.1	=	1.5	J, B
Toluene	-	2.6	=	2.9	=
Ethylbenzene	-	2	J	0.41	J
Cumene	-	18	=	0.72	J
Naphthalene	-	1.2	U	1.1	U
1,2,4-Trimethylbenzene	-	0.31	J	0.4	J
1,3,5-Trimethylbenzene	-	0.67	U	0.61	U
1,2-Dichloroethane	-	0.67	U	0.61	U
1,2-Dibromoethane	-	0.67	U	0.61	U
Total Xylene	-	3.34		1.84	

BJs-IA-1

BJs	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.64	J	1	=
Toluene	2200	13	=	14	=
Ethylbenzene	4.9	6.8	=	3.9	=
Cumene	180	0.25	J	1.2	=
Naphthalene	0.36	0.24	J	0.42	J
1,2,4-Trimethylbenzene	26	0.6	J	1	=
1,3,5-Trimethylbenzene	26	0.22	J	0.41	J
1,2-Dichloroethane	0.47	0.21	J	0.31	J
1,2-Dibromoethane	0.02	0.28	U	0.24	U
Total Xylene	44	31		17.6	

BJs-IA-5

BJs	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.63	J	1	=
Toluene	2200	12	=	14	=
Ethylbenzene	4.9	6.3	=	3.5	=
Cumene	180	0.22	J	1.3	=
Naphthalene	0.36	0.32	J	0.35	J
1,2,4-Trimethylbenzene	26	0.6	J	1	=
1,3,5-Trimethylbenzene	26	0.23	J	0.43	J
1,2-Dichloroethane	0.47	0.21	J	0.3	J
1,2-Dibromoethane	0.02	0.27	U	0.23	U
Total Xylene	44	28.2		14.8	

BJs-SSDS-1

BJs	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	-	4.1	=	2.4	=,B
Toluene	-	1.8	J	5.9	=
Ethylbenzene	-	0.71	U	0.77	J
Cumene	-	28	=	3	=
Naphthalene	-	1.3	U	3.5	=,B
1,2,4-Trimethylbenzene	-	0.71	U	1.6	J
1,3,5-Trimethylbenzene	-	0.71	U	0.41	J
1,2-Dichloroethane	-	0.71	U	0.68	U
1,2-Dibromoethane	-	0.71	U	0.68	U
Total Xylene	-	2.11		3.8	

BJs-IA-4

BJs	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.6	J	1.6	=
Toluene	2200	12	=	16	=
Ethylbenzene	4.9	6.2	=	3.9	=
Cumene	180	0.22	J	1.8	=
Naphthalene	0.36	0.31	J	0.58	J
1,2,4-Trimethylbenzene	26	0.58	J	1.3	=
1,3,5-Trimethylbenzene	26	0.21	J	0.5	J
1,2-Dichloroethane	0.47	0.19	J	0.29	J
1,2-Dibromoethane	0.02	0.23	U	0.21	U
Total Xylene	44	28.1		16.2	

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Figure 2: Indoor, Ambient Air and SSDS Results - BJs

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air (IA)
- Ambient Air (AA)
- Sub-Slab Depressurization System (SSDS)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier
DUP = Duplicate Sample
Standards shown are 1/10th of PAL (Project Action Limit)

Notes:

1. Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)
2. No Statewide health standard vapor intrusion screening values exist for SSDS vapor samples.

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 3: Indoor, Ambient Air and SSDS Results - Home Depot

Legend

DSCP VI Air Sample Stations
Sample Type
- Indoor Air (IA)
- Ambient Air (AA)
- Sub-Slab Depressurization System (SSDS)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier
DUP = Duplicate Sample
Standards shown are 1/10th of PAL (Project Action Limit)

Notes:
1. Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)
2. No Statewide health standard vapor intrusion screening values exist for SSDS vapor samples.

Home Depot-AA-1

Home Depot	standard	1/31/2024		5/7/2024	
AA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.6	-	1.2	=
Toluene	2200	1.5	-	2.9	=
Ethylbenzene	4.9	0.29	-	0.62	J
Cumene	180	0.21	-	0.47	J
Naphthalene	0.36	0.39	-	0.25	J
1,2,4-Trimethylbenzene	26	0.28	-	0.81	=
1,3,5-Trimethylbenzene	26	0.21	-	0.28	J
1,2-Dichloroethane	0.47	0.088	-	0.24	U
1,2-Dibromoethane	0.02	0.21	-	0.24	U
Total Xylene	44	1.18		2.79	

Home Depot-IA-5

Home Depot	standard	1/31/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.3	=	2	=
Toluene	2200	21	=	38	=
Ethylbenzene	4.9	5.5	=	14	=
Cumene	180	1.4	=	3	=
Naphthalene	0.36	0.65	=	0.42	J
1,2,4-Trimethylbenzene	26	16	=	38	=
1,3,5-Trimethylbenzene	26	4.9	=	12	=
1,2-Dichloroethane	0.47	0.14	J	0.37	J
1,2-Dibromoethane	0.02	0.22	U	0.22	U
Total Xylene	44	31.4		72	

Home Depot-IA-4

Home Depot	standard	2/20/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.7	=	2.2	=
Toluene	2200	33	=	43	=
Ethylbenzene	4.9	11	=	14	=
Cumene	180	1.7	=	3.2	=
Naphthalene	0.36	1.1	=,V	1.3	=
1,2,4-Trimethylbenzene	26	22	=	44	=
1,3,5-Trimethylbenzene	26	6.5	=	13	=
1,2-Dichloroethane	0.47	0.17	J	0.35	J
1,2-Dibromoethane	0.02	0.24	U	0.24	U
Total Xylene	44	54		78	

Home Depot-SSDS-2

Home Depot	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	-	3.8	=	0.64	J, B
Toluene	-	3.7	=	1.5	J
Ethylbenzene	-	0.49	J	0.36	J
Cumene	-	25	=	0.65	U
Naphthalene	-	1.3	U	1.2	U
1,2,4-Trimethylbenzene	-	0.83	J	0.5	J
1,3,5-Trimethylbenzene	-	0.74	U	0.65	U
1,2-Dichloroethane	-	0.74	U	0.65	U
1,2-Dibromoethane	-	0.74	U	0.65	U
Total Xylene	-	2.58		1.67	

Home Depot-IA-2

Home Depot	standard	2/20/2024		5/8/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.9	=	1.7	=,B
Toluene	2200	24	=	20	=
Ethylbenzene	4.9	7.5	=	7.2	=
Cumene	180	1.5	=	1.6	=
Naphthalene	0.36	0.4	J	0.63	J, B
1,2,4-Trimethylbenzene	26	15	=	19	=
1,3,5-Trimethylbenzene	26	4.7	=	5.9	=
1,2-Dichloroethane	0.47	0.19	J	0.37	J
1,2-Dibromoethane	0.02	0.24	U	0.23	U
Total Xylene	44	41		41	

Home Depot-SSDS-1

Home Depot	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	-	7.8	=	3.1	=,B
Toluene	-	5.5	=	4.1	=
Ethylbenzene	-	0.6	J	0.45	J
Cumene	-	38	=	0.72	U
Naphthalene	-	1.2	U	1.3	U
1,2,4-Trimethylbenzene	-	1.1	J	0.51	J
1,3,5-Trimethylbenzene	-	0.36	J	0.72	U
1,2-Dichloroethane	-	0.68	U	0.72	U
1,2-Dibromoethane	-	0.68	U	0.72	U
Total Xylene	-	2.94		1.98	

Home Depot-IA-1

Home Depot	standard	1/31/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.4	=	2.3	=
Toluene	2200	18	=	26	=
Ethylbenzene	4.9	4.8	=	9.2	=
Cumene	180	1.1	=	2.3	=
Naphthalene	0.36	0.51	J	0.88	=
1,2,4-Trimethylbenzene	26	13	=	23	=
1,3,5-Trimethylbenzene	26	4	=	7.1	=
1,2-Dichloroethane	0.47	0.16	J	0.27	J
1,2-Dibromoethane	0.02	0.27	U	0.25	U
Total Xylene	44	26.2		49	

Home Depot-IA-3

Home Depot	standard	2/20/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	2	=	2.3	=
Toluene	2200	30	=	39	=
Ethylbenzene	4.9	10	=	13	=
Cumene	180	1.8	=	2.9	=
Naphthalene	0.36	0.78	=	0.63	J
1,2,4-Trimethylbenzene	26	18	=	35	=
1,3,5-Trimethylbenzene	26	6.4	=	11	=
1,2-Dichloroethane	0.47	0.2	J	0.33	J
1,2-Dibromoethane	0.02	0.25	U	0.25	U
Total Xylene	44	56		68	

Home Depot-IA-DUP

Home Depot	standard	2/20/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	2.2	=	2.4	=
Toluene	2200	24	=	40	=
Ethylbenzene	4.9	10	=	13	=
Cumene	180	1.8	=	3	=
Naphthalene	0.36	0.95	=	1.3	=
1,2,4-Trimethylbenzene	26	20	=	37	=
1,3,5-Trimethylbenzene	26	6.3	=	11	=
1,2-Dichloroethane	0.47	0.19	J	0.35	J
1,2-Dibromoethane	0.02	0.26	U	0.24	U
Total Xylene	44	55		70	

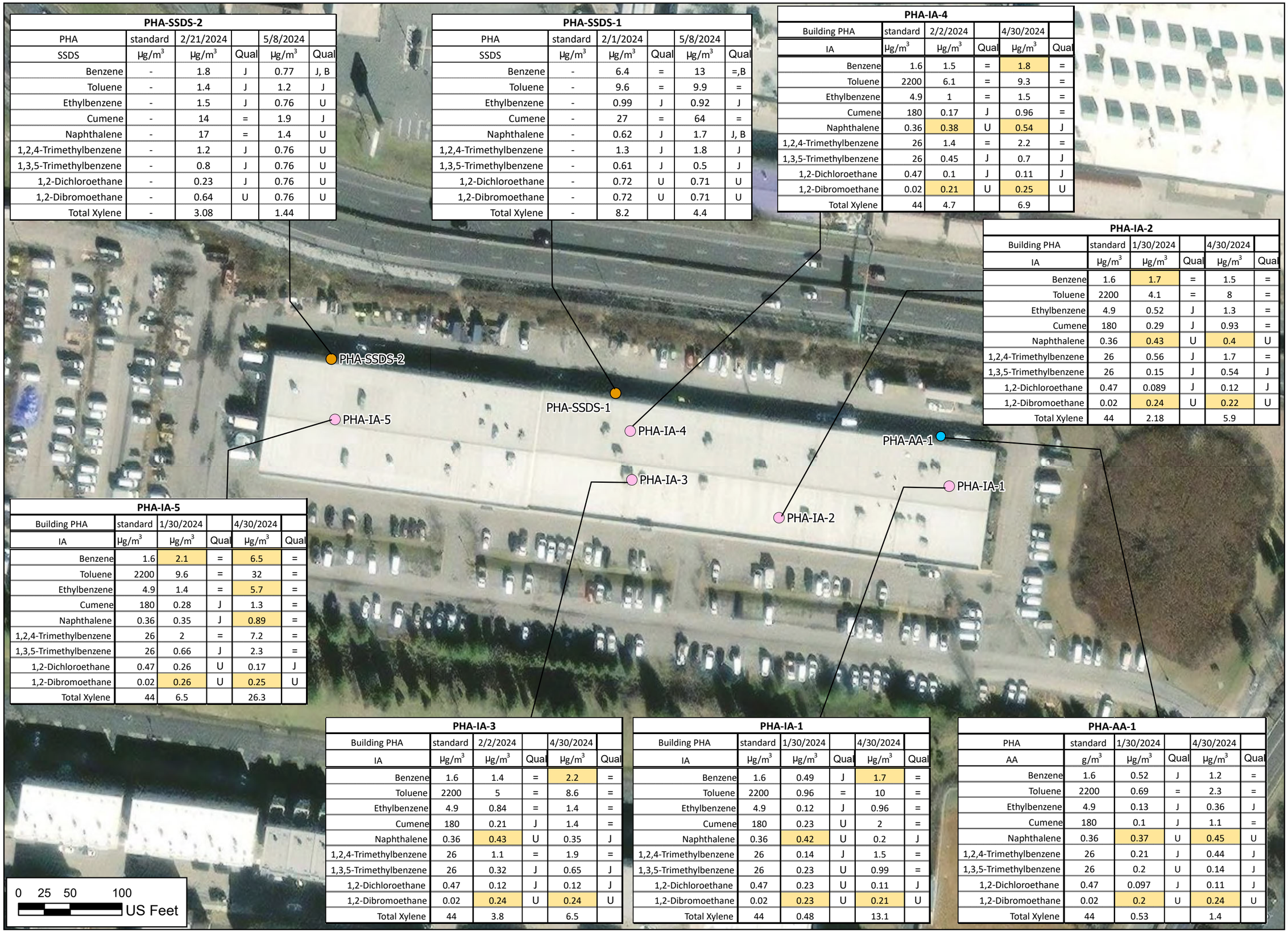
Building 8-AA-1
Home Depot-IA-5
Home Depot-SSDS-2
Home Depot-IA-4
Home Depot-SSDS-1
Home Depot-IA-DUP
Home Depot-IA-3
Home Depot-IA-2
Home Depot-IA-1
BJs-SSDS-2

0 25 50 100 US Feet

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



PHA-SSDS-2

PHA	standard	2/21/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	-	1.8	J	0.77	J, B
Toluene	-	1.4	J	1.2	J
Ethylbenzene	-	1.5	J	0.76	U
Cumene	-	14	=	1.9	J
Naphthalene	-	17	=	1.4	U
1,2,4-Trimethylbenzene	-	1.2	J	0.76	U
1,3,5-Trimethylbenzene	-	0.8	J	0.76	U
1,2-Dichloroethane	-	0.23	J	0.76	U
1,2-Dibromoethane	-	0.64	U	0.76	U
Total Xylene	-	3.08		1.44	

PHA-SSDS-1

PHA	standard	2/1/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	-	6.4	=	13	=,B
Toluene	-	9.6	=	9.9	=
Ethylbenzene	-	0.99	J	0.92	J
Cumene	-	27	=	64	=
Naphthalene	-	0.62	J	1.7	J, B
1,2,4-Trimethylbenzene	-	1.3	J	1.8	J
1,3,5-Trimethylbenzene	-	0.61	J	0.5	J
1,2-Dichloroethane	-	0.72	U	0.71	U
1,2-Dibromoethane	-	0.72	U	0.71	U
Total Xylene	-	8.2		4.4	

PHA-IA-4

Building PHA	standard	2/2/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.5	=	1.8	=
Toluene	2200	6.1	=	9.3	=
Ethylbenzene	4.9	1	=	1.5	=
Cumene	180	0.17	J	0.96	=
Naphthalene	0.36	0.38	U	0.54	J
1,2,4-Trimethylbenzene	26	1.4	=	2.2	=
1,3,5-Trimethylbenzene	26	0.45	J	0.7	J
1,2-Dichloroethane	0.47	0.1	J	0.11	J
1,2-Dibromoethane	0.02	0.21	U	0.25	U
Total Xylene	44	4.7		6.9	

PHA-IA-2

Building PHA	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.7	=	1.5	=
Toluene	2200	4.1	=	8	=
Ethylbenzene	4.9	0.52	J	1.3	=
Cumene	180	0.29	J	0.93	=
Naphthalene	0.36	0.43	U	0.4	U
1,2,4-Trimethylbenzene	26	0.56	J	1.7	=
1,3,5-Trimethylbenzene	26	0.15	J	0.54	J
1,2-Dichloroethane	0.47	0.089	J	0.12	J
1,2-Dibromoethane	0.02	0.24	U	0.22	U
Total Xylene	44	2.18		5.9	

PHA-IA-5

Building PHA	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	2.1	=	6.5	=
Toluene	2200	9.6	=	32	=
Ethylbenzene	4.9	1.4	=	5.7	=
Cumene	180	0.28	J	1.3	=
Naphthalene	0.36	0.35	J	0.89	=
1,2,4-Trimethylbenzene	26	2	=	7.2	=
1,3,5-Trimethylbenzene	26	0.66	J	2.3	=
1,2-Dichloroethane	0.47	0.26	U	0.17	J
1,2-Dibromoethane	0.02	0.26	U	0.25	U
Total Xylene	44	6.5		26.3	

PHA-IA-3

Building PHA	standard	2/2/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.4	=	2.2	=
Toluene	2200	5	=	8.6	=
Ethylbenzene	4.9	0.84	=	1.4	=
Cumene	180	0.21	J	1.4	=
Naphthalene	0.36	0.43	U	0.35	J
1,2,4-Trimethylbenzene	26	1.1	=	1.9	=
1,3,5-Trimethylbenzene	26	0.32	J	0.65	J
1,2-Dichloroethane	0.47	0.12	J	0.12	J
1,2-Dibromoethane	0.02	0.24	U	0.24	U
Total Xylene	44	3.8		6.5	

PHA-IA-1

Building PHA	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.49	J	1.7	=
Toluene	2200	0.96	=	10	=
Ethylbenzene	4.9	0.12	J	0.96	=
Cumene	180	0.23	U	2	=
Naphthalene	0.36	0.42	U	0.2	J
1,2,4-Trimethylbenzene	26	0.14	J	1.5	=
1,3,5-Trimethylbenzene	26	0.23	U	0.99	=
1,2-Dichloroethane	0.47	0.23	U	0.11	J
1,2-Dibromoethane	0.02	0.23	U	0.21	U
Total Xylene	44	0.48		13.1	

PHA-AA-1

PHA	standard	1/30/2024		4/30/2024	
AA	g/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.52	J	1.2	=
Toluene	2200	0.69	=	2.3	=
Ethylbenzene	4.9	0.13	J	0.36	J
Cumene	180	0.1	J	1.1	=
Naphthalene	0.36	0.37	U	0.45	U
1,2,4-Trimethylbenzene	26	0.21	J	0.44	J
1,3,5-Trimethylbenzene	26	0.2	U	0.14	J
1,2-Dichloroethane	0.47	0.097	J	0.11	J
1,2-Dibromoethane	0.02	0.2	U	0.24	U
Total Xylene	44	0.53		1.4	

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Figure 4: Indoor, Ambient Air and SSDS Results - PHA

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air (IA)
- Ambient Air (AA)
- Sub-Slab Depressurization System (SSDS)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier
DUP = Duplicate Sample
Standards shown are 1/10th of PAL (Project Action Limit)

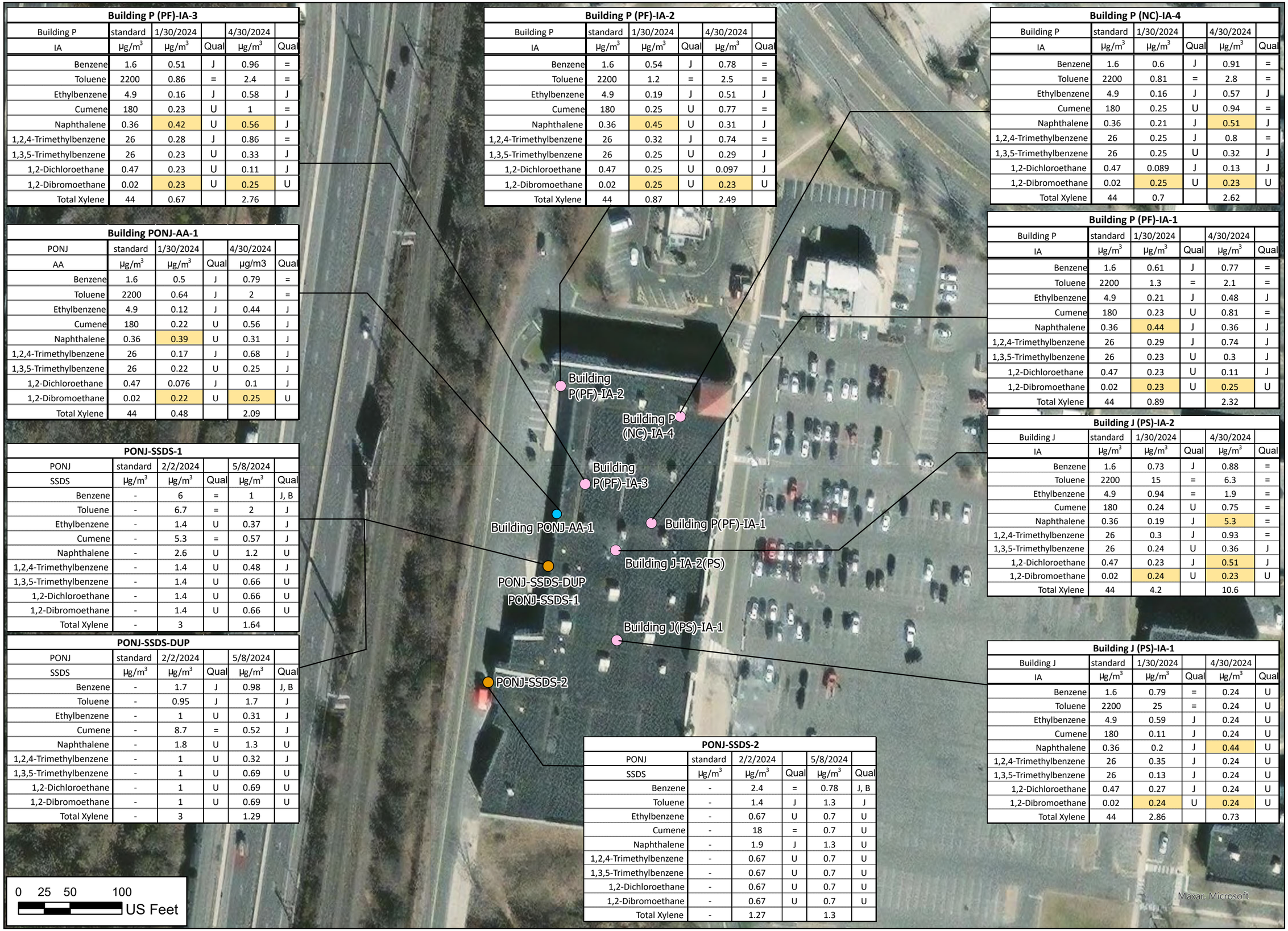
Notes:

1. Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)
2. No Statewide health standard vapor intrusion screening values exist for SSDS vapor samples.

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building P (PF)-IA-3

Building P IA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.51	J	0.96	=
Toluene	2200	0.86	=	2.4	=
Ethylbenzene	4.9	0.16	J	0.58	J
Cumene	180	0.23	U	1	=
Naphthalene	0.36	0.42	U	0.56	J
1,2,4-Trimethylbenzene	26	0.28	J	0.86	=
1,3,5-Trimethylbenzene	26	0.23	U	0.33	J
1,2-Dichloroethane	0.47	0.23	U	0.11	J
1,2-Dibromoethane	0.02	0.23	U	0.25	U
Total Xylene	44	0.67		2.76	

Building PONJ-AA-1

PONJ AA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m3	Qual
Benzene	1.6	0.5	J	0.79	=
Toluene	2200	0.64	J	2	=
Ethylbenzene	4.9	0.12	J	0.44	J
Cumene	180	0.22	U	0.56	J
Naphthalene	0.36	0.39	U	0.31	J
1,2,4-Trimethylbenzene	26	0.17	J	0.68	J
1,3,5-Trimethylbenzene	26	0.22	U	0.25	J
1,2-Dichloroethane	0.47	0.076	J	0.1	J
1,2-Dibromoethane	0.02	0.22	U	0.25	U
Total Xylene	44	0.48		2.09	

PONJ-SSDS-1

PONJ SSDS	standard µg/m³	2/2/2024 µg/m³	Qual	5/8/2024 µg/m³	Qual
Benzene	-	6	=	1	J, B
Toluene	-	6.7	=	2	J
Ethylbenzene	-	1.4	U	0.37	J
Cumene	-	5.3	=	0.57	J
Naphthalene	-	2.6	U	1.2	U
1,2,4-Trimethylbenzene	-	1.4	U	0.48	J
1,3,5-Trimethylbenzene	-	1.4	U	0.66	U
1,2-Dichloroethane	-	1.4	U	0.66	U
1,2-Dibromoethane	-	1.4	U	0.66	U
Total Xylene	-	3		1.64	

PONJ-SSDS-DUP

PONJ SSDS	standard µg/m³	2/2/2024 µg/m³	Qual	5/8/2024 µg/m³	Qual
Benzene	-	1.7	J	0.98	J, B
Toluene	-	0.95	J	1.7	J
Ethylbenzene	-	1	U	0.31	J
Cumene	-	8.7	=	0.52	J
Naphthalene	-	1.8	U	1.3	U
1,2,4-Trimethylbenzene	-	1	U	0.32	J
1,3,5-Trimethylbenzene	-	1	U	0.69	U
1,2-Dichloroethane	-	1	U	0.69	U
1,2-Dibromoethane	-	1	U	0.69	U
Total Xylene	-	3		1.29	

Building P (PF)-IA-2

Building P IA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.54	J	0.78	=
Toluene	2200	1.2	=	2.5	=
Ethylbenzene	4.9	0.19	J	0.51	J
Cumene	180	0.25	U	0.77	=
Naphthalene	0.36	0.45	U	0.31	J
1,2,4-Trimethylbenzene	26	0.32	J	0.74	=
1,3,5-Trimethylbenzene	26	0.25	U	0.29	J
1,2-Dichloroethane	0.47	0.25	U	0.097	J
1,2-Dibromoethane	0.02	0.25	U	0.23	U
Total Xylene	44	0.87		2.49	

PONJ-SSDS-2

PONJ SSDS	standard µg/m³	2/2/2024 µg/m³	Qual	5/8/2024 µg/m³	Qual
Benzene	-	2.4	=	0.78	J, B
Toluene	-	1.4	J	1.3	J
Ethylbenzene	-	0.67	U	0.7	U
Cumene	-	18	=	0.7	U
Naphthalene	-	1.9	J	1.3	U
1,2,4-Trimethylbenzene	-	0.67	U	0.7	U
1,3,5-Trimethylbenzene	-	0.67	U	0.7	U
1,2-Dichloroethane	-	0.67	U	0.7	U
1,2-Dibromoethane	-	0.67	U	0.7	U
Total Xylene	-	1.27		1.3	

Building P (NC)-IA-4

Building P IA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.6	J	0.91	=
Toluene	2200	0.81	=	2.8	=
Ethylbenzene	4.9	0.16	J	0.57	J
Cumene	180	0.25	U	0.94	=
Naphthalene	0.36	0.21	J	0.51	J
1,2,4-Trimethylbenzene	26	0.25	J	0.8	=
1,3,5-Trimethylbenzene	26	0.25	U	0.32	J
1,2-Dichloroethane	0.47	0.089	J	0.13	J
1,2-Dibromoethane	0.02	0.25	U	0.23	U
Total Xylene	44	0.7		2.62	

Building P (PF)-IA-1

Building P IA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.61	J	0.77	=
Toluene	2200	1.3	=	2.1	=
Ethylbenzene	4.9	0.21	J	0.48	J
Cumene	180	0.23	U	0.81	=
Naphthalene	0.36	0.44	J	0.36	J
1,2,4-Trimethylbenzene	26	0.29	J	0.74	J
1,3,5-Trimethylbenzene	26	0.23	U	0.3	J
1,2-Dichloroethane	0.47	0.23	U	0.11	J
1,2-Dibromoethane	0.02	0.23	U	0.25	U
Total Xylene	44	0.89		2.32	

Building J (PS)-IA-2

Building J IA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.73	J	0.88	=
Toluene	2200	15	=	6.3	=
Ethylbenzene	4.9	0.94	=	1.9	=
Cumene	180	0.24	U	0.75	=
Naphthalene	0.36	0.19	J	5.3	=
1,2,4-Trimethylbenzene	26	0.3	J	0.93	=
1,3,5-Trimethylbenzene	26	0.24	U	0.36	J
1,2-Dichloroethane	0.47	0.23	J	0.51	J
1,2-Dibromoethane	0.02	0.24	U	0.23	U
Total Xylene	44	4.2		10.6	

Building J (PS)-IA-1

Building J IA	standard µg/m³	1/30/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.79	=	0.24	U
Toluene	2200	25	=	0.24	U
Ethylbenzene	4.9	0.59	J	0.24	U
Cumene	180	0.11	J	0.24	U
Naphthalene	0.36	0.2	J	0.44	U
1,2,4-Trimethylbenzene	26	0.35	J	0.24	U
1,3,5-Trimethylbenzene	26	0.13	J	0.24	U
1,2-Dichloroethane	0.47	0.27	J	0.24	U
1,2-Dibromoethane	0.02	0.24	U	0.24	U
Total Xylene	44	2.86		0.73	

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Figure 5: Indoor, Ambient Air and SSDS Results - Buildings J, P, PONJ

Legend

DSCP VI Air Sample Stations

Sample Type
- Indoor Air (IA)
- Ambient Air (AA)
- Sub-Slab Depressurization System (SSDS)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier
DUP = Duplicate Sample
Standards shown are 1/10th of PAL (Project Action Limit)

Notes:
1. Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)
2. No Statewide health standard vapor intrusion screening values exist for SSDS vapor samples.

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 6: Indoor Air Sampling Results, VES

VES Building-IA-2					
VES Building	standard	2/2/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.8	=	2.8	=
Toluene	2200	15	=	23	=
Ethylbenzene	4.9	1.3	=	1.6	=
Cumene	180	0.17	J	0.78	=
Naphthalene	0.36	0.38	U	0.38	J
1,2,4-Trimethylbenzene	26	0.76	=	1.5	=
1,3,5-Trimethylbenzene	26	0.24	J	0.46	J
1,2-Dichloroethane	0.47	0.17	J	0.24	U
1,2-Dibromoethane	0.02	0.21	U	0.24	U
Total Xylene	44	6.3		7.6	

VES-AA-1
VES-IA-1
VES-IA-2

VES Building-AA-1					
VES	standard	2/2/2024		5/7/2024	
AA	µg/m³	µg/m³	Qual		
Benzene	1.6	0.77	=	1	=
Toluene	2200	1.8	=	8.8	=
Ethylbenzene	4.9	0.29	J	0.44	J
Cumene	180	0.095	J	0.91	=
Naphthalene	0.36	0.36	U	0.38	U
1,2,4-Trimethylbenzene	26	0.39	J	0.53	J
1,3,5-Trimethylbenzene	26	0.11	J	0.16	J
1,2-Dichloroethane	0.47	0.12	J	0.074	J
1,2-Dibromoethane	0.02	0.2	U	0.21	U
Total Xylene	44	1.23		1.96	

VES Building-IA-1					
VES Building	standard	2/2/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.8	=	3.2	=
Toluene	2200	7.7	=	13	=
Ethylbenzene	4.9	1	=	2.1	=
Cumene	180	0.26	J	0.94	=
Naphthalene	0.36	0.46	U	0.54	J
1,2,4-Trimethylbenzene	26	1	=	2.2	=
1,3,5-Trimethylbenzene	26	0.32	J	0.65	J
1,2-Dichloroethane	0.47	0.13	J	0.11	J
1,2-Dibromoethane	0.02	0.25	U	0.27	U
Total Xylene	44	4.9		10	

Legend

DSCP VI Air Sample Stations
Sample Type
- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

0 25 50 100
US Feet

Maxar, Microsoft

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

VES Building-SSSG-1					
Home Depot	standard	2/14/2024		5/13/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	4	=	3.8	=
Toluene	280000	13	=	13	=
Ethylbenzene	630	1.9	J	1.9	J
Cumene	22000	28	=	0.87	J
Naphthalene	46	0.89	J	1.3	U
1,2,4-Trimethylbenzene	3400	16	=	2.3	=
1,3,5-Trimethylbenzene	3400	4.6	=	0.81	J
1,2-Dichloroethane	61	0.75	U	0.72	U
1,2-Dibromoethane	2.6	0.75	U	0.72	U
Total Xylene	5600	14		9.9	

VES-SSSG-1

VES-SSSG-2

VES Building-SSSG-2					
Home Depot	standard	2/14/2024		5/13/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	7.1	=	8.8	=
Toluene	280000	23	=	30	=
Ethylbenzene	630	1.8	J	3.7	=
Cumene	22000	23	=	0.73	J
Naphthalene	46	0.68	J	1.3	U
1,2,4-Trimethylbenzene	3400	3.6	=	4.4	=
1,3,5-Trimethylbenzene	3400	1.2	J	1.4	J
1,2-Dichloroethane	61	0.68	U	0.74	U
1,2-Dibromoethane	2.6	0.68	U	0.74	U
Total Xylene	5600	7.9		19	

0 25 50 100
US Feet

Maxar, Microsoft

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Figure 7: SSSG Sampling Results, VES Building

Legend

DSCP VI Air Sample Stations

Sample Type

- Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

VES Building-PP-A					
VES Building	standard	2/29/2024		5/20/2024	
PP	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	200	3.2	=	1	J
Toluene	280000	46	=	2.6	J
Ethylbenzene	630	3.7	=	0.57	J
Cumene	22000	1.8	J	0.64	J
Naphthalene	46	1.2	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.41	J	0.42	J
1,3,5-Trimethylbenzene	3400	0.42	J	0.85	U
1,2-Dichloroethane	61	0.67	U	0.85	U
1,2-Dibromoethane	2.6	0.67	U	0.85	U
Total Xylene	5600	15.9		2.35	

Bldg VES-PP-A

0 25 50 100 US Feet

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Figure 8: PP Soil Gas Sampling Results, VES Building

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:563

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 9: Near Source (NS) Soil Gas Sampling Results, VES Building

VES Building-NS-A					
VES Building	standard	3/14/2024		5/20/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	1.7	J	1.5	J
Toluene	2200000	14	=	14	=
Ethylbenzene	4900	0.54	J	0.95	J
Cumene	180000	1.4	J	0.73	J
Naphthalene	360	1.2	J	2.7	=
1,2,4-Trimethylbenzene	26000	0.55	J	1.1	J
1,3,5-Trimethylbenzene	26000	0.92	U	0.77	U
1,2-Dichloroethane	470	0.92	U	0.77	U
1,2-Dibromoethane	20	0.92	U	0.77	U
Total Xylene	44000	2.02		4.1	

VES Building-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source (NS)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

VES Building-SCV-1

VES Building	standard	2/8/2024		6/5/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	0.41	J	0.61	J
Toluene	280000	1.1	J	1.5	J
Ethylbenzene	630	0.73	U	0.79	U
Cumene	22000	0.73	U	0.79	U
Naphthalene	46	1.3	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.73	U	0.79	U
1,3,5-Trimethylbenzene	3400	0.73	U	0.79	U
1,2-Dichloroethane	61	0.73	U	0.79	U
1,2-Dibromoethane	2.6	0.73	U	0.79	U
Total Xylene	5600	2.23		1.44	

VES-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 10: SCV - VES Building

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

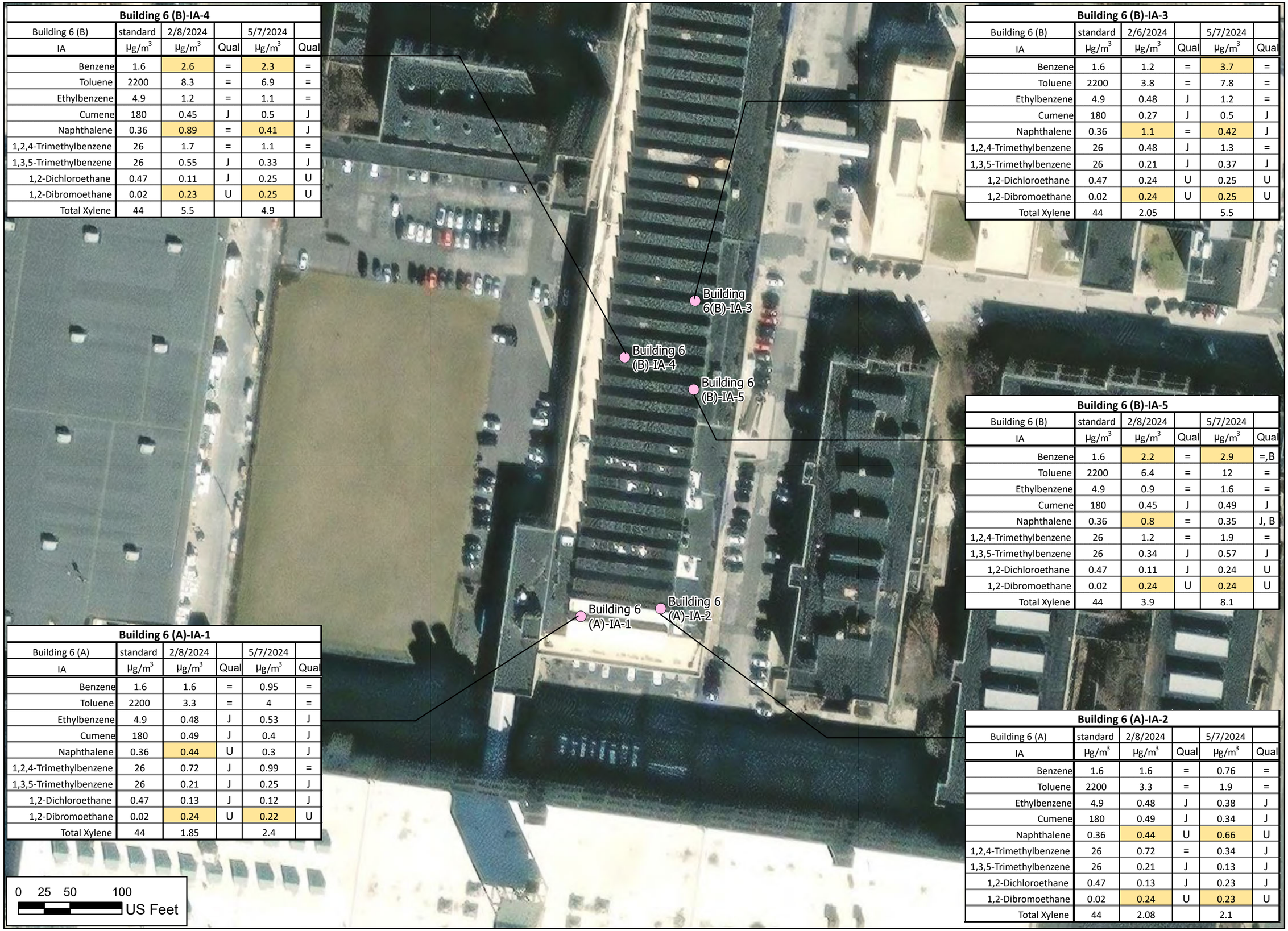
DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 6 (B)-IA-4

Building 6 (B) IA	standard µg/m³	2/8/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	2.6	=	2.3	=
Toluene	2200	8.3	=	6.9	=
Ethylbenzene	4.9	1.2	=	1.1	=
Cumene	180	0.45	J	0.5	J
Naphthalene	0.36	0.89	=	0.41	J
1,2,4-Trimethylbenzene	26	1.7	=	1.1	=
1,3,5-Trimethylbenzene	26	0.55	J	0.33	J
1,2-Dichloroethane	0.47	0.11	J	0.25	U
1,2-Dibromoethane	0.02	0.23	U	0.25	U
Total Xylene	44	5.5		4.9	

Building 6 (B)-IA-3

Building 6 (B) IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	1.2	=	3.7	=
Toluene	2200	3.8	=	7.8	=
Ethylbenzene	4.9	0.48	J	1.2	=
Cumene	180	0.27	J	0.5	J
Naphthalene	0.36	1.1	=	0.42	J
1,2,4-Trimethylbenzene	26	0.48	J	1.3	=
1,3,5-Trimethylbenzene	26	0.21	J	0.37	J
1,2-Dichloroethane	0.47	0.24	U	0.25	U
1,2-Dibromoethane	0.02	0.24	U	0.25	U
Total Xylene	44	2.05		5.5	

Building 6 (B)-IA-5

Building 6 (B) IA	standard µg/m³	2/8/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	2.2	=	2.9	=,B
Toluene	2200	6.4	=	12	=
Ethylbenzene	4.9	0.9	=	1.6	=
Cumene	180	0.45	J	0.49	J
Naphthalene	0.36	0.8	=	0.35	J, B
1,2,4-Trimethylbenzene	26	1.2	=	1.9	=
1,3,5-Trimethylbenzene	26	0.34	J	0.57	J
1,2-Dichloroethane	0.47	0.11	J	0.24	U
1,2-Dibromoethane	0.02	0.24	U	0.24	U
Total Xylene	44	3.9		8.1	

Building 6 (A)-IA-1

Building 6 (A) IA	standard µg/m³	2/8/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	1.6	=	0.95	=
Toluene	2200	3.3	=	4	=
Ethylbenzene	4.9	0.48	J	0.53	J
Cumene	180	0.49	J	0.4	J
Naphthalene	0.36	0.44	U	0.3	J
1,2,4-Trimethylbenzene	26	0.72	J	0.99	=
1,3,5-Trimethylbenzene	26	0.21	J	0.25	J
1,2-Dichloroethane	0.47	0.13	J	0.12	J
1,2-Dibromoethane	0.02	0.24	U	0.22	U
Total Xylene	44	1.85		2.4	

Building 6 (A)-IA-2

Building 6 (A) IA	standard µg/m³	2/8/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	1.6	=	0.76	=
Toluene	2200	3.3	=	1.9	=
Ethylbenzene	4.9	0.48	J	0.38	J
Cumene	180	0.49	J	0.34	J
Naphthalene	0.36	0.44	U	0.66	U
1,2,4-Trimethylbenzene	26	0.72	=	0.34	J
1,3,5-Trimethylbenzene	26	0.21	J	0.13	J
1,2-Dichloroethane	0.47	0.13	J	0.23	J
1,2-Dibromoethane	0.02	0.24	U	0.23	U
Total Xylene	44	2.08		2.1	

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Figure 11A: Indoor Air Sampling Results, Building 6 (A,B)

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 11B: Indoor Air Sampling Results, Building 6 (C,D,E)

Building 6 (E)-IA-9

Building 6 (E)-IA-9	standard	2/8/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.94	=	0.73	=,B
Toluene	2200	1.7	=	1.9	=
Ethylbenzene	4.9	0.29	J	0.53	J
Cumene	180	0.18	J	0.45	J
Naphthalene	0.36	0.36	U	0.43	J, B
1,2,4-Trimethylbenzene	26	0.52	J	0.51	J
1,3,5-Trimethylbenzene	26	0.16	J	0.15	J
1,2-Dichloroethane	0.47	0.084	J	0.23	U
1,2-Dibromoethane	0.02	0.2	U	0.23	U
Total Xylene	44	1.22		2.67	

Building 6 (D)-IA-8

Building 6 (D)-IA-8	standard	2/8/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.4	=	0.75	=,B
Toluene	2200	2.6	=	1.9	=
Ethylbenzene	4.9	0.38	J	0.38	J
Cumene	180	0.4	J	0.39	J
Naphthalene	0.36	0.43	U	0.26	J, B
1,2,4-Trimethylbenzene	26	0.9	=	0.41	J
1,3,5-Trimethylbenzene	26	0.28	J	0.14	J
1,2-Dichloroethane	0.47	0.097	J	0.23	U
1,2-Dibromoethane	0.02	0.24	U	0.23	U
Total Xylene	44	1.64		1.7	

Building 6-IA-DUP

Building 6 DUP	standard	2/8/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.4	=	0.91	=,B
Toluene	2200	2.7	=	3.3	=
Ethylbenzene	4.9	0.38	J	0.42	J
Cumene	180	0.42	J	0.28	J
Naphthalene	0.36	0.41	U	0.2	J, B
1,2,4-Trimethylbenzene	26	0.81	=	0.41	J
1,3,5-Trimethylbenzene	26	0.25	J	0.12	J
1,2-Dichloroethane	0.47	0.22	U	0.22	U
1,2-Dibromoethane	0.02	0.22	U	0.22	U
Total Xylene	44	1.66		1.71	

Building 6 (C)-IA-7

Building 6 (C)	standard	2/8/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.4	=	0.76	=,B
Toluene	2200	2.6	=	2.2	=
Ethylbenzene	4.9	0.38	J	0.37	J
Cumene	180	0.36	J	0.3	J
Naphthalene	0.36	0.4	U	0.41	U
1,2,4-Trimethylbenzene	26	0.76	=	0.39	J
1,3,5-Trimethylbenzene	26	0.23	J	0.13	J
1,2-Dichloroethane	0.47	0.22	U	0.23	U
1,2-Dibromoethane	0.02	0.22	U	0.23	U
Total Xylene	44	1.67		1.71	

Building 6 (C)-IA-6

Building 6 (C)	standard	2/8/2024		5/7/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.5	=	0.82	=,B
Toluene	2200	2.8	=	2.5	=
Ethylbenzene	4.9	0.39	J	0.65	J
Cumene	180	0.44	J	1.1	J
Naphthalene	0.36	0.18	J	0.16	J
1,2,4-Trimethylbenzene	26	0.84	=	0.45	=
1,3,5-Trimethylbenzene	26	0.28	J	0.11	J
1,2-Dichloroethane	0.47	0.094	J	0.21	J
1,2-Dibromoethane	0.02	0.21	U	0.21	U
Total Xylene	44	1.64		2.23	

Building 6 (E)-IA-9
Building 6 (D)-IA-8
Building 6 (C)-IA-7
Building 6-IA-DUP
Building 6(C)-IA-6

0 25 50 100 US Feet

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

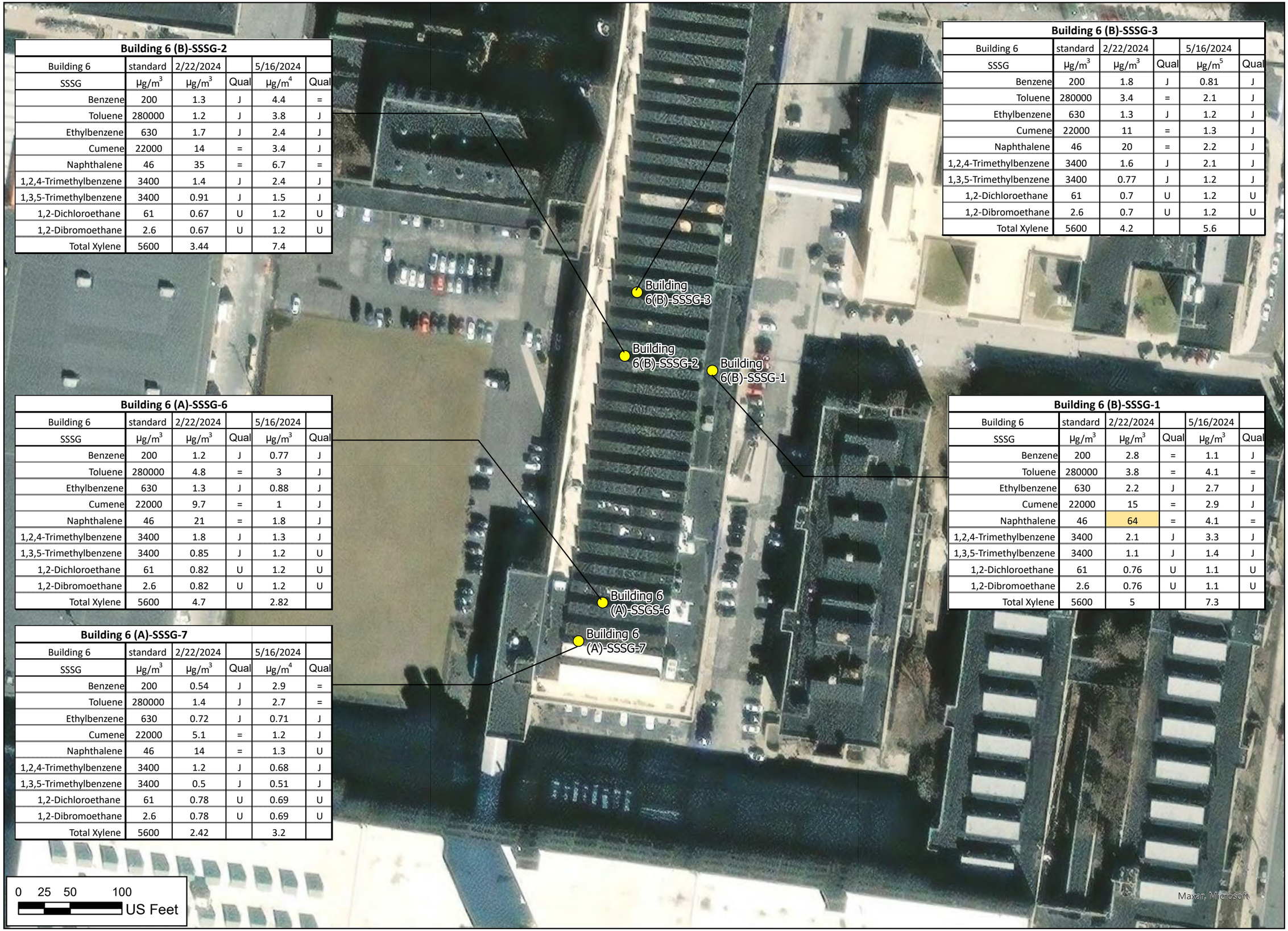
DUP = Duplicate Sample

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 6 (B)-SSSG-2

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	1.3	J	4.4	=
Toluene	280000	1.2	J	3.8	J
Ethylbenzene	630	1.7	J	2.4	J
Cumene	22000	14	=	3.4	J
Naphthalene	46	35	=	6.7	=
1,2,4-Trimethylbenzene	3400	1.4	J	2.4	J
1,3,5-Trimethylbenzene	3400	0.91	J	1.5	J
1,2-Dichloroethane	61	0.67	U	1.2	U
1,2-Dibromoethane	2.6	0.67	U	1.2	U
Total Xylene	5600	3.44		7.4	

Building 6 (B)-SSSG-3

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^5	Qual
Benzene	200	1.8	J	0.81	J
Toluene	280000	3.4	=	2.1	J
Ethylbenzene	630	1.3	J	1.2	J
Cumene	22000	11	=	1.3	J
Naphthalene	46	20	=	2.2	J
1,2,4-Trimethylbenzene	3400	1.6	J	2.1	J
1,3,5-Trimethylbenzene	3400	0.77	J	1.2	J
1,2-Dichloroethane	61	0.7	U	1.2	U
1,2-Dibromoethane	2.6	0.7	U	1.2	U
Total Xylene	5600	4.2		5.6	

Building 6 (A)-SSSG-6

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	1.2	J	0.77	J
Toluene	280000	4.8	=	3	J
Ethylbenzene	630	1.3	J	0.88	J
Cumene	22000	9.7	=	1	J
Naphthalene	46	21	=	1.8	J
1,2,4-Trimethylbenzene	3400	1.8	J	1.3	J
1,3,5-Trimethylbenzene	3400	0.85	J	1.2	U
1,2-Dichloroethane	61	0.82	U	1.2	U
1,2-Dibromoethane	2.6	0.82	U	1.2	U
Total Xylene	5600	4.7		2.82	

Building 6 (A)-SSSG-7

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	0.54	J	2.9	=
Toluene	280000	1.4	J	2.7	=
Ethylbenzene	630	0.72	J	0.71	J
Cumene	22000	5.1	=	1.2	J
Naphthalene	46	14	=	1.3	U
1,2,4-Trimethylbenzene	3400	1.2	J	0.68	J
1,3,5-Trimethylbenzene	3400	0.5	J	0.51	J
1,2-Dichloroethane	61	0.78	U	0.69	U
1,2-Dibromoethane	2.6	0.78	U	0.69	U
Total Xylene	5600	2.42		3.2	

Building 6 (B)-SSSG-1

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	2.8	=	1.1	J
Toluene	280000	3.8	=	4.1	=
Ethylbenzene	630	2.2	J	2.7	J
Cumene	22000	15	=	2.9	J
Naphthalene	46	64	=	4.1	=
1,2,4-Trimethylbenzene	3400	2.1	J	3.3	J
1,3,5-Trimethylbenzene	3400	1.1	J	1.4	J
1,2-Dichloroethane	61	0.76	U	1.1	U
1,2-Dibromoethane	2.6	0.76	U	1.1	U
Total Xylene	5600	5		7.3	

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Figure 12A: SSSG Sampling Results, Building 6 (A,B)

Legend

DSCP VI Air Sample Stations

Sample Type

- Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

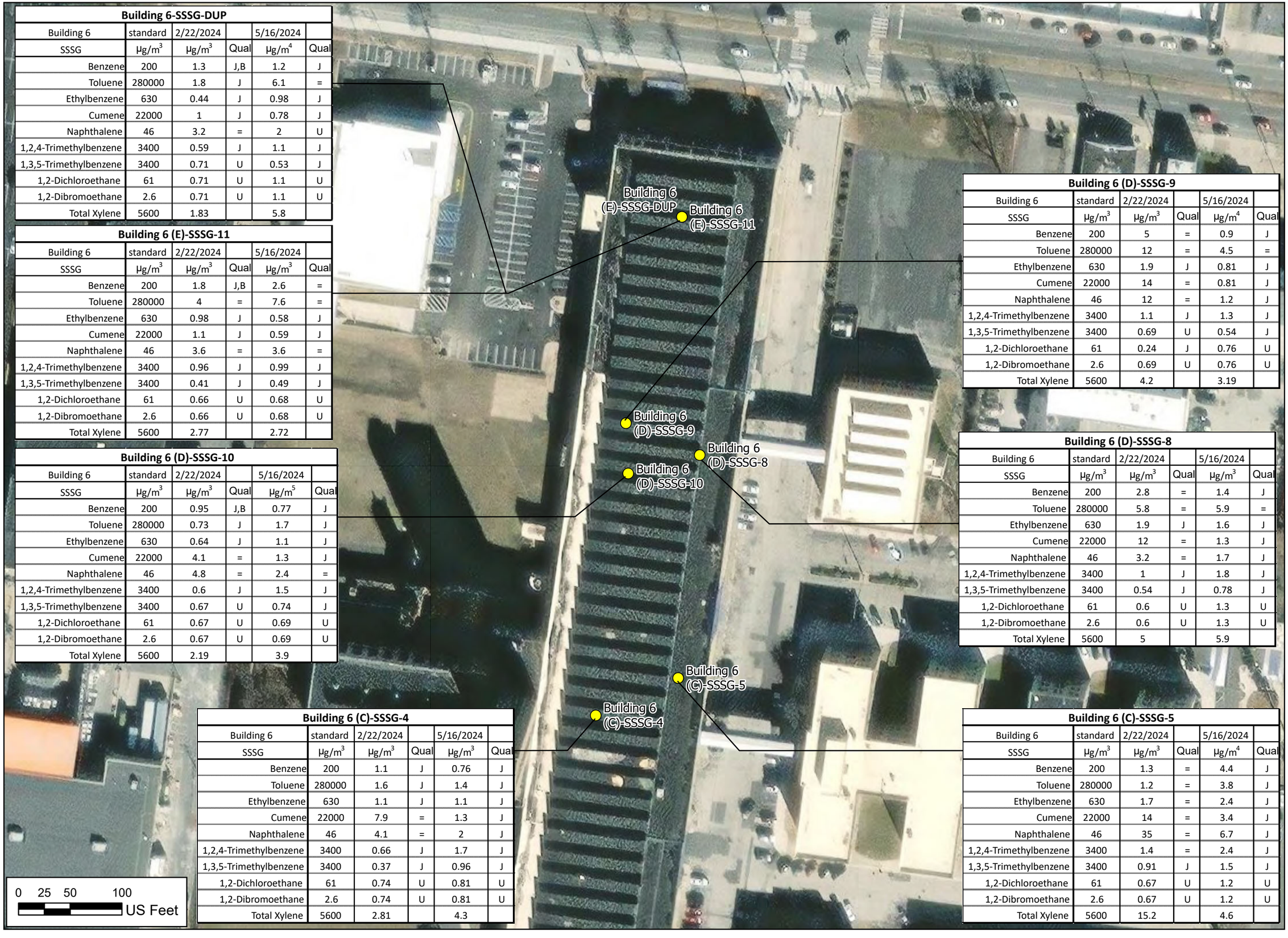
DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 6-SSSG-DUP

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	1.3	J,B	1.2	J
Toluene	280000	1.8	J	6.1	=
Ethylbenzene	630	0.44	J	0.98	J
Cumene	22000	1	J	0.78	J
Naphthalene	46	3.2	=	2	U
1,2,4-Trimethylbenzene	3400	0.59	J	1.1	J
1,3,5-Trimethylbenzene	3400	0.71	U	0.53	J
1,2-Dichloroethane	61	0.71	U	1.1	U
1,2-Dibromoethane	2.6	0.71	U	1.1	U
Total Xylene	5600	1.83		5.8	

Building 6 (E)-SSSG-11

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	1.8	J,B	2.6	=
Toluene	280000	4	=	7.6	=
Ethylbenzene	630	0.98	J	0.58	J
Cumene	22000	1.1	J	0.59	J
Naphthalene	46	3.6	=	3.6	=
1,2,4-Trimethylbenzene	3400	0.96	J	0.99	J
1,3,5-Trimethylbenzene	3400	0.41	J	0.49	J
1,2-Dichloroethane	61	0.66	U	0.68	U
1,2-Dibromoethane	2.6	0.66	U	0.68	U
Total Xylene	5600	2.77		2.72	

Building 6 (D)-SSSG-10

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^5	Qual
Benzene	200	0.95	J,B	0.77	J
Toluene	280000	0.73	J	1.7	J
Ethylbenzene	630	0.64	J	1.1	J
Cumene	22000	4.1	=	1.3	J
Naphthalene	46	4.8	=	2.4	=
1,2,4-Trimethylbenzene	3400	0.6	J	1.5	J
1,3,5-Trimethylbenzene	3400	0.67	U	0.74	J
1,2-Dichloroethane	61	0.67	U	0.69	U
1,2-Dibromoethane	2.6	0.67	U	0.69	U
Total Xylene	5600	2.19		3.9	

Building 6 (D)-SSSG-9

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	5	=	0.9	J
Toluene	280000	12	=	4.5	=
Ethylbenzene	630	1.9	J	0.81	J
Cumene	22000	14	=	0.81	J
Naphthalene	46	12	=	1.2	J
1,2,4-Trimethylbenzene	3400	1.1	J	1.3	J
1,3,5-Trimethylbenzene	3400	0.69	U	0.54	J
1,2-Dichloroethane	61	0.24	J	0.76	U
1,2-Dibromoethane	2.6	0.69	U	0.76	U
Total Xylene	5600	4.2		3.19	

Building 6 (D)-SSSG-8

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	2.8	=	1.4	J
Toluene	280000	5.8	=	5.9	=
Ethylbenzene	630	1.9	J	1.6	J
Cumene	22000	12	=	1.3	J
Naphthalene	46	3.2	=	1.7	J
1,2,4-Trimethylbenzene	3400	1	J	1.8	J
1,3,5-Trimethylbenzene	3400	0.54	J	0.78	J
1,2-Dichloroethane	61	0.6	U	1.3	U
1,2-Dibromoethane	2.6	0.6	U	1.3	U
Total Xylene	5600	5		5.9	

Building 6 (C)-SSSG-4

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	1.1	J	0.76	J
Toluene	280000	1.6	J	1.4	J
Ethylbenzene	630	1.1	J	1.1	J
Cumene	22000	7.9	=	1.3	J
Naphthalene	46	4.1	=	2	J
1,2,4-Trimethylbenzene	3400	0.66	J	1.7	J
1,3,5-Trimethylbenzene	3400	0.37	J	0.96	J
1,2-Dichloroethane	61	0.74	U	0.81	U
1,2-Dibromoethane	2.6	0.74	U	0.81	U
Total Xylene	5600	2.81		4.3	

Building 6 (C)-SSSG-5

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	1.3	=	4.4	J
Toluene	280000	1.2	=	3.8	J
Ethylbenzene	630	1.7	=	2.4	J
Cumene	22000	14	=	3.4	J
Naphthalene	46	35	=	6.7	J
1,2,4-Trimethylbenzene	3400	1.4	=	2.4	J
1,3,5-Trimethylbenzene	3400	0.91	J	1.5	J
1,2-Dichloroethane	61	0.67	U	1.2	U
1,2-Dibromoethane	2.6	0.67	U	1.2	U
Total Xylene	5600	15.2		4.6	

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Figure 12B: SSSG Sampling Results, Building 6 (C,D,E)

Legend

DSCP VI Air Sample Stations

Sample Type

- Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 6-PP-A					
Building 6	standard	3/4/2024		5/6/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	3	=	1.2	J
Toluene	280000	3.5	=	4.4	=
Ethylbenzene	630	0.54	J	0.37	J
Cumene	22000	5.4	=	0.83	J
Naphthalene	46	1.2	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.37	J	0.45	J
1,3,5-Trimethylbenzene	3400	0.32	J	0.76	U
1,2-Dichloroethane	61	0.68	U	0.76	U
1,2-Dibromoethane	2.6	0.68	U	0.76	U
Total Xylene	5600	2.24		1.56	

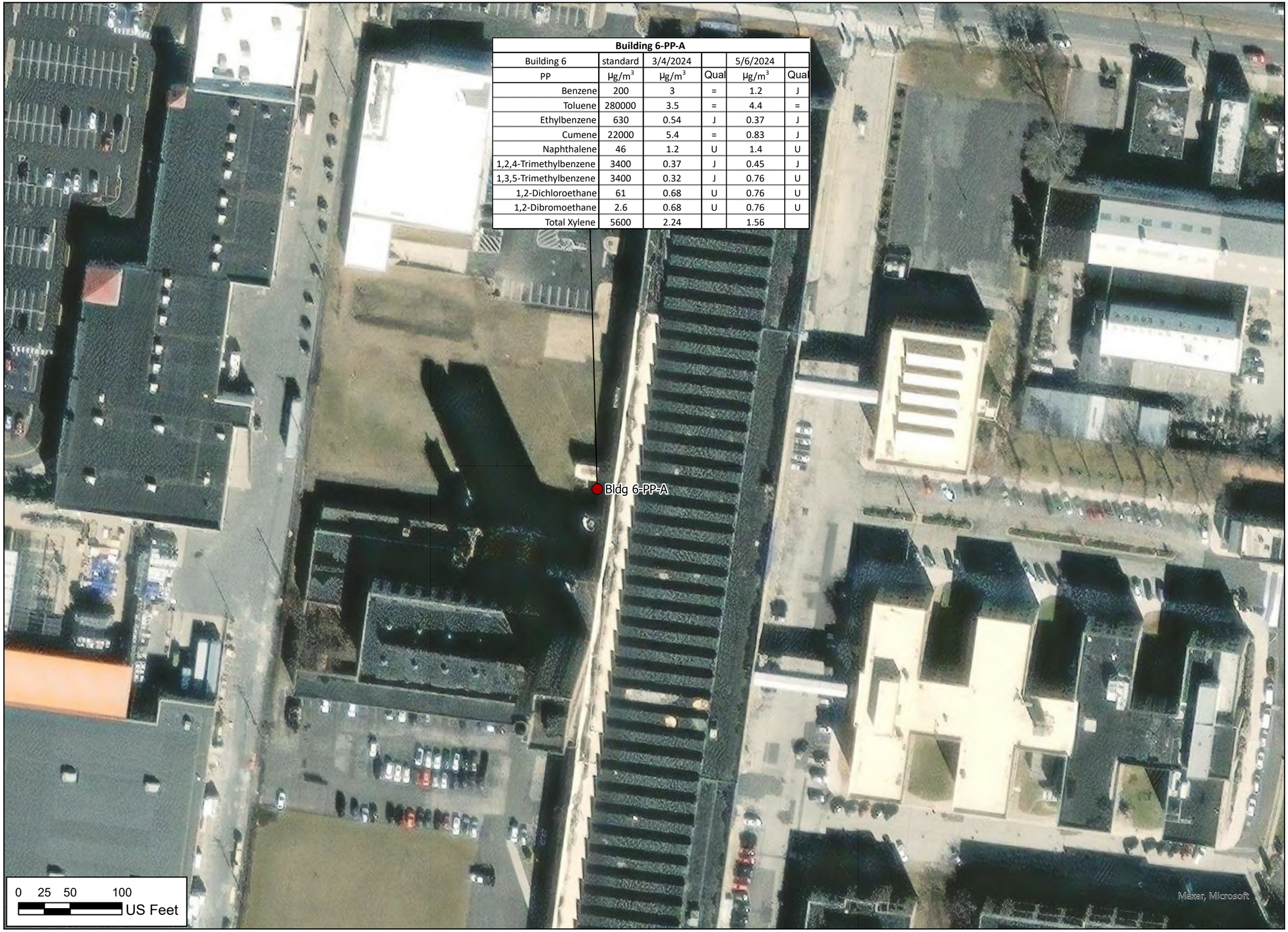

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Figure 13: PP Soil Gas Sampling Results, Building 6

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 6-NS-B

Building 6	standard	3/7/2024		5/6/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	1.2	J	1.5	J
Toluene	2200000	1.5	J	1.4	J
Ethylbenzene	4900	0.38	J	0.42	J
Cumene	180000	0.69	J	2.4	=
Naphthalene	360	1.4	U	0.7	J
1,2,4-Trimethylbenzene	26000	0.54	J	0.57	J
1,3,5-Trimethylbenzene	26000	0.38	J	0.36	J
1,2-Dichloroethane	470	0.77	U	0.79	U
1,2-Dibromoethane	20	0.77	U	0.79	U
Total Xylene	44000	1.73		1.95	

Building 6-NS-A

Building 6	standard	3/7/2024		4/30/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	900	U	450	U
Toluene	2200000	900	U	450	U
Ethylbenzene	4900	900	U	450	U
Cumene	180000	900	U	1400	=
Naphthalene	360	1600	U	810	U
1,2,4-Trimethylbenzene	26000	900	U	450	U
1,3,5-Trimethylbenzene	26000	900	U	450	U
1,2-Dichloroethane	470	900	U	450	U
1,2-Dibromoethane	20	900	U	450	U
Total Xylene	44000	2700		1340	

Bldg 6-NS-B

Bldg 6-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL, a Montrose Environmental Group company

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Figure 14: Near Source (NS) Soil Gas Sampling Results, Building 6

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source (NS)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 15: SCV - Building 6

Building 6 (D)-SCV-1					
Building 6	standard	2/9/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.74	U	0.32	J
Toluene	280000	1	J	0.76	J
Ethylbenzene	630	0.74	U	0.71	U
Cumene	22000	0.74	U	0.71	U
Naphthalene	46	1.3	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.74	U	0.71	U
1,3,5-Trimethylbenzene	3400	0.74	U	0.71	U
1,2-Dichloroethane	61	0.74	U	0.71	U
1,2-Dibromoethane	2.6	0.74	U	0.71	U
Total Xylene	5600	2.24		2.11	

Building 6 (C)-SCV-2					
Building 6	standard	2/9/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.64	U	2.4	=
Toluene	280000	1.3	J	1.7	J
Ethylbenzene	630	0.64	U	0.77	U
Cumene	22000	0.64	U	0.77	U
Naphthalene	46	1.2	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.64	U	0.77	U
1,3,5-Trimethylbenzene	3400	0.64	U	0.77	U
1,2-Dichloroethane	61	0.64	U	0.77	U
1,2-Dibromoethane	2.6	0.64	U	0.77	U
Total Xylene	5600	1.94		1.36	

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 16: Indoor Air Sampling Results, Building 8

Building 8-AA-1

Building 8	standard	2/7/2024		4/30/2024	
AA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.88	=	0.54	J
Toluene	2200	1.3	=	1.7	=
Ethylbenzene	4.9	0.32	J	0.31	J
Cumene	180	0.31	J	0.35	J
Naphthalene	0.36	0.39	U	0.17	J
1,2,4-Trimethylbenzene	26	0.28	J	0.46	J
1,3,5-Trimethylbenzene	26	0.1	J	0.15	J
1,2-Dichloroethane	0.47	0.077	J	0.098	J
1,2-Dibromoethane	0.02	0.22	U	0.22	U
Total Xylene	44	1.52		1.36	

Building 8-IA-2

Building 8	standard	2/7/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.83	=	2.9	=
Toluene	2200	1.9	=	26	=
Ethylbenzene	4.9	0.32	J	4.5	=
Cumene	180	0.23	J	0.71	=
Naphthalene	0.36	0.36	U	0.44	J
1,2,4-Trimethylbenzene	26	0.34	J	4.3	=
1,3,5-Trimethylbenzene	26	0.2	U	1.2	=
1,2-Dichloroethane	0.47	0.074	J	0.12	J
1,2-Dibromoethane	0.02	0.2	U	0.22	U
Total Xylene	44	1.42		23.7	

Building 8-IA-1

Building 8	standard	2/8/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.7	=	1	=
Toluene	2200	4.8	=	5.8	=
Ethylbenzene	4.9	0.75	=	1.1	=
Cumene	180	0.4	J	0.4	J
Naphthalene	0.36	0.38	U	0.28	J
1,2,4-Trimethylbenzene	26	1.3	=	1.4	=
1,3,5-Trimethylbenzene	26	0.38	J	0.4	J
1,2-Dichloroethane	0.47	0.087	J	0.1	J
1,2-Dibromoethane	0.02	0.21	U	0.23	U
Total Xylene	44	3.46		5.4	

Building 8-AA-1
Building 8-IA-2
Building 8-IA-1

0 25 50 100
US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 8-PP-DUP			
Building 8	standard	3/1/2024	
PP		µg/m³	Qual
Benzene	200	2.1	=
Toluene	280000	3.5	=
Ethylbenzene	630	0.59	J
Cumene	22000	2.3	=
Naphthalene	46	1.4	J
1,2,4-Trimethylbenzene	3400	0.6	J
1,3,5-Trimethylbenzene	3400	0.68	U
1,2-Dichloroethane	61	0.68	U
1,2-Dibromoethane	2.6	0.68	U
Total Xylene	5600	2.43	

Building 8-PP-A					
Building 8	standard	3/1/2024		5/6/2024	
PP		µg/m³	Qual	µg/m³	Qual
Benzene	200	2.1	J	0.54	J
Toluene	280000	1.3	J	1.3	J
Ethylbenzene	630	0.39	J	0.83	U
Cumene	22000	2.2	J	0.47	J
Naphthalene	46	3.1	=	1.5	U
1,2,4-Trimethylbenzene	3400	0.39	J	0.83	U
1,3,5-Trimethylbenzene	3400	0.74	U	0.83	U
1,2-Dichloroethane	61	0.74	U	0.83	U
1,2-Dibromoethane	2.6	0.74	U	0.83	U
Total Xylene	5600	1.51		1.57	

Building 8-PP-B					
Building 8	standard	3/1/2024		5/6/2024	
PP		µg/m³	Qual	µg/m³	Qual
Benzene	200	14	=	2.3	J
Toluene	280000	280	=	8.8	=
Ethylbenzene	630	23	=	1.3	J
Cumene	22000	14	=	3.1	=
Naphthalene	46	6.3	=	0.88	J
1,2,4-Trimethylbenzene	3400	31	=	1.3	J
1,3,5-Trimethylbenzene	3400	18	=	0.55	J
1,2-Dichloroethane	61	0.73	U	0.79	U
1,2-Dibromoethane	2.6	0.73	U	0.79	U
Total Xylene	5600	93		5.6	

Bldg 8-PP-A

Bldg 8-PP-B

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 17: PP Soil Gas Sampling Results, Building 8

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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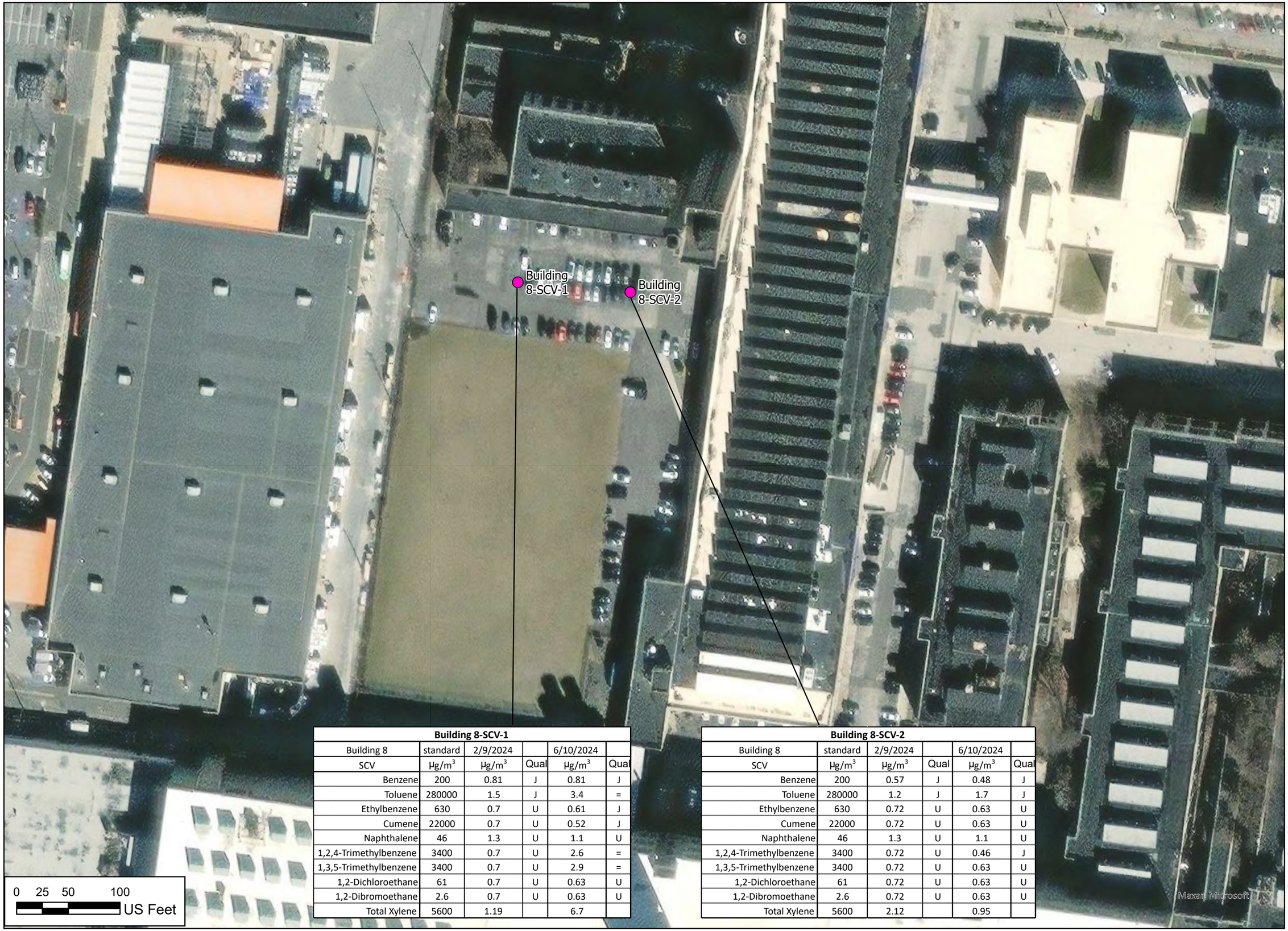
Figure 18: SCV - Building 8



Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 8-SCV-1

Building 8	standard	2/9/2024		6/10/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	0.81	J	0.81	J
Toluene	280000	1.5	J	3.4	=
Ethylbenzene	630	0.7	U	0.61	J
Cumene	22000	0.7	U	0.52	J
Naphthalene	46	1.3	U	1.1	U
1,2,4-Trimethylbenzene	3400	0.7	U	2.6	=
1,3,5-Trimethylbenzene	3400	0.7	U	2.9	=
1,2-Dichloroethane	61	0.7	U	0.63	U
1,2-Dibromoethane	2.6	0.7	U	0.63	U
Total Xylene	5600	1.19		6.7	

Building 8-SCV-2

Building 8	standard	2/9/2024		6/10/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	0.57	J	0.48	J
Toluene	280000	1.2	J	1.7	J
Ethylbenzene	630	0.72	U	0.63	U
Cumene	22000	0.72	U	0.63	U
Naphthalene	46	1.3	U	1.1	U
1,2,4-Trimethylbenzene	3400	0.72	U	0.46	J
1,3,5-Trimethylbenzene	3400	0.72	U	0.63	U
1,2-Dichloroethane	61	0.72	U	0.63	U
1,2-Dibromoethane	2.6	0.72	U	0.63	U
Total Xylene	5600	2.12		0.95	

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Figure 19A: Indoor Air Sampling Results, Building 9 (A,B,C)

Building 9 (C)-IA-11

Building 9 (C) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.1	=	7.7	=
Toluene	2200	3.4	=	84	=
Ethylbenzene	4.9	0.6	J	5.9	=
Cumene	180	0.16	J	0.52	J
Naphthalene	0.36	0.91	=	0.7	J
1,2,4-Trimethylbenzene	26	0.7	J	4	=
1,3,5-Trimethylbenzene	26	0.19	J	1.2	=
1,2-Dichloroethane	0.47	0.25	U	0.15	J
1,2-Dibromoethane	0.02	0.25	U	0.24	U
Total Xylene	44	2.68		26.8	

Building 9 (C)-IA-12

Building 9 (C) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.2	=	7	=
Toluene	2200	3.7	=	77	=
Ethylbenzene	4.9	0.67	J	5.5	=
Cumene	180	0.15	J	0.45	J
Naphthalene	0.36	0.2	J	1.4	=
1,2,4-Trimethylbenzene	26	0.89	=	3.7	=
1,3,5-Trimethylbenzene	26	0.25	J	1.1	=
1,2-Dichloroethane	0.47	0.095	J	0.16	J
1,2-Dibromoethane	0.02	0.24	U	0.25	U
Total Xylene	44	2.95		25.1	

Building 9-AA-1

Building 9 AA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	0.6	J	0.83	=
Toluene	2200	0.97	=	3.3	=
Ethylbenzene	4.9	0.2	J	0.57	J
Cumene	180	0.15	J	0.13	J
Naphthalene	0.36	0.19	J	0.25	J
1,2,4-Trimethylbenzene	26	0.48	J	0.71	J
1,3,5-Trimethylbenzene	26	0.12	J	0.24	J
1,2-Dichloroethane	0.47	0.22	U	0.24	U
1,2-Dibromoethane	0.02	0.22	U	0.24	U
Total Xylene	44	0.79		2.64	

Building 9 (B)-IA-4

Building 9 (B) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.2	=	8.7	=
Toluene	2200	5.4	=	96	=
Ethylbenzene	4.9	0.41	J	6.5	=
Cumene	180	0.23	J	0.66	J
Naphthalene	0.36	2.2	=	3	=
1,2,4-Trimethylbenzene	26	0.53	J	4.1	=
1,3,5-Trimethylbenzene	26	0.17	J	1.3	=
1,2-Dichloroethane	0.47	0.2	U	0.24	J
1,2-Dibromoethane	0.02	0.2	U	0.23	U
Total Xylene	44	1.68		29.3	

Building 9 (B)-IA-3

Building 9 (B) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	0.93	=	8	=
Toluene	2200	3	=	88	=
Ethylbenzene	4.9	0.39	J	6.1	=
Cumene	180	0.22	J	0.58	J
Naphthalene	0.36	1.5	=	3.4	=
1,2,4-Trimethylbenzene	26	0.52	J	3.6	=
1,3,5-Trimethylbenzene	26	0.15	J	1	=
1,2-Dichloroethane	0.47	0.22	U	0.19	J
1,2-Dibromoethane	0.02	0.22	U	0.23	U
Total Xylene	44	1.62		26.7	

Building 9 (A)-IA-2

Building 9 (A) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.7	=	8.9	=
Toluene	2200	2.7	=	95	=
Ethylbenzene	4.9	0.4	J	6.6	=
Cumene	180	0.18	J	0.79	=
Naphthalene	0.36	1.8	=	3.7	=
1,2,4-Trimethylbenzene	26	0.53	J	4.1	=
1,3,5-Trimethylbenzene	26	0.17	J	1.2	=
1,2-Dichloroethane	0.47	0.2	U	0.2	J
1,2-Dibromoethane	0.02	0.2	U	0.23	U
Total Xylene	44	1.69		29.3	

Building 9 (A)-IA-1

Building 9 (A) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1	=	7.6	=
Toluene	2200	3.4	=	83	=
Ethylbenzene	4.9	0.4	J	5.6	=
Cumene	180	0.22	J	0.63	J
Naphthalene	0.36	1.4	=	4.2	=
1,2,4-Trimethylbenzene	26	0.54	J	3.4	=
1,3,5-Trimethylbenzene	26	0.18	J	0.99	=
1,2-Dichloroethane	0.47	0.2	U	0.18	J
1,2-Dibromoethane	0.02	0.2	U	0.23	U
Total Xylene	44	1.64		24.2	

Building 9-DUP

Building 9 (A) IA	standard µg/m³	5/2/2024 µg/m³	Qual
Benzene	1.6	8.5	=
Toluene	2200	90	=
Ethylbenzene	4.9	6.2	=
Cumene	180	0.89	=
Naphthalene	0.36	5.3	=
1,2,4-Trimethylbenzene	26	4	=
1,3,5-Trimethylbenzene	26	1.3	=
1,2-Dichloroethane	0.47	0.24	J
1,2-Dibromoethane	0.02	0.2	U
Total Xylene	44	27.8	

Building 9(C)-IA-11
Building 9(C)-IA-12
Building 9(B)-IA-3
Building 9(B)-IA-2
Building 9-AA-1
Building 9(B)-IA-4
Building 9(A)-IA-DUP
Building 9(A)-IA-1

0 25 50 100 US Feet

Legend

DSCP VI Air Sample Stations

Sample Type
- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 19B: Indoor Air Sampling Results, Building 9 (D,E,F)

Building 9 (F)-IA-9

Building 9 (F) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.2	=	11	=
Toluene	2200	6.1	=	59	=
Ethylbenzene	4.9	1.3	=	9.7	=
Cumene	180	0.26	J	1	=
Naphthalene	0.36	1.7	=	3.3	=
1,2,4-Trimethylbenzene	26	2.2	=	10	=
1,3,5-Trimethylbenzene	26	0.59	J	3.1	=
1,2-Dichloroethane	0.47	0.25	J	1.1	=
1,2-Dibromoethane	0.02	0.25	U	0.23	U
Total Xylene	44	6.3		44	

Building 9 (E)-IA-7

Building 9 (E) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	7.2	=	7.7	=
Toluene	2200	23	=	84	=
Ethylbenzene	4.9	4.5	J	5.9	=
Cumene	180	0.59	J	0.52	J
Naphthalene	0.36	0.85	=	0.7	J
1,2,4-Trimethylbenzene	26	5.5	J	4	=
1,3,5-Trimethylbenzene	26	1.6	J	1.2	=
1,2-Dichloroethane	0.47	0.2	U	0.15	J
1,2-Dibromoethane	0.02	0.2	U	0.24	U
Total Xylene	44	21		73	

Building 9 (D)-IA-6

Building 9 (D) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	2.4	=	10	=
Toluene	2200	6.8	=	88	=
Ethylbenzene	4.9	1.3	=	8.6	=
Cumene	180	0.25	J	0.8	=
Naphthalene	0.36	0.44	J	1.6	=
1,2,4-Trimethylbenzene	26	1.4	=	7.9	=
1,3,5-Trimethylbenzene	26	0.35	J	2.4	=
1,2-Dichloroethane	0.47	0.23	U	0.23	J
1,2-Dibromoethane	0.02	0.23	U	0.24	U
Total Xylene	44	5.4		40	

Building 9(F)-IA-9
Building 9(E)-IA-7
Building 9(E)-IA-8
Building 9(D)-IA-6
Building 9(F)-IA-10
Building 9(D)-IA-5

Building 9 (F)-IA-10

Building 9 (F) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.2	=	9.8	=
Toluene	2200	5.7	=	59	=
Ethylbenzene	4.9	1.4	=	9.6	=
Cumene	180	0.34	J	0.99	=
Naphthalene	0.36	0.76	J	3	=
1,2,4-Trimethylbenzene	26	2.6	=	10	=
1,3,5-Trimethylbenzene	26	0.72	J	3	=
1,2-Dichloroethane	0.47	0.26	J	1	=
1,2-Dibromoethane	0.02	0.26	U	0.24	U
Total Xylene	44	7.1		43	

Building 9 (E)-IA-8

Building 9 (E) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	9.1	=	16	=
Toluene	2200	26	=	110	=
Ethylbenzene	4.9	5.2	=	13	=
Cumene	180	0.62	J	1.2	=
Naphthalene	0.36	0.92	=	2.3	=
1,2,4-Trimethylbenzene	26	5.7	=	14	=
1,3,5-Trimethylbenzene	26	1.6	=	4.1	=
1,2-Dichloroethane	0.47	0.25	U	0.37	J
1,2-Dibromoethane	0.02	0.25	U	0.24	U
Total Xylene	44	22.6		63	

Building 9 (D)-IA-5

Building 9 (D) IA	standard µg/m³	2/14/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.3	=	10	=
Toluene	2200	3.6	=	81	=
Ethylbenzene	4.9	0.66	J	8	=
Cumene	180	0.17	J	0.75	=
Naphthalene	0.36	0.18	J	0.8	=
1,2,4-Trimethylbenzene	26	0.95	=	7.2	=
1,3,5-Trimethylbenzene	26	0.3	J	2.2	=
1,2-Dichloroethane	0.47	0.22	U	0.24	J
1,2-Dibromoethane	0.02	0.22	U	0.24	U
Total Xylene	44	3.05		36.8	

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 9-PP-C					
Building 9	standard	2/23/2024		4/29/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	3.2	=,B	3.7	=
Toluene	280000	10	=	3.1	=
Ethylbenzene	630	3	=	0.76	J
Cumene	22000	7.9	=	4.3	=
Naphthalene	46	4.7	=	1.7	J
1,2,4-Trimethylbenzene	3400	2.8	=	1.2	J
1,3,5-Trimethylbenzene	3400	2.2	J	0.73	J
1,2-Dichloroethane	61	0.39	J	0.8	U
1,2-Dibromoethane	2.6	0.72	U	0.8	U
Total Xylene	5600	13.4		3.44	

Building 9-PP-D					
Building 9	standard	2/27/2024		4/29/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.1	J	2.4	=
Toluene	280000	4.4	=	1.9	J
Ethylbenzene	630	1.6	J	0.53	J
Cumene	22000	2	J	2.9	=
Naphthalene	46	3.5	=	1.4	U
1,2,4-Trimethylbenzene	3400	2.1	J	0.71	J
1,3,5-Trimethylbenzene	3400	1	J	0.43	J
1,2-Dichloroethane	61	0.75	U	0.79	U
1,2-Dibromoethane	2.6	0.75	U	0.79	U
Total Xylene	5600	7.4		2.39	

Building 9-PP-G			
Building 9	standard	5/7/2024	
PP	µg/m³	µg/m³	Qual
Benzene	200	1	J
Toluene	280000	1.7	J
Ethylbenzene	630	0.6	J
Cumene	22000	1.6	J
Naphthalene	46	1.5	U
1,2,4-Trimethylbenzene	3400	0.8	J
1,3,5-Trimethylbenzene	3400	0.82	U
1,2-Dichloroethane	61	0.82	U
1,2-Dibromoethane	2.6	0.82	U
Total Xylene	5600	2.55	

Building 9-PP-I			
Building 9	standard	5/7/2024	
PP	µg/m³	µg/m³	Qual
Benzene	200	5.3	J
Toluene	280000	13	J
Ethylbenzene	630	5.8	J
Cumene	22000	59	=
Naphthalene	46	13	U
1,2,4-Trimethylbenzene	3400	3.4	J
1,3,5-Trimethylbenzene	3400	3.8	J
1,2-Dichloroethane	61	6.9	U
1,2-Dibromoethane	2.6	6.9	U
Total Xylene	5600	22.9	

Building 9-PP-H					
Building 9	standard	3/4/2024		5/7/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	2.9	=	17	J
Toluene	280000	3.7	=	13	J
Ethylbenzene	630	0.62	J	17	J
Cumene	22000	1.1	J	200	=
Naphthalene	46	2.3	=	29	U
1,2,4-Trimethylbenzene	3400	1.4	J	10	J
1,3,5-Trimethylbenzene	3400	1.7	J	14	J
1,2-Dichloroethane	61	0.72	U	16	U
1,2-Dibromoethane	2.6	0.72	U	16	U
Total Xylene	5600	4.2		57.3	

Building 9-PP-F					
Building 9	standard	2/29/2024		5/7/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.61	J	0.44	J
Toluene	280000	1.4	J	2.7	=
Ethylbenzene	630	0.71	U	0.43	J
Cumene	22000	0.91	J	0.37	J
Naphthalene	46	1.3	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.71	U	0.44	J
1,3,5-Trimethylbenzene	3400	0.71	U	0.75	U
1,2-Dichloroethane	61	0.71	U	0.75	U
1,2-Dibromoethane	2.6	0.71	U	0.75	U
Total Xylene	5600	1.32		1.82	

Bldg 9-PP-C
Bldg 9-PP-D
Bldg 9-PP-E
Bldg 9-PP-G
Bldg 9-PP-I
Bldg 9-PP-H
Bldg 9-PP-F

0 25 50 100 US Feet

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Figure 20A: PP Soil Gas Sampling Results, Building 9

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 9-PP-M

Building 9	standard	3/6/2024		5/21/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	4.8	=	2.1	J
Toluene	280000	140	=	19	=
Ethylbenzene	630	10	=	4.1	=
Cumene	22000	3.4	=	2	J
Naphthalene	46	0.55	J	1.3	J
1,2,4-Trimethylbenzene	3400	4.2	=	3	=
1,3,5-Trimethylbenzene	3400	2.3	=	1.3	J
1,2-Dichloroethane	61	0.65	U	0.71	U
1,2-Dibromoethane	2.6	0.65	U	0.71	U
Total Xylene	5600	45		20	

Building 9-PP-A

Building 9	standard	2/23/2024		4/29/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	36	=,B	26	=
Toluene	280000	120	=	29	=
Ethylbenzene	630	55	=	30	=
Cumene	22000	33	=	32	=
Naphthalene	46	4.9	J	9.8	U
1,2,4-Trimethylbenzene	3400	93	=	60	=
1,3,5-Trimethylbenzene	3400	77	=	91	=
1,2-Dichloroethane	61	2.9	U	5.4	U
1,2-Dibromoethane	2.6	2.9	U	5.4	U
Total Xylene	5600	365		133	

Building 9-PP-B

Building 9	standard	2/23/2024		4/29/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	15	=,B	12	=
Toluene	280000	77	=	11	=
Ethylbenzene	630	52	=	8	=
Cumene	22000	7.1	=	3	=
Naphthalene	46	7.8	=	1.8	J
1,2,4-Trimethylbenzene	3400	13	=	4	=
1,3,5-Trimethylbenzene	3400	7	=	3.2	=
1,2-Dichloroethane	61	0.79	U	0.81	U
1,2-Dibromoethane	2.6	0.79	U	0.81	U
Total Xylene	5600	266		31.3	

Building 9-PP-L

Building 9	standard	3/5/2024		5/20/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	13	=	2.1	J
Toluene	280000	5.3	J	3.7	J
Ethylbenzene	630	4.3	J	1	J
Cumene	22000	4.6	J	0.88	J
Naphthalene	46	2.6	J	2.5	U
1,2,4-Trimethylbenzene	3400	16	=	0.94	J
1,3,5-Trimethylbenzene	3400	11	=	1.4	U
1,2-Dichloroethane	61	2.7	U	0.85	J
1,2-Dibromoethane	2.6	2.7	U	1.4	U
Total Xylene	5600	26		4.4	

Building 9-PP-K

Building 9	standard	5/8/2024			
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	8.9	J		
Toluene	280000	12	J		
Ethylbenzene	630	4	J		
Cumene	22000	41	=		
Naphthalene	46	4.3	J		
1,2,4-Trimethylbenzene	3400	5.6	U		
1,3,5-Trimethylbenzene	3400	2.7	J		
1,2-Dichloroethane	61	5.6	U		
1,2-Dibromoethane	2.6	5.6	U		
Total Xylene	5600	23.2			

Building 9-PP-J

Building 9	standard	3/4/2024		5/8/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	32	=	15	U
Toluene	280000	68	=	22	U
Ethylbenzene	630	16	=	8.4	U
Cumene	22000	2.6	=	80	U
Naphthalene	46	6.8	=,B	27	U
1,2,4-Trimethylbenzene	3400	22	=	15	U
1,3,5-Trimethylbenzene	3400	7.1	=	15	U
1,2-Dichloroethane	61	0.76	U	15	U
1,2-Dibromoethane	2.6	0.76	U	15	U
Total Xylene	5600	59		30	

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Figure 20B: PP Soil Gas Sampling Results, Building 9

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 21A: Near Source (NS) Soil Gas Sampling Results, Building 9

Building 9-NS-A

Building 9	standard	3/6/2024		4/30/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	3500	=	1700	=
Toluene	2200000	370	J	300	U
Ethylbenzene	4900	970	J	300	U
Cumene	180000	3000	=	810	J
Naphthalene	360	1400	U	550	U
1,2,4-Trimethylbenzene	26000	750	U	300	U
1,3,5-Trimethylbenzene	26000	750	U	160	J
1,2-Dichloroethane	470	750	U	300	U
1,2-Dibromoethane	20	750	U	300	U
Total Xylene	44000	1630		900	

Building 9-NS-B

Building 9	standard	3/6/2024		5/23/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	1900	J	1200	U
Toluene	2200000	1800	U	1200	U
Ethylbenzene	4900	1800	U	1200	U
Cumene	180000	1400	J	800	J
Naphthalene	360	3300	U	2200	U
1,2,4-Trimethylbenzene	26000	1800	U	1200	U
1,3,5-Trimethylbenzene	26000	1800	U	1200	U
1,2-Dichloroethane	470	1800	U	8000	=
1,2-Dibromoethane	20	1800	U	1200	U
Total Xylene	44000	5500		3600	

Building 9-NS-C

Building 9	standard	2/23/2024		4/29/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	52	J	83	U
Toluene	2200000	110	U	83	U
Ethylbenzene	4900	110	U	83	U
Cumene	180000	64	J	110	J
Naphthalene	360	200	U	150	U
1,2,4-Trimethylbenzene	26000	110	U	83	U
1,3,5-Trimethylbenzene	26000	110	U	83	U
1,2-Dichloroethane	470	110	U	110	J
1,2-Dibromoethane	20	110	U	83	U
Total Xylene	44000	330		253	

Building 9-NS-A

Building 9-NS-B

Building 9-NS-C

Building 9-NS-D

Building 9-NS-E

Building 9-NS-D

Building 9	standard	2/23/2024		4/29/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	1	J,B	1.1	J
Toluene	2200000	2.2	J	2.6	=
Ethylbenzene	4900	0.79	J	0.94	J
Cumene	180000	2.3	J	5.7	=
Naphthalene	360	4.8	=	1.9	J
1,2,4-Trimethylbenzene	26000	1.5	J	2.2	J
1,3,5-Trimethylbenzene	26000	0.54	J	1.1	J
1,2-Dichloroethane	470	0.81	U	0.74	U
1,2-Dibromoethane	20	0.81	U	0.74	U
Total Xylene	44000	3.6		5.1	

Building 9-NS-E

Building 9-NS-E	standard	3/7/2024	
NS	µg/m³	µg/m³	Qual
Benzene	1600	130	U
Toluene	2200000	130	U
Ethylbenzene	4900	130	U
Cumene	180000	130	U
Naphthalene	360	230	U
1,2,4-Trimethylbenzene	26000	130	U
1,3,5-Trimethylbenzene	26000	130	U
1,2-Dichloroethane	470	130	U
1,2-Dibromoethane	20	130	U
Total Xylene	44000	380	

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

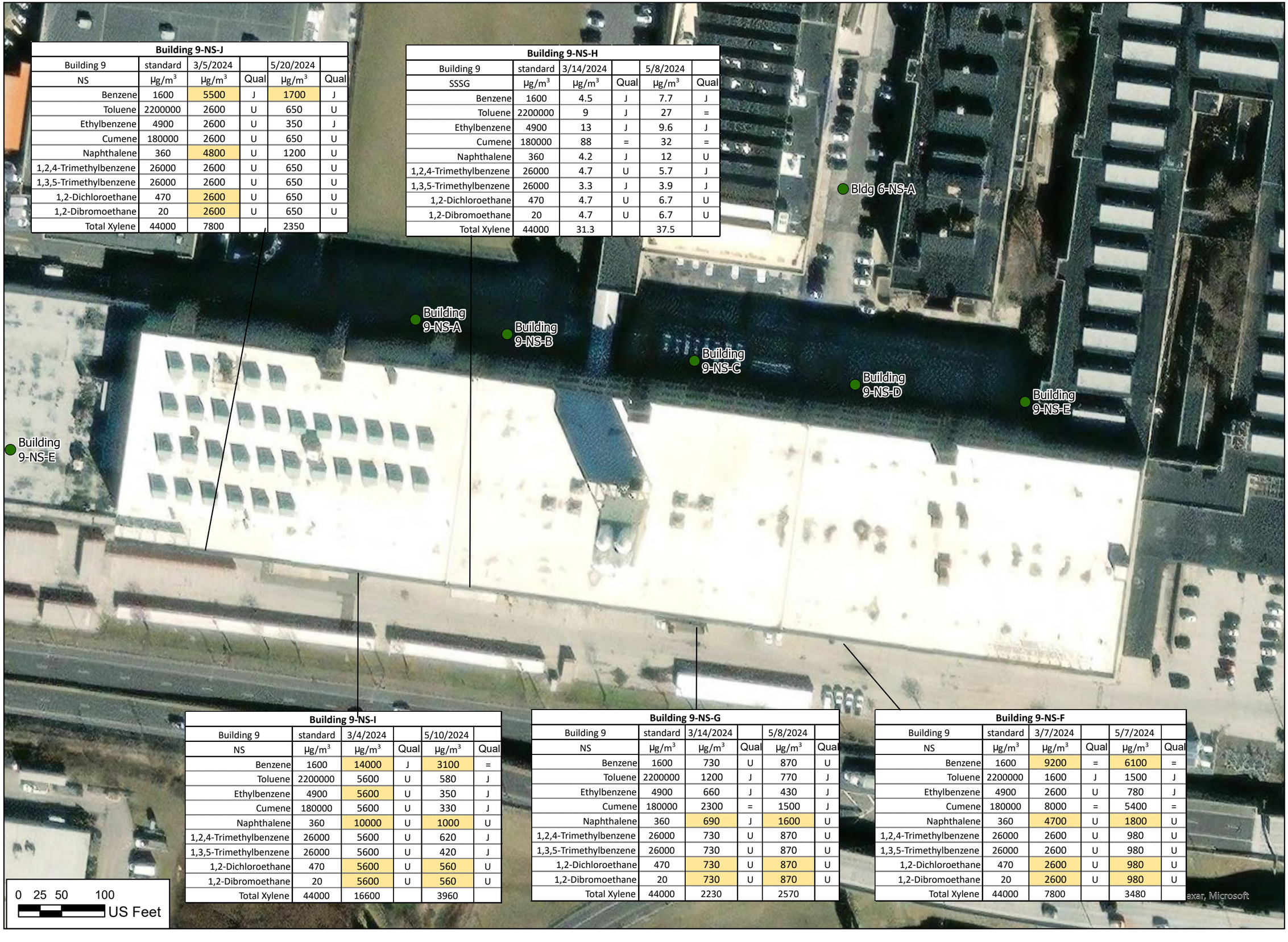
Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 9-NS-J					
Building 9	standard	3/5/2024		5/20/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	5500	J	1700	J
Toluene	2200000	2600	U	650	U
Ethylbenzene	4900	2600	U	350	J
Cumene	180000	2600	U	650	U
Naphthalene	360	4800	U	1200	U
1,2,4-Trimethylbenzene	26000	2600	U	650	U
1,3,5-Trimethylbenzene	26000	2600	U	650	U
1,2-Dichloroethane	470	2600	U	650	U
1,2-Dibromoethane	20	2600	U	650	U
Total Xylene	44000	7800		2350	

Building 9-NS-H					
Building 9	standard	3/14/2024		5/8/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	4.5	J	7.7	J
Toluene	2200000	9	J	27	=
Ethylbenzene	4900	13	J	9.6	J
Cumene	180000	88	=	32	=
Naphthalene	360	4.2	J	12	U
1,2,4-Trimethylbenzene	26000	4.7	U	5.7	J
1,3,5-Trimethylbenzene	26000	3.3	J	3.9	J
1,2-Dichloroethane	470	4.7	U	6.7	U
1,2-Dibromoethane	20	4.7	U	6.7	U
Total Xylene	44000	31.3		37.5	

Building 9-NS-I					
Building 9	standard	3/4/2024		5/10/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	14000	J	3100	=
Toluene	2200000	5600	U	580	J
Ethylbenzene	4900	5600	U	350	J
Cumene	180000	5600	U	330	J
Naphthalene	360	10000	U	1000	U
1,2,4-Trimethylbenzene	26000	5600	U	620	J
1,3,5-Trimethylbenzene	26000	5600	U	420	J
1,2-Dichloroethane	470	5600	U	560	U
1,2-Dibromoethane	20	5600	U	560	U
Total Xylene	44000	16600		3960	

Building 9-NS-G					
Building 9	standard	3/14/2024		5/8/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	730	U	870	U
Toluene	2200000	1200	J	770	J
Ethylbenzene	4900	660	J	430	J
Cumene	180000	2300	=	1500	J
Naphthalene	360	690	J	1600	U
1,2,4-Trimethylbenzene	26000	730	U	870	U
1,3,5-Trimethylbenzene	26000	730	U	870	U
1,2-Dichloroethane	470	730	U	870	U
1,2-Dibromoethane	20	730	U	870	U
Total Xylene	44000	2230		2570	

Building 9-NS-F					
Building 9	standard	3/7/2024		5/7/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	9200	=	6100	=
Toluene	2200000	1600	J	1500	J
Ethylbenzene	4900	2600	U	780	J
Cumene	180000	8000	=	5400	=
Naphthalene	360	4700	U	1800	U
1,2,4-Trimethylbenzene	26000	2600	U	980	U
1,3,5-Trimethylbenzene	26000	2600	U	980	U
1,2-Dichloroethane	470	2600	U	980	U
1,2-Dibromoethane	20	2600	U	980	U
Total Xylene	44000	7800		3480	

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Figure 21B: Near Source (NS) Soil Gas Sampling Results, Building 9

Legend

DSCP VI Air Sample Stations

Sample Type

Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL, a Montrose Environmental Group company

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Figure 22A: SCV - Building 9

Building 9-SCV-1

Building 9	standard	2/12/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.71	J	0.72	J
Toluene	280000	1.8	J	2.7	=
Ethylbenzene	630	0.72	U	0.52	J
Cumene	22000	0.72	U	0.72	U
Naphthalene	46	1.3	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.72	U	0.72	J
1,3,5-Trimethylbenzene	3400	0.72	U	0.72	U
1,2-Dichloroethane	61	0.72	U	0.72	U
1,2-Dibromoethane	2.6	0.72	U	0.72	U
Total Xylene	5600	1.33		2.6	

Building 9-SCV-2

Building 9	standard	2/12/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.94	J	2.5	=
Toluene	280000	2.6	=	33	=
Ethylbenzene	630	0.68	U	1.7	J
Cumene	22000	0.68	U	0.58	J
Naphthalene	46	1.2	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.68	U	0.52	J
1,3,5-Trimethylbenzene	3400	0.68	U	0.31	J
1,2-Dichloroethane	61	0.68	U	0.25	J
1,2-Dibromoethane	2.6	0.68	U	0.68	U
Total Xylene	5600	1.21		8.8	

Building 9-SCV-3

Building 9	standard	2/12/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.54	J	0.87	J
Toluene	280000	1.7	J	3	=
Ethylbenzene	630	0.7	U	0.4	J
Cumene	22000	0.7	U	0.84	U
Naphthalene	46	1.3	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.7	U	0.84	U
1,3,5-Trimethylbenzene	3400	0.7	U	0.84	U
1,2-Dichloroethane	61	0.7	U	0.34	J
1,2-Dibromoethane	2.6	0.7	U	0.84	U
Total Xylene	5600	1.43		1.78	

Building 9-SCV-4

Building 9	standard	2/12/2024			
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.74	J		
Toluene	280000	2	J		
Ethylbenzene	630	0.74	U		
Cumene	22000	0.74	U		
Naphthalene	46	1.3	U		
1,2,4-Trimethylbenzene	3400	0.74	U		
1,3,5-Trimethylbenzene	3400	0.74	U		
1,2-Dichloroethane	61	0.74	U		
1,2-Dibromoethane	2.6	0.74	U		
Total Xylene	5600	1.42			

Building 9-SCV-DUP

Building 9	standard	2/12/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.69	J	0.64	J
Toluene	280000	1.6	J	1.2	J
Ethylbenzene	630	0.82	U	0.71	U
Cumene	22000	0.82	U	0.71	U
Naphthalene	46	1.5	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.82	U	0.71	U
1,3,5-Trimethylbenzene	3400	0.82	U	0.71	U
1,2-Dichloroethane	61	0.82	U	0.71	U
1,2-Dibromoethane	2.6	0.82	U	0.71	U
Total Xylene	5600	1.66		2.11	

Building 9-SCV-5

Building 9	standard	2/12/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.69	J	1.2	J
Toluene	280000	2	J	1.9	J
Ethylbenzene	630	0.81	U	2	J
Cumene	22000	0.81	U	0.67	J
Naphthalene	46	1.5	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.81	U	0.82	J
1,3,5-Trimethylbenzene	3400	0.81	U	0.55	J
1,2-Dichloroethane	61	0.81	U	0.85	U
1,2-Dibromoethane	2.6	0.81	U	0.85	U
Total Xylene	5600	1.55		5.22	

Building 9-SCV-6

Building 9	standard	2/12/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.2	J	1	J
Toluene	280000	3.8	=	3	=
Ethylbenzene	630	0.35	J	0.82	U
Cumene	22000	0.63	U	0.82	U
Naphthalene	46	1.1	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.3	J	0.82	U
1,3,5-Trimethylbenzene	3400	0.63	U	0.82	U
1,2-Dichloroethane	61	0.63	U	0.82	U
1,2-Dibromoethane	2.6	0.63	U	0.82	U
Total Xylene	5600	1.76		1.76	

Building 9-SCV-7

Building 9	standard	2/12/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.2	J	0.97	J
Toluene	280000	3.3	=	2.3	=
Ethylbenzene	630	0.39	J	0.7	U
Cumene	22000	0.76	U	0.7	U
Naphthalene	46	1.4	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.36	J	0.7	U
1,3,5-Trimethylbenzene	3400	0.76	U	0.7	U
1,2-Dichloroethane	61	0.76	U	0.7	U
1,2-Dibromoethane	2.6	0.76	U	0.7	U
Total Xylene	5600	1.81		1.5	

Building 9-SCV-1
Building 9-SCV-2
Building 9-SCV-4
Building 9-SCV-3
Building 9-SCV-DUP
Building 9-SCV-5
Building 9-SCV-6
Building 9-SCV-7

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

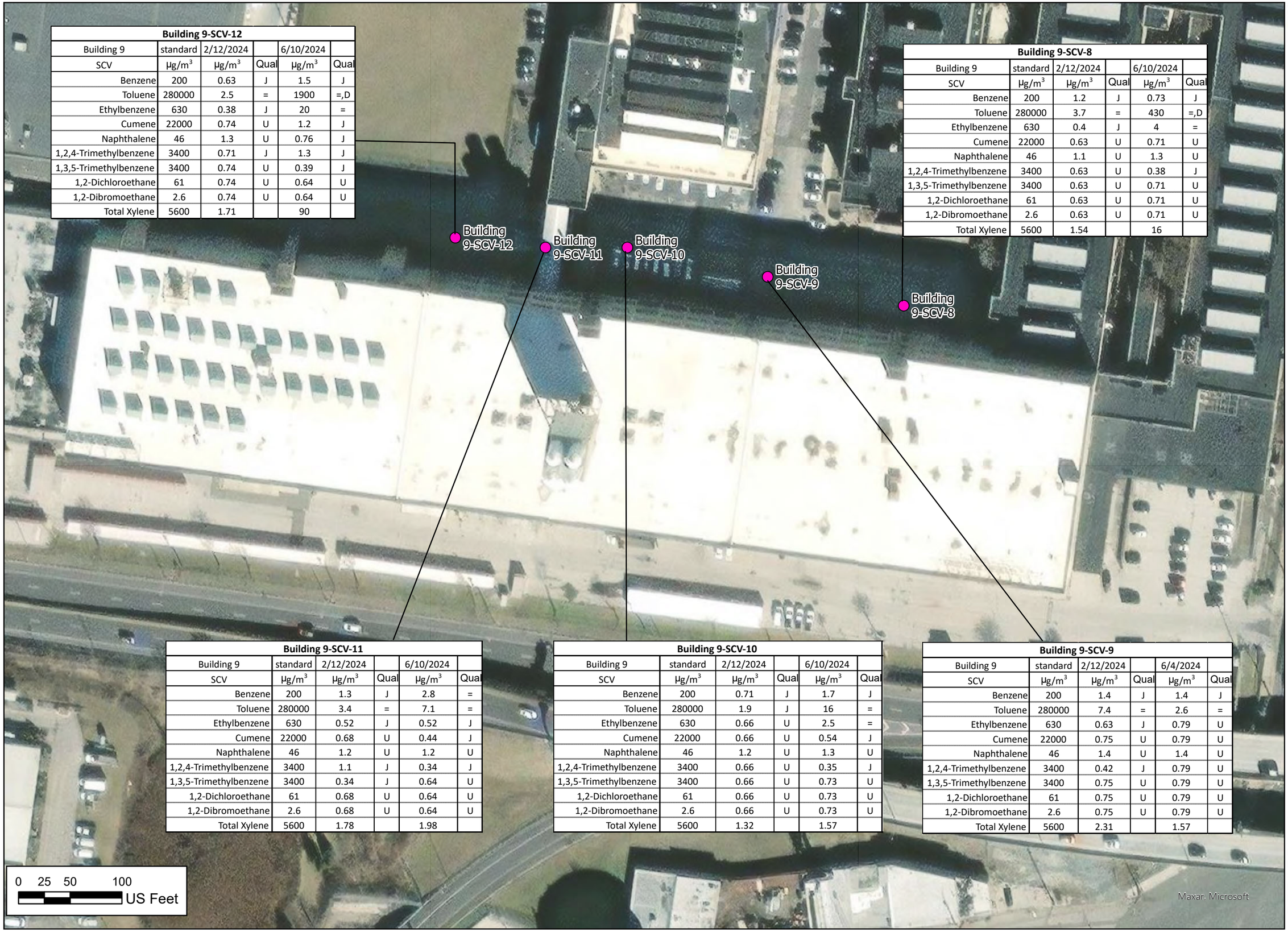
DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 9-SCV-12

Building 9	standard	2/12/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.63	J	1.5	J
Toluene	280000	2.5	=	1900	=,D
Ethylbenzene	630	0.38	J	20	=
Cumene	22000	0.74	U	1.2	J
Naphthalene	46	1.3	U	0.76	J
1,2,4-Trimethylbenzene	3400	0.71	J	1.3	J
1,3,5-Trimethylbenzene	3400	0.74	U	0.39	J
1,2-Dichloroethane	61	0.74	U	0.64	U
1,2-Dibromoethane	2.6	0.74	U	0.64	U
Total Xylene	5600	1.71		90	

Building 9-SCV-8

Building 9	standard	2/12/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.2	J	0.73	J
Toluene	280000	3.7	=	430	=,D
Ethylbenzene	630	0.4	J	4	=
Cumene	22000	0.63	U	0.71	U
Naphthalene	46	1.1	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.63	U	0.38	J
1,3,5-Trimethylbenzene	3400	0.63	U	0.71	U
1,2-Dichloroethane	61	0.63	U	0.71	U
1,2-Dibromoethane	2.6	0.63	U	0.71	U
Total Xylene	5600	1.54		16	

Building 9-SCV-11

Building 9	standard	2/12/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.3	J	2.8	=
Toluene	280000	3.4	=	7.1	=
Ethylbenzene	630	0.52	J	0.52	J
Cumene	22000	0.68	U	0.44	J
Naphthalene	46	1.2	U	1.2	U
1,2,4-Trimethylbenzene	3400	1.1	J	0.34	J
1,3,5-Trimethylbenzene	3400	0.34	J	0.64	U
1,2-Dichloroethane	61	0.68	U	0.64	U
1,2-Dibromoethane	2.6	0.68	U	0.64	U
Total Xylene	5600	1.78		1.98	

Building 9-SCV-10

Building 9	standard	2/12/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.71	J	1.7	J
Toluene	280000	1.9	J	16	=
Ethylbenzene	630	0.66	U	2.5	=
Cumene	22000	0.66	U	0.54	J
Naphthalene	46	1.2	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.66	U	0.35	J
1,3,5-Trimethylbenzene	3400	0.66	U	0.73	U
1,2-Dichloroethane	61	0.66	U	0.73	U
1,2-Dibromoethane	2.6	0.66	U	0.73	U
Total Xylene	5600	1.32		1.57	

Building 9-SCV-9

Building 9	standard	2/12/2024		6/4/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.4	J	1.4	J
Toluene	280000	7.4	=	2.6	=
Ethylbenzene	630	0.63	J	0.79	U
Cumene	22000	0.75	U	0.79	U
Naphthalene	46	1.4	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.42	J	0.79	U
1,3,5-Trimethylbenzene	3400	0.75	U	0.79	U
1,2-Dichloroethane	61	0.75	U	0.79	U
1,2-Dibromoethane	2.6	0.75	U	0.79	U
Total Xylene	5600	2.31		1.57	

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Figure 22B: SCV - Building 9

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 11-IA-1

Building 11 IA	standard µg/m³	2/2/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.89	=	0.81	=
Toluene	2200	3.5	=	5.3	=
Ethylbenzene	4.9	0.51	J	0.9	=
Cumene	180	0.098	J	0.55	J
Naphthalene	0.36	0.19	J	0.67	J
1,2,4-Trimethylbenzene	26	0.37	J	0.83	=
1,3,5-Trimethylbenzene	26	0.13	J	0.27	J
1,2-Dichloroethane	0.47	0.11	J	0.11	J
1,2-Dibromoethane	0.02	0.21	U	0.23	U
Total Xylene	44	2.4		4.6	

Building 11-IA-2

Building 11 IA	standard µg/m³	2/2/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.93	=	0.73	=
Toluene	2200	28	=	4.2	=
Ethylbenzene	4.9	0.65	J	0.78	=
Cumene	180	0.12	J	0.49	J
Naphthalene	0.36	0.29	J	0.62	J
1,2,4-Trimethylbenzene	26	0.41	J	0.76	=
1,3,5-Trimethylbenzene	26	0.13	J	0.24	J
1,2-Dichloroethane	0.47	0.19	J	0.11	J
1,2-Dibromoethane	0.02	0.2	U	0.24	U
Total Xylene	44	3.1		4.3	

Building 11-AA-1

Building 11 AA	standard µg/m³	2/2/2024 µg/m³	Qual	4/30/2024 µg/m³	Qual
Benzene	1.6	0.74	=	0.55	J
Toluene	2200	1.4	=	1.7	=
Ethylbenzene	4.9	0.22	J	0.31	J
Cumene	180	0.2	U	0.31	J
Naphthalene	0.36	0.36	U	0.19	J
1,2,4-Trimethylbenzene	26	0.18	J	0.43	J
1,3,5-Trimethylbenzene	26	0.2	U	0.13	J
1,2-Dichloroethane	0.47	0.12	J	0.095	J
1,2-Dibromoethane	0.02	0.2	U	0.21	U
Total Xylene	44	0.85		1.49	

Building 11-IA-1

Building 11-IA-2

Building 11-AA-1

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 23: Indoor Air Sampling Results, Building 11

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 11-SSSG-1					
Building 11	standard	2/15/2024		5/15/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	1.5	J,B	9.1	=
Toluene	280000	6.6	=	5.1	=
Ethylbenzene	630	1	J	3.6	J
Cumene	22000	12	=	3.2	J
Naphthalene	46	87	=	6.5	=
1,2,4-Trimethylbenzene	3400	4.4	=	2.1	J
1,3,5-Trimethylbenzene	3400	1.4	J	1.1	J
1,2-Dichloroethane	61	0.79	U	2.3	J
1,2-Dibromoethane	2.6	0.79	U	1.5	U
Total Xylene	5600	7		7.8	

Building 11-SSSG-2					
BJs	standard	2/15/2024		5/15/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	1.7	J,B	170	=
Toluene	280000	2.6	J	18	J
Ethylbenzene	630	0.56	J	56	=
Cumene	22000	4.9	=	16	J
Naphthalene	46	24	=	14	U
1,2,4-Trimethylbenzene	3400	1.4	J	5.8	J
1,3,5-Trimethylbenzene	3400	1.1	U	4.5	J
1,2-Dichloroethane	61	1.1	U	7.9	U
1,2-Dibromoethane	2.6	1.1	U	7.9	U
Total Xylene	5600	2.32		48.2	

Building 11-SSSG-1

Building 11-SSSG-2

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 24: SSSG Sampling Results, Building 11

Legend

DSCP VI Air Sample Stations

Sample Type

Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 25: PP Soil Gas Sampling Results, Building 11

Building 11-PP-A					
Building 11	standard	2/26/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.4	J,B	0.77	J
Toluene	280000	2.2	=	3.1	=
Ethylbenzene	630	1.9	J	0.39	J
Cumene	22000	3.8	=	1.3	J
Naphthalene	46	13	=	2.7	=
1,2,4-Trimethylbenzene	3400	1.1	J	0.42	J
1,3,5-Trimethylbenzene	3400	1.2	J	0.79	U
1,2-Dichloroethane	61	0.68	U	0.79	U
1,2-Dibromoethane	2.6	0.68	U	0.79	U
Total Xylene	5600	6		1.6	

Building 11-PP-B					
Building 11-PP-A	standard	2/26/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.7	J,B	1.1	J
Toluene	280000	1.9	J	4	=
Ethylbenzene	630	1.4	J	0.53	J
Cumene	22000	6.1	=	0.54	J
Naphthalene	46	5.3	=	1.5	U
1,2,4-Trimethylbenzene	3400	1.6	J	1	J
1,3,5-Trimethylbenzene	3400	1.5	J	0.82	U
1,2-Dichloroethane	61	0.71	U	0.82	U
1,2-Dibromoethane	2.6	0.71	U	0.82	U
Total Xylene	5600	8.5		2.46	

Bldg 11-PP-A

Bldg 11-PP-B

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 26: SCV - Building 11

Building 11-SCV-2					
Building 11	standard	2/8/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.34	J	0.67	U
Toluene	280000	1.2	J	0.32	J
Ethylbenzene	630	0.75	U	0.67	U
Cumene	22000	0.75	U	0.67	U
Naphthalene	46	1.4	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.75	U	0.67	U
1,3,5-Trimethylbenzene	3400	0.75	U	0.67	U
1,2-Dichloroethane	61	0.75	U	0.67	U
1,2-Dibromoethane	2.6	0.75	U	0.67	U
Total Xylene	5600	2.25		1.97	

Building 11-SCV-2

Building 11-SCV-1					
Building 11	standard	2/8/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.94	J	0.61	J
Toluene	280000	4	=	4.8	=
Ethylbenzene	630	0.73	U	0.37	J
Cumene	22000	0.73	U	0.66	U
Naphthalene	46	1.3	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.73	U	0.29	J
1,3,5-Trimethylbenzene	3400	0.73	U	0.66	U
1,2-Dichloroethane	61	0.73	U	0.66	U
1,2-Dibromoethane	2.6	0.73	U	0.66	U
Total Xylene	5600	1.53		1.41	

Building 11-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 27: Indoor Air Sampling Results, Building 12

Building 12-IA-2

Building 12 IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	0.76	=	0.76	=
Toluene	2200	3.4	=	1.9	=
Ethylbenzene	4.9	0.38	J	0.38	=
Cumene	180	0.22	J	0.34	J
Naphthalene	0.36	0.41	U	0.66	=
1,2,4-Trimethylbenzene	26	0.33	J	0.34	=
1,3,5-Trimethylbenzene	26	0.13	J	0.13	J
1,2-Dichloroethane	0.47	0.11	J	0.23	U
1,2-Dibromoethane	0.02	0.22	U	0.23	U
Total Xylene	44	1.99		4.3	

Building 12-IA-4

Building 12 IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	0.67	J	0.76	=
Toluene	2200	1.2	=	1.9	=
Ethylbenzene	4.9	0.32	J	0.38	=
Cumene	180	0.17	J	0.34	J
Naphthalene	0.36	0.41	U	0.66	J
1,2,4-Trimethylbenzene	26	0.21	J	0.34	J
1,3,5-Trimethylbenzene	26	0.23	U	0.13	J
1,2-Dichloroethane	0.47	0.23	U	0.23	U
1,2-Dibromoethane	0.02	0.23	U	0.23	U
Total Xylene	44	1.49		4.1	

Building 12-IA-1

Building 12 IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	0.62	J	0.76	=
Toluene	2200	1.7	=	1.9	=
Ethylbenzene	4.9	0.24	J	0.38	J
Cumene	180	0.2	J	0.34	J
Naphthalene	0.36	0.22	J	0.66	J
1,2,4-Trimethylbenzene	26	0.26	J	0.34	J
1,3,5-Trimethylbenzene	26	0.22	U	0.13	J
1,2-Dichloroethane	0.47	0.082	J	0.23	U
1,2-Dibromoethane	0.02	0.22	U	0.23	U
Total Xylene	44	1.14		4.6	

Building 12-AA-1

Building 12 AA	standard µg/m³	2/6/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	0.54	J	1.3	=
Toluene	2200	0.96	=	3.1	=
Ethylbenzene	4.9	0.17	J	0.52	J
Cumene	180	0.22	J	0.85	=
Naphthalene	0.36	0.35	U	0.45	J
1,2,4-Trimethylbenzene	26	0.23	J	0.52	J
1,3,5-Trimethylbenzene	26	0.19	U	0.17	J
1,2-Dichloroethane	0.47	0.087	J	0.1	J
1,2-Dibromoethane	0.02	0.19	U	0.24	U
Total Xylene	44	0.76		2.33	

Building 12-IA-3

Building 12 IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/7/2024 µg/m³	Qual
Benzene	1.6	0.73	=	0.76	=
Toluene	2200	1.1	=	1.9	=
Ethylbenzene	4.9	0.35	J	0.38	J
Cumene	180	0.2	J	0.34	J
Naphthalene	0.36	1.1	=	0.66	=
1,2,4-Trimethylbenzene	26	0.23	J	0.34	J
1,3,5-Trimethylbenzene	26	0.21	U	0.13	J
1,2-Dichloroethane	0.47	0.63	J	0.23	U
1,2-Dibromoethane	0.02	0.21	U	0.23	U
Total Xylene	44	1.77		2.6	

Building 12-IA-4
Building 12-IA-1
Building 12-IA-2
Building 12-AA
Building 12-IA-3

0 25 50 100 US Feet

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 28: SSSG Sampling Results, Building 12

Building 12-SSSG-2

Building 12	standard	2/16/2024		5/13/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	9.3	=,B	0.95	J
Toluene	280000	27	=	3.1	=
Ethylbenzene	630	40	=	2.5	=
Cumene	22000	25	=	1.4	J
Naphthalene	46	750	=,D	180	=
1,2,4-Trimethylbenzene	3400	74	=	6.4	=
1,3,5-Trimethylbenzene	3400	36	=	2.6	=
1,2-Dichloroethane	61	0.65	U	0.74	U
1,2-Dibromoethane	2.6	0.65	U	0.74	U
Total Xylene	5600	239		14.6	

Building 12-SSSG-3

Building 12	standard	2/16/2024		5/13/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m⁴	Qual
Benzene	200	1.2	J,B	0.62	J
Toluene	280000	3.6	=	2.4	J
Ethylbenzene	630	1.4	J	1.3	J
Cumene	22000	8.4	=	0.67	J
Naphthalene	46	210	=	95	=
1,2,4-Trimethylbenzene	3400	8.2	=	2.7	=
1,3,5-Trimethylbenzene	3400	3.3	=	1	J
1,2-Dichloroethane	61	0.73	U	0.77	U
1,2-Dibromoethane	2.6	0.73	U	0.77	U
Total Xylene	5600	9.1		6.7	

Building 12-SSSG-2

Building 12-SSSG-1

Building 12-SSSG-3

Building 12-SSSG-4

Building 12-SSSG-1

Building 12	standard	2/16/2024		5/13/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	8.3	J,B	3.4	=
Toluene	280000	52	=	26	=
Ethylbenzene	630	250	=	100	=
Cumene	22000	72	=	19	=
Naphthalene	46	5000	=,D	2700	=,D
1,2,4-Trimethylbenzene	3400	350	=	160	=
1,3,5-Trimethylbenzene	3400	140	=	64	=
1,2-Dichloroethane	61	5.4	U	0.73	U
1,2-Dibromoethane	2.6	5.4	U	0.73	U
Total Xylene	5600	1380		560	

Building 12-SSSG-4

Building 12	standard	2/16/2024		5/13/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m⁵	Qual
Benzene	200	340	=,B	260	J
Toluene	280000	84	U	140	J
Ethylbenzene	630	84	U	220	U
Cumene	22000	220	J	200	J
Naphthalene	46	240	J	260	J
1,2,4-Trimethylbenzene	3400	84	U	220	U
1,3,5-Trimethylbenzene	3400	84	U	220	U
1,2-Dichloroethane	61	84	U	1100	=
1,2-Dibromoethane	2.6	84	U	220	U
Total Xylene	5600	254		650	

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 12-PP-A

Building 12	standard	2/26/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	4.5	=,B	1.2	J
Toluene	280000	16	=	2.5	=
Ethylbenzene	630	19	=	1.5	J
Cumene	22000	15	=	0.73	J
Naphthalene	46	8.7	=	1.3	U
1,2,4-Trimethylbenzene	3400	1.1	J	0.81	J
1,3,5-Trimethylbenzene	3400	0.69	J	0.71	U
1,2-Dichloroethane	61	0.68	U	0.71	U
1,2-Dibromoethane	2.6	0.68	U	0.71	U
Total Xylene	5600	134		7.1	

Building 12-PP-B

Building 12	standard	2/26/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.89	J,B	1.9	J
Toluene	280000	1.8	J	5.9	=
Ethylbenzene	630	1.4	J	1.7	J
Cumene	22000	3.9	=	1.2	J
Naphthalene	46	2.2	=	1.4	U
1,2,4-Trimethylbenzene	3400	0.55	J	1.5	J
1,3,5-Trimethylbenzene	3400	0.36	J	0.51	J
1,2-Dichloroethane	61	0.67	U	0.77	U
1,2-Dibromoethane	2.6	0.67	U	0.77	U
Total Xylene	5600	9.1		4.7	

Building 12-PP-C

Building 12	standard	2/26/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.54	J,B	0.72	J
Toluene	280000	0.7	J	0.94	J
Ethylbenzene	630	0.4	J	0.82	U
Cumene	22000	2.6	=	1.1	J
Naphthalene	46	8.8	=	1.5	U
1,2,4-Trimethylbenzene	3400	0.32	J	0.72	J
1,3,5-Trimethylbenzene	3400	0.66	U	0.82	U
1,2-Dichloroethane	61	0.66	U	0.82	U
1,2-Dibromoethane	2.6	0.66	U	0.82	U
Total Xylene	5600	2.15		1.72	

Bldg 12-PP-A

Bldg 12-PP-B

Bldg 12-PP-C

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 29: PP Soil Gas Sampling Results, Building 12

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 12-NS-B					
Building 12	standard	3/7/2024		5/7/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	6.6	J	0.41	J
Toluene	2200000	12	J	1.5	J
Ethylbenzene	4900	4.2	U	0.43	J
Cumene	180000	3.8	J	0.38	J
Naphthalene	360	7.7	U	1.4	U
1,2,4-Trimethylbenzene	26000	4.2	U	0.57	J
1,3,5-Trimethylbenzene	26000	4.2	U	0.76	U
1,2-Dichloroethane	470	4.2	U	0.76	U
1,2-Dibromoethane	20	4.2	U	0.76	U
Total Xylene	44000	12.6		2.24	

Building 12-NS-A					
Building 12	standard	3/7/2024		5/7/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	0.74	J	4	=
Toluene	2200000	1.4	J	19	=
Ethylbenzene	4900	0.32	J	0.87	J
Cumene	180000	0.8	J	0.54	J
Naphthalene	360	0.66	J	1.3	U
1,2,4-Trimethylbenzene	26000	0.71	U	0.9	J
1,3,5-Trimethylbenzene	26000	0.71	U	0.73	U
1,2-Dichloroethane	470	0.71	U	0.73	U
1,2-Dibromoethane	20	0.71	U	0.73	U
Total Xylene	44000	1.33		3.9	

Building 12-NS-A

Building 12-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 30: Near Source (NS) Soil Gas Sampling Results, Building 12

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 31: SCV - Soil Gas Sampling Results, Building 12

Building 12-SCV-1

Building 12	standard	2/7/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.8	J	0.37	J
Toluene	280000	2.5	=	3	=
Ethylbenzene	630	0.66	U	0.77	U
Cumene	22000	0.66	U	0.77	U
Naphthalene	46	1.2	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.66	U	0.77	U
1,3,5-Trimethylbenzene	3400	0.66	U	0.77	U
1,2-Dichloroethane	61	0.66	U	0.77	U
1,2-Dibromoethane	2.6	0.66	U	0.77	U
Total Xylene	5600	1.02		2.27	

Building 12-SCV-2

Building 12	standard	2/7/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.76	J	0.72	U
Toluene	280000	2.3	=	0.32	J
Ethylbenzene	630	0.66	U	0.72	U
Cumene	22000	0.66	U	0.72	U
Naphthalene	46	1.2	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.66	U	0.72	U
1,3,5-Trimethylbenzene	3400	0.66	U	0.72	U
1,2-Dichloroethane	61	0.66	U	0.72	U
1,2-Dibromoethane	2.6	0.66	U	0.72	U
Total Xylene	5600	1.42		2.12	

Building 12-SCV-3

Building 12	standard	2/7/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.46	J	0.73	J
Toluene	280000	0.78	=	0.4	=
Ethylbenzene	630	0.68	U	0.73	U
Cumene	22000	0.68	U	0.73	U
Naphthalene	46	1.2	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.68	U	0.73	U
1,3,5-Trimethylbenzene	3400	0.68	U	0.73	U
1,2-Dichloroethane	61	0.68	U	0.73	U
1,2-Dibromoethane	2.6	0.68	U	0.73	U
Total Xylene	5600	2.08		2.23	

Building 12-SCV-1
Building 12-SCV-2
Building 12-SCV-3

0 25 50 100
US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 13-PP-A					
Building 13	standard	2/27/2024		4/30/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	0.72	J	1.6	J
Toluene	280000	0.86	J	6.3	=
Ethylbenzene	630	0.38	J	1	J
Cumene	22000	0.83	J	1.3	J
Naphthalene	46	5	=	1.1	U
1,2,4-Trimethylbenzene	3400	0.8	U	0.86	J
1,3,5-Trimethylbenzene	3400	0.8	U	0.53	J
1,2-Dichloroethane	61	0.8	U	0.61	U
1,2-Dibromoethane	2.6	0.8	U	0.61	U
Total Xylene	5600	1.4		4.1	

Bldg 13-PP-A

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 32: PP Soil Gas Sampling Results, Building 13

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 33: SCV - Building 13

Building 13-SCV-3					
Building 13	standard	2/9/2024		6/4/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.42	J	0.98	J
Toluene	280000	1.4	J	3	=
Ethylbenzene	630	0.73	U	1.4	J
Cumene	22000	0.73	U	0.38	J
Naphthalene	46	1.3	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.73	U	2.3	J
1,3,5-Trimethylbenzene	3400	0.73	U	0.72	J
1,2-Dichloroethane	61	0.73	U	0.8	U
1,2-Dibromoethane	2.6	0.73	U	0.8	U
Total Xylene	5600	2.23		5.04	

Building 13-SCV-2					
Building 13	standard	2/9/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.35	J	0.85	J
Toluene	280000	1	J	2.5	=
Ethylbenzene	630	0.67	U	0.76	U
Cumene	22000	0.67	U	0.76	U
Naphthalene	46	1.2	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.67	U	0.76	U
1,3,5-Trimethylbenzene	3400	0.67	U	0.76	U
1,2-Dichloroethane	61	0.67	U	0.76	U
1,2-Dibromoethane	2.6	0.67	U	0.76	U
Total Xylene	5600	1.97		2.26	

Building 13-SCV-1					
Building 13	standard	2/9/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.73	U	3.8	=
Toluene	280000	0.38	J	57	=
Ethylbenzene	630	0.73	U	3.4	=
Cumene	22000	0.73	U	0.32	J
Naphthalene	46	1.3	U	1.1	U
1,2,4-Trimethylbenzene	3400	0.73	U	2.3	=
1,3,5-Trimethylbenzene	3400	0.73	U	0.68	J
1,2-Dichloroethane	61	0.73	U	0.6	U
1,2-Dibromoethane	2.6	0.73	U	0.6	U
Total Xylene	5600	2.23		11.7	

Building 13-SCV-1

Building 13-SCV-3

Building 13-SCV-Q1

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 34: Indoor Air Sampling Results, Building 14

Building 14-IA-2

Building 14	standard	2/6/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.62	=	0.6	=
Toluene	2200	0.74	=	1.4	=
Ethylbenzene	4.9	0.14	J	0.26	=
Cumene	180	0.13	J	0.44	J
Naphthalene	0.36	0.33	J	1.1	=
1,2,4-Trimethylbenzene	26	0.16	J	0.36	=
1,3,5-Trimethylbenzene	26	0.2	U	0.12	J
1,2-Dichloroethane	0.47	0.2	U	0.21	U
1,2-Dibromoethane	0.02	0.2	U	0.21	U
Total Xylene	44	0.6		1.08	

Building 14-AA-1

Building 14	standard	2/6/2024		4/30/2024	
AA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.53	J	0.84	=
Toluene	2200	0.74	=	2.4	=
Ethylbenzene	4.9	0.14	J	0.39	J
Cumene	180	0.24	J	0.31	J
Naphthalene	0.36	0.39	U	0.23	J
1,2,4-Trimethylbenzene	26	0.17	J	0.43	J
1,3,5-Trimethylbenzene	26	0.21	U	0.14	J
1,2-Dichloroethane	0.47	0.21	U	0.24	U
1,2-Dibromoethane	0.02	0.21	U	0.24	U
Total Xylene	44	0.59		1.26	

Building 14-IA-1

Building 14	standard	2/6/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	0.5	J	0.53	J
Toluene	2200	0.64	J	1.7	=
Ethylbenzene	4.9	0.12	J	0.28	J
Cumene	180	0.1	J	0.39	J
Naphthalene	0.36	0.39	U	0.8	=
1,2,4-Trimethylbenzene	26	0.13	J	0.37	J
1,3,5-Trimethylbenzene	26	0.22	U	0.12	J
1,2-Dichloroethane	0.47	0.22	U	0.12	J
1,2-Dibromoethane	0.02	0.22	U	0.22	U
Total Xylene	44	0.44		1.15	

Building 14-IA-2
Building 14-AA-1
Building 14-IA-1

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

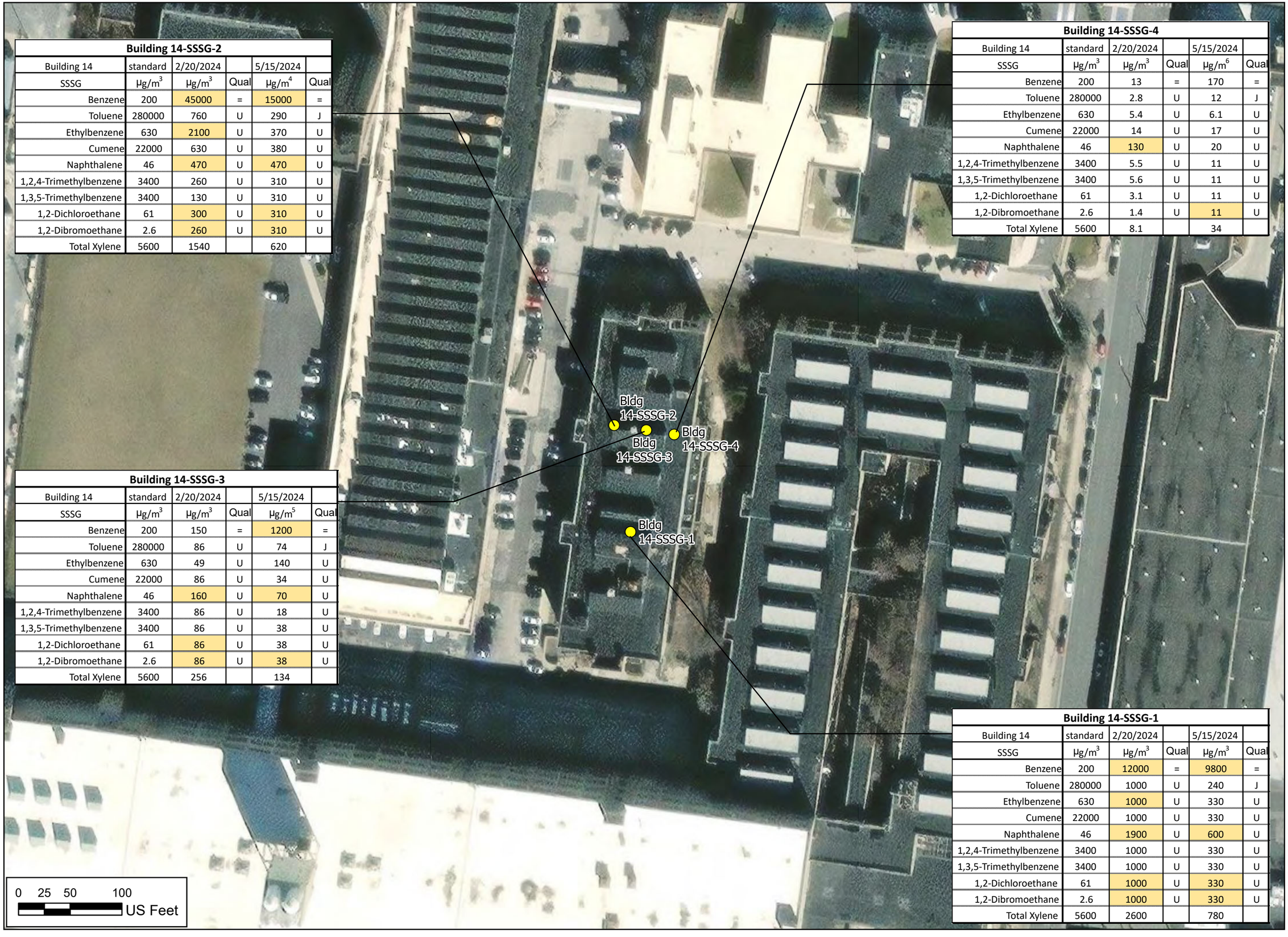
Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 14-SSSG-2

Building 14	standard	2/20/2024		5/15/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m⁴	Qual
Benzene	200	45000	=	15000	=
Toluene	280000	760	U	290	J
Ethylbenzene	630	2100	U	370	U
Cumene	22000	630	U	380	U
Naphthalene	46	470	U	470	U
1,2,4-Trimethylbenzene	3400	260	U	310	U
1,3,5-Trimethylbenzene	3400	130	U	310	U
1,2-Dichloroethane	61	300	U	310	U
1,2-Dibromoethane	2.6	260	U	310	U
Total Xylene	5600	1540		620	

Building 14-SSSG-3

Building 14	standard	2/20/2024		5/15/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m⁵	Qual
Benzene	200	150	=	1200	=
Toluene	280000	86	U	74	J
Ethylbenzene	630	49	U	140	U
Cumene	22000	86	U	34	U
Naphthalene	46	160	U	70	U
1,2,4-Trimethylbenzene	3400	86	U	18	U
1,3,5-Trimethylbenzene	3400	86	U	38	U
1,2-Dichloroethane	61	86	U	38	U
1,2-Dibromoethane	2.6	86	U	38	U
Total Xylene	5600	256		134	

Building 14-SSSG-4

Building 14	standard	2/20/2024		5/15/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m⁶	Qual
Benzene	200	13	=	170	=
Toluene	280000	2.8	U	12	J
Ethylbenzene	630	5.4	U	6.1	U
Cumene	22000	14	U	17	U
Naphthalene	46	130	U	20	U
1,2,4-Trimethylbenzene	3400	5.5	U	11	U
1,3,5-Trimethylbenzene	3400	5.6	U	11	U
1,2-Dichloroethane	61	3.1	U	11	U
1,2-Dibromoethane	2.6	1.4	U	11	U
Total Xylene	5600	8.1		34	

Building 14-SSSG-1

Building 14	standard	2/20/2024		5/15/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	12000	=	9800	=
Toluene	280000	1000	U	240	J
Ethylbenzene	630	1000	U	330	U
Cumene	22000	1000	U	330	U
Naphthalene	46	1900	U	600	U
1,2,4-Trimethylbenzene	3400	1000	U	330	U
1,3,5-Trimethylbenzene	3400	1000	U	330	U
1,2-Dichloroethane	61	1000	U	330	U
1,2-Dibromoethane	2.6	1000	U	330	U
Total Xylene	5600	2600		780	

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Figure 35: SSSG Sampling Results, Building 14

Legend

DSCP VI Air Sample Stations

Sample Type

Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 14-PP-B					
Building 14	standard	2/27/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.85	J,B	4.3	=
Toluene	280000	0.71	J	1.9	J
Ethylbenzene	630	0.77	U	1.3	J
Cumene	22000	2.3	J	1.2	J
Naphthalene	46	2.2	J	1.2	U
1,2,4-Trimethylbenzene	3400	0.77	U	0.72	J
1,3,5-Trimethylbenzene	3400	0.77	U	0.31	J
1,2-Dichloroethane	61	0.77	U	0.68	U
1,2-Dibromoethane	2.6	0.77	U	0.68	U
Total Xylene	5600	2.27		2.84	

Building 14-PP-C					
Building 14	standard	2/26/2024		4/30/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	6	=,B	1.2	J
Toluene	280000	43	=	5.9	=
Ethylbenzene	630	7.3	=	0.92	J
Cumene	22000	6.7	=	4.8	=
Naphthalene	46	2.3	=	1.8	J
1,2,4-Trimethylbenzene	3400	3	=	1.6	J
1,3,5-Trimethylbenzene	3400	2.4	=	0.83	J
1,2-Dichloroethane	61	0.69	U	0.9	U
1,2-Dibromoethane	2.6	0.69	U	0.9	U
Total Xylene	5600	26.5		4.3	

Building 14-PP-A					
Building 14	standard	2/27/2024		4/30/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	35	J	8.3	U
Toluene	280000	34	J	8.3	U
Ethylbenzene	630	64	U	8.3	U
Cumene	22000	64	U	8.3	U
Naphthalene	46	120	U	15	U
1,2,4-Trimethylbenzene	3400	64	U	8.3	U
1,3,5-Trimethylbenzene	3400	64	U	8.3	U
1,2-Dichloroethane	61	64	U	8.3	U
1,2-Dibromoethane	2.6	64	U	8.3	U
Total Xylene	5600	194		25.3	

Bldg 14-PP-B

Bldg 14-PP-C

Bldg 14-PP-A

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 36: PP Soil Gas Sampling Results, Building 14

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 37: SCV - Building 14

Building 14-SCV-1					
Building 14	standard	2/12/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.69	J	0.42	J
Toluene	280000	2.3	=	0.65	J
Ethylbenzene	630	0.65	U	0.65	U
Cumene	22000	0.65	U	0.65	U
Naphthalene	46	1.2	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.65	U	0.65	U
1,3,5-Trimethylbenzene	3400	0.65	U	0.65	U
1,2-Dichloroethane	61	0.65	U	0.65	U
1,2-Dibromoethane	2.6	0.65	U	0.65	U
Total Xylene	5600	1.58		1.95	

Building 14-SCV-2					
Building 14	standard	2/12/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.96	J	0.4	J
Toluene	280000	3.6	=	0.55	J
Ethylbenzene	630	0.97	U	0.77	U
Cumene	22000	0.97	U	0.77	U
Naphthalene	46	1.8	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.44	U	0.77	U
1,3,5-Trimethylbenzene	3400	0.97	U	0.77	U
1,2-Dichloroethane	61	0.97	U	0.77	U
1,2-Dibromoethane	2.6	0.97	U	0.77	U
Total Xylene	5600	1.65		2.27	

Building 14-SCV-1

Building 14-SCV-2

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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A JOINT VENTURE

Figure 38: Indoor Air Sampling Results, Building 30

Building 30-IA-1					
Building 30 IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.7	=	2.2	=
Toluene	2200	6.3	=	17	=
Ethylbenzene	4.9	1.1	=	2.5	=
Cumene	180	0.23	J	0.47	J
Naphthalene	0.36	4	=	23	=
1,2,4-Trimethylbenzene	26	1.2	=	3.1	=
1,3,5-Trimethylbenzene	26	0.36	J	0.87	=
1,2-Dichloroethane	0.47	0.35	J	0.24	U
1,2-Dibromoethane	0.02	0.23	U	0.24	U
Total Xylene	44	5.1		11.8	

Building 30-IA-2					
Building 30 IA	standard µg/m³	2/6/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	1.7	=	0.6	=
Toluene	2200	5.7	=	1.4	=
Ethylbenzene	4.9	0.99	=	0.26	=
Cumene	180	0.21	J	0.44	J
Naphthalene	0.36	5	=	1.1	=
1,2,4-Trimethylbenzene	26	1	=	0.36	=
1,3,5-Trimethylbenzene	26	0.3	J	0.12	J
1,2-Dichloroethane	0.47	0.35	J	0.21	U
1,2-Dibromoethane	0.02	0.27	U	0.21	U
Total Xylene	44	0.6		1.08	

Building 30-AA-1					
Building 30 AA	standard µg/m³	2/6/2024 µg/m³	Qual	5/2/2024 µg/m³	Qual
Benzene	1.6	0.69	J	0.71	=
Toluene	2200	1.1	=	2	=
Ethylbenzene	4.9	0.18	J	0.31	J
Cumene	180	0.13	J	0.1	J
Naphthalene	0.36	0.19	J	0.38	U
1,2,4-Trimethylbenzene	26	0.17	J	0.46	J
1,3,5-Trimethylbenzene	26	0.24	U	0.16	J
1,2-Dichloroethane	0.47	0.24	U	0.21	U
1,2-Dibromoethane	0.02	0.24	U	0.21	U
Total Xylene	44	0.78		1.41	

Building 30-IA-1
Building 30-IA-2
Building 30-AA-1

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

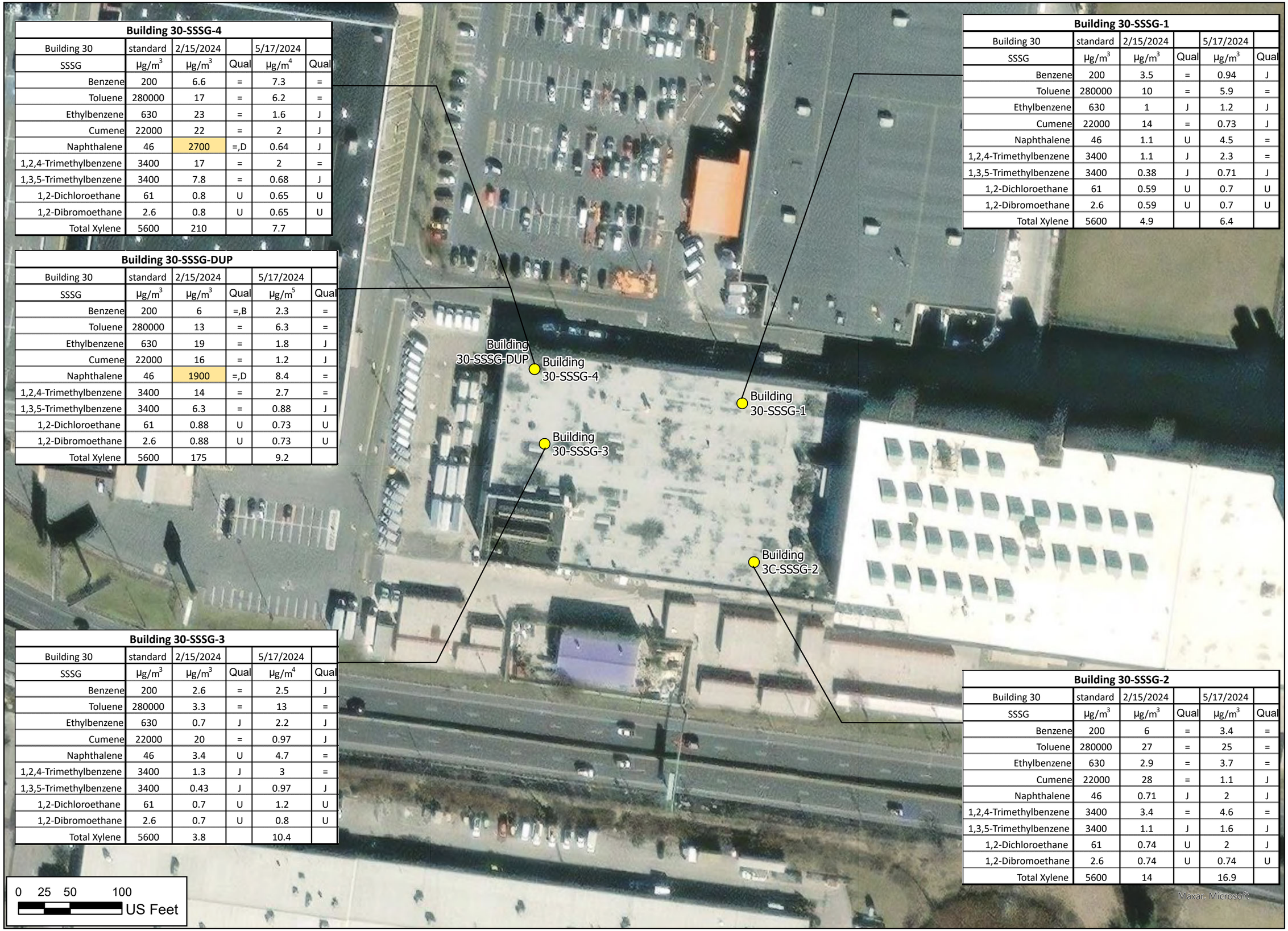
Standards shown are 1/10th of PAL (Project Action Limit)

Note: Indoor Air standard is 1/10th of Nonresidential Indoor Air Statewide health standard vapor intrusion screening values (SVIA)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building 30-SSSG-4

Building 30	standard	2/15/2024		5/17/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	6.6	=	7.3	=
Toluene	280000	17	=	6.2	=
Ethylbenzene	630	23	=	1.6	J
Cumene	22000	22	=	2	J
Naphthalene	46	2700	=,D	0.64	J
1,2,4-Trimethylbenzene	3400	17	=	2	=
1,3,5-Trimethylbenzene	3400	7.8	=	0.68	J
1,2-Dichloroethane	61	0.8	U	0.65	U
1,2-Dibromoethane	2.6	0.8	U	0.65	U
Total Xylene	5600	210		7.7	

Building 30-SSSG-DUP

Building 30	standard	2/15/2024		5/17/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^5	Qual
Benzene	200	6	=,B	2.3	=
Toluene	280000	13	=	6.3	=
Ethylbenzene	630	19	=	1.8	J
Cumene	22000	16	=	1.2	J
Naphthalene	46	1900	=,D	8.4	=
1,2,4-Trimethylbenzene	3400	14	=	2.7	=
1,3,5-Trimethylbenzene	3400	6.3	=	0.88	J
1,2-Dichloroethane	61	0.88	U	0.73	U
1,2-Dibromoethane	2.6	0.88	U	0.73	U
Total Xylene	5600	175		9.2	

Building 30-SSSG-1

Building 30	standard	2/15/2024		5/17/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	3.5	=	0.94	J
Toluene	280000	10	=	5.9	=
Ethylbenzene	630	1	J	1.2	J
Cumene	22000	14	=	0.73	J
Naphthalene	46	1.1	U	4.5	=
1,2,4-Trimethylbenzene	3400	1.1	J	2.3	=
1,3,5-Trimethylbenzene	3400	0.38	J	0.71	J
1,2-Dichloroethane	61	0.59	U	0.7	U
1,2-Dibromoethane	2.6	0.59	U	0.7	U
Total Xylene	5600	4.9		6.4	

Building 30-SSSG-3

Building 30	standard	2/15/2024		5/17/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	2.6	=	2.5	J
Toluene	280000	3.3	=	13	=
Ethylbenzene	630	0.7	J	2.2	J
Cumene	22000	20	=	0.97	J
Naphthalene	46	3.4	U	4.7	=
1,2,4-Trimethylbenzene	3400	1.3	J	3	=
1,3,5-Trimethylbenzene	3400	0.43	J	0.97	J
1,2-Dichloroethane	61	0.7	U	1.2	U
1,2-Dibromoethane	2.6	0.7	U	0.8	U
Total Xylene	5600	3.8		10.4	

Building 30-SSSG-2

Building 30	standard	2/15/2024		5/17/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	6	=	3.4	=
Toluene	280000	27	=	25	=
Ethylbenzene	630	2.9	=	3.7	=
Cumene	22000	28	=	1.1	J
Naphthalene	46	0.71	J	2	J
1,2,4-Trimethylbenzene	3400	3.4	=	4.6	=
1,3,5-Trimethylbenzene	3400	1.1	J	1.6	J
1,2-Dichloroethane	61	0.74	U	2	J
1,2-Dibromoethane	2.6	0.74	U	0.74	U
Total Xylene	5600	14		16.9	

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Figure 39: SSSG Sampling Results, Building 30

Legend

DSCP VI Air Sample Stations

Sample Type

- Sub-Slab Soil Gas

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sub-slab Soil Gas standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 30-PP-B					
Building 30	standard	3/6/2024		5/20/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	6.5	=	2.2	J
Toluene	280000	110	=	17	=
Ethylbenzene	630	28	=	8.9	=
Cumene	22000	3.3	=	1.5	J
Naphthalene	46	1.4	J	3	=
1,2,4-Trimethylbenzene	3400	11	=	6.7	=
1,3,5-Trimethylbenzene	3400	6.6	=	3.1	=
1,2-Dichloroethane	61	0.74	U	0	ND
1,2-Dibromoethane	2.6	0.74	U	0	ND
Total Xylene	5600	184		63	

Bldg 30-PP-A

Bldg 30-PP-B

0 25 50 100 US Feet

Maxar, Microsoft

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL, a Montrose Environmental Group company

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Figure 40: PP Soil Gas Sampling Results, Building 30

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 41: Near Source (NS) Soil Gas Sampling Results, Building 30

Building 30-NS-B					
Building 30	standard	3/5/2024		5/20/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	3.5	=	2.5	=
Toluene	2200000	22	=	6.4	=
Ethylbenzene	4900	0.6	J	0.75	J
Cumene	180000	0.77	J	0.52	J
Naphthalene	360	1.1	J	1.3	U
1,2,4-Trimethylbenzene	26000	2	J	0.49	J
1,3,5-Trimethylbenzene	26000	1.2	J	0.71	U
1,2-Dichloroethane	470	1.1	U	0.71	U
1,2-Dibromoethane	20	1.1	U	0.71	U
Total Xylene	44000	4.3		3.38	

Building 30-NS-A					
Building 30	standard	3/15/2024		5/20/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	9600	=	1100	=
Toluene	2200000	720	U	160	U
Ethylbenzene	4900	720	U	160	U
Cumene	180000	720	U	160	U
Naphthalene	360	1300	U	290	U
1,2,4-Trimethylbenzene	26000	720	U	160	U
1,3,5-Trimethylbenzene	26000	720	U	160	U
1,2-Dichloroethane	470	1900	J	160	U
1,2-Dibromoethane	20	720	U	160	U
Total Xylene	44000	2120		480	

Building 30-NS-DUP			
Building 30	standard	3/15/2024	
NS	µg/m³	µg/m³	Qual
Benzene	1600	1000	J
Toluene	2200000	570	U
Ethylbenzene	4900	570	U
Cumene	180000	570	U
Naphthalene	360	1000	U
1,2,4-Trimethylbenzene	26000	570	U
1,3,5-Trimethylbenzene	26000	570	U
1,2-Dichloroethane	470	570	U
1,2-Dibromoethane	20	570	U

Building 30-NS-B

Building 30-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 30-SCV-1					
Building 30	standard	2/8/2024		6/10/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	0.63	J	14	=
Toluene	280000	1.7	J	3	=
Ethylbenzene	630	0.71	U	0.67	U
Cumene	22000	0.71	U	0.67	U
Naphthalene	46	1.3	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.71	U	0.67	U
1,3,5-Trimethylbenzene	3400	0.71	U	0.67	U
1,2-Dichloroethane	61	0.71	U	0.67	U
1,2-Dibromoethane	2.6	0.71	U	0.67	U
Total Xylene	5600	2.11		1.33	

Building 30-SCV-2			
Building 30	standard	2/8/2024	
SCV	µg/m^3	µg/m^3	Qual
Benzene	200	0.61	J
Toluene	280000	1.3	J
Ethylbenzene	630	0.65	U
Cumene	22000	0.65	U
Naphthalene	46	1.2	U
1,2,4-Trimethylbenzene	3400	0.45	J
1,3,5-Trimethylbenzene	3400	0.65	U
1,2-Dichloroethane	61	0.65	U
1,2-Dibromoethane	2.6	0.65	U
Total Xylene	5600	1.2	

Building 30-SCV-DUP			
Building 30	standard	2/8/2024	
SCV	µg/m^3	µg/m^3	Qual
Benzene	200	0.59	J
Toluene	280000	1.8	J
Ethylbenzene	630	0.64	U
Cumene	22000	0.64	U
Naphthalene	46	1.2	U
1,2,4-Trimethylbenzene	3400	0.64	U
1,3,5-Trimethylbenzene	3400	0.64	U
1,2-Dichloroethane	61	0.64	U
1,2-Dibromoethane	2.6	0.64	U
Total Xylene	5600	1.94	

Building 30-SCV-DUP

Building 30-SCV-2

Building 30-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 42: SCV - Building 30

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 43: PP Soil Gas Sampling Results, Steen Property

STEEN-PP-B					
STEEN	standard	3/15/2024		5/23/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.5	J	24	=
Toluene	280000	540	=,D	1.9	J
Ethylbenzene	630	6.6	=	1.6	U
Cumene	22000	0.67	J	4.3	J
Naphthalene	46	1.7	U	1.4	J
1,2,4-Trimethylbenzene	3400	0.67	J	0.84	J
1,3,5-Trimethylbenzene	3400	0.56	J	0.91	J
1,2-Dichloroethane	61	0.94	U	1.6	U
1,2-Dibromoethane	2.6	0.94	U	1.6	U
Total Xylene	5600	31		4.7	

STEEN-PP-DUP			
STEEN	standard	5/23/2024	
PP	µg/m³	µg/m³	Qual
Benzene	200	1.8	=
Toluene	280000	28	=
Ethylbenzene	630	2.9	=
Cumene	22000	0.78	J
Naphthalene	46	1.1	U
1,2,4-Trimethylbenzene	3400	0.61	U
1,3,5-Trimethylbenzene	3400	0.61	U
1,2-Dichloroethane	61	0.49	J
1,2-Dibromoethane	2.6	0.61	U
Total Xylene	5600	10.4	

STEEN-PP-A					
STEEN	standard	3/15/2024		5/23/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	2.1	J	1.4	J
Toluene	280000	34	=	4.1	=
Ethylbenzene	630	1.4	J	1.1	J
Cumene	22000	3	J	1.7	J
Naphthalene	46	1.3	J	1.4	U
1,2,4-Trimethylbenzene	3400	1.3	J	1.4	J
1,3,5-Trimethylbenzene	3400	0.6	J	0.55	J
1,2-Dichloroethane	61	1.1	U	0.78	U
1,2-Dibromoethane	2.6	1.1	U	0.78	U
Total Xylene	5600	5.5		4.13	

STEEN-PP-B
STEEN-PP-A

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 44: Near Source (NS) Soil Gas Sampling Results, Steen Property

STEEN-NS-A					
STEEN	standard	3/12/2024		5/23/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	12000	=	22000	=
Toluene	2200000	280	U	6400	=
Ethylbenzene	4900	280	U	2100	=
Cumene	180000	590	J	750	J
Naphthalene	360	520	U	1100	U
1,2,4-Trimethylbenzene	26000	280	U	910	J
1,3,5-Trimethylbenzene	26000	280	U	490	J
1,2-Dichloroethane	470	280	U	5800	=
1,2-Dibromoethane	20	280	U	630	U
Total Xylene	44000	850		6900	

STEEN-NS-B					
STEEN	standard	3/12/2024		5/23/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	28	=	15	U
Toluene	2200000	87	=	15	U
Ethylbenzene	4900	2	J	15	U
Cumene	180000	5.2	=	15	U
Naphthalene	360	1.8	J	28	U
1,2,4-Trimethylbenzene	26000	0.98	J	15	U
1,3,5-Trimethylbenzene	26000	0.91	J	15	U
1,2-Dichloroethane	470	0.73	U	15	U
1,2-Dibromoethane	20	0.73	U	15	U
Total Xylene	44000	9.5		46	

STEEN-NS-DUP-1			
STEEN	standard	5/23/2024	
NS	µg/m³	µg/m³	Qual
Benzene	1600	7.1	U
Toluene	2200000	24	=
Ethylbenzene	4900	7.1	U
Cumene	180000	3.5	J
Naphthalene	360	13	U
1,2,4-Trimethylbenzene	26000	7.1	U
1,3,5-Trimethylbenzene	26000	7.1	U
1,2-Dichloroethane	470	9.2	J
1,2-Dibromoethane	20	7.1	U
Total Xylene	44000	21.1	

STEEN-NS-DUP-2			
STEEN	standard	5/23/2024	
NS	µg/m³	µg/m³	Qual
Benzene	1600	25000	=
Toluene	2200000	870	J
Ethylbenzene	4900	1300	U
Cumene	180000	670	J
Naphthalene	360	2300	U
1,2,4-Trimethylbenzene	26000	1300	U
1,3,5-Trimethylbenzene	26000	1300	U
1,2-Dichloroethane	470	5000	=
1,2-Dibromoethane	20	1300	U
Total Xylene	44000	3800	

STEEN-NS-A

STEEN-NS-B

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

STEEN-SCV-2					
STEEN	standard	2/19/2024		6/4/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.79	U	0.71	J
Toluene	280000	0.67	J	1.3	J, B
Ethylbenzene	630	0.79	U	0.82	U
Cumene	22000	0.79	U	0.45	J
Naphthalene	46	1.4	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.79	U	0.82	U
1,3,5-Trimethylbenzene	3400	0.79	U	0.82	U
1,2-Dichloroethane	61	0.79	U	0.82	U
1,2-Dibromoethane	2.6	0.79	U	0.82	U
Total Xylene	5600	2.39		1.6	

STEEN-SCV-1					
STEEN	standard	2/19/2024		6/4/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.5	J	1.3	J
Toluene	280000	2.1	J	72	=,B
Ethylbenzene	630	0.79	U	0.77	J, B
Cumene	22000	0.61	J	0.64	J
Naphthalene	46	1.4	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.79	U	4.2	=
1,3,5-Trimethylbenzene	3400	0.79	U	2.5	=
1,2-Dichloroethane	61	0.79	U	0.74	U
1,2-Dibromoethane	2.6	0.79	U	0.74	U
Total Xylene	5600	1.02		4.2	

STEEN-SCV-1

STEEN-SCV-2

0 25 50 100
US Feet

Maxar, Microsoft

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL
A JOINT VENTURE

Figure 45: SCV - STEEN

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

PHA Gym-NS-B					
PHA Gym	standard	3/14/2024		5/23/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	0.46	J	16	J
Toluene	2200000	0.43	J	9.3	J
Ethylbenzene	4900	0.7	U	7.6	U
Cumene	180000	0.7	U	4.3	J
Naphthalene	360	1.3	U	14	U
1,2,4-Trimethylbenzene	26000	0.7	U	7.6	U
1,3,5-Trimethylbenzene	26000	0.7	U	7.6	U
1,2-Dichloroethane	470	0.7	U	9.1	J
1,2-Dibromoethane	20	0.7	U	7.6	U
Total Xylene	44000	2.1		22.6	

PHA Gym-NS-A					
PHA Gym	standard	3/11/2024		5/23/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	0.36	J	13	=
Toluene	2200000	31	=	3	J
Ethylbenzene	4900	1.1	J	2	U
Cumene	180000	0.92	J	4	J
Naphthalene	360	1.3	U	3.6	U
1,2,4-Trimethylbenzene	26000	0.93	J	0.93	J
1,3,5-Trimethylbenzene	26000	0.51	J	2	U
1,2-Dichloroethane	470	0.74	U	2	U
1,2-Dibromoethane	20	0.74	U	2	U
Total Xylene	44000	4.7		6	

PHA Gym-NS-B

PHA Gym-NS-A

Building E-NS-B

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 46: Near Source (NS) Soil Gas Sampling Results, PHA Gym

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Aldi-SCV-2

Aldi	standard	2/12/2024		5/14/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	1.4	J	0.55	J
Toluene	280000	6.3	=	0.99	J
Ethylbenzene	630	0.55	J	0.85	U
Cumene	22000	0.7	U	0.85	U
Naphthalene	46	1.3	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.46	J	0.85	U
1,3,5-Trimethylbenzene	3400	0.7	U	0.85	U
1,2-Dichloroethane	61	0.7	U	0.85	U
1,2-Dibromoethane	2.6	0.7	U	0.85	U
Total Xylene	5600	2.45		2.55	

Aldi-SCV-1

Aldi	standard	2/12/2024		5/14/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	0.71	J	0.77	U
Toluene	280000	2.9	=	0.77	U
Ethylbenzene	630	0.32	J	0.77	U
Cumene	22000	0.63	U	0.77	U
Naphthalene	46	1.2	U	7.2	=
1,2,4-Trimethylbenzene	3400	0.33	J	0.77	U
1,3,5-Trimethylbenzene	3400	0.63	U	0.77	U
1,2-Dichloroethane	61	0.63	U	0.77	U
1,2-Dibromoethane	2.6	0.63	U	0.77	U
Total Xylene	5600	1.48		2.27	

Aldi-SCV-1

Aldi-SCV-2

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 47: SCV - Aldi

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Aldi-PP-A					
Aldi	standard	3/14/2024		5/6/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	0.72	U	1.7	J
Toluene	280000	0.31	J	3.1	=
Ethylbenzene	630	0.72	U	0.39	J
Cumene	22000	0.72	U	1.3	J
Naphthalene	46	1.3	U	2.7	=
1,2,4-Trimethylbenzene	3400	0.72	U	0.42	J
1,3,5-Trimethylbenzene	3400	0.72	U	0.79	U
1,2-Dichloroethane	61	0.72	U	0.79	U
1,2-Dibromoethane	2.6	0.72	U	0.79	U
Total Xylene	5600	2.12		1.74	

Bldg Aldi-PP

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 48: PP Soil Gas Sampling Results, ALDI

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 49: PP Soil Gas Sampling Results, Building E/Jim's Ice

Building E-PP-A

Building E	standard	3/8/2024		5/21/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	2.7	=	0.62	J
Toluene	280000	270	=	2	J
Ethylbenzene	630	5	=	0.36	J
Cumene	22000	3.8	=	0.79	U
Naphthalene	46	1.3	U	1.4	U
1,2,4-Trimethylbenzene	3400	2.5	=	0.54	J
1,3,5-Trimethylbenzene	3400	1.5	J	0.79	U
1,2-Dichloroethane	61	0.71	U	0.79	U
1,2-Dibromoethane	2.6	0.71	U	0.79	U
Total Xylene	5600	21.4		1.55	

Building E-PP-B

Building E	standard	3/8/2024		5/21/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	200	1.3	J	0.98	J
Toluene	280000	29	=	4.1	=
Ethylbenzene	630	0.9	J	1.2	J
Cumene	22000	2.2	J	0.86	U
Naphthalene	46	1.3	J	1.4	J
1,2,4-Trimethylbenzene	3400	0.87	J	1.1	J
1,3,5-Trimethylbenzene	3400	0.57	J	0.86	U
1,2-Dichloroethane	61	0.76	U	0.86	U
1,2-Dibromoethane	2.6	0.76	U	0.86	U
Total Xylene	5600	4.02		2.47	

Bldg E-PP-A/B

Bldg E-PP-A

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building E-NS-B					
Building E	standard	3/8/2024		5/21/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	3.2	=	0.77	J
Toluene	2200000	1100	=,D	5.6	=
Ethylbenzene	4900	14	=	0.67	J
Cumene	180000	1.8	J	0.91	U
Naphthalene	360	1.9	J	1.7	U
1,2,4-Trimethylbenzene	26000	1.5	J	0.91	U
1,3,5-Trimethylbenzene	26000	0.85	J	0.91	U
1,2-Dichloroethane	470	0.73	U	0.91	U
1,2-Dibromoethane	20	0.73	U	0.91	U
Total Xylene	44000	58		1.92	

Building E-NS-A					
Building E	standard	3/8/2024		5/21/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	5.3	=	0.42	J
Toluene	2200000	200	=	2	J
Ethylbenzene	4900	3.6	=	0.81	U
Cumene	180000	1.7	J	0.81	U
Naphthalene	360	1.3	U	1	J
1,2,4-Trimethylbenzene	26000	1.9	J	0.66	J
1,3,5-Trimethylbenzene	26000	1	J	0.81	U
1,2-Dichloroethane	470	0.69	U	0.81	U
1,2-Dibromoethane	20	0.69	U	0.81	U
Total Xylene	44000	17.1		1.44	

Building E-NS-B

Building E-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 50: Near Source (NS) Soil Gas Sampling Results, Building E / Jim's Ice

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 51: SCV - Building E / Jim's Ice

Jims Ice-SCV-3					
Jims Ice	standard	6/12/2024		8/6/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.54	J	3	=,B
Toluene	280000	2.1	=	3	=
Ethylbenzene	630	0.17	J	0.66	J
Cumene	22000	0.27	U	0.84	U
Naphthalene	46	0.48	U	1.5	U
1,2,4-Trimethylbenzene	3400	0.84	=	0.84	U
1,3,5-Trimethylbenzene	3400	0.3	J	0.84	U
1,2-Dichloroethane	61	0.27	U	0.37	J
1,2-Dibromoethane	2.6	0.27	U	0.84	U
Total Xylene	5600	0.63		2.42	

Jims Ice-SCV-2					
Jims Ice	standard	6/12/2024		8/6/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.9	J	3.9	=,B
Toluene	280000	120	=	6.7	=
Ethylbenzene	630	1.4	J	1.4	J
Cumene	22000	0.76	U	0.79	U
Naphthalene	46	1.4	U	1.4	J
1,2,4-Trimethylbenzene	3400	0.76	U	2.5	=
1,3,5-Trimethylbenzene	3400	0.76	U	0.81	J
1,2-Dichloroethane	61	0.76	U	0.79	U
1,2-Dibromoethane	2.6	0.76	U	0.79	U
Total Xylene	5600	6.1		6.7	

Jims Ice-SCV-1					
Jims Ice	standard	6/12/2024		8/6/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.48	J	2	J,B
Toluene	280000	24	=	3.6	=
Ethylbenzene	630	0.76	U	0.6	J
Cumene	22000	0.76	U	0.7	U
Naphthalene	46	1.4	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.76	U	0.53	J
1,3,5-Trimethylbenzene	3400	0.76	U	0.7	U
1,2-Dichloroethane	61	0.76	U	0.38	J
1,2-Dibromoethane	2.6	0.76	U	0.7	U
Total Xylene	5600	1.49		2.27	

Jim's Ice-SCV-3

Jim's Ice-SCV-2

Jim's Ice-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 52: Near Source (NS) Soil Gas Sampling Results, Hotel

Hotel-NS-A					
Hotel	standard	3/11/2024		5/21/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	1	J	0.61	J
Toluene	2200000	13	=	1.6	J
Ethylbenzene	4900	0.72	J	0.8	U
Cumene	180000	0.78	J	0.8	U
Naphthalene	360	1.3	U	1.5	U
1,2,4-Trimethylbenzene	26000	0.33	J	0.44	J
1,3,5-Trimethylbenzene	26000	0.7	U	0.8	U
1,2-Dichloroethane	470	0.7	U	0.8	U
1,2-Dibromoethane	20	0.7	U	0.8	U
Total Xylene	44000	2.89		1.34	

Hotel-NS-B					
Hotel	standard	3/11/2024		5/21/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	0.6	J	0.57	J
Toluene	2200000	160	=	3.4	=
Ethylbenzene	4900	1.4	J	0.37	J
Cumene	180000	0.7	J	0.71	U
Naphthalene	360	1.4	U	0.73	J
1,2,4-Trimethylbenzene	26000	0.75	U	0.54	J
1,3,5-Trimethylbenzene	26000	0.75	U	0.71	U
1,2-Dichloroethane	470	0.75	U	0.71	U
1,2-Dibromoethane	20	0.75	U	0.71	U
Total Xylene	44000	6.2		1.66	

Hotel-NS-A

Hotel-NS-B

Building E-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

PAgnes (N)-SCV-2					
Pagnes (N)	standard	6/11/2024		8/6/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.9	J	2.1	J,B
Toluene	280000	21	=	2.8	=
Ethylbenzene	630	1.1	J	0.61	J
Cumene	22000	0.65	U	0.74	U
Naphthalene	46	1.2	U	1	J
1,2,4-Trimethylbenzene	3400	0.62	J	0.52	J
1,3,5-Trimethylbenzene	3400	0.65	U	0.74	U
1,2-Dichloroethane	61	0.65	U	0.35	J
1,2-Dibromoethane	2.6	0.65	U	0.74	U
Total Xylene	5600	5.8		1.9	

PAgnes (N)-SCV-1					
Pagnes (N)	standard	6/11/2024		8/6/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.5	J	2.7	=,B
Toluene	280000	26	=	12	=
Ethylbenzene	630	1.2	J	2.8	=
Cumene	22000	0.82	U	0.77	U
Naphthalene	46	1.5	U	0.82	J
1,2,4-Trimethylbenzene	3400	0.68	J	0.53	J
1,3,5-Trimethylbenzene	3400	0.82	U	0.77	U
1,2-Dichloroethane	61	0.49	J	0.44	J
1,2-Dibromoethane	2.6	0.82	U	0.77	U
Total Xylene	5600	5.6		2.54	

PAgnes (N)-SCV-2

PAgnes (N)-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 53: SCV - P. Agnes

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 54: Near Source (NS) Soil Gas Sampling Results, P. Agnes

Pagnes (S)-NS-B					
Pagnes (S)	standard	3/11/2024		5/21/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	0.87	J	1.1	J
Toluene	2200000	9.9	=	5	=
Ethylbenzene	4900	0.75	J	0.53	J
Cumene	180000	1.1	J	0.69	U
Naphthalene	360	0.75	J	1.3	U
1,2,4-Trimethylbenzene	26000	0.78	J	0.72	J
1,3,5-Trimethylbenzene	26000	0.44	J	0.69	U
1,2-Dichloroethane	470	0.72	U	0.69	U
1,2-Dibromoethane	20	0.72	U	0.69	U
Total Xylene	44000	3.2		2.51	

Pagnes (S)-NS-A					
Pagnes (S)	standard	3/11/2024		5/21/2024	
NS	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1600	1.9	J	4.1	=
Toluene	2200000	40	=	2.9	=
Ethylbenzene	4900	1.3	J	0.77	J
Cumene	180000	2.3	J	0.71	J
Naphthalene	360	1.5	U	1.3	U
1,2,4-Trimethylbenzene	26000	0.84	J	1.4	J
1,3,5-Trimethylbenzene	26000	0.43	J	0.68	J
1,2-Dichloroethane	470	0.8	U	0.71	U
1,2-Dibromoethane	20	0.8	U	0.71	U
Total Xylene	44000	5.4		9.09	

Pagnes (S)-NS-DUP			
Pagnes (S)	standard	3/11/2024	
NS	µg/m³	µg/m³	Qual
Benzene	1600	2.5	=
Toluene	2200000	34	=
Ethylbenzene	4900	1.1	J
Cumene	180000	1.8	J
Naphthalene	360	1.2	U
1,2,4-Trimethylbenzene	26000	0.65	U
1,3,5-Trimethylbenzene	26000	0.65	U
1,2-Dichloroethane	470	0.65	U
1,2-Dibromoethane	20	0.65	U
Total Xylene	44000	3.08	

Pagnes (S)-NS-B

Pagnes (S)-NS-A

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Near Source

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Near Source standard is 1/10th of Near-source soil gas Statewide health standard vapor intrusion screening values (SVNS).

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 55: PP Soil Gas Sampling Results, Building 15

Building 15-PP-A

Building 15	standard	2/27/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.68	J	0.4	J
Toluene	280000	0.38	J	0.8	J
Ethylbenzene	630	0.41	J	0.73	U
Cumene	22000	1	J	0.58	J
Naphthalene	46	3.3	=	1.3	U
1,2,4-Trimethylbenzene	3400	0.7	U	0.58	J
1,3,5-Trimethylbenzene	3400	0.7	U	0.73	U
1,2-Dichloroethane	61	0.7	U	0.73	U
1,2-Dibromoethane	2.6	0.7	U	0.73	U
Total Xylene	5600	2.1		1.12	

Building 15-PP-B

Building 15	standard	2/27/2024		5/1/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.4	J	0.67	J
Toluene	280000	0.64	J	1.7	J
Ethylbenzene	630	0.76	U	0.42	J
Cumene	22000	1.9	J	0.6	J
Naphthalene	46	2.4	=	1.5	U
1,2,4-Trimethylbenzene	3400	0.76	U	0.83	J
1,3,5-Trimethylbenzene	3400	0.76	U	0.83	U
1,2-Dichloroethane	61	0.76	U	0.83	U
1,2-Dibromoethane	2.6	0.76	U	0.83	U
Total Xylene	5600	2.26		1.76	

Bldg 15-PP-A

Bldg 15-PP-B

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

Building 15-SCV-1					
Building 15	standard	2/8/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.69	U	1.7	J
Toluene	280000	0.5	J	7.4	=
Ethylbenzene	630	0.69	U	0.54	J
Cumene	22000	0.69	U	0.63	U
Naphthalene	46	1.3	U	1.1	U
1,2,4-Trimethylbenzene	3400	0.69	U	0.51	J
1,3,5-Trimethylbenzene	3400	0.69	U	0.63	U
1,2-Dichloroethane	61	0.69	U	0.63	U
1,2-Dibromoethane	2.6	0.69	U	0.63	U
Total Xylene	5600	2.09		2.4	

Building 15-SCV-2					
Building 15	standard	2/8/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.42	J	0.5	J
Toluene	280000	1	J	1.9	J
Ethylbenzene	630	0.77	U	0.74	U
Cumene	22000	0.77	U	0.74	U
Naphthalene	46	1.4	U	1.3	U
1,2,4-Trimethylbenzene	3400	0.77	U	0.74	U
1,3,5-Trimethylbenzene	3400	0.77	U	0.74	U
1,2-Dichloroethane	61	0.77	U	0.74	U
1,2-Dibromoethane	2.6	0.77	U	0.74	U
Total Xylene	5600	2.27		2.24	

Building 15-SCV-2

Building 15-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 56: SCV - Building 15

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 57: SCV - Soil Gas Sampling Results, ACME

ACME-SCV-1					
ACME	standard	2/16/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.2	J,B	0.64	J
Toluene	280000	1.5	J	1.4	J
Ethylbenzene	630	0.65	U	0.73	U
Cumene	22000	0.65	U	0.73	U
Naphthalene	46	0.96	J	1.3	U
1,2,4-Trimethylbenzene	3400	0.32	J	0.73	U
1,3,5-Trimethylbenzene	3400	0.65	U	0.73	U
1,2-Dichloroethane	61	0.65	U	0.73	U
1,2-Dibromoethane	2.6	0.65	U	0.73	U
Total Xylene	5600	1.45		2.23	

ACME-SCV-2					
ACME	standard	2/16/2024		5/14/2024	
SCV	µg/m³	µg/m³	Qual	µg/m⁴	Qual
Benzene	200	1.3	J,B	0.84	J
Toluene	280000	2.6	J	3.1	=
Ethylbenzene	630	0.39	U	0.77	U
Cumene	22000	0.75	U	0.77	U
Naphthalene	46	0.81	J	1.4	U
1,2,4-Trimethylbenzene	3400	0.35	J	0.77	U
1,3,5-Trimethylbenzene	3400	0.75	U	0.77	U
1,2-Dichloroethane	61	0.75	U	0.77	U
1,2-Dibromoethane	2.6	0.75	U	0.77	U
Total Xylene	5600	1.65		1.51	

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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SEPTA-SCV-1					
SEPTA	standard	6/11/2024		8/6/2024	
SCV	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	200	8.8	=	4.3	=,B
Toluene	280000	460	=,D	2.9	=
Ethylbenzene	630	9.9	=	0.38	J
Cumene	22000	0.62	J	0.6	U
Naphthalene	46	1.1	U	1.1	U
1,2,4-Trimethylbenzene	3400	1.5	J	0.31	J
1,3,5-Trimethylbenzene	3400	0.52	J	0.6	U
1,2-Dichloroethane	61	1.6	J	0.6	U
1,2-Dibromoethane	2.6	0.58	U	0.6	U
Total Xylene	5600	52		0	

SEPTA-SCV-1

SEPTA-SCV-2					
SEPTA	standard	6/11/2024		8/6/2024	
SCV	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	200	0.72	J	0.91	J
Toluene	280000	5.4	=	2.1	J
Ethylbenzene	630	0.49	J	0.79	U
Cumene	22000	0.62	U	0.79	U
Naphthalene	46	1.1	U	1.4	U
1,2,4-Trimethylbenzene	3400	0.4	J	0.79	U
1,3,5-Trimethylbenzene	3400	0.62	U	0.79	U
1,2-Dichloroethane	61	0.62	U	0.79	U
1,2-Dibromoethane	2.6	0.62	U	0.79	U
Total Xylene	5600	2.79		0	

SEPTA-SCV-2

0 25 50 100 US Feet

Maxar, Microsoft

Figure 58: SCV - Soil Gas Sampling Results, SEPTA

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

STAPLES-PP-A					
STAPLES	standard	3/8/2024		5/6/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	20	=	2.4	=
Toluene	280000	170	=	5.7	=
Ethylbenzene	630	7.2	=	0.62	J
Cumene	22000	5.2	=	1.3	J
Naphthalene	46	1.3	U	0.7	J
1,2,4-Trimethylbenzene	3400	2.2	=	1.6	J
1,3,5-Trimethylbenzene	3400	1.7	J	0.52	J
1,2-Dichloroethane	61	0.71	U	0.76	U
1,2-Dibromoethane	2.6	0.71	U	0.76	U
Total Xylene	5600	23.1		3.11	

Bldg
Staples-PP-A

Bldg
Staples-PP-B

STAPLES-PP-B					
STAPLES	standard	3/8/2024		5/6/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	200	13	=	1.7	J
Toluene	280000	160	=	6	=
Ethylbenzene	630	11	=	0.65	J
Cumene	22000	6.2	=	0.58	J
Naphthalene	46	1.4	U	1.3	U
1,2,4-Trimethylbenzene	3400	3.2	=	0.57	J
1,3,5-Trimethylbenzene	3400	2.7	=	0.72	U
1,2-Dichloroethane	61	0.76	U	0.72	U
1,2-Dibromoethane	2.6	0.76	U	0.72	U
Total Xylene	5600	36.3		2.54	

0 25 50 100
US Feet

Maxar, Microsoft

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Figure 59: PP Soil Gas Sampling Results, Staples

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

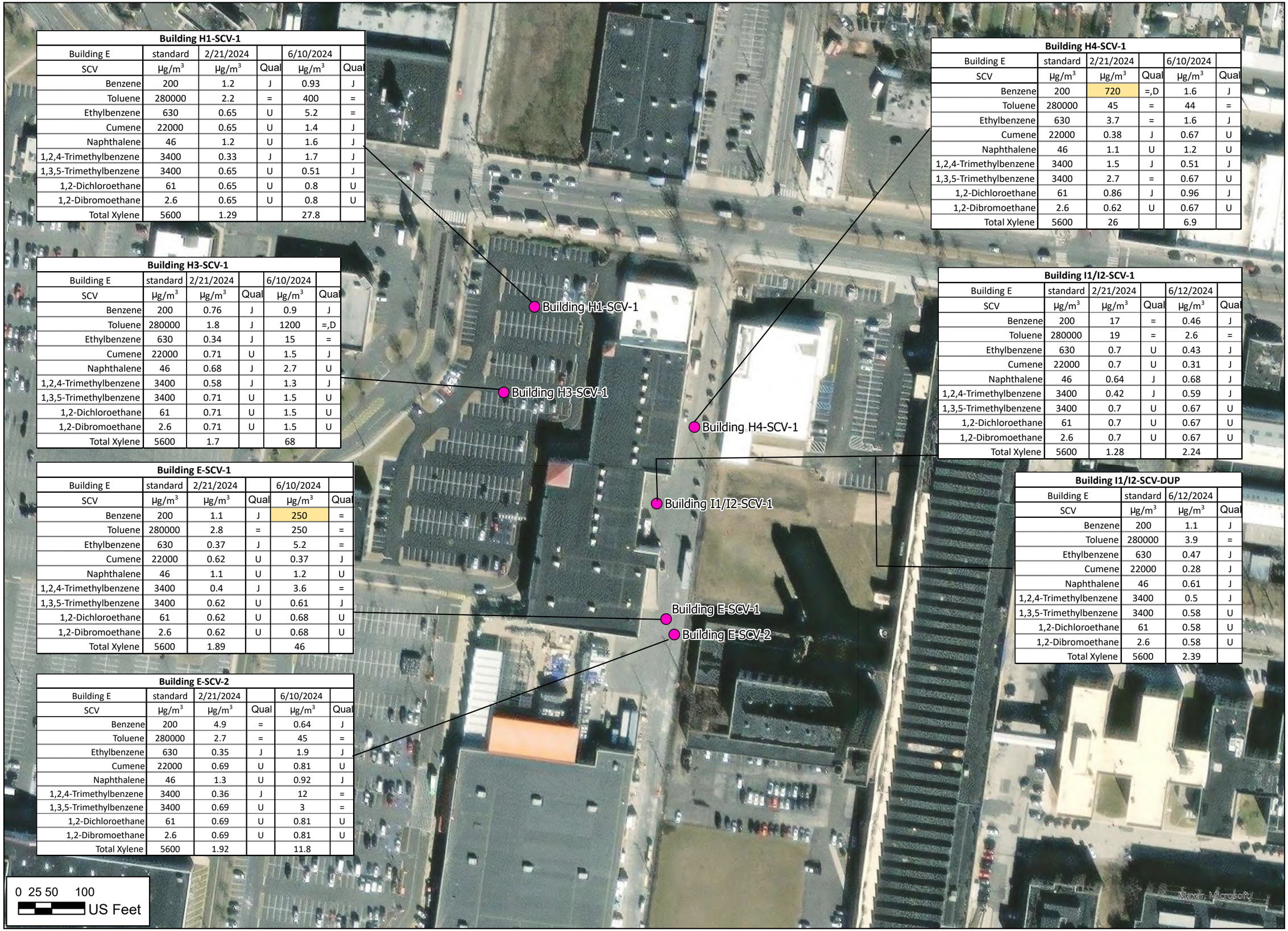
DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Building H1-SCV-1

Building E	standard	2/21/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.2	J	0.93	J
Toluene	280000	2.2	=	400	=
Ethylbenzene	630	0.65	U	5.2	=
Cumene	22000	0.65	U	1.4	J
Naphthalene	46	1.2	U	1.6	J
1,2,4-Trimethylbenzene	3400	0.33	J	1.7	J
1,3,5-Trimethylbenzene	3400	0.65	U	0.51	J
1,2-Dichloroethane	61	0.65	U	0.8	U
1,2-Dibromoethane	2.6	0.65	U	0.8	U
Total Xylene	5600	1.29		27.8	

Building H3-SCV-1

Building E	standard	2/21/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.76	J	0.9	J
Toluene	280000	1.8	J	1200	=,D
Ethylbenzene	630	0.34	J	15	=
Cumene	22000	0.71	U	1.5	J
Naphthalene	46	0.68	J	2.7	U
1,2,4-Trimethylbenzene	3400	0.58	J	1.3	J
1,3,5-Trimethylbenzene	3400	0.71	U	1.5	U
1,2-Dichloroethane	61	0.71	U	1.5	U
1,2-Dibromoethane	2.6	0.71	U	1.5	U
Total Xylene	5600	1.7		68	

Building E-SCV-1

Building E	standard	2/21/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	1.1	J	250	=
Toluene	280000	2.8	=	250	=
Ethylbenzene	630	0.37	J	5.2	=
Cumene	22000	0.62	U	0.37	J
Naphthalene	46	1.1	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.4	J	3.6	=
1,3,5-Trimethylbenzene	3400	0.62	U	0.61	J
1,2-Dichloroethane	61	0.62	U	0.68	U
1,2-Dibromoethane	2.6	0.62	U	0.68	U
Total Xylene	5600	1.89		46	

Building E-SCV-2

Building E	standard	2/21/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	4.9	=	0.64	J
Toluene	280000	2.7	=	45	=
Ethylbenzene	630	0.35	J	1.9	J
Cumene	22000	0.69	U	0.81	U
Naphthalene	46	1.3	U	0.92	J
1,2,4-Trimethylbenzene	3400	0.36	J	12	=
1,3,5-Trimethylbenzene	3400	0.69	U	3	=
1,2-Dichloroethane	61	0.69	U	0.81	U
1,2-Dibromoethane	2.6	0.69	U	0.81	U
Total Xylene	5600	1.92		11.8	

Building H4-SCV-1

Building E	standard	2/21/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	720	=,D	1.6	J
Toluene	280000	45	=	44	=
Ethylbenzene	630	3.7	=	1.6	J
Cumene	22000	0.38	J	0.67	U
Naphthalene	46	1.1	U	1.2	U
1,2,4-Trimethylbenzene	3400	1.5	J	0.51	J
1,3,5-Trimethylbenzene	3400	2.7	=	0.67	U
1,2-Dichloroethane	61	0.86	J	0.96	J
1,2-Dibromoethane	2.6	0.62	U	0.67	U
Total Xylene	5600	26		6.9	

Building I1/I2-SCV-1

Building E	standard	2/21/2024		6/12/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	17	=	0.46	J
Toluene	280000	19	=	2.6	=
Ethylbenzene	630	0.7	U	0.43	J
Cumene	22000	0.7	U	0.31	J
Naphthalene	46	0.64	J	0.68	J
1,2,4-Trimethylbenzene	3400	0.42	J	0.59	J
1,3,5-Trimethylbenzene	3400	0.7	U	0.67	U
1,2-Dichloroethane	61	0.7	U	0.67	U
1,2-Dibromoethane	2.6	0.7	U	0.67	U
Total Xylene	5600	1.28		2.24	

Building I1/I2-SCV-DUP

Building E	standard	6/12/2024	
SCV	µg/m³	µg/m³	Qual
Benzene	200	1.1	J
Toluene	280000	3.9	=
Ethylbenzene	630	0.47	J
Cumene	22000	0.28	J
Naphthalene	46	0.61	J
1,2,4-Trimethylbenzene	3400	0.5	J
1,3,5-Trimethylbenzene	3400	0.58	U
1,2-Dichloroethane	61	0.58	U
1,2-Dibromoethane	2.6	0.58	U
Total Xylene	5600	2.39	

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Figure 60: SCV - Building E, H, I

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,563

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 61: PP Soil Gas Sampling Results, [redacted] Firm

[redacted] Firm	standard	3/8/2024		5/6/2024	
PP	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	6.7	=	1	J
Toluene	280000	270	=	5.1	=
Ethylbenzene	630	4.7	=	0.39	J
Cumene	22000	4.3	=	0.52	J
Naphthalene	46	1.3	U	1.3	U
1,2,4-Trimethylbenzene	3400	1.4	J	0.39	J
1,3,5-Trimethylbenzene	3400	1	J	0.72	U
1,2-Dichloroethane	61	0.71	J	0.72	U
1,2-Dibromoethane	2.6	0.73	U	0.72	U
Total Xylene	5600	17.3		1.57	

FIRM-PP-A

Bldg [redacted]
Firm-PP-A

0 25 50 100
US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

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Figure 62: SCV - Building F

F3 (HS)-SCV-1					
F3 (HS)	standard	2/19/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.74	J	1.3	J
Toluene	280000	1.4	J	770	=,D
Ethylbenzene	630	0.73	U	8.9	=
Cumene	22000	0.73	U	0.57	J
Naphthalene	46	1.3	U	1.2	U
1,2,4-Trimethylbenzene	3400	0.34	J	0.72	J
1,3,5-Trimethylbenzene	3400	0.73	U	0.68	U
1,2-Dichloroethane	61	0.73	U	0.68	U
1,2-Dibromoethane	2.6	0.73	U	0.68	U
Total Xylene	5600	1.48		40	

F2 (MF)-SCV-1					
F2 (MF)	standard	2/19/2024		6/10/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	200	0.65	J	0.85	J
Toluene	280000	1.1	J	340	=
Ethylbenzene	630	0.77	U	3.4	=
Cumene	22000	0.77	U	0.68	U
Naphthalene	46	1.4	U	1.1	J
1,2,4-Trimethylbenzene	3400	0.77	U	1.1	J
1,3,5-Trimethylbenzene	3400	0.77	U	0.32	J
1,2-Dichloroethane	61	0.77	U	0.68	U
1,2-Dibromoethane	2.6	0.77	U	0.68	U
Total Xylene	5600	1.46		15.1	

F3(HS)-SCV-1

F2(MF)-SCV-1

0 25 50 100 US Feet

Maxar, Microsoft

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor (SCV)

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

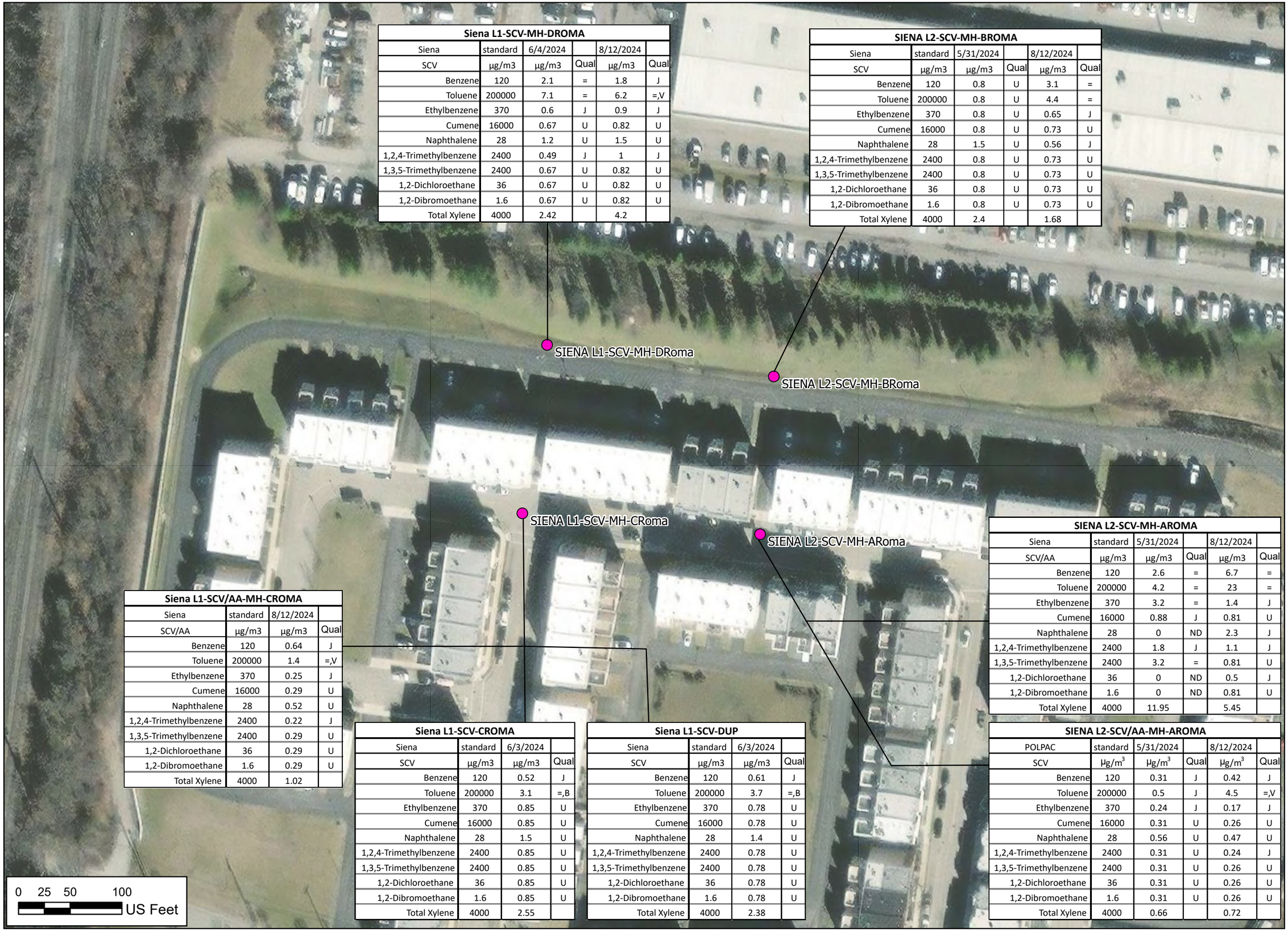
DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is 1/10th of Nonresidential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US



Siena L1-SCV-MH-DROMA

Siena	standard	6/4/2024		8/12/2024	
SCV	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	120	2.1	=	1.8	J
Toluene	200000	7.1	=	6.2	=,V
Ethylbenzene	370	0.6	J	0.9	J
Cumene	16000	0.67	U	0.82	U
Naphthalene	28	1.2	U	1.5	U
1,2,4-Trimethylbenzene	2400	0.49	J	1	J
1,3,5-Trimethylbenzene	2400	0.67	U	0.82	U
1,2-Dichloroethane	36	0.67	U	0.82	U
1,2-Dibromoethane	1.6	0.67	U	0.82	U
Total Xylene	4000	2.42		4.2	

SIENA L2-SCV-MH-BROMA

Siena	standard	5/31/2024		8/12/2024	
SCV	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	120	0.8	U	3.1	=
Toluene	200000	0.8	U	4.4	=
Ethylbenzene	370	0.8	U	0.65	J
Cumene	16000	0.8	U	0.73	U
Naphthalene	28	1.5	U	0.56	J
1,2,4-Trimethylbenzene	2400	0.8	U	0.73	U
1,3,5-Trimethylbenzene	2400	0.8	U	0.73	U
1,2-Dichloroethane	36	0.8	U	0.73	U
1,2-Dibromoethane	1.6	0.8	U	0.73	U
Total Xylene	4000	2.4		1.68	

Siena L1-SCV/AA-MH-CROMA

Siena	standard	8/12/2024	
SCV/AA	µg/m3	µg/m3	Qual
Benzene	120	0.64	J
Toluene	200000	1.4	=,V
Ethylbenzene	370	0.25	J
Cumene	16000	0.29	U
Naphthalene	28	0.52	U
1,2,4-Trimethylbenzene	2400	0.22	J
1,3,5-Trimethylbenzene	2400	0.29	U
1,2-Dichloroethane	36	0.29	U
1,2-Dibromoethane	1.6	0.29	U
Total Xylene	4000	1.02	

Siena L1-SCV-CROMA

Siena	standard	6/3/2024	
SCV	µg/m3	µg/m3	Qual
Benzene	120	0.52	J
Toluene	200000	3.1	=,B
Ethylbenzene	370	0.85	U
Cumene	16000	0.85	U
Naphthalene	28	1.5	U
1,2,4-Trimethylbenzene	2400	0.85	U
1,3,5-Trimethylbenzene	2400	0.85	U
1,2-Dichloroethane	36	0.85	U
1,2-Dibromoethane	1.6	0.85	U
Total Xylene	4000	2.55	

Siena L1-SCV-DUP

Siena	standard	6/3/2024	
SCV	µg/m3	µg/m3	Qual
Benzene	120	0.61	J
Toluene	200000	3.7	=,B
Ethylbenzene	370	0.78	U
Cumene	16000	0.78	U
Naphthalene	28	1.4	U
1,2,4-Trimethylbenzene	2400	0.78	U
1,3,5-Trimethylbenzene	2400	0.78	U
1,2-Dichloroethane	36	0.78	U
1,2-Dibromoethane	1.6	0.78	U
Total Xylene	4000	2.38	

SIENA L2-SCV-MH-AROMA

Siena	standard	5/31/2024		8/12/2024	
SCV/AA	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	120	2.6	=	6.7	=
Toluene	200000	4.2	=	23	=
Ethylbenzene	370	3.2	=	1.4	J
Cumene	16000	0.88	J	0.81	U
Naphthalene	28	0	ND	2.3	J
1,2,4-Trimethylbenzene	2400	1.8	J	1.1	J
1,3,5-Trimethylbenzene	2400	3.2	=	0.81	U
1,2-Dichloroethane	36	0	ND	0.5	J
1,2-Dibromoethane	1.6	0	ND	0.81	U
Total Xylene	4000	11.95		5.45	

SIENA L2-SCV/AA-MH-AROMA

POLPAC	standard	5/31/2024		8/12/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	120	0.31	J	0.42	J
Toluene	200000	0.5	J	4.5	=,V
Ethylbenzene	370	0.24	J	0.17	J
Cumene	16000	0.31	U	0.26	U
Naphthalene	28	0.56	U	0.47	U
1,2,4-Trimethylbenzene	2400	0.31	U	0.24	J
1,3,5-Trimethylbenzene	2400	0.31	U	0.26	U
1,2-Dichloroethane	36	0.31	U	0.26	U
1,2-Dibromoethane	1.6	0.31	U	0.26	U
Total Xylene	4000	0.66		0.72	

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Figure 63: SCV Samples - Siena

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is Residential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

SIENA-PP-B

SIENA	standard	5/30/2024		8/22/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	120	25	=	59	J
Toluene	200000	15	=	490	=
Ethylbenzene	370	3.2	=	140	J
Cumene	16000	1.6	J	25	U
Naphthalene	28	0.61	J	43	U
1,2,4-Trimethylbenzene	2400	1.2	J	200	=
1,3,5-Trimethylbenzene	2400	1.3	J	61	J
1,2-Dichloroethane	36	0.88	J	19	U
1,2-Dibromoethane	1.6	0.74	U	20	U
Total Xylene	4000	9		650	

SIENA-PP-C

SIENA	standard	5/30/2024		8/22/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^4	Qual
Benzene	120	2.5	=	8.4	J
Toluene	200000	23	=	4.7	U
Ethylbenzene	370	1	J	5.5	U
Cumene	16000	0.63	J	5.6	U
Naphthalene	28	1.1	J	9.5	U
1,2,4-Trimethylbenzene	2400	0.8	J	5.4	U
1,3,5-Trimethylbenzene	2400	0.44	J	5.6	U
1,2-Dichloroethane	36	0.3	J	4.3	U
1,2-Dibromoethane	1.6	0.75	U	4.5	U
Total Xylene	4000	5		15.6	

SIENA-PP-D

SIENA	standard	5/30/2024		8/6/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^5	Qual
Benzene	120	23	J	11	J
Toluene	200000	62	=	8.5	J
Ethylbenzene	370	12	J	7.8	U
Cumene	16000	10	U	7.8	U
Naphthalene	28	19	U	14	U
1,2,4-Trimethylbenzene	2400	5.5	J	7.8	U
1,3,5-Trimethylbenzene	2400	10	U	7.8	U
1,2-Dichloroethane	36	10	U	7.8	U
1,2-Dibromoethane	1.6	10	U	7.8	U
Total Xylene	4000	49		23.8	

Siena-PP-A
Siena-PP-B
Siena-PP-C
Siena-PP-D
Siena-PP-E
Siena-PP-F

SIENA-PP-F

SIENA	standard	5/30/2024	
PP	µg/m^3	µg/m^3	Qual
Benzene	120	13	=
Toluene	200000	13	=
Ethylbenzene	370	5.5	=
Cumene	16000	1.5	J
Naphthalene	28	0.99	J
1,2,4-Trimethylbenzene	2400	2.4	=
1,3,5-Trimethylbenzene	2400	1.7	J
1,2-Dichloroethane	36	0.77	U
1,2-Dibromoethane	1.6	0.77	U
Total Xylene	4000	13.9	

SIENA-PP-E

SIENA	standard	5/30/2024		8/22/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	120	44	=	4.4	=
Toluene	200000	9.6	=	-	-
Ethylbenzene	370	2.2	J	1.4	J
Cumene	16000	0.85	J	5.3	=
Naphthalene	28	1.3	U	1.8	J
1,2,4-Trimethylbenzene	2400	2.7	=	0.9	J
1,3,5-Trimethylbenzene	2400	1.6	J	0.4	J
1,2-Dichloroethane	36	0.7	U	0.27	U
1,2-Dibromoethane	1.6	0.7	U	0.28	U
Total Xylene	4000	11.7		5.48	

0 25 50 100 US Feet

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Figure 64: PP Soil Gas Sampling Results, Siena Place

Legend

DSCP VI Air Sample Stations

Sample Type

- Preferential Pathway (PP)

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Preferred Pathway standard is Residential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

POLPAC-SCV-MH-19E

POLPAC	standard	6/4/2024		8/12/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	120	0.43	J	2.1	J
Toluene	200000	0.65	J, B	9.5	=,V
Ethylbenzene	370	0.77	U	2.4	=
Cumene	16000	0.77	U	0.73	U
Naphthalene	28	1.4	U	1.3	U
1,2,4-Trimethylbenzene	2400	0.77	U	4.6	=
1,3,5-Trimethylbenzene	2400	0.77	U	1.3	J
1,2-Dichloroethane	36	0.77	U	0.73	U
1,2-Dibromoethane	1.6	0.77	U	0.73	U
Total Xylene	4000	2.27		11	

PolPac-SCV-MH-Dup

POLPAC	standard	8/12/2024	
SCV	µg/m3	µg/m3	Qual
Benzene	120	2.1	J
Toluene	200000	14	=
Ethylbenzene	370	0.86	J
Cumene	16000	0.77	U
Naphthalene	28	1.4	U
1,2,4-Trimethylbenzene	2400	1.3	J
1,3,5-Trimethylbenzene	2400	0.43	J
1,2-Dichloroethane	36	0.77	U
1,2-Dibromoethane	1.6	0.77	U
Total Xylene	4000	3.3	

PolPac-SCV-MH-19W

POLPAC	standard	6/3/2024		8/12/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	120	1.8	J	0.65	U
Toluene	200000	5.2	=,B	33	=
Ethylbenzene	370	0.48	J, B	4	=
Cumene	16000	0.82	U	0.41	J
Naphthalene	28	1.5	U	0.54	J
1,2,4-Trimethylbenzene	2400	0.4	J	2.9	=
1,3,5-Trimethylbenzene	2400	0.82	U	0.63	J
1,2-Dichloroethane	36	0.82	U	0.65	U
1,2-Dibromoethane	1.6	0.82	U	0.65	U
Total Xylene	4000	2.63		11.63	

PolPac-SCV/AA-MH-19W

POLPAC	standard	8/12/2024	
SCV/AA	µg/m³	µg/m³	Qual
Benzene	120	0.45	J
Toluene	200000	1.2	=,V
Ethylbenzene	370	0.37	U
Cumene	16000	0.37	U
Naphthalene	28	0.68	U
1,2,4-Trimethylbenzene	2400	0.23	J
1,3,5-Trimethylbenzene	2400	0.37	U
1,2-Dichloroethane	36	0.37	U
1,2-Dibromoethane	1.6	0.37	U
Total Xylene	4000	0.74	

PolPac-SCV-MH-PolMoy

POLPAC	standard	6/3/2024		8/12/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	120	13	=	2.1	J
Toluene	200000	61	=,B	4.8	=,V
Ethylbenzene	370	6.3	=,B	1.4	J
Cumene	16000	0.87	J	0.84	U
Naphthalene	28	1.8	U	1.5	U
1,2,4-Trimethylbenzene	2400	2	J	0.71	J
1,3,5-Trimethylbenzene	2400	2	J	0.84	U
1,2-Dichloroethane	36	0.97	U	0.84	U
1,2-Dibromoethane	1.6	0.97	U	0.84	U
Total Xylene	4000	27.8		9.8	

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Figure 65A: SCV - Soil Gas Sampling Results, Pollock-Packer

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

DUP = Duplicate Sample

Note: Sewer Conduit Vapor standard is Residential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

POLPAC-SCV-MH-A					
POLPAC	standard	5/31/2024		8/12/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	120	21	=	11	=
Toluene	200000	23	=	10	=,V
Ethylbenzene	370	79	=	4	=
Cumene	16000	8.5	=	3.6	=
Naphthalene	28	0.85	J	1.5	U
1,2,4-Trimethylbenzene	2400	53	=	3.7	=
1,3,5-Trimethylbenzene	2400	25	=	1.9	J
1,2-Dichloroethane	36	0.46	J	0.74	J
1,2-Dibromoethane	1.6	0.79	U	0.81	U
Total Xylene	4000	179.3		20.3	

POLPAC-SCV-MH-B					
POLPAC	standard	5/31/2024		8/12/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	120	19	=	3.4	=
Toluene	200000	14	=	31	=
Ethylbenzene	370	29	=	3.1	=
Cumene	16000	5.1	=	0.37	J
Naphthalene	28	0.6	J	1.2	U
1,2,4-Trimethylbenzene	2400	27	=	1.6	J
1,3,5-Trimethylbenzene	2400	13	=	0.46	J
1,2-Dichloroethane	36	0.27	J	1.5	J
1,2-Dibromoethane	1.6	0.77	U	0.68	U
Total Xylene	4000	78.5		11.2	

POLPAC-SCV-MH-G					
Siena	standard	5/30/2024		8/12/2024	
SCV	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	120	5.8	=	1.3	J
Toluene	200000	5.5	=	8.8	=
Ethylbenzene	370	2.7	=	0.58	J
Cumene	16000	1.5	J	0.82	U
Naphthalene	28	1.3	U	1.5	U
1,2,4-Trimethylbenzene	2400	4.4	=	1.9	J
1,3,5-Trimethylbenzene	2400	3.4	=	0.77	J
1,2-Dichloroethane	36	0.71	U	0.82	U
1,2-Dibromoethane	1.6	0.71	U	0.82	U
Total Xylene	4000	11.1		3.3	

POLPAC-SCV-MH-C					
Siena	standard	5/31/2024		8/12/2024	
SCV	µg/m3	µg/m3	Qual	µg/m3	Qual
Benzene	120	15	=	2.7	=
Toluene	200000	17	=	8.1	=,V
Ethylbenzene	370	24	=	0.97	J
Cumene	16000	5	=	0.77	U
Naphthalene	28	0.75	J	1.4	U
1,2,4-Trimethylbenzene	2400	30	=	0.66	J
1,3,5-Trimethylbenzene	2400	14	=	0.77	U
1,2-Dichloroethane	36	0.69	U	0.77	U
1,2-Dibromoethane	1.6	0.69	U	0.77	U
Total Xylene	4000	71.6		8.6	

PolPac-SCV-MH-A
PolPac-SCV-MH-B
PolPac-SCV-MH-C
PolPac-SCV-MH-D
PolPac-SCV-MH-E
PolPac-SCV-MH-F
PolPac-SCV-MH-G

0 25 50 100
US Feet

Maxar, Microsoft

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Figure 65B: SCV - Soil Gas Sampling Results, Pollock-Packer

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Sewer Conduit Vapor standard is Residential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,500

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

POLPAC-SCV-MH-19cut					
POLPAC	standard	6/3/2024		8/12/2024	
SCV	µg/m^3	µg/m^3	Qual	µg/m^3	Qual
Benzene	120	6.3	=	2	J
Toluene	200000	7.4	=	5.6	=,V
Ethylbenzene	370	2.3	J, B	0.75	J
Cumene	16000	0.83	J	0.85	U
Naphthalene	28	1.5	U	1.5	U
1,2,4-Trimethylbenzene	2400	1.7	J	0.85	U
1,3,5-Trimethylbenzene	2400	1.7	J	0.85	U
1,2-Dichloroethane	36	0.82	U	0.56	J
1,2-Dibromoethane	1.6	0.82	U	0.85	U
Total Xylene	4000	8.58		2.88	

PolPac SCV-MH-19Cut

0 25 50 100 US Feet

Maxar, Microsoft

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Figure 65C: SCV Soil Gas Sampling Results, Pollock-Packer

Legend

DSCP VI Air Sample Stations

Sample Type

- Sewer Conduit Vapor

µg/m3 = Micrograms per cubic meter

Qual = Data qualifier

U = analyte not detected above limit of detection given

Standards shown are 1/10th of PAL (Project Action Limit)

Note: Sewer Conduit Vapor standard is Residential Sub-slab soil gas Statewide health standard vapor intrusion screening values (SVSS)

N

Scale: 1:1,000

Spatial Reference
Name: NAD83 Pennsylvania South ft
PCS: NAD83 Pennsylvania South ft
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Foot US

APPENDIX A
Vapor Intrusion Sampling Plan

Vapor Intrusion Sampling Work Plan

For the Commercial/Industrial Buildings, Residential Properties and Sewer - Former Defense Supply Center Philadelphia

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

January 2023

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Vapor Intrusion Sampling Work Plan

For the Commercial/Industrial Buildings, Residential Properties and Sewer - Former Defense Supply Center Philadelphia

January 2023

Prepared By:
Arcadis U.S., Inc.
[redacted]

Prepared For:
United States Army Corp of Engineers,
[redacted]

Our Ref:
Contract No. [redacted]
Delivery Order: [redacted]

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Project Manager

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_____

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Program Manager

[redacted]

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Principal Remediation Specialist

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Acronyms and Abbreviations

ACM	asbestos containing material
AHA	activity hazard analysis
AO	Administrative Order
Arcadis	Arcadis U.S., Inc.
BV-BS	bioventing - biosparging
CFR	Code of Federal Regulations
COC	constituent of concern
DLA	Defense Logistics Agency
DSCP	Former Defense Supply Center, Philadelphia, Pennsylvania
HEPA	high efficiency particulate air
LNAPL	light non-aqueous phase liquid
NIR	Notice of Intent to Remediate
OSHA	Occupational Safety and Health Administration
PADEP	Pennsylvania Department of Environmental Protection
PHA	Philadelphia Housing Authority
PID	photoionization detector
QA/QC	quality assurance/quality control
RRP	renovation, repair, and painting
SDS	safety data sheet
SEPTA	Southeast Pennsylvania Transportation Authority
Site	Former Defense Supply Center, Philadelphia, Pennsylvania
SSDS	sub-slab depressurization system
SSS	site-specific standard
SV_{GW}	Statewide Health Standard VI screening values for groundwater
SV_{IA}	Residential SSS screening values for indoor air
SV_{SS}	Residential SSS screening values for sub-slab soil gas
TGI	Technical Guidance Instruction
TGM	Pennsylvania Land Recycling Program Technical Guidance Manual
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

VES	Vacuum enhanced skimming
VI	vapor intrusion
VOC	volatile organic compound

1 Introduction

This Vapor Intrusion (VI) Sampling Work Plan (VI Sampling Plan) has been developed for the Former Defense Supply Center, Philadelphia, Pennsylvania (DSCP; Site) by the SERES-Arcadis 8(a) Joint Venture (JV), LLC (The JV) to define the VI investigation activities that will be implemented to enable path-to-closure decisions for the Site under the Pennsylvania Land Recycling Program (Voluntary Cleanup Program) which was established as Act 2 of the 1995 legislative session (Act 2). Evaluation of VI risk is necessary for completion of the Site remedial investigation and is a component of the Act 2 process that is required per the Administrative Order (AO), dated 10 December 1999, between the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP) and the Department of the Army and DSCP (collectively the Defense Logistics Agency, or DLA).

To maintain compliance with the AO and meet the closure requirements of Act 2, the DLA tasked the United States Army Corps of Engineers, Philadelphia District (USACE) and the JV to provide work plans for the collection of vapor samples to document the updated VI sampling strategy. The scope of work provided by USACE to the JV specified three separate VI work plans, one for the commercial/industrial buildings, one for the residential properties and one for the Pollock-Packer Sewer. For efficiency, these work plans have been combined into one comprehensive VI Sampling Plan for the Site. Since the specific homes requiring VI samples are not yet known, the residential Sampling Plan is generic based on a typical town home at Siena Place. This VI Sampling Plan is written in accordance with the procedures established by the *Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil Under Act 2* (TGM; PADEP 2021).

The Site is generally defined by the land area bordered by Oregon Avenue, South 20th Street, Penrose Avenue, Penrose Ferry Avenue, and South 26th Street located in Philadelphia, Pennsylvania (location shown on **Figure 1**). The work described in this VI Sampling Plan is being conducted to further evaluate the risk to potential receptors via the VI pathway on the properties that are affected, and potentially affected by the Light Non-Aqueous Phase Liquid (LNAPL) present beneath the Site. The LNAPL and related petroleum hydrocarbon constituents of concern (COC) are found in soil and in the shallow groundwater aquifer (approximately 15 to 40 feet below grade).

The properties with a potentially viable vapor pathway affected by the Site LNAPL plume and related COC consists of approximately 60 buildings located on the mixed use commercial or industrial properties on and around the former DSCP, in addition to residential properties within Siena Place, a community of townhomes constructed to the south of the Site (338 total townhomes with vapor barriers). For the purpose of this VI Investigation only, the Site also includes Acme Markets Inc. (Acme) and the Southeast Pennsylvania Transportation Authority (SEPTA) properties located to the east of South 20th Street (**Figure 1**). The reasoning for why VI pathways must be evaluated for these properties was provided in the *Draft Combined Remedial Investigation Report / Cleanup Plan* (Arcadis, 2021).

This VI Sampling Plan proposes a phased approach to the collection of samples for laboratory analysis to evaluate the VI pathway at the commercial/industrial buildings and residential properties at Siena Place potentially affected by the Site petroleum hydrocarbon plume. The VI Sampling Plan sampling strategy for the Subsurface Utility Corridor of the Pollock-Packer Combined Sewer will evaluate the potential risk to receptors in Siena Place via an evaluation of soil gas concentrations in pipe bedding along and near connection points to the Pollock-Packer Combined Sewer, as well as conduit vapor concentrations inside of the Pollock-Packer Combined Sewer and lateral sewer connections to Siena Place.

The types of samples to be collected as part of the VI investigation consist of a combination of near-source soil vapor, potential preferential pathway soil vapor (in pipe bedding and sewer or utility conduits), sub-slab soil vapor, sub-slab depressurization system (SSDS) influent vapor, indoor air, sewer conduit vapor, and ambient air samples to evaluate the potential for the VI pathway to impact indoor air quality. The results of this investigation will be provided in an Addendum to the *Remedial Investigation Report / Cleanup Plan* (Arcadis 2021).

2 Site Summary

2.1 Site History

The largest component of the Site is the Former DSCP Facility, an 87-acre parcel that was owned and operated by the United States Department of Defense from 1918 to 1999. While in operation, the Former DSCP Facility was responsible for the procurement and distribution of food, clothing, and medical supplies to all branches of the armed forces, as well as other authorized federal agencies and foreign countries (Malcolm Pirnie 1999). Production of finished textile products for the United States Armed Forces also took place at DSCP from the 1940s to 1994 (Environ 2002). Prior to initial construction in 1918, the property was reportedly vacant, unimproved land. In 1993, the Base Realignment and Closure Commission recommended the closure of the Former DSCP Facility and in 1999 all remaining administrative operations were relocated to the DLA Troop Support facility located in Northeast Philadelphia, Pennsylvania. To support post-closure redevelopment, the “air rights” to the Former DSCP Facility were transferred to the Philadelphia Authority for Industrial Development in October 2001, which are defined as the ground surface to 10 feet below ground surface. Due to the presence of LNAPL, first identified in September 1987, the Army retained the subsurface rights deeper than 10 feet.

Shortly after the air rights were transferred, the Philadelphia Authority for Industrial Development began selling portions of the Former DSCP Facility for re-development. In October 2001, Quitclaim Deeds were prepared for the “Eastern” and “Western” parcels of the Former DSCP Facility. The Quitclaim Deeds detail the specific petroleum hydrocarbon impact-related redevelopment restrictions and remediation infrastructure requirements (required by the AO) that occupants of structures on the former DSCP must abide by. These include, but are not limited to, permitting egress for ongoing remediation work, restricting any construction or maintenance activities to a maximum of 10 feet below ground surface, and restricting property to commercial/industrial use excluding childcare.

The next largest Site component is the Former Passyunk Homes Property, a 55-acre plot, that was once a public housing project. Developed in the 1940s, the housing project consisted of 96 apartments in 12 three-story buildings and 778 two-story apartments. These structures were demolished in 2002.

The CSX right of way lies between I-76 and the Former DSCP Facility. This land is primarily utilized by CSX for maintenance of the railway itself and for other rail transportation uses. The CSX right of way hosts a rail spur that links to the adjacent former refinery, currently owned by Chicago-based Hilco Redevelopment Partners. This rail spur and adjoining right of way has been railroad property since construction of the Former DSCP Facility. The former Steen property, immediately adjacent to the CSX right of way located on South 26th Street is currently the site of a privately held outdoor advertising agency.

A comprehensive assessment of the buildings on commercial/industrial properties was conducted in 2018 to investigate and document potential VI exposure pathways in Site buildings to support future Site building-specific risk assessment and mitigation activities as necessary. The results of this assessment as well as recommendations for additional VI investigation were included in the *Vapor Intrusion Assessment Report* (Arcadis 2020). The VI Assessment Report specified sample locations for the commercial/industrial buildings to be included in the VI investigation, which consisted of properties with occupied or habitable structures overlying the LNAPL plume, within the proximity distance to the LNAPL plume (per the TGM) or petroleum hydrocarbon constituents in groundwater above PADEP groundwater screening values (SV_{GW}) or having potential preferential pathways that require investigation. PADEP provided comments to the VI Assessment Report in March 2022. This feedback from PADEP, as well as additional information gleaned since the completion of the VI Assessment Report led to revisions to the sequence and strategy of the sample locations and types proposed in the VI Sampling Plan.

2.2 Land Use and Affected Properties

2.2.1 Land Use

The Former DSCP facility buildings located on the Eastern parcels of the Former DSCP Facility are now owned and managed by a private property management entity which leases parcels to commercial and government (state and federal) interests, although some of the buildings are currently vacant. There are no known vapor mitigation systems or engineering controls in place in these former DSCP facility buildings. On the Western parcel portion of the Former DSCP Site (44 acres), a shopping center known as Quartermaster Plaza was constructed in 2004. It currently contains approximately 18 retail stores and four food establishments. Some of these commercial buildings, including the ones closest to the LNAPL plume were constructed with vapor barriers and passive SSDS though as-builts and records of testing for these engineering controls have not been found.

In 2009, an 80,000 square foot office building was constructed on the northern portion of the Former Passyunk Homes Property for use by the Philadelphia Housing Authority (PHA). This PHA building was also constructed with a vapor barrier and a passive SSDS. Photographic records and design drawings exist for the vapor barrier and SSDS installation, but as-builts and records of testing for these engineering controls have not been found. The construction of new privately-owned residential dwellings (Siena Place Homes) was initiated on the remainder of the Former Passyunk Homes property to the South of the PHA building. Currently, there are approximately 338 as part of the development. These town homes are being constructed with vapor barriers constructed of Liquid Boot® applied to the concrete slab foundation. The testing protocol for these barriers consisted of smoke testing and certification by a third-party contractor to verify integrity prior to framing out the wooden structure of the town houses above.

The former Steen property, immediately adjacent to the CSX right of way is currently the site of a privately held outdoor advertising agency. On the property there is an office building, outside storage for materials and supplies, and parking. The use of the property prior to Steen ownership is unknown, and it is not known if any engineering controls are present. This Sampling Plan assumes that no engineering controls are present, but this will be investigated as part of the building assessment conducted prior to sampling.

2.2.2 Commercial/Industrial Properties or Buildings

The rationale for the inclusion of individual commercial/industrial buildings in the VI investigation may be summarized into one of three possible reasons:

1. Properties or buildings within the current (or historical) LNAPL plume or within the proximity distance of 30-feet of the current (or historical) LNAPL plume.
2. Properties or buildings that are outside of the current (or historical) LNAPL plume but have adjacent wells with LNAPL present, limited available groundwater data, or groundwater volatile organic compound (VOC) concentrations above the SV_{GW} for protection from VI.
3. Properties or buildings that are outside of the current (or historical) extent of the LNAPL plume, adjacent wells are below the SV_{GW} for protection from VI, but the potential for preferential pathways exist and require evaluation.

A matrix showing the commercial/industrial properties or buildings included in the VI Sampling Plan listed in groups according to the rationale for inclusion, and the types of samples to be collected is presented in **Table 1.** This table also includes the findings from the VI Assessment as well as the proposed phased sampling and risk assessment approach for each individual building (the sampling approach is discussed in more detail in **Section 3**). Some buildings have been added to the VI investigation that were constructed since the time of 2018 assessment, and other buildings added where access was not previously granted, and an assessment was not completed. For these buildings, an assessment will be conducted prior to sampling. This VI Sampling Plan assumes that the contractor implementing this scope of work will be successful in securing access to all buildings listed except as noted in this plan. Procedures are also provided in the case that building access is denied.

For the purposes of this VI Sampling Plan, the list of individual properties or buildings included in the investigation are grouped according to VI sampling strategy. A flow chart showing the strategy for each group of buildings is included in **Appendix A, Figure 1**. A flow chart showing the VI sampling strategy for any buildings where access has been denied is shown in **Appendix A, Figure 2**. The locations of the commercial/industrial properties and buildings, VI samples proposed, and the location of potential preferential pathways are shown on **Figures 1 through 5B**. The individual properties or buildings included in the commercial/industrial VI investigation and a summary of the initial VI investigation strategy are listed below:

- Group 1 - Buildings with vapor barrier and passive SSDS which are either over the current (or historical) extent of LNAPL or have the potential for preferential pathways:
  - BJ's
  - Home Depot
  - PHA
  - J – Pet Smart
  - N – Vacant
  - O – Vacant (potentially part of Planet Fitness)
  - P – Planet Fitness, Novacare and H&R Block
- Group 2 – Buildings that are over the current (or historical) LNAPL plume within the 30-foot proximity distance to the site LNAPL. This Sampling Plan assumes that no engineering controls are present in these buildings, but this will be investigated as part of the building assessment conducted prior to sampling:
  - Building 8
  - Building 6

- Building 9
- Building 11
- Building 12
- Building 13
- Building 14
- Building 30
- VES Building
- Former Steen Building
- PHA Gym

- Group 3 - Buildings fall into three categories: 1) Buildings that have adjacent wells with LNAPL present, 2) Buildings with limited available groundwater data, or 3) Buildings with groundwater VOC concentrations above the SV_{GW} for protection from VI. This Sampling Plan assumes that no engineering controls are present in these buildings, but this will be investigated as part of the building assessment conducted prior to sampling.
  - The Group 3 buildings with adjacent wells with LNAPL present are:
    - Aldi's (formerly Vacant Lot 2)
  - The Group 3 buildings with Limited available groundwater data are:
    - Acme Supermarket
    - SEPTA Building
  - The Group 3 buildings with groundwater VOC concentrations above the SV_{GW} for protection from VI are:
    - E – Jim's Enterprises
    - 3) E – Liberty Camera Company
    - 3) E – Leones Computer
    - 3) P. Agnes Moyamensing
    - 3) Building 15
- Group 4 - Buildings that are outside of the current (or historical) extent of the LNAPL plume, adjacent wells are below the SV_{GW} for protection from VI, but the potential for preferential pathways exist and therefore require evaluation. Screening preferential pathways at Group 2 and Group 3 buildings may be used to screen out Group 4 buildings. The Group 4 buildings are:
  - E (Quartermaster Plaza) – Staples
  - I1 – Dress Barn
  - I2 – Kicks USA
  - H1 – Verizon
  - H2 – The Children's Place
  - H3 – Payless Shoes
  - H4 – Mad Rag
  - H5 – Vacant
  - F2 – [redacted] Firm
  - F3 – Casual Male XL
  - Raddison Hotel
  - P. Agnes Penrose

- Group 5 – Buildings are farthest from the LNAPL plume, are outside of the current (or historical) extent of the LNAPL plume, have adjacent wells that are below the SV_{GW} for protection from VI but still have the potential for preferential pathways. Due to their distance from the LNAPL plume, VI Sampling at these buildings may not be necessary if preferential pathways are not confirmed during sampling at buildings in Groups 3 or 4 closer to the source. The Group 5 buildings are:
  - R – Game Stop
  - R – Edible Arrangements
  - R – Dominos Pizza
  - R – Foot Locker
  - B – Bank of America
  - C – Chilis
  - D – Walgreens
  - A – Wendy's
- Properties that are currently vacant lots with no habitable structures onsite will not be evaluated as part of the VI Sampling Plan as VI risk will be mitigated by institutional controls. The current list of vacant lots at the Site are:
  - Lot 3
  - Lot M
  - Lot L
  - Lot S

2.2.3 Residential Properties with Vapor Barriers – Siena Place Homes

The only residential properties that this VI Sampling Plan applies to are the Siena Place Homes community which are constructed with vapor barriers. Vapor barriers consisting of a geotextile fabric coated with Liquid Boot® applied to the concrete foundation of the crawl space were installed and then smoke tested by a third party certifying that the vapor barrier was effective prior to construction of the timber-framed town home (unit) above. There are approximately 338 completed town homes in the Siena Place Homes development. Since the specific units requiring evaluation are not yet known, the residential VI Sampling Plan is generic and based on the typical Siena Place town home. The VI Sampling Plan for a typical Siena Place town home consists of a home assessment followed by indoor air sampling and ambient air sampling at each unit deemed necessary. Due to the vapor barriers at Siena Place Homes, sub-slab soil gas samples will not be utilized so as not to compromise the vapor barrier. However, the VI Sampling Plan for Siena Place Homes will be initiated on specific units based on the findings of the sewer pathway evaluation discussed in **Section 2.2.4,** and VI samples are not proposed for each home in Siena Place as the vapor barriers mitigate the risk of VI from the subsurface. There are no other residential properties within the Site that require a VI investigation based on the shallow groundwater screening. If a future VI investigation were to include residential properties outside of Siena Place, then a separate VI sampling plan will need to be developed for those properties.

2.2.4 Subsurface Utility Corridor - Pollock-Packer Combined Sewer

The Pollock-Packer Combined Sewer is a subsurface utility corridor that crosses the Site generally East to West along the former alignment of Pollock Street and Packer Avenues on what is now the PHA property, the Sienna Place Homes, and the former Steen Property before intercepting the 26th Street Sewer along the South 26th Street alignment and then crossing into the former refinery property. As can be seen on **Figure 6** the Sewer bisects the Site through areas with LNAPL and elevated concentrations of Site COCs. The sewer installation also cut through the naturally occurring silt later found between 10 and 15 feet below grade at the Site, and for this reason is believed to be the conduit along which LNAPL originally migrated. Prior investigations into the Sewer conducted by PADEP and USACE confirmed the presence of LNAPL in the sewer and or VOC vapor related to the LNAPL plume within the sewer.

A sewer venting system is operated by the former refinery adjacent to the Site as an engineering control for the vapor in the sewer from the hydrocarbon plumes from both DSCP and the former refinery. This VI Sampling Plan also includes a sampling strategy for the Pollock-Packer Combined Sewer to evaluate the potential migration of vapors along this preferential pathway. Both conduit samples of vapor inside of the sewer, and soil vapor in pipe bedding on Siena Place along the sewer and lateral connection points to the sewer will be evaluated.

Sewer access manhole locations are shown on **Figure 6**. One of the manholes to be accessed is located on the former Steen property, the remainder are located on the PHA property or in the Philadelphia right-of-way at 19th Street and Moyamensing Avenue located to the east of the Site. Conduit vapor samples will also be collected at manholes and cleanouts located on Siena Place along sanitary sewer laterals that connect to the Pollock-Packer Combined Sewer as proposed in **Table 2**. Analytical data from these conduit vapor samples will be compared to data provided by the operator of the sewer venting system, Evergreen Environmental Services (Evergreen), as well as investigative activities being conducted by Evergreen for the former refinery property. Concentrations of VOCs in the Sewer compared to the sewer venting system inlet will be used to evaluate the effectiveness of the sewer venting system. The analytical results of conduit vapor samples taken from the laterals on Siena Place will be utilized to evaluate a potentially complete VI pathway to the residential properties on Siena Place from these sewer laterals.

The second part of the Sewer investigation will be to evaluate preferential pathways along pipe bedding located around the sewer laterals that cut through the silt layer above the water table when Siena Place Homes were constructed. To evaluate these potential preferential pathways, a direct push drill rig will be utilized to collect soil vapor samples from the pipe bedding materials around the sanitary sewer connection points which could pose a complete VI pathway to specific groups of homes in Siena Place. The locations of these sewer laterals are not fully known, therefore a utility locator service will be used to assess the location of the sewer conduit and where pipe bedding samples will be collected. In addition to utility location services, soft dig technology such as an air-knife will also be used to locate the sewer or other utility conduits. The direct push drill rig will then be utilized to install the sample probe directly adjacent to the air knife location along the utility, in undisturbed soil.

2.2.5 Access Coordination

It is anticipated that the Contractor performing the VI Investigation sampling will coordinate logistics for access to the sample locations with the respective owners during the implementation of the VI sampling activities.

Coordination with the USACE Baltimore District Real Estate, USACE Philadelphia District and the DLA Public Affairs Office will be necessary to successfully complete the VI Sampling Plan. Care should be taken when reviewing existing access agreements to confirm proper notification procedures (i.e., number of business days in advance) and if existing agreements include intrusive work.

At the time of this work plan, the status of access (access agreements and quit claim deeds, as applicable) for the industrial/commercial buildings/property under consideration are included in **Table 1**. A copy of all existing access agreements will be provided by the USACE Baltimore and Philadelphia districts. There are no existing access agreements in place for private residential properties.

For those properties with valid access agreements, notification letters will be sent to all property owners and tenants at a minimum, 72 hours prior to the planned building entries (5 days for the former Steen property). Specific building entries will be scheduled with the owner/tenant.

Numerous commercial properties do not have valid or existing agreements in place for entry to buildings or businesses. They include PHA, PHA Gym, SEPTA, Acme, the former Steen property, and Jim's Enterprises, which includes the businesses of Liberty Camera Company, and Leone's Computer. PHA access can be granted through the PHA easement that grants DLA access; however, a review of this agreement is advised. PHA Gym does fall under the PHA easement; however, it is believed to be leased by the DePaul Group to South 23rd Associates. Jim McGinty of Jim's Enterprises will need to be contacted for access to Jim's Enterprises.

The Contractor should be aware that access to the SEPTA property is unlikely and therefore be prepared to proceed with the VI Investigation procedures for no access outlined below.

Acme access is available but will need coordination with the USACE Baltimore District Real Estate.

Access to private properties (i.e., Siena Place Homes or other privately occupied buildings) does not exist. Additional coordination with the USACE Baltimore District Real Estate will be needed to secure access.

Proper notification and access will be needed to support the sewer utility corridor VI Investigation.

There are samples proposed within public right-of-ways as part of this VI Sampling Plan. Samples on public streets (such as those proposed on South 20th Street or Roma Drive) within the City of Philadelphia require lane closure permits, traffic control plans and hiring the Philadelphia Police Department to regulate traffic.

2.2.6 VI Sampling Plan if Access is Denied

As discussed, the VI Sampling Plan assumes that access will be obtained for all buildings or properties where samples are proposed in accordance with **Table 1**, as well as any residential properties evaluated to require VI Sampling. However, there are properties where access is unlikely to be granted such as the SEPTA bus terminal located on South 20th Street. For these properties a process has been developed for obtaining VI samples that do not require access to the building, such as relying on near source and external preferential pathway samples collected in public right of ways. A flow chart of the process is included in **Appendix A, Figure 2**. In the case of any building where access is not given, the contractor will collect at least two near source samples from the right of way close to the property, and two additional external preferential pathway samples from pipe bedding within the preferential pathway (if warranted). These samples will then be used in concert with groundwater data to model the indoor air concentrations utilizing attenuation factors from the PADEP TGM (PADEP 2021a), the PADEP

spreadsheet version of the Johnson & Ettinger Model (PADEP 2021b), or the literature for use in human health risk assessment.

If the risk assessment finds that calculated risks are less than or equal to PADEP human health protection goals, then no further action will be taken. If calculated risks are greater than PADEP human health protection goals, then further evaluation will be conducted. Additional attempts to gain access will be made so that additional samples (e.g., sub-slab soil gas, preferential pathway bedding or conduit samples, indoor air samples) may be collected. If access is still denied to this building after multiple attempts, then the contractor will perform their due diligence by documenting that access was requested and denied by the property owner, so that a waiver from PADEP can be requested for that property.

2.3 Remedial Status – LNAPL Remediation

Active remediation has been ongoing at the Site since 1996. Remedial activities conducted prior to the third quarter of 2011 were mainly focused on direct recovery of LNAPL in the liquid phase utilizing various techniques which were successful in removing a majority of the readily recoverable LNAPL from the Site. Initial recovery efforts conducted by USACE utilized mainly vacuum extraction truck recovery of LNAPL and water, as well as periodic skimming and pump testing to recover LNAPL. In March 1999, operation of an expanded LNAPL skimming system commenced. The expanded system included two separate fixed pneumatic LNAPL skimming systems at the Former DSCP Facility and the Former Passyunk Homes Property (the PHA Property). This system was upgraded again in 2005 to become the Vacuum Enhanced Skimming (VES) system which is actively being used for remediation. From 2004 to the Third Quarter of 2011, the VES system had been operated using a low vacuum to increase LNAPL thickness in wells to enhance skimming of LNAPL in the liquid phase.

To comply with the LNAPL remediation requirements of the AO, and to enable a path to Site closure under the Act 2 program, several improvements and optimizations to the Site's remediation systems and associated remediation strategy have been implemented since the initiation of LNAPL remediation at the Former DSCP Facility. Starting in the Third Quarter 2011 the VES system was optimized to focus on a subgroup of wells at higher vacuum to increase LNAPL recovery in the vapor phase and to promote in-situ bioremediation. This optimization of the VES system led to dramatic increases in both mass recovery in the vapor phase and mass destroyed in situ by way of aerobic bioremediation. A bioventing-biosparging (BV-BS) pilot system was installed in 2018 into 2019 to accelerate in-situ bioremediation while testing BV-BS in one area of the site. A 6-month period of performance for the BV-BS pilot commenced on 06 March 2019 and ended on 05 September 2019, however the BV-BS pilot system remains online due to favorable results of this pilot study. The overall remedial strategy for the Site is to continue LNAPL remediation until the remedial goal of LNAPL stabilization (reduction in LNAPL transmissivity to below Interstate Technology and Regulatory Council recoverability guidance, and reduction in LNAPL toxicity) is met and potential exposure and risk to nearby receptors are within PADEP human health protection goals.

2.3.1 Regulatory Status

In 1987, the DLA notified the PADEP of the discovery of petroleum hydrocarbon contamination beneath the Former DSCP Facility, and in 1988 subsurface investigations into the source and nature and extent of the impacts began. In 1996, the United States and [then] Sunoco entered into a Consent Order and Agreement with the PADEP to collectively remediate the subsurface LNAPL impacts delineated between 1988 and 1995. The 10 December 1999, PADEP-issued AO required the DLA to remove petroleum hydrocarbon LNAPL to the "maximum extent practicable",

and to attain "one or a combination of the remedial standards set forth in the Land Recycling Act and the regulations found in 25 Pa. Code Chapter 250" (i.e., enter the Act 2 program). To formally enter the Site into the Act 2 program, a Notice of Intent to Remediate (NIR) was submitted to the PADEP in 2004 for a proposed Act 2 Site with a smaller footprint than that shown on **Figure 1**. The 2004 NIR was superseded by a second NIR submitted on 14 April 2017. The 2017 NIR identifies a site-specific standard (SSS), exposure pathway elimination-based path to closure. The standards identified in the NIR reflect the current conceptual site model, the results of remediation efforts and the proposed combination of in-situ remediation and engineering and institutional controls.

To refine the Site remedial approach and to support a comprehensive Site path to closure for all media impacted by petroleum hydrocarbons, various subsurface characterization activities have been conducted. Details on remediation system improvements, optimization strategies, characterization activities as well as updates to the conceptual site model were also reported to the PADEP in quarterly reports as part of AO quarterly reporting requirements.

A combined Remedial Investigation Report and Cleanup Plan was submitted by Arcadis in 2021 which detailed the nature and extend of the petroleum hydrocarbon plume onsite as well as remedial efforts past, current and proposed. This report was disapproved in September 2022. This VI Sampling Plan has been provided to describe the scope of work necessary to evaluate the VI pathway.

2.4 Environmental Conditions

The Site's environmental concerns are associated with the petroleum hydrocarbon COC including LNAPL present onsite above and below the local groundwater table ("trapped LNAPL") and at depths ranging generally from 15 to 40 feet below ground surface. The LNAPL is a middle petroleum distillate similar to a mix of weathered gasoline, aviation gasoline and jet fuel but not necessarily derived from a finished product. Each of the media of concern are discussed briefly in the sections below.

2.4.1 LNAPL

Petroleum hydrocarbon COCs and LNAPL are present in the shallow aquifer at the Site. The current distribution of LNAPL appears to be constrained within an elongated area, following an east-west trend. The extent of the Site's LNAPL as of the Third Quarter of 2022 is shown on **Figure 7**, from the *Third Quarter 2022 Progress Report* (SERES-Arcadis JV 2022). LNAPL is observed largely within the breach area, in now discontinuous, but approximately linear orientation and trending in a southwest to northeast direction. The greatest measured LNAPL thicknesses are observed down the center of the breach in a narrow linear feature also trends southwest to northeast. The measured LNAPL thins to the northwest and southeast and appears to be bounded by the Sewer to the south. The spatial limits of the Site's LNAPL have been affected by ongoing product removal, natural attenuation, and water table fluctuations.

The maximum historical extent of LNAPL (as shown in a Foster Wheeler Environmental Corporation figure dated October 28, 2002), is overlain on the VI Sample location **Figures 3A through 5B**. This historical LNAPL extent reaches north to MW-16, east to MW-12, south to MW-46 (close to Hartranft Street), and west along the former Steen property joining with the LNAPL plume on the former refinery. Historical LNAPL extent has stabilized spatially and not extended beyond what is shown in the figures mentioned above. The record of historical LNAPL thickness includes measurements up to a maximum of 4.98 feet (measured at EPH-MW-39 in 2001); however, Sitewide

average product thickness and the number of wells with any measurable thickness have decreased due to Site remediation efforts. In December of 2022, the maximum LNAPL thickness was 1.3 feet at DSCP-MW-33, and the average LNAPL thickness was 0.46 feet in the 18 wells with measurable LNAPL thickness. Notably, the measurement of LNAPL thickness in monitoring wells is "fraught with uncertainty" (Interstate Technology and Regulatory Council 2018), and particularly so in the practice of estimating the remaining recoverable LNAPL.

2.4.2 Shallow Groundwater

Petroleum hydrocarbon COCs and LNAPL are present in the Site's shallow aquifer zone and dissolved COCs are present in the underlying deep aquifer zone (approximately 40 feet below grade down to as deep as 100 feet below grade). The location of Site LNAPL as defined by inferred thickness-based contour maps provided in quarterly reports (and as shown on **Figure 7**) is coincident with the area where the upper and lower aquifer is hydraulically connected (through a breach in the clay unit that separates them elsewhere on the Site). This spatial relationship is central to the rationale for the type of sampling performed and the planned demonstration of long term LNAPL stability evaluations.

Shallow aquifer zone dissolved phase COC data from wells located within the breach area indicate stable trends over time. Like the LNAPL, the COCs distribution suggests a spatially stable shallow aquifer zone impact area composed of lighter end (e.g., gasoline to middle-distillate) constituents above the central and western portions of the breach, with generally lower concentrations of these constituents elsewhere beneath the Site. These areas are also coincident with an area of the aquifer with downward vertical gradients as indicated by quarterly reported measurements obtained from paired shallow and deep aquifer zone wells. Isoconcentration contours for Benzene, the primary VI risk driver from the LNAPL plume is shown on **Figure 6**.

The extent of dissolved COCs extends father to the southeast in the deep aquifer zone than the shallow aquifer, however only the shallow aquifer zone is relevant to the evaluation of the VI pathway.

2.4.3 Vapor Intrusion Pathways

Petroleum hydrocarbon COCs may volatilize from groundwater and/or LNAPL and enter the vadose zone where they may then migrate radially in all directions from the source medium, including upwards through vadose zone soils towards overlying buildings via diffusion. A secondary mechanism by which COC vapors may migrate into nearby buildings within or near the LNAPL plume is through preferential pathways. PADEP VI Guidance (PADEP Land Recycling Program Technical Guidance Manual [TGM], Section IV – Vapor Intrusion, January 2019) defines two types of preferential pathways: 1) an external preferential pathway that does not penetrate the building foundation (e.g., permeable bedding material around a utility line); and 2) an external preferential pathway that enters the building (e.g., utility conduits). The underground utilities with the most likelihood of potentially conveying vapors are the storm and sanitary sewers, since recent utility installations cut through the silt layer located above the water table across much of the site, creating large pathways through the historical extent of LNAPL, and the potential current (or historical) direct interaction between groundwater/LNAPL and the sewer conduits. An engineering control (i.e., active venting of sewer vapors) to reduce vapor transport through the sewer is operated by Evergreen on the former refinery adjacent to the Site. However, the effectiveness of this control of vapors within

the sewer and lateral conduits as well the potential of preferential pathways outside of the sewer (in pipe bedding) to Siena Place must be evaluated.

2.5 Proposed VI Remedial Approach

Prior investigative work at the Site indicated that there was a potential for the VI pathway to be complete; therefore, a Site building by building assessment, exclusive of the Siena Place portion of the Site (i.e., the residential area currently under development) was performed from 2018 through 2020. The result of this assessment, documented in the *VI Assessment Report* (Arcadis 2020) concluded the following:

- Numerous VI pathways exist in the former DSCP facility buildings which underlie including gaps in foundations, open sumps, and drains.
- Several buildings constructed on the Site as part of redevelopment have vapor barriers and passive SSDS installed. However, records of as-builts or testing after installation were not able to be located and may not exist.
- Preferential pathways on the former DSCP facility include sewers, but also include tunnels for steam, fuel oil and other utilities crossing much of the Site. These preferential pathways may be complete VI pathways for the newer buildings on Site.
- Exterior assessments of buildings without access were conducted and found similar potentials for complete VI preferential pathways.

This VI Sampling Plan builds on the findings of the 2018 VI Assessment. The remedial strategy for estimated VI risk greater than PADEP human health protection goals assessed as a result of this VI investigation will be pathway elimination by the use of engineering controls (i.e., sealing of pathways and the installation of VI mitigation systems, such as active SSDS) and implementation of institutional controls, as necessary, to maintain compliance with the Site Remedial Strategy. Several of the commercial/industrial buildings as well as the Siena Place Homes have some form of VI engineering control in place such as vapor barriers and or passive SSDS. The actions described in this VI Sampling Plan will be utilized to confirm the effectiveness and necessity of these existing controls, and to recommend where other engineering controls will be required to mitigate complete VI pathways. Any building outfitted with an engineering control will be included in the VI pathway portion of the post remedial care plan. All parcels where engineering controls are used to mitigate vapor risk (SSDS, passive SSDS, and or vapor barriers) will require parcel by parcel covenants in compliance with the PADEP Act 68 Uniform Environmental Covenants Act (PADEP 2007) to ensure that the controls are maintained as needed.

SSDS will be installed by a PADEP-certified installer for mitigation systems pursuant to 25 Pennsylvania Code Chapter 240 and will be equipped with infrastructure meeting the design requirements of American National Standards Institute/American Association of Radon Scientists and Technologists Soil Gas Mitigation Standards in Existing Homes SGM-SF-2017. And design for a new SSDS or retrofits to existing systems in any Site building or residence will be stamped by a Licensed Professional Engineer in the Commonwealth of Pennsylvania.

3 Vapor Intrusion Pathway Sampling

The VI sampling approach for the Site is broken out into three major efforts: the commercial buildings, the residential buildings, and the sewer and subsurface utility corridors. The investigation strategy for each of these major efforts consists of a phased approach to the evaluation of the VI pathway starting with the properties or parcels located

either overtop of or closest to the current or former extent of LNAPL. Structures with the highest risk or suspected vapor entry points (as discussed in **Section 2.5**) will be prioritized. The investigation will then step outward to the properties or parcels further from the current (or historical) extent of LNAPL but near monitoring wells with groundwater concentrations above the $SV_{GW,}$ or incomplete data and potentially having preferential pathways requiring evaluation. Finally, the investigation will move to the properties or parcels farthest from the plume but have previously identified potential preferential pathways due to connection to the Sewer and other utilities.

The commercial/industrial investigation is based on the results of the assessments detailed in the 2020 VI Assessment Report (Arcadis 2020), with some changes that include additional buildings that have been built after the publication of the 2020 VI Assessment Report (e.g., Aldi's replaces Vacant Lot #2), and locations that previously had access issues. Building assessments will be completed as part of this VI Sampling program. Residential properties were also not assessed during the VI Assessment phase. Building assessments will be conducted on any residence requiring VI Samples as part of this VI Sampling program. The need for VI Sampling in the Siena Place residences and the number of homes requiring VI sampling is unknown. For this reason, the sampling approach for the residences is based on a typical town home in the Siena Place Homes, and not based on any specific home. The sewer investigation approach is based mainly on evaluating the sewer and its connection points as a preferential vapor pathway to Siena Place residences in both pipe bedding and conduit vapor inside of the sewer. An evaluation of the conduit vapor from inside of the sewer with respect to effectiveness of the sewer venting system is a secondary purpose of this effort.

All phases of VI samples consist of two rounds of samples (an initial sample round and a confirmatory sample round) conducted at least 45 days apart. Both rounds of indoor air sampling will target collection during the heating season when there is a difference of greater than 15 degrees Fahrenheit between the ambient temperature and the indoor temperature. Sewer conduit samples must be collected mid-day (between the hours of 9AM and 3PM) and not during or after 48 hours from a rainfall event.

3.1 Commercial/Industrial Building Sampling Approach

Each group of buildings will be sampled in phases to fully evaluate the VI pathways. A flow chart showing the strategy for each group of buildings is included in **Appendix A, Figure 1.** The sampling phases within each group of buildings (e.g., Group 1 through Group 5) differ, each honoring the differing criteria that apply to the specific group. Phase 1 sampling will be performed first; if the Phase 1 group-specific samples indicate a human health risk exists based on reported concentrations in excess of PADEP Vapor Intrusion Screening Values, then Phase 2 sampling will be conducted. Similarly, if Phase 2 sampling indicates a human health risk exists, Phase 3 sampling will be conducted. However, if no human health risk is indicated after any phases of sampling, then no further action is necessary. At any point during the planned investigation, the decision to bypass additionally investigative sampling and move directly to mitigation system design and installation can be elected.

For the purposes of this VI Sampling Plan, it is assumed that access will be granted for all buildings requiring VI Samples in accordance with **Table 1**. However, a flow chart is also provided showing the VI sampling strategy for any building where access has been denied (see **Appendix A, Figure 2)**. The type and number of samples proposed for each individual building is shown in the VI Investigation Matrix for Commercial/Industrial Buildings (**Table 1)**. The locations of the buildings as well as the proposed locations of each sample to be collected (if known) are shown in **Figures 3A through 5B**. These figures show the location of samples relative to utilities and other suspected preferential pathways. Each set of figures present views of different areas of the Site, with and without

historical utility corridors overlain on the figure, as well as the historical extent of LNAPL. Sample locations are approximate and are likely to be field modified based on a building assessment conducted after utility location, and possibly again on the day of sampling by the field staff if sampling obstructions are encountered.

3.1.1 Group 1 Buildings (J, N, O, P, BJ's, Home Depot and PHA)

The Group 1 buildings are constructed with vapor barriers and passive SSDS collection systems. These systems were designed and installed by the developers of the Quartermaster Plaza and the PHA property. Document reviews have located design drawings for these systems, as well as photographic documentation in the case of the PHA building, but no as-builts or records of testing have been located. For this reason, the purpose of the VI Sampling of Group 1 buildings is to confirm the effectiveness of these engineering controls. The VI Sampling strategy involves sampling sub-slab vapor by collecting samples from within the passive SSDS collection piping and comparing the analytical results to that of samples taken in indoor air and ambient air concurrently. Phase 1 sampling consists of the collection of indoor air samples and samples of the vapor within the SSDS collection system in each building.

Indoor air samples should be collected first, over an 8-hour or 24-hour period, depending on Site access and coordination with the building tenants in accordance with the procedures shown in **Section 3.4.5**. For the purposes of estimating the scope of work, a minimum of five indoor air samples are proposed for each building, however the actual number of samples could be greater or less depending on a building assessment to be conducted by the contractor prior to collecting the indoor air samples following the procedures in **Section 3.4.4**. For the PHA, Home Depot and BJs buildings, two samples will be collected in large open areas of the building, with an additional three samples to be collected in bathrooms and other enclosed areas.

As soon as possible following the completion of indoor air samples, vapor samples will be collected from the vapor in the SSDS collection system within each building following the protocol discussed in **Section 3.4.3**. For the purposes of estimating the scope of work, two samples have been proposed from the SSDS piping, however the actual number of samples will depend on a field assessment and review of engineering drawings to better understand how the piping is connected. This assessment will be conducted by the contractor prior to collecting samples. The sub-slab samples from the SSDS piping will be screened against Non-residential SSS sub-slab screening values (SV_{SS}). Indoor and ambient air samples will be compared to the Non-residential SSS indoor air screening values (SV_{IA}).

The SSDS in each building will be considered to be effective if the analytical results of the indoor air samples are below the Non-residential SSS (SV_{IA}). If COCs are found in the indoor air at concentrations exceeding the Non-residential SSS SV_{IA}, then human health risk assessment calculations will be conducted to evaluate potential risk to building occupants. If calculated risks are greater than the applicable PADEP human health protection goals, then additional investigative activities will be conducted to evaluate the cause. Smoke testing or tracer gas testing or additional indoor air or sub-slab samples may be utilized to pinpoint issues with SSDS piping and provide recommendations for modifications design and construction of retrofits to the SSDS will be implemented. One potential action will be to add fans to the existing SSDS risers to convert the system to an active SSDS.

3.1.2 Group 2 Buildings (8, 11, 12, 13, 6, 9, 14, 30, VES, former Steen property, and PHA Gym)

Group 2 buildings are on properties that are located either overtop of the current (or historical) extent of the LNAPL plume or are within the 30 feet proximity distance to the current (or historical) extent of the LNAPL plume. No VI mitigation controls are present in these buildings. The result of the previously conducted assessment for these buildings documented in the VI Assessment Report (Arcadis 2020) concluded:

- Numerous VI pathways exist in the former DSCP facility buildings which underlie including gaps in foundations, open sumps, and drains.
- Preferential pathways on the former DSCP facility include sewers, but also include tunnels for steam, fuel oil and other utilities crossing much of the Site. These preferential pathways may be complete VI pathways for the newer buildings on Site.
- Exterior assessments of buildings without access were conducted and found similar potentials for complete VI preferential pathways.

The VI Sampling strategy for the Group 2 buildings is intended to be more aggressive than the other groups of buildings because of their location over the current (or historical) extent of the LNAPL plume and due to the potentially complete VI pathways found during the assessment phase. Because the VI sampling strategy is catered to each individual building based on the assessments, the type and location of samples proposed for each individual Group 2 building varies. **Table 1** should be referenced for the type and number of samples proposed for each Group 2 building.

The overall strategy for the Group 2 buildings involves sampling sub-slab vapor wherever possible and collecting samples of potential external preferential pathways found during the assessment phase such as samples collected from conduits and utility pipe bedding. Indoor air and ambient air samples will also be collected concurrently in Phase 1 in buildings where VOCs were found in field screening during the assessment phase and or in buildings where tenants have reported odor issues in the past (such as in the former DSCP facility Buildings 6, 9 and 12). Most of these buildings feature slab-on-grade construction; however, some of the former DSCP facility buildings have basements and tunnels connecting them. Building 9 in particular has a deep basement that may intersect the water table in sumps below elevator shafts, and it also has a floor that is constructed of 43-inches of reinforced concrete, both of these factors make sampling of sub-slab impractical in Building 9. Due to these challenges, Phase 1 sampling for Building 9 consists of exterior near source soil gas samples (e.g., exterior samples proximal to building walls), exterior preferential pathway samples from utility conduits or pipe bedding, and indoor air samples. Groundwater samples will also be collected from sumps where standing water is observed in these buildings.

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Some of these former DSCP facility buildings such as

Buildings 6, 9 and 13 have ventilation fans running in the basement or lowest floor of the building. These ventilation fans must be off when indoor air samples are collected. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

If COCs in the analytical results of the sub-slab soil gas, near source soil gas, conduit vapor, or pipe bedding preferential pathway samples are found to be in exceedance of the screening values, a site-specific risk assessment will be conducted for that building. If calculated health risks are greater than PADEP human health protection goals, or if COCs in indoor air are in exceedance of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

3.1.3 Group 3 Buildings (Aldi's, E/Jim's, Raddison, P. Agnes buildings, 15, Acme, SEPTA)

Group 3 buildings are all located on properties that are outside of the current (or historical) LNAPL plume but have adjacent wells with LNAPL, limited available data, or where groundwater COCs are above the groundwater screening values SV_{GW}. There are no known VI mitigation controls present in these buildings. The assessment phase found varying construction methods for these buildings, potential preferential pathways in the form of sewer and other utility penetrations leading to the buildings, but no known complete VI pathways. Because the VI Sampling strategy is catered to each individual building based on the assessments, **Table 1** should be referenced for the number, type and location of samples proposed for each individual Group 3 building.

The overall strategy for the Group 3 buildings involves sampling of exterior preferential pathways (in utility pipe bedding, and potential vapor conduits), and near source soil gas as part of the Phase 1 followed by preparation of a site-specific risk assessment. Preferential pathway samples along sewer connections will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. These preferential pathway samples will be conducted from where the pathway is nearest the LNAPL plume first, heading towards the building in question to confirm or screen out the utility in question as a complete VI pathway for individual buildings.

If the analytical results of Phase I sampling confirm an exceedance of the SV_{SS} in soil gas samples collected within the bedding material of nearby utilities and conduit vapor samples for a building in Group 3 then Phase 2 samples will be collected at that building involving the collection of sub-slab soil gas and indoor air samples. One exception to this strategy is that no sub-slab vapor pins will be installed buildings constructed with a vapor barrier such as the Aldi's on Oregon Avenue. In these cases, near source soil gas and preferential pathway samples will be collected in Phase 2. One exception to this sequence is that if an exceedance of the SV_{SS} is detected within a vapor conduit sample directly adjacent to a building then Phase 3 indoor air sampling may be required.

If the analytical results of the sub-slab soil gas samples collected in Phase 2 indicate an exceedance of the SV_{SS} then Phase 3 indoor air samples will be collected. If the existence of a preferential pathway is not confirmed by

documentation and multiple lines of evidence in the assessment or from the results of Phase 1 sampling, then indoor air concentrations will be modelled based on the analytical results of the near source soil gas samples and groundwater data in adjacent wells data. No further action will be taken if calculated health risks are less than or equal to PADEP human health protection goals, otherwise, Phase 2 and 3 sub-slab soil gas and indoor air samples will be collected. If calculated health risks are greater than PADEP human health protection goals, or if COCs indoor air are in exceedance of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

3.1.4 Group 4 Buildings (E/Staples, I1, I2, H1, H2, H3, H4, H5, F2, F3)

Group 4 buildings are all located on properties that are the outside of the current (or historical) LNAPL plume, with groundwater COCs are below the SV_{GW} but having the potential of preferential pathways from a historical utility search and building assessments documented in the VI Assessment Report (Arcadis, 2020). These Group 4 buildings will be evaluated, as appropriate, however the evaluation of pipe bedding and utility conduit preferential pathways within the Group 3 could potentially be used to screen individual Group 4 buildings out of the VI Sampling program if complete VI pathways are not confirmed. There are no known VI mitigation controls present in these the Group 4 buildings. The assessment phase found varying construction methods for these buildings, potential preferential pathways in the form of sewer and other utility corridors leading to the buildings, but no complete VI pathways were identified. Because the VI Sampling strategy is catered to each individual building based on the assessments, **Table 1** should be referenced for the number, type and location of samples proposed for each individual Group 4 building.

The Phase 1 investigation of the Group 4 buildings consists of sampling exterior preferential pathways (in utility pipe bedding, and potential vapor conduits) moving from the LNAPL plume out, to evaluate if any of the current (or former) utility corridors at the Site may create a complete preferential pathway for VI to each individual Group 4

building. If COCs are detected at concentrations in excess of the SV_{SS} in the bedding material or utility conduit vapors for any Group 4 building, then Phase 2 will commence consisting of sub-slab soil gas samples in that building. If the analytical results of the sub-slab samples indicate COCs in excess of the SV_{SS} then Phase 3 sampling will commence consisting of indoor air and ambient air samples. One exception to this sequence is that if an exceedance of the SV_{SS} is detected within a vapor conduit sample directly adjacent to a building then Phase 3 indoor air sampling may be required.

If the existence of a preferential pathway is not confirmed by documentation and multiple lines of evidence in the assessment or from the results of Phase 1 sampling, then indoor air concentrations will be modelled based on the analytical results of the closest near source soil gas samples and groundwater data in adjacent wells data. No further action will be taken if calculated health risks are less than or equal to PADEP human health protection goals, otherwise, Phase 2 sub-slab soil gas and Phase 3 indoor air samples will be collected. If calculated health risks are greater than PADEP human health protection goals, or if COCs indoor air are in exceedance of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

3.1.5 Group 5 Buildings (R, B, C, D, A)

Group 5 buildings are all located on properties that are the farthest outside of the current (or historical) LNAPL plume, groundwater COCs are below the SV_{GW} but the potential for preferential pathways must be evaluated. Individual buildings within Group 5 buildings could potentially be screened out of the VI Sampling program if the potential for preferential pathways along Site utilities are not confirmed as part of Group 3 or 4 building sampling closer to the LNAPL plume.

There are no VI mitigation controls are present in these buildings. The assessment phase found varying construction methods for these buildings, potential preferential pathways in the form of sewer and other utility corridors leading to the buildings, but no known complete VI pathways. Because the VI Sampling strategy is catered to each individual

building based on the assessments, **Table 1** should be referenced for the number, type and location of samples proposed for each individual Group 5 building.

There are no samples proposed for Phase 1 investigation of the Group 5 buildings as the preferential pathway sampling for Group 3 and 4 buildings could eliminate the need to sample individual Group 5 buildings. Phase 2 sampling involves sampling exterior preferential pathways such as vapor samples collected from conduits and utility pipe bedding moving from the LNAPL plume out to evaluate if any of the current or former utility corridors at the Site may create a complete preferential pathway to each individual Group 5 building. Near source soil gas samples will also be collected as part of Phase 2 to allow modelling of indoor air concentrations. If COCs are detected at concentration in excess of the SV_{SS} in the bedding material or utility conduit vapors for any Group 5 building, then sub-slab soil gas and indoor air samples will also be collected at that building. If the analytical results of the sub-slab soil gas samples indicate COCs in excess of the SV_{SS} then Phase 3 sampling will commence consisting of indoor air and ambient air samples. One exception to this sequence is that if an exceedance of the SV_{SS} is detected within a vapor conduit sample directly adjacent to a building then Phase 3 indoor air sampling may be required.

If the existence of a preferential pathway is not confirmed by documentation and multiple lines of evidence in the assessment or from the results of Phase 2 sampling, then indoor air concentrations will be modelled based on the analytical results of the closest near source soil gas samples and groundwater data in adjacent wells data. No further action will be taken if calculated health risks are less than or equal to PADEP human health protection goals, otherwise, Phase 2 sub-slab soil gas and Phase 3 indoor air samples will be collected. If calculated health risks are greater than PADEP human health protection goals, or if COCs indoor air are in excess of the SV_{IA}, then an active vapor mitigation system (such as SSDS) will be designed and installed in that building. Sub-slab differential pressure as well as indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

The collection of sub-slab soil gas samples (if proposed in **Table 1**) within each building will be conducted following the protocol discussed in **Section 3.4.1 and 3.4.2**. Exterior preferential pathway samples along sewer laterals and other utility connection points consisting of soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes. Pipe bedding vapor samples will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected in accordance with the procedures in **Section 3.4.8**. If warranted, indoor air samples and simultaneous ambient air samples will also be collected over an 8-hour or 24-hour period. Indoor air samples will be collected in accordance with the protocol in **Section 3.4.5** and will commence after the completion of sub-slab samples to allow comparison but not concurrently so as not to create interferences to indoor air. Near source soil gas samples will be collected following the protocol in **Section 3.4.6**.

The analytical results of the sub-slab soil gas samples and external preferential pathway pipe bedding vapor samples and conduit vapor samples will be screened against the Non-Residential SSS SV_{SS}. The analytical results of indoor air samples and ambient air samples will be compared to the Non-residential SSS SV_{IA}. The analytical results of the near source soil gas samples will be compared to the near source soil gas screening values or sub-slab soil gas screening values (SV_{SS}), as appropriate.

3.1.6 Vacant Lots 3, M, L and S

There are no structures on the parcels identified as vacant lots at DSCP. For this reason, the VI pathway will be managed utilizing institutional controls in place of sampling. Environmental covenants will be filed for each of the

parcels with vacant lots requiring active SSDS (or vapor barriers with passive SSDS) for any new construction on the Site.

3.2 Residential Sampling Approach

As discussed above, the VI Sampling approach for residential properties is specific to the Siena Place townhomes and may only be necessary if preferential pathways are found as discussed in the sewer subsurface utility corridor investigation in (**Section 3.3**). If concentrations of site COCs are found to be in excess of Residential SHS (SV_{SS}) in the pipe bedding vapor samples or within the conduit vapor samples then the VI Sampling Plan for residences adjacent to the utility corridors will commence. The subsurface utility corridor evaluation will be used to decide the specific town homes or units of town homes to be included as discussed in **Section 3.3**.

The VI Sampling Plan for each town home includes a home assessment consisting of a building survey with a chemical inventory, assessment of vapor entry points, and other relevant details using the procedures in **Section 3.4.4** followed by indoor air sampling and ambient (i.e., outdoor) air sampling at each unit deemed necessary. Two indoor air samples will be collected from each townhome. One indoor air sample will be collected from a centralized area within the crawlspace of each townhome, and one indoor air sample will be collected from the first floor living space of each townhome. One ambient air sample will also be collected per sampling event to evaluate background conditions. If possible, ambient air samples will be collected upgradient (i.e., upwind) of sampled buildings. As such, ambient air sampling locations will be selected at the time of sampling and will depend on local conditions on the day of sampling. Weather conditions will be documented at the time of sampling. Automobile traffic and other potential sources will be avoided to the extent possible. Indoor air samples and the simultaneous ambient air sample will be collected over a 24-hour period in accordance with the protocol presented in **Section 3.4.5**. A list of the proposed samples and sampling locations per residence is provided in **Table 2**.

During the confirmatory sampling, two indoor air samples will be collected at each townhome from the same locations used during the initial sampling. One ambient air sample will be collected per sampling event to evaluate background conditions. Because ambient air sampling locations will be selected in the field at the time of sampling and will be collected upgradient of sampled buildings to the extent possible, ambient air sampling locations may differ from those used during the initial sampling. The analytical results of the indoor air samples will be compared to the SV_{IA} and ambient air analytical results.

If the analytical results of the indoor air samples are in exceedance of the SV_{IA}, and calculated health risks are greater than the PADEP human health protection goals, then an active vapor mitigation system (such as SSDS) will be designed and installed for that town home. Sub-slab differential pressure as well as well as confirmatory indoor air sampling will be utilized after SSDS installation to confirm effectiveness in accordance with the PADEP TGM (2021a).

3.3 Subsurface Utility Corridor – Pollock-Packer Combined Sewer Sampling Approach

The Pollock-Packer Combined Sewer bisects the Site with portions of the sewer in contact with LNAPL and elevated concentrations of Site COCs. As discussed in the VI Assessment report (Arcadis 2020) the Sewer invert elevation

is below that of the average water table onsite, and its alignment cuts through a naturally occurring silt layer present onsite above the water table. It is believed that this silt layer helps, to some degree, mitigate VI concerns over the LNAPL plume. Past investigative and remedial activities onsite also observed that LNAPL is present in the smear zone in contact with the Sewer, and LNAPL has been observed at time to leach into the Sewer. To control the presence of VOC vapors inside of the Sewer the former refinery operates a sewer venting system. One of the objectives of the VI Sampling Plan for the Sewer is to evaluate vapor concentrations within the Sewer and to evaluate the effectiveness of the sewer venting system with respect to potential Site receptors.

During the development activities at Siena place, two new sewer laterals were installed and backfilled in bedding material generally consisting of coarse sands. These new sewer laterals connect the Siena Place neighborhood to the existing Pollock-Packer Combined Sewer, creating potentially complete VI preferential pathways (in both pipe bedding as well as inside the sewer conduits themselves) for the homes connected to these sewer laterals. The potential for VI preferential pathways to the Siena Place townhomes from sanitary sewer connections will be evaluated separately as part of this VI Sampling Plan for the Sewer.

3.3.1 Sewer Conduit Vapor Sampling Approach

During the initial sampling, Sewer conduit vapor sample will be collected at manholes located on the East of the Site on Pollock, Moyamensing and 19th Streets, and on Site at the PHA property, Siena Place and the former Steen Property. Ambient air samples will also be collected for comparison at selected locations. **Table 3** presents a list of the proposed manhole locations where Sewer conduit vapor samplings will be collected, and the total number of Sewer samples and ambient air samples proposed per event. The location of each manhole is shown on **Figure 6**. Sewer conduit vapor samples will be collected according to the procedure described in **Section 3.4.8**. Sample timing will be coordinated to occur on the same day as samples are collected from the sewer venting system on the former refinery by its operator. Samples of sewer conduit vapor must be conducted between the hours of 9AM and 3PM and may not be conducted within 48 hours following a rainfall event.

Ambient (i.e., outdoor) air samples will also be collected per sampling event at the locations proposed on **Table 3** to evaluate background conditions. If possible, ambient air samples will be collected upgradient (i.e., upwind) of sampled manholes. As such, ambient air sampling locations will be selected in the field at the time of sampling and will depend on local conditions on the day of sampling. Automobile traffic and other potential sources will be avoided to the extent possible. Prior to sample collection, for safety considerations, field instruments (a photoionization detector [PID] and a landfill gas meter) will be used to screen and record field data on total VOCs in air, methane, the presence of explosive concentrations of flammable gas reported as lower explosive limit, oxygen and hydrogen sulfide concentrations at each manhole.

A second round of samples will be collected greater than 45 days apart from the same locations used during the initial sampling. One ambient air sample will also be collected at the same manholes per sampling event to evaluate background conditions. Because ambient air sampling locations will be chosen in the field at the time of sampling and will be collected upgradient of sampled manholes to the extent possible, ambient air sampling locations may differ from those used during the initial sampling.

The analytical results of the sewer conduit vapor samples will be utilized to assess the concentration of Site COCs in the sewer. The samples from individual manholes will also be compared to the other locations, including but not limited to, samples collected by the operator of the sewer venting system located on the former refinery to evaluate the approximate area where VI into the sewer is greatest, and to confirm that the sewer venting system is capturing

this VOC vapor (i.e. vapor concentrations should decrease as you move away from the former refinery and its venting system). Samples collected along 19th street are included as "upgradient" sample locations.

3.3.2 Sewer Lateral Pipe Bedding and Conduit Vapor Sampling

Since the location of all Sewer connection points are not known, a document review of Siena Place As-Builts will be completed by the contractor along with a site assessment using a private utility locating service (in addition to PA One Call) to locate the sanitary sewer laterals that connect the Siena Place Homes on Roma Drive to the Sewer and the storm sewer collection overflow connection points to the Sewer. Preferential pathway samples (soil vapor samples collected from pipe bedding and from within conduits from cleanouts and or manholes) will then be collected along sanitary sewer connection laterals as proposed in **Table 3** in the locations proposed on **Figure 8**. The contractor will field adjust the sample locations as necessary to prevent utility strikes and to meet the intent of this VI Sampling Plan

Pipe bedding vapor samples along the sewer laterals will be conducted using a direct push rig after utility location is complete following the protocol in **Section 3.4.7**. Conduit vapor samples will be collected from manholes or cleanouts in accordance with the procedures in **Section 3.4.8.** If COCs are detected at concentrations in excess of the sub-slab soil gas screening values SV_{SS} at any lateral, then the residential VI sampling discussed above in **Section 3.2** will commence at the residences connected by or adjacent to the preferential pathway.

3.4 Field Methods

3.4.1 Sub-Slab Soil Gas Sampling Probe Installation

Permanent sub-slab soil gas sampling points will be installed where indicated in this VI Sampling Plan. Sampling points will be placed at least 5 feet from the perimeter foundation walls in accordance with the TGM (PADEP 2021). Shallow sub-slab vapor probes (Vapor Pins®) will be installed in the basement floor and in locations where the main floor is slab-on-grade construction. The Vapor Pins® will be installed in the proposed locations shown on **Figures 3A through 5B**. The location of sub-slab soil gas sampling points will be field verified and moved as necessary so as not to interfere with utilities, footers, or floor drains. The locations may also be modified based on access requirements, clearance issues, or input from property owners or occupants. The Vapor Pin® consists of a press-fitted stainless-steel barb fitting installed into a silicone liner through a 5/8" hole drilled through the concrete floor. The finished installation is recessed into a 1 ½" hole and includes a sealed stainless-steel cover to prevent damage and vapor intrusion. A detail showing a typical Vapor Pin® is included as **Figure 9**. Installation of the sub-slab vapor probes will involve the following:

- The Respirable Silica Exposure Plan will be implemented as prescribed in the Accident Prevention Plan and activity hazard analyses (AHAs) for this work discussed in **Section 3.8**.
- The Vapor Pins® will be installed with a hammer drill in accordance with the Technical Guidance Instruction (TGI) for Sub-Slab Soil Gas Sampling Point Installation Using Vapor Pin® Approach (included in **Attachment B**).

- Each sampling point will be screened with a PID and the landfill gas meter during installation of the Vapor Pin® to ensure there is no exposure to VOCs and methane or lower explosive limit to ensure safety of personnel.
- Following installation, at least 24 hours will elapse before any Vapor Pin® is used for sampling.
- Additional details pertaining to the installation of the Vapor Pins® are presented in the manufacturer's standard operating procedures also included in **Attachment B**.

3.4.2 Sub-Slab Soil Gas Sampling

Sub-slab soil gas sampling will be conducted in accordance with the PADEP TGM, (2021) and the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using Whole Air Canisters Analyzed via USEPA Method TO-15 PADEP Short-list for Petroleum Hydrocarbons (PHC) only provided in **Appendix C**. Sub-slab soil gas samples will be collected from the permanent sub-slab soil vapor sampling points Vapor Pins® described above. A list of the proposed sample numbers and locations per building are presented in **Table 1**.

Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. One sub-slab soil gas field duplicate sample will be collected per sampling event. A helium tracer gas will be used as a quality assurance/quality control (QA/QC) measure to verify the integrity of the exterior access port and to confirm the absence of ambient air infiltration into the port. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021), and consistent with the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using Whole Air Canisters Analyzed via USEPA Method TO-15 (**Appendix B**).

3.4.3 Sub-Slab Soil Gas Sampling Using SSDS Collection Piping

Sub-slab soil gas sampling utilizing the SSDS collection piping will be conducted in buildings that have vapor barriers and passive SSDS systems installed in order to obtain sub-slab vapor without damaging the integrity of the vapor barrier. These samples will be conducted in accordance with the PADEP TGM, (2021) and the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using SSDS Piping provided in **Appendix B**.

This VI Sampling Plan proposed that sub-slab soil gas samples will be collected from two of the SSDS vapor collection system risers on each building via the exterior access ports located on the outside of each building. However, the contractor must evaluate the engineering drawings and conduct a building assessment to understand how the SSDS piping is connected to the risers. More samples may be required if the risers are independent and not interconnected to the rest of the system. A list of the proposed number samples, sample collection methods, and analyses are presented in **Table 1**. Two weeks prior to the collection of samples, the SSDS collection pipe to be sampled will be isolated by closing the valve to the riser pipe. This is necessary for to allow time for sub-slab vapor to accumulate in the piping without being removed or diluted by atmospheric pressure differences from the open riser pipe. If there is no isolation valve on the piping, the contractor will need to install a valve. Sample ports will be installed at the same time, if necessary, if not already in place on the SSDS collection piping below the isolation valve. Sub-slab soil gas sampling will be conducted immediately following completion of indoor air sample collection in the same building, but at least 2 weeks after the SSDS riser is isolated. Tubing will be purged, then Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. One sub-slab soil gas field duplicate sample will be collected per sampling event.

A helium tracer gas will be used as a QA/QC measure to verify the integrity of the exterior access port and to confirm the absence of ambient air infiltration into the port. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021), and consistent with the TGI for Sub-Slab Soil Vapor Sampling Using SSDS Piping included in (**Appendix B**).

3.4.4 Building Survey Prior to Indoor Air Sampling

Field personnel will conduct a building survey of each building prior to initial and confirmatory sampling in accordance with the PADEP TGM (2021) and the Arcadis TGI for Building Surveying Prior to Vapor Intrusion Indoor Air Sampling (**Appendix C**). Results of the survey will be documented on the Indoor Air Building Survey Form (**Appendix C**). The building surveys will be used to gather additional information on building construction and layout; potential future occupancy/usage patterns; heating, ventilation, and air conditioning system settings; potential presence of indoor background sources; and to select indoor air sampling locations. A PID will also be used to field screen to check for potential sources of VOCs. It is anticipated that the residences or buildings will be occupied during each building survey and sampling event. For this reason, the access for the sampling work must be coordinated with the owners/occupiers of each residence and building. A fact sheet and instructions for the owner/occupier of the residence/building will be provided to educate them on the purpose of the sample and what is needed from them to ensure an accurate sample is collected. These fact sheets and instructions are included in **Appendix C**.

Prior to completing building surveys at industrial buildings, the contractor will request safety data sheets (SDSs) from the owner/occupiers for all chemical products used during building cleaning and normal activities. The contractor will also obtain SDSs from the internet for any additional chemical products identified during the building surveys. The SDSs will be reviewed to identify potential background sources of VOCs detected in samples and present due to activities within the buildings. The contractor will also request that potential indoor background sources (i.e., chemicals being used and stored for cleaning or other activities) are removed as possible prior to indoor air sampling.

3.4.5 Indoor Air and Ambient Air Sampling

Indoor air and ambient air samples will be collected in accordance with the PADEP TGM (2021) and the Arcadis TGI for Indoor or Ambient Air Sampling and Analysis via USEPA Method TO-15 provided in **Appendix C**. A list of the number of proposed samples, sample collection methods, and analyses are presented in **Table 1** for the commercial/industrial buildings and in **Table 2** for the residential properties.

Ambient air samples will be collected concurrently with indoor air samples. Indoor and ambient air samples will be supported or suspended at a height of approximately 3 to 5 feet above the ground surface, at approximate breathing zone height. Ambient air samples will be secured to permanent structures. Indoor and ambient air samples in residential properties will be collected over a 24-hour sampling period using 6-liter stainless steel canisters and flow controllers provided by the laboratory. In the commercial/industrial buildings, samples may be collected over an 8-hour period if access allows.

One field duplicate indoor air sample will be collected per sampling event at a minimum ratio of 1 field duplicate for every 20 samples collected.

Both the initial and confirmatory indoor air sampling will be targeted during the heating season when heating, ventilation, and air conditioning is operational (i.e., set to typical operating conditions), when there is at least a 15-degree Fahrenheit temperature difference between the interior and exterior, and at least 45 days apart. Doors and windows will need to remain closed for the duration of the sampling event if possible.

3.4.6 Near Source Soil Vapor Sampling

Near-source soil vapor sampling is selected for locations where access is not available, where sub-slab soil vapor sampling is not possible, and/or to supplement other sampling methodologies to assist with modeling of potential indoor air concentrations utilizing an attenuation factor. Direct push drill rig will be used to advance the soil vapor probes. These and all other temporary soil gas probes needed should utilize a Geoprobe® Permanent Soil Vapor Probe Implant (or similar expendable tip soil gas implant) to allow the direct push rig to install the probe then move to another point. This will also allow the soil vapor monitoring point to be utilized again for the confirmatory samples after 45 days without needing to mobilize the drill rig again. The soil vapor probe should be installed in accordance with the Geoprobe® Permanent Soil Vapor Probe Implant operation guide utilizing ¼" or larger OD stainless steel or Teflon™ tubing. The point is constructed using glass beads placed down around the implant, the 16-mesh bentonite mix to the surface. The surface completion for all points installed in right of ways or other public areas should be protected using a 4-inch flush-mount access point with a bolted cover set in concrete. The soil gas probes will be installed within the vadose zone, no less than 5 feet below ground surface and targeting a location within 1 foot of the anticipated top of capillary fringe in accordance with the PADEP TGM (2021). The capillary fringe is expected to vary and may be between 0.5 foot (for porous fill like sand) and 2 – 5 feet (for silt loam) above the water table. After installation, the near-source soil gas sampling point will be allowed to equilibrate for a minimum of 24 hours before sample collection. Sampling will not be conducted within 48-hours of a precipitation event of ½ inch or greater. A list of sample numbers and locations for the commercial/industrial buildings are presented in **Table 1**.

Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. One near source soil vapor field duplicate sample will be collected per sampling event. A helium tracer gas will be used as a QA/QC measure to verify the integrity of the connection to the soil gas probe and to confirm the absence of ambient air infiltration. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021). After completion of all rounds of sampling, the soil vapor probe will be abandoned in place by grouting up the tubing as much as possible, cutting off the tubing below grade, remove the access cover then backfilling the access point with concrete to restore the surface to a flush appearance.

3.4.7 Utility/Pipe Bedding Vapor Preferential Pathway Sampling

Sampling of soil vapor in utility pipe bedding is proposed to evaluate if any utilities with permeable, non-native soil, bedding material may be acting as a vapor preferential pathway from the source area to a building. A utility location service will be utilized to locate sewer laterals and other preferential pathways being evaluated. Soil gas samples will be collected from within the utility bedding material if the bedding material is assessed in the field to be permeable and not native soil. The proposed sampling locations (shown on **Figures 3A through 5B**) are located along potential utility corridors. These potential preferential pathways along utility corridors will be evaluated beginning where it intersects or is closest to the LNAPL plume working outward to buildings with potential receptors. If the evaluation indicates that there are no vapor concerns in the utility corridor then additional samples farther

from the source are not required. Likewise, if it the evaluation indicates that there is no VI pathway from that utility corridor at the first building then additional buildings along the same utility corridor farther from the LNAPL plume will not be evaluated. If there are vapor concerns at the first building along a utility corridor, additional utility/pipe bedding vapor samples will be conducted if they continue to buildings farther from the source.

Collection of samples from shallow bedding material (up 5 feet below grade) will be conducted by hand auguring. If the area is unpaved, samples will be collected from at least five feet below ground surface. If the area is paved, surface asphalt/concrete will be saw cut and the samples will be collected at least 1 foot below the asphalt or concrete layer via hand auger. Collection of samples from the bedding material of deeper utilities (such as sewer laterals) will be collected by direct push rig. The contractor must exercise extreme care in these cases to avoid utility strikes. It is anticipated that the driller and a private utility locator will work closely so that a soil vapor probe can be advanced close to the utility corridor without striking it. In addition to utility location services, soft dig technology such as an air-knife or high vacuum will also be used to locate the sewer or other utility conduits. The direct push drill rig will then be utilized to install the sample probe directly adjacent to the air knife location along the utility, in undisturbed soil. Ideally, soil vapor probes would be placed below the sewer in pipe bedding material if not submerged. However, the contractor should attempt to at a minimum install the vapor probes in the pipe bedding material adjacent to the sewer. The AHA for intrusive soil drilling included in **Appendix D** requires that three lines of evidence (preferably as-builts, utility location scan and site owner knowledge) to clear locations before work begins.

These and all other temporary soil gas probes needed should utilize a Geoprobe® Permanent Soil Vapor Probe Implant (or similar expendable tip soil gas implant) to allow the direct push rig to install the probe then move to another point. This will also allow the soil vapor monitoring point to be utilized again for the confirmatory samples after 45 days without needing to mobilize the drill rig again. The soil vapor probe should be installed in accordance with the Geoprobe® Permanent Soil Vapor Probe Implant operation guide utilizing ¼" or larger OD stainless steel or Teflon™ tubing. The point is constructed using glass beads placed down around the implant, the 16-mesh bentonite mix to the surface. The surface completion for all points installed in right of ways or other public areas should be protected using a 4-inch flush-mount access point with a bolted cover set in concrete. After installation, the soil gas sampling points will be allowed to equilibrate for a minimum of 24 hours before sample collection. A list of sample numbers and locations for the commercial/industrial buildings are presented in **Table 1**. Samples will be collected over a 30-minute sampling period using 1-liter stainless steel canisters and flow controllers provided by the laboratory. At least one field duplicate sample will be collected per sampling event at a ratio of one field duplicate for every 20 samples collected. A helium tracer gas will be used as a QA/QC measure to verify the integrity of the connection to the soil gas probe and to confirm the absence of ambient air infiltration. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021).

After completion of all rounds of sampling, the soil vapor probe will be abandoned in place by grouting up the tubing as much as possible, cutting off the tubing below grade, remove the access cover then backfilling the access point with concrete to restore the surface to a flush appearance.

3.4.8 Sewer Conduit Vapor Sampling

The Sewer conduit vapor samples will be conducted similar to the collection of indoor air samples, as such Arcadis TGI for Indoor or Ambient Air Sampling and Analysis via USEPA Method TO-15 provided in **Appendix B** may be followed for the collection of these samples, with the exceptions noted below:

As discussed above, an initial sample will be collected from the manholes listed on **Table 3** and a confirmatory sample will be conducted at the same locations at least 45 days after the initial sample. Ambient air samples will also be collected during both events as specified on **Table 3**.

To collect samples from large sewers such as manholes on the Pollock-Packer Combined Sewer or the two Siena Place laterals, the summa canister will be connected to a length of Teflon™ tubing allowed to hang into the sewer through the hole in the manhole cover. The end of the tubing should be suspended at a height of approximately 1 foot above bottom invert of the sewer, or if water is present, 1-foot above the surface of the water. An interface probe may be utilized to measure the total depth of the sewer and the depth of water below the manhole cover in order to calculate the appropriate length of tubing to achieve the desired location of the sample. The tubing should be looped to help control moisture entrainment, and low-VOC clay should be used to seal the holes on the manhole cover around the tubing, and other holes noted during sample setup.

Samples collected from sewer cleanouts and other smaller conduits will be collected by using a Teflon™ cover or seal to connect tubing directly to the cleanout or conduit. Conduits smaller than 1.5 inches can be sampled by inserting the Teflon™ tube into the conduit and sealing around the tubing with low-VOC clay.

Ambient air samples will be secured to permanent structures near the sewer sample location. Ambient air samples will be collected over a 30-minute sampling period using 6-liter stainless steel canisters and flow controllers provided by the laboratory. Sewer conduit vapor samples may be collected as a grab sample using either a 1-liter or 6-liter stainless steel canister utilizing a 15-minute sample period using flow controllers provided by the laboratory. Samples of sewer conduit vapor must be conducted between the hours of 9AM and 3PM and may not be conducted within 48 hours following a rainfall event.

At least one field duplicate sample will be collected per sampling event at a ratio of one field duplicate for every 20 samples collected. At least one upgradient and downgradient samples should be collected when evaluating sewer laterals.

3.5 Analytical Methods and Data Quality Objectives

Soil gas, indoor air, and ambient air samples will be submitted under chain-of-custody procedures to Eurofins Air-Toxics, LLC., located at 180 Blue Ravine Road, Folsom, California 95630 or other Pennsylvania Registered and National Environmental Laboratory Accreditation Program (NELAP) certified laboratory. Samples will be analyzed via USEPA Method TO-15. Indoor air samples may be analyzed for a subset of analytes via USEPA Method TO-15 using select ion monitoring to achieve reporting and/or method detection limits less than or equal to screening values presented in the TGM (PADEP, 2021). The subset of analytes will include at a minimum the PADEP Petroleum Hydrocarbon short list of analytes (specific to gasoline, aviation gas, and jet fuel including methyl tert butyl ether, hexane and cyclohexane). Samples will be analyzed under a standard turnaround time of approximately 15 days, unless a shorter turnaround time is requested by the contractor due to scheduling issues. Laboratory reporting limits will achieve the applicable detection limits necessary to meet the PADEP residential SSS screening values for TO-15 analysis for PADEP Short-list Petroleum Hydrocarbons. The current PADEP screening values are presented in **Appendix E** for sub-slab soil gas, near source soil gas, and indoor air samples.

For all types of vapor samples included in this VI Sampling Plan, one field duplicate sample will be collected per sampling event at a ratio of one field duplicate for every 20 samples collected. Samples should be labeled according to the building ID naming convention used in this VI Sampling Plan, or sewer/lateral manhole ID, or

residential address first. Then the type of sample (i.e., sub-slab, indoor air, etc.) followed by the sequential number and date. All sampling containers and flow meters will be provided by the laboratory. Prior to sample collection, sample containers will be clearly labeled with the sample identification, date of collection, and analysis to be performed. The vacuum pressure gauge will be checked against the laboratory provided list of vacuum pressures for each canister to ensure that no leaks developed during shipping. Additionally, the starting and ending vacuum pressure for each canister must be recorded before and after completion of each sample. It is best practice to leave some vacuum pressure in each canister at the completion of sampling (ideally in the range of 3 to 5 in Hg), so that the analytical laboratory can confirm that no leaks developed during the return shipping.

Once filled, sampling containers will be immediately transferred to laboratory provided shipping containers and then returned to the laboratory via Federal Express under chain of custody protocol. Preparation of chain-of-custody forms, sampling handling, packaging, and shipping will be conducted in accordance with Arcadis TGM.

A helium tracer gas will be used as a QA/QC for all sub-slab and soil vapor samples as a measure to verify the integrity of the exterior access port, or the connection to the soil gas probe, and to confirm the absence of ambient air infiltration into the port. Shut-in testing and leak testing will be conducted in accordance with the PADEP TGM (2021), and consistent with the Arcadis TGI for Sub-Slab Soil Vapor Sampling Using Whole Air Canisters Analyzed via USEPA Method TO-15 (**Appendix B**).

All field equipment used for vapor screening will be calibrated at the start of each day in accordance with equipment manufacturer guidelines with calibration checks being conducted mid-day and at the conclusion of the sampling event and will be documented accordingly. The equipment will be recalibrated if calibration checks fall outside of equipment manufacturer guidelines.

3.6 Data Evaluation and Reporting

Sub-slab vapor and/or indoor air samples collected during initial and confirmatory sampling events will be compared to SSS PADEP VI screening values for non-residential land use for the commercial/industrial buildings, and residential land use for the residential properties and potential preferential pathways leading to residential properties. Analytical results for sub-slab soil gas samples, sewer conduit vapor and pipe bedding vapor samples will be compared to the SV_{SS}, analytical results for indoor air samples will be compared to SV_{IA}, and analytical results for near source soil vapor samples will be compared to SV_{NS}.

The results of the initial sampling, including sub-slab soil gas, sewer conduit and pipe bedding vapor, indoor air, ambient air, and near source soil vapor analytical results; building survey information; historical soil and groundwater results; and any other applicable information, will be reviewed to evaluate whether the VI pathway is potentially complete in each building. Assuming no preferential pathways are identified, sub-slab soil gas results for site-related COCs must be greater than the SV_{SS}, and indoor air results for site-related COCs must be greater than the SV_{IA} and ambient air results for the VI pathway to be complete. If preferential pathways are identified (such as in sewer conduit vapor or pipe bedding vapor), pathway media results for site-related COCs must be greater than screening values (e.g., SV_{SS}), and indoor air results for site-related COCs must be greater than the SV_{IA} and ambient air results for the preferential pathway to be complete. If indoor air results for site-related COCs are less than the SV_{IA}, then the VI pathway is incomplete and/or not impacting indoor air quality.

The results of the confirmatory sampling, including indoor air and ambient air analytical results; building survey information; and any other applicable information, will be reviewed to evaluate whether the SSDS is operating as designed (if applicable) or if indoor air concentrations of site-related COCs are within PADEP human health protection goals. If indoor air results for site-related COCs are greater than SV_{IA} (residential for residential properties, non-residential otherwise) and ambient air results, then human health risk calculations may be conducted. The analytical results of 8-hour indoor air samples in commercial/industrial buildings may be compared to Occupational Safety and Health Administration (OSHA) permissible exposure limits in place of the SV_{IA}, specifically in locations where site COCs are used, stored, or handled.

Initial and confirmatory sampling methods and results will be summarized in an Addendum to the Remedial Investigation Report / Cleanup Plan for the Site, which will be submitted to PADEP following completion of other this VI Sampling scope of work as well as other site investigative activities required by PADEP.

3.7 Schedule

Phase 1 sampling of the industrial/commercial buildings is anticipated to commence within 30 days following USACE issuance of a Task Order to the contractor but dependent on weather conditions as best practice indicates that soil vapor samples and sewer conduit samples should not be sampled for 48 hours following a rainfall of greater than 0.5-inch. A tentative schedule is as follows:

- Summer 2023:
  - Provide notifications and secure access to properties
  - Phase 1 preferential pathway (pipe bedding vapor, conduit / utility corridor sampling), and near source soil vapor sampling
- Late Summer and Fall 2023:
  - Second round of preferential pathway (pipe bedding vapor, conduit / utility corridor sampling), and near source soil vapor sampling
  - Phase 1 and Phase 2 sub-slab soil vapor sampling
- Winter 2023 and Spring 2024:
  - Second round of sub-slab soil vapor sampling
  - Phase 1 and Phase 2 indoor air sampling during heating season

This proposed schedule is subject to modification due to field conditions, laboratory equipment (i.e., canister and flow controller availability, laboratory analytical equipment availability and reporting capabilities), laboratory certification of any COCs, access agreement delays, and other project-related scheduling constraints.

3.8 Health and Safety Considerations

During the field VI Assessment, field team members identified health and safety concerns for future intrusive work (i.e., vapor intrusion sampling), specifically, exposure to silica dust, asbestos containing materials (ACM) and lead

containing paint. When drilling through floor slabs in support of vapor intrusion evaluations, exposure to silica dust, ACM, and/or lead containing paint (if concrete floor slab is painted) must be considered. OSHA standards for silica dust (29 Code of Federal Regulations [CFR] 1926.1153), ACM (29 CFR 1926.1101), and lead paint (29 CFR 1926.62) exposure should be considered during project planning stages to ensure compliance. All materials other than bare concrete (e.g., all types of floor coverings including tiles, linoleum, glues, mastics, adhesives) should be considered as ACM unless testing proves otherwise. When potential ACM material is present, the first step should be avoiding disturbing this material altogether (i.e., move to another location nearby that has bare concrete). Precautions should be taken to mitigate exposure risks and ensure proper disposal of any cuttings/spoils and waste from our work. All drilling through concrete requires compliance with applicable OSHA standards. The exposure controls discussed below will ensure compliance with the OSHA silica, asbestos, and lead occupational exposure regulations.

3.8.1 No ACM is Present

Where no ACM is present, i.e., where there is bare or painted concrete, the following steps should be taken:

- A dust extractor and high efficiency particulate air (HEPA) vacuum meeting renovation, repair, and painting (RRP) requirements should be used to maintain compliance with OSHA silica dust exposure requirements of 29 CFR 1926.1153.
- If the concrete is painted, the contractor should assume that it is lead paint based on the age of the buildings being evaluated. The use of the dust extractor and HEPA vacuum meeting RRP requirements will maintain compliance with the OSHA lead dust exposure requirements of 29 CFR 1926.62.
- Use of wet methods to control generating airborne dust should be used at all times, especially when collecting and cleaning up drilling cuttings.

3.8.2 ACM may be Present

Where ACM may be present (any type of floor covering or mastic/adhesive/leveling compound), the following steps should be taken:

- Notification to building owner(s) and occupant(s) will be coordinated including obtaining permission to have potential ACM materials analyzed.
- A certified ACM inspector will be used to chip away a 1-inch diameter section of the material and have it analyzed by a qualified laboratory to determine if ACM is present.
- Sub-slab or other sample collection points may be installed by drilling into the section of concrete where the material has been removed from (but not beyond this 1-diameter area).
- This procedure must be followed for each location where ACM may be present.

3.8.3 Other Health and Safety Considerations

In addition to the procedures above, the 2020 VI Assessment in the Former DSCP facility buildings concluded that other hazards should be addressed by the contractor in the form of preparing an APP addendum with the appropriate AHAs prior to initiating work. The AHAs that must be developed for this work include but are not limited to:

- Mold
- Silica dust
- Lead paint
- ACM
- Management of rodents/mice
- VOCs and or methane in soil vapor

4 References

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Tables

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Phase 1 (two events > 45 days apart)						Phase 2 and 3 (if needed) - (each phase has two events > 45 days apart)						VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
												Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)			
1	BJ's	Yes - Vapor Barrier and Passive SSDS	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-15 DTW 19.24' DSCP-MW-3A DTW 19.44' (DTP 18.99') DSCP-MW-4A DTW 20.43' DSCP-RW-2 DTW 17.95' (DTP 17.02')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Janitor drains, bathroom drains 2)Large cooler. would assume floor drain. 3)Utility pipes going through slab 4)roof drains through slab	Yes- Cleaning products/solvents, Haz Waste	0	0	0	0	5	2	0	0	0	0	5	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Home Depot	Yes - Vapor Barrier and Passive SSDS	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-14 DTW 15.57' DSCP-MW-2B DTW 18.20' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-RW-8DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Drains in sprinkler room and utilities going through slab 2)Bathroom drains, janitor drains 3)Trench drains in retail space. 46' long 4)Few cracks in the slab. Some large ones in retail space 5)large floor drain in tool rental	Yes	0	0	0	0	5	2	0	0	0	0	5	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	PHA (and easement)	Yes - Vapor Barrier and Passive SSDS	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	PH-PH-16 DTW 16.68' PH-PH-17 DTW 15.75' (DTP 15.27') PH-PH-18 DTW 17.02' (DTP 16.05') PH-PH-19 DTW 17.03' PH-PH-20 DTW 18.29' (DTP 17.9') PH-PH-3 DTW 18.36' PH-RW-C DTW 18.95' (DTP 18.30') PH-RW-CA DTW 18.54' (DTP 17.46') PH-RW-D DTW 17.03' PH-RW-E-DTW 16.47' PH-RW -T DTW 17.00' PH-RW-U DTW 16.20'	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Bathroom drains 2)Utility closet drains 3)Floor Crack in the warehouse	Yes	0	0	0	0	5	2	0	0	0	0	5	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building J - Pet Smart	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Potential for Preferential Pathways	DSCP-MW-17-DTW 18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drain in bathroom and laundry room 2) Trench drain at salon kennel 3) Floor drain (tub) in janitor's room 4) Electrical lines going through ceiling in receiving	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building N - Spirit Halloween (vacant)	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms 2) Assumed floor drains in janitors closet	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building O - (vacant - may be part of Planet Fitness)	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms 2) Assumed floor drains in janitors closet	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
1	Building P - Planet Fitness (contains Novacare and H&R Block)	Yes - vapor barier and passive SSDS	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Potential for Preferential Pathways	DSCP-MW-17-DTW-18.98' DSCP-MW-19 - DTW 17.93' DSCP-MW-44A - DTW 18.06' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in showers of locker rooms 2) Water line penetrates slab at west wall 3) Water line and fire suppression main penetrate slab at rear (west) wall	No	0	0	0	0	2	2	0	0	0	0	2	2	Building constructed with a passive SSDS. Sub slab vapor to be sampled using the passive SSDS piping, then indoor air and ambient air samples. If COCs > SV_{IA}, then Phase 2 SSDS evaluation consist of additional SSDS, indoor air sampling, or smoke and tracer testing to pinpoint issues with SSDS and provide recommendations for modifications.	Non-Residential SV_{SS} (sub-slab SSDS piping), SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
2	VES Building	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-65 DTW 18.86 (DTP 18.2') DSCP-RW-1A 15.98' (DTP 15.94')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	NA	Yes - Remediation System building with Class I Div II VES Room	2	1	1	1	2	0	0	0	0	0	0	0	Within current extent of LNAPL, Remediation system piping and equipment are potential preferential pathways and sources of indoor vapor concerns. Conduct near source, sub-slab, indoor air in office and control room, and evaluate preferential pathways.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and SS. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 6 (Bay A)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Crack in DMARK room bay A 2)Drains in mechanical room, bathrooms, locker rooms, janitor's room 3)Hole in sprinkler room through slab 4)Utility going through slabs 5)0.5" inch crack in slab	None identified	2	2	0	0	2	0	0	0	0	0	0	0	Over or within proximity to current and historical plume, Multiple utility penetrations into slab and foundation walls. Conduct sub-slab, near source and indoor air samples.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS, SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 6 (Bay B)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Large pipes penetrating through slab 2)Other various pipes in the bay penetrating through slab 3)Drains in the bathroom, and would assume in janitor's area	None identified	4	0	1	1	3	0	0	0	0	0	0	0	Over or within proximity to current and historical plume, Multiple utility penetrations into slab and foundation walls. Collect sub-slab samples, evaluate potential preferential pathways and collect indoor air samples.	SV_{SS} (sub-slab, preferential pathways), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
2	Building 6 (Bay C)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab. Some dirt floors	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	1)Refrigerant storage in old bathroom. Assume drains 2)Dirt floor in parts of building (0ppb) 3)Drains in boiler room 4)Pipes penetrating through slab where present 5)Large below grade vault. (0ppb) 6)Large floor drains with water at base. (0ppb) 7)Few cracks in the slab	1) 55-gallon drums. All marked but have caution stickers	2	0	0	0	2	0	0	0	0	0	0	0	Over or within proximity to current and historical plume. Collect sub-slab samples and collect indoor air samples.	SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 6 (Bay D&E)	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Pipes going through floor 2)Floor drains in bathroom, and other parts of the building 3)Floor trench in mechanical room 4)Large manhole to mechanical room	None identified	4	0	1	1	2	0	0	0	0	0	0	0	Over or within proximity to current and historical plume, Multiple utility penetrations into slab and foundation walls. Collect sub-slab samples, evaluate potential preferential pathways and collect indoor air samples.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 8	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-13 DTW 16.01' DSCP-MW-1A DTW NM DSCP-MW-27A DTW 21.29' DSCP-RW-9 DTW 14.53' (DTP 13.86')	No	No	Partial Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	1)Broken drains 2)sprinkler pumps going through slab 3)trench 7.5' below slab with piping 4) Workshop with gas powered vehicles (150 ppb & 2,500 ppb) 5)drains in bathroom. 6) Various spots where pipe goes through slab. 7)Elevator shafts	1)Chemical pails 2)large drums of tar in the building 3)Gas cans, and paint. 4)Gas powered vehicles	0	0	2	2	2	0	0	0	0	0	0	0	Multiple utility penetrations into slab and foundation walls, elevated PID readings at workshop (150 and 2,500 ppm)- one in workshop and one in pump room (near sump room). No SS - because basement appears submerged. Evaluate potential preferential pathways and collect indoor air samples. Collect GW samples from sumps if present.	SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Basement (Bay A)	No - only basement fans	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	1) Elevated PID readings around column 49K (north end of bldg). PID readings are different on opposing sides and can be correlated to cracks.(60 ppm) 2) Elevator shaft filled with water. Shaft goes deeper than foundation (59' deep). 3) Potential steam piping on north end 4) Gaps where pillars meet foundation 5) Fans operating in building. Background PID readings slowly increased when traveling further from fans. 6) When rollup doors are open, odors are less. When rollup doors are closed, PID measures 40-60ppb background. 7) Gap between buildings 9 and 13 at NE corner.	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Basement (Bay B)	No - only basement fans	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	1) Gaps where pillars meet foundation 2) Fans operating in building. Background PID readings slowly increased when traveling further from fans. 3) When rollup doors are open, odors are less. When rollup doors are closed, PID measures 40-60ppb background.	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay C	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps with elevated PID readings	1) Numerous pipes in walls, likely penetrate slab 2) Separation of floor from wall at several locations but appear to have been resealed (0 ppb) 3) SE corner at B41, drain pipe penetrates slab (17ppb) 4) D38, two sprinkler penetrate slab, 38 ppb 5) Cracks in slab near D/E 40/41, 230 ppb (air), 670 ppb (ground) 6) At E39, floor drain at base of South ramp, 400 ppb	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay D	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	1) Numerous pipes/drains penetrating slab 2) Numerous cracks in slab	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay E	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	1) Numerous pipes/drains penetrating slab 2) Numerous cracks in slab	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 9 Bay F	No - only basement fans	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-10 - DTW 10.85' DSCP-MW-14 DTW 15.57' DSCP-MW-32 DTW 17.90' (DTP 16.10') DSCP-MW-33 DTW 16.31' (DTP 15.44') DSCP-MW-34 DTW 6.78' DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-36 DTW 16.84' DSCP-MW-7 DTW 15.53' DSCP-MW-9 DTW 15.88' DSCP-RW-10 DTW 14.02' DSCP-RW-11 DTW 15.28' DSCP-RW-5/MW-25 DTW 15.20' (DTP 15.14')	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, cracks/gaps but without elevated PID readings	1) Slab is measured at 43.25" thick 2) Water and gas line penetration of slab at NW corner 3) Numerous drains through slab 4) Mold in some rooms	Yes	0	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls (preferential pathway samples). Foundation too close to water table for sub slab. Conduct near source sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
2	Building 11	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-53 DTW 14.64'	No	Yes	Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No (?) - need to confirm basement has no dirt floors Partially finished basement	1) Drains in bathroom 2) 4" diameter open pipe penetrating wall in generator room 3) Numerous pipes penetrating slab 3) Drains in basement 4) Sump (PID 11 ppb)and floor drains in sump room	No	2	0	2	2	2	0	0	0	0	0	0	0	Building is situated within the historical extent of LNAPL, multiple utility penetrations into slab and foundation walls, elevated PID reading at sump. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 12	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-12 - DTW 15.29' DSCP-MW-13 - DTW 16.01 DSCP-MW-54 - DTW 15.65' DSCP-MW-59 - DTW 12.60' (product 12.57')	No	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Numerous pipes/drains penetrating slab and foundation walls 2) Numerous cracks in slab 3) One notable crack (1/4" at NW wall of wing NE1, PID 134 ppb) 4) Two drain pipes penetrate west wall of wing NE1, PID 102 ppb)	Yes	4	0	3	3	4	0	0	0	0	0	0	0	Building is situated on historical extent of LNAPL, LNAPL is observed in one nearby monitoring well (DSCP-MW-59), multiple utility penetrations into slab and foundation walls, elevated PID reading at two drain pipes that penetrate foundation wall. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 13	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-IW-13 DTW 17.28' DSCP-MW-11 DTW NM DSCP-MW-34 DTW-6.78' DSCP-MW-59 DTW 12.60' (DTP 12.57') SEPTA-SEPTAMW-4 DTW NM	No	Yes	Full Basement	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes	1)Floor drains at stair well (5.5ppm) 2)S Hall corner has a gap between boiling 9 and 13 (21.25 ppm) 3) Floor drains of SWMR (0ppb) 4)multiple floor drains in building 5)Drain in shower in locker-room (max 3.4ppm) 6)floor drain in locker room (12ppb) 7)Hatch in stair 9 lobby (max 25 ppm) 8)Shop 31 drain (18.5ppm)	Yes	6	0	3	3	4	0	0	0	0	0	0	0	Building is situated on historical extent of LNAPL, LNAPL is observed in one nearby monitoring well (DSCP-MW-59), multiple utility penetrations into slab and foundation walls, elevated PID readings at gap between buildings, one floor drain and hatch. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 14	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-IW-13 DTW 17.28' DSCP-MW-11 DTW NM DSCP-MW-13 DTW 16.01' DSCP-RW-9 DTW 14.53' (DTP 13.86')	No	Yes	Basement Full	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	Yes, sump	1)Multiple Floor drains-kitchen, bathroom, basement 2)Pipes going through floor 3)Pipes going through wall 4) Sump filled with water 5) Floor cracks in air handler room (center of bldg 14) 6) Water penetrating northwest building wall	Yes	4	0	2	2	2	0	0	0	0	0	0	0	Building is situated within proximity of current extent of LNAPL, multiple utility penetrations into slab and foundation walls. Conduct sub-slab sampling, potential preferential pathway evaluation, indoor air sampling. Collect GW samples from sumps if present.	SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using SS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Building 30	Unknown	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	DSCP-MW-30 DTW 17.84' (DTP 17.81') DSCP-MW-31 DTW 16.99' DSCP-MW 32 DTW 17.9' (DTP 16.1') DSCP-MW-35A DTW 15.01' (DTP 15.00') DSCP-MW-5 DTW 14.81' DSCP-MW-65 DTW 18.86' (DTP 18.20') DSCP-RW-8 DTW NM	Yes	Yes	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)floor crack. 8' long 2)Drain pipe through slab 3)many floor cracks throughout the building 4)Holes in floor 5)small manhole with cracks along the seal 6)capped pipe that goes through slab 7)concrete trench 8)Floor drains. Bathroom, janitors closet,	None identified	4	2	2	2	2	0	0	0	0	0	0	0	Building is situated on current extent of LNAPL, multiple utility penetrations into slab and foundation walls. Conduct near source sampling, sub-slab sampling, potential preferential pathway evaluation, indoor air sampling.	SV_{SS} (sub-slab, preferential pathway), SV_{NS} (near source) SV_{IA} (indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Document lines of evidence. NFA if risk is acceptable. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	Steen	Unknown	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	STEEN-IW-08 DTW 19.99' STEEN-IW-09 DTW 19.84' STEEN-MW-61 DTW 23.33' STEEN-MW-63 DTW NM STEEN-MW-64 DTW 21.47' STEEN-PH-11 DTW 20.18'	No	Yes		Unknown	Unknown			0	2	2	2	0	0	2	0	0	0	2	0	Building is situated on historical extent of LNAPL no current access. Conduct near source sampling, potential preferential pathway evaluation. Phase 2 sub-slab and indoor air sampling if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Secure access and collect Phase 2 SS and Phase 3 IA if risk is unacceptable. Document multiple lines of evidence if no access. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
2	PHA Gym	No	Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	EPH-MW-50 DTW 14.06' EPH-MWS-11 DTW 13.22' PH-MW-40 DTW 12.24' PH-MW-41 DTW NM PH-MW-51 DTW 13.91' PH-PH-24 DTW NM	No	Yes	Slab	Unknown	Unknown	All details here are assumed 1)Bathroom drains 2)Utility closet drains 3)Floor Crack in the warehouse	Unknown	0	2	0	0	0	0	2	0	0	0	2	0	Building is situated on historical extent of LNAPL no current access. Conduct near source sampling, potential preferential pathway evaluation. Phase 2 sub-slab and indoor air sampling if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Conduct site-specific risk assessment using NS and existing GW data. Secure access and collect Phase 2 SS and Phase 3 IA if risk is unacceptable. Document multiple lines of evidence if no access. Proceed to mitigation if risk is unacceptable or if COCs > SV_{IA}.
3	Building 15	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	DSCP-MW-54 DTW 15.65'	No	No	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	1) Storm drains outside the building	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Conduct near source samples and potential preferential pathway evaluation. Phase 2 sub-slab and phase 3 indoor air sampling if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA in ncessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assessent presents acceptable risk, document multiple lines of evidence and NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
3	Aldi's (Formerly Vacant Lot 2 during the Assessment Phase)	No - Building has a vapor barrier but no SSDS collection system	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	DSCP-MW-1 DTW 19.83' DSCP-MW-44A DTW 18.06'	No	No	NA	Yes, numerous utilities crossing the vacant lot	No	1) Storm drains 2) Unidentified monitoring well 3) Manhole and electrical vault along fenceline	Unknown - Building has a vapor barrier but no SSDS collection piping	0	2	2	2	0	0	0	0	0	0	2	0	Building constructed with vapor barrier only. Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), then collect Phase 2 IA. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.

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3	Building E - Jim Enterprises	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data or above the SVGW	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	Building E - Liberty Camera Company	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data or above the SVGW	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	Building E - Leones Comp	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data or above the SVGW	EPH-MWS-11 DTW 13.22' EPH-PH-5 DTW 12.45' PH-MW-51 DTW 13.91' PH-MWS-15 DTW 14.57' PH-PH-24 DTW NM	No	No	Slab	Utility maps in the area of the building are unavailable, but it is known that sewer and water lines feed the building. Previous trench work on a gas line on Penrose Ferry was observed (approximately 50ft from the building)	Unknown	1) Assume bathroom drains and janitor drains	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with LNAPL or above the SV_{GW}. Potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	P. Agnes (Moyamensing)	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MWS-5 DTW 12.26'	No	Yes	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	1) Storm drains outside the building 2) Gas line appears to enter building wall	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with GW > SV_{GW} and potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	ACME	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	DSCP-MW-53 DTW 14.64' DSCP-MW-12 DTW 15.29'	No	No	Unknown	Unknown	Unknown	1) Sewer 60' from SW Corner outside building 2)Assume drains in bathrooms and janitors closet. 3)Gas line observed approximately 10' from building in sidewalk	Unknown	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with GW > SVGW and potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
3	SEPTA	Unknown	Outside of the current and historic LNAPL plume but has adjacent wells with LNAPL or adjacent wells with limited available data	Ssepta-PH-8 DTW 14.30' DSCP-MW-12 DTW 15.29' DSCP-MW-59 DTW 12.60 (DTP 12.57')	No	No	Yes	Unknown	Unknown	1)Floor drains at bay door 2)Cracks at base of wall 3)Air vents leading to inside of building 4) Probable storm sewers, gas lines and electrical lines penetrating slab	Vehicle exhaust	0	2	2	2	0	0	2	0	0	0	2	0	Proximity to wells with GW > SV_{GW} and potential preferential pathways. Conduct near source sampling and evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Model using NS and existing GW data. If PP confirmed (>SV_{SS}), collect Phase 2 sub-slab samples (and Phase 3 IA if necessary). If PP not confirmed, Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
4	Hotel	Unknown	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MW-48 DTW 11.86' EPH-MW-49 DTW 14.41' EPH-MW-50 DTW 14.06' EPH-MWS-10 DTW 12.80' EPH-MWS-5 DTW 12.26'	No	No	Slab	Yes, numerous utilities entering the building	No	1) Electric room - south wall and SE corner has conduits penetrating slab (0 ppb) 2) Generator in electric room (0 ppb) 3) Floor drain in workshop (1 ppb) 4) Floor drain in sprinkler room (4 ppb) and water pipe penetrates slab 5) Two drain pipes possibly penetrate slab in wondown room, but not confirmed. 6) elevator shaft (out of order) no cracks or penetrations (0 ppb) 7) Laundry room floor drains (0 ppb)	No	0	2	0	0	0	0	2	0	0	0	2	0	Not in current or historic plume nearby wells with GW exceedances. Conduct near source sampling. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
4	P. Agnes (Penrose)	Unknown	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	EPH-MW-39 DTW 12.19' (DTP 12.15') EPH-MWS-5 DTW 12.26'	No	No	Unknown	Numerous utilities observed during exterior assessment, but cannot confirm any utilities inside the building	Unknown	1) Storm drains outside the building 2) Gas line appears to enter building wall	Unknown	0	2	0	0	0	0	2	0	0	0	2	0	Not in current or historic plume nearby wells with GW exceedances. Conduct near source sampling.. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{NS} (near source), SV_{SS} (sub-slab), SV_{IA} (Indoor air)	Model IA from NS samples and GW based on adjacent well data and document multiple lines of evidence. NFA if risk is acceptable, collect SS and IA samples if risk is unacceptable and or proceed with VI mitigation. Mitigate VI risk if COCs > SV_{IA}
4	Building E - Staples	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms and janitor closet 2) Water line penetrates slab in NE corner of building 3) Roof drains penetrate asphalt at exterior of building.	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if necessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building I1 - Dress Barn	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drains in bathrooms and janitor closet 2) Roof drain penetrates asphalt at exterior of building 3) Water lines through floor	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if necssary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.

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4	Building I2 - Kicks USA	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drain in bathroom 2) Roof drain and gas line penetrate asphalt at exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H1 - Verizon	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Water line penetrates slab on East wall 2) Electric conduit and roof drain penetrate asphalt at rear exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H2 - The Children's Place	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Water line penetrates slab at East wall 2) Probable floor drain in former bathroom (not visible due to clutter) 3) Floor drain in active bathroom 4) Roof drain penetrates asphalt at rear and exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H3 - Payless	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Floor drain in bathroom 2) Water line penetrates slab in utility enclosure 2) Roof drain and gas line penetrate asphalt at exterior of building	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H4 - MadRag	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Water line penetrates slab at East wall 2) probable floor drain in bathroom (unable to observe due to clutter).	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building H5 - Vacant	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-21A- DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Communications conduit penetrates slab 2) Floor drain in men/women's bathrooms 3) Water main penetrates slab on east wall	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Building F2 - [redacted] Firm	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Bathroom drains 2)Air ducts in bathrooms 3) Drain in utility room 4)pipes penetrating slabs in utility room	Strong cleaner odor in utility closet	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
4	Buildings F3 - Casual Male XL	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Drains in bathroom	No	0	0	2	2	0	0	2	0	0	0	2	0	Potential Preferential Pathways. Evaluate potential preferential pathways. Phase 2 sub-slab and Phase 3 indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If PP confirmed (>SV_{SS}), then collect Phase 2 sub-slab samples (and Phase 3 IA if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building R - Game Stop	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Drains in bathroom	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building R - Edible Arrangements	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Large drain in kitchen 2)Drain in janitors closet 3)Drain in hallway 4)Drain in freezer	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building R - Domino Pizza	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Gas line through roof at exhaust fan 2)Floor drain at rear 3)Drain at rear sink 4)Water main through slab in electrical room 5)Sprinkler through slab in electrical room	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assesent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.

Table 1
VI Investigation Commercial-Industrial Building Matrix and Sampling Rationale

Building Group Number Based on VI Sampling Strategy	Buildings	VI Mitigation System Present?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Building Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number of sub-slab from SSDS Samples (per event)	Number of Sub-Slab Samples (per event, 2 events total)	Number of Near Source Samples (per event)	Number of Pipe or Utility Bedding Vapor Preferential Pathway Samples (per event)	Number of Sewer or Utility Conduit Vapor Preferential Pathway Samples (per event)	Number of Indoor Air Samples (including one ambient air sample per event)	Number od sub-slab from SSDS Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
5	Building R - Foot Locker	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A - DTW 17.34' DSCP-MW-2B- DTW 18.20'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Drain in bathroom	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assessent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building B - Bank of America	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-20-DTW 19.89' DSCP-MW-45A-DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Drain in janitors closet 2)Drain in bathroom 3)Electrical utilities entering through roof	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assessent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building C - Chilis	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-20 DTW 19.89' DSCP-MW-45A DTW 19.04' DSCP-MW-21A DTW 17.34'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Numerous Kitchen floor drains 2)Bathroom drains 3)Water and sprinkler lines through slab in utility closet	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assessent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building D - Walgreens	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-17-DTW 18.98' DSCP-MW-21A DTW 17.34' DSCP-MW-45A DTW 19.04'.	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1) Sprinkler system through slab 2)Conduit and other utilities through floor 3)drains in bathrooms, janitor closets, and storage rooms	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assessent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
5	Building A - Wendy's	No	Outside of the historic and current LNAPL plume and also adjacent wells are below the SV_{GW} for Protection of VI, Screen for Preferential Pathways if not screened out by Group 4	DSCP-MW-20 DTW 19.89' DSCP-MW-45A DTW 19.04'	No	No	Slab	Yes, numerous utilities running along the perimeter, underneath, and/or entering the building	No	1)Numerous drains in kitchen, below counter, bathroom. 2)Water entry through floor in janitors closet 3)Gas utility through ceiling 4) Large manholes outside building	No	0	0	0	0	0	0	2	0	2	2	2	0	No Phase 1 samples. Potential Preferential Pathways, but may be screened out closer to the source. Phase 2 evaluate potential preferential pathways if necessary. Phase 3 sub-slab and indoor air samples if necessary.	SV_{SS} (sub slab and preferential pathway, SV_{IA} (Indoor air)	If preferential pathway is not screened out, conduct Phase 2 preferential pathway evaluation (and Phase 3 sub-slab and IA samples if nessary) and conduct site specific risk assessment. If PP not confirmed, or if risk assessent presents acceptable risk, document multiple lines of evidence NFA. Proceed with mitigation if COCs > SV_{IA} or risk is unacceptable.
NA	Vacant Lot S	NA	No habitable structures onsite	DSCP-MW-17-DTW 18.98' DSCP-MW-2B-DWT 18.20'	No	No	Slab	Yes, numerous utilities crossing the vacant lot	No	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0	Risk to be mitigted by Quit Claim Deed and Environmental Coventant that will require VI mitigation system be designed and installed for any future development that includes a structure designed for human occupation	NA	No current risk. Future hypothetical risk to be addressed by vapor mitigation requirement in quit claim deed and environmental covenant
NA	Vacant Lot M	NA	No habitable structures onsite	DSCP-MW-1 DTW 19.83' DSCP-MW-44A DTW 18.06'	No	Yes	NA	Yes, numerous utilities crossing the vacant lot	NA	1)Drums. Most likely filled with soil	NA	0	0	0	0	0	0	0	0	0	0	0	0	Risk to be mitigted by Quit Claim Deed and Environmental Coventant that will require VI mitigation system be designed and installed for any future development that includes a structure designed for human occupation	NA	No current risk. Future hypothetical risk to be addressed by vapor mitigation requirement in quit claim deed and environmental covenant
NA	Vacant Lot 3	NA	No habitable structures onsite	DSCP-MW-14 DTW 15.57' DSCP-MW-1A NM DSCP-MW-27A DTW 21.29' DSCP-RW-10 DTW 14.02'	Yes	Yes	NA	Yes, numerous utilities running along the perimeter and crossing the vacant lot	NA	1)Storm drains 2)electrical vault 3)storm cover 4)multiple manholes	NA	0	0	0	0	0	0	0	0	0	0	0	0	Risk to be mitigted by Quit Claim Deed and Environmental Coventant that will require VI mitigation system be designed and installed for any future development that includes a structure designed for human occupation	NA	No current risk. Future hypothetical risk to be addressed by vapor mitigation requirement in quit claim deed and environmental covenant
											Total Estimated Number of Samples														
											Estimated Number of Samples in Phase 1 (two events)	**570**	34	41	67	67	62	14								
											Estimated Number of Duplicates in Phase 1 (two events)	**36**	2	3	4	4	4	1								
											Estimated Number of Samples in Phases 2 and 3 (two events)	**374**							58	0	16	16	83	14			
											Estimated Number of Duplicates in Phases 2 and 3 (two events)	**22**							3	0	1	1	5	1			
											Total Estimated Number of Samples (all events)	**1002**														

Table 2
VI Sampling Plan for the Residential Properties (Siena Place)

Development Lot Numbr	Street Name	Street Number	Active SSDS Installed?	Rationale for Further VI Investigation	Approx. DTW (BTOC) in Nearest Wells (Sept. 2018)	Property Situated on Current Extent of LNAPL?	Building Situated on Historical Extent of LNAPL?	Slab or Basement	Potential for External Preferential Pathway(s) Present?	Significant Foundation Opening(s) Present?	Important Building Assessment Findings	Potential Indoor Air Contaminant Sources Present?	Phase 1 (two events > 45 days apart)		VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
													Number of Indoor Air Samples (including one ambient air sample per event)	Number of Ambient Air Samples (per event)			
XXX	Typical Home	XXXX		Buildings/ Parcels within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	PH-PH-41 DTW 18.21' PH-PH-23 DTW 18.53' PH-MWS-2A DTW 14.89' PH-RW-H DTW 16.69'	No	Yes	Concrete foundation crawl space					2	1	Home constructed with a Vapor Barrier for VI mitigation. Indoor air and ambient air samples to be collected. If COCs are found in indoor air the SV_{IA}, then active SSDS installation will be installed.	Residential SV_{IA} (indoor air and ambient)	Confirm effectiveness of passive SSDS and vapor barrier by sampling SSDS system piping and indoor air. Document lines of evidence. NFA if no risk and IA is below the SV_{IA}. Modify mitigation system as necessary if COCs > SV_{IA}.
Total Estimated number of sampled to be collected - (to be updated based on total number of residences)												**6**	2	1			
Total number of duplicate samples (to be updated based on total number of residences)												**2**	1				
Total number of samples estimated (to be updated based on total number of residences)												**8**					

Table 3

VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Two events > 45 days apart			VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
						Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)			
Pollock-Packer	MH-Steen	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	MH-A	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	MH-B	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system

Table 3
VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Pollock-Packer	MH-C	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	MH-G	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	Yes	Yes	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	19th Street Near Cut Through	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system

Table 3

VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Pollock-Packer	19th and Moyamensing East	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	19th and Moyamensing West	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	2	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Pollock-Packer	Pollock and Moyamensing	Conduit Preferential Pathway	Potential preferential pathway	No	No	0	2	0	Samples to be collected from within sewer conduit from tubing suspended 5-ft above bottom invert elevation. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Siena Lateral 2	A Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	2	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Siena Lateral 2	B Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	0	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system

Table 3
VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Siena Lateral 1	C Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	2	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system
Siena Lateral 1	D Roma Drive	Conduit Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	0	4	0	Samples to be collected from within sewer conduit through manholes from tubing suspended 5-ft above bottom invert elevation. Two cleanout along the same lateral will also be sampled. Ambient air samples to be collected in the locations indicated.	Residential SV_{SS} (sub-slab, preferential pathway), SV_{IA} (Indoor air)	Sewer conduit samples used to quantify risks to receptor from vapor within the sewer and necessity / effectiveness of sewer venting system.
Pollock-Packer	Lot #267 alley behind Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences

Table 3
VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Pollock-Packer	Lot #269 alley behind Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Siena Lateral 1	Between Lots #264 and 265 behind Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Siena Lateral 1	On Roma Drive in front of Lots #264 and 265	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences

Table 3

VI Sampling Plan for Sewer Conduit and Pipe Bedding

Sewer ID	Sample Location	Sample Type	Rationale for Further VI Investigation	Within Current Extent of LNAPL?	Within Historical Extent of LNAPL?	Number of Pipe Bedding Preferential Pathway Samples (per event)	Number of Conduit Vapor Preferential Pathway Samples through Maholes or Cleanouts (per event)	Number of Ambient Air Samples (per event)	VI Pathway Evaluation Approach	Standards Used to Compare Results	Risk Assessment Approach
Siena Lateral 2	In driveway between Lots #284 and 285 near alley	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Siena Lateral 2	In driveway between Lots #284 and 285 near Roma Drive	Pipe Bedding Preferential Pathway	Within the historic (or current) LNAPL plume or within 30-feet of the historic (or current) LNAPL plume	No	Yes	2	0	0	Samples to be collected by direct push rig and vapor probe. Preferential pathway samples in excess of the Residential (SV_{SS}) will trigger Indoor Air VI Samples in adjacent resdiences	Residential SV_{SS} (sub-slab, preferential pathway)	Exceedance of Residential SVSS triggers the need to evaluate indoor air in adjacent residences
Total proposed number of Samples to be Collected per type						12	34	12			
Number of duplicate samples per event						1	2	1			
Total proposed number of Samples to be Collected						**62**					

Figures

Pump House?
Wendy's (A)
Chili's (C)
Bank of America (B)
Edible Arrangements (R)
Game Stop (R) Domino
Pizza (R) Foot Locker (R)
Kicks USA(I2) Dress barn(I1)
Vacant(H5) MadBag(H4)
Payless(H3) The Children's Place(H2)
Verizon(H1) Shoe Carnival(G)
Aldi's, Approximate Location
(Formerly Vacant Lot 2)
Walgreen's (D)
Building 6
Casual Male XL (F3)
[redacted] Firm (F2)
Acme Markets
Building 15
Planet Fitness (P)
Vacant (O) Spirit
Halloween (Temp) (N)
Pet Smart (J)
Vacant Lot S
Building 11
Building 12
Building 8
Lot M
Vacant Lot 3
Home Depot (K1)
Building 14
Building 13
BJ's Wholesale (L)
SEPTA Property
Building 30
VES Building
Building 9
Former STEEN Property
P Agnes
PHA Property
Hotel
PHA Gym
Siena Place Homes
P Agnes
Jim's Ice Liberty
Camera Company
Leones Computer
PASSYUNK AVE
DOVER ST
VARE AVE
24TH ST
22ND ST
21ST ST
LAMBERT ST
OPAL ST
GARNET ST
ROSEBERRY ST
RITNER ST
PORTER ST
SHUNK ST
19TH ST
CLEVELAND ST
18TH ST
COLORADO ST
17TH ST
BOUVIER ST
CHADWICK ST
BANCROFT ST
16TH ST
MOLE ST
HICKS ST
15TH ST
CARLISLE ST
OREGON AVE
JOHNSTON ST
20TH ST
SMEDLEY ST
STOCKER ST
MOYAMENSING AVE
BIGLER ST
SYDENHAM ST
POLLOCK ST
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
PACKER AVE
MOYAMENSING RD
SCHLEY ST
CROATAN PL
FORRESTAL ST
HOMESTEAD ST
CURTIN ST
GEARY ST
HULSEMAN ST
HARTRANFT ST
PATTISON AVE
BIGLER TER
TAYLOR TER
23RD TER
HEMBERGER TER
CROSKEY TER
BONSALL TER
BUCKNELL TER
24TH ST
CURTIN TER
GEARY TER
23RD ST
HULSEMAN TER
BASTIAN TER
HOYT TER
RAMBO TER
PATTISON TER
JARDEN TER
PENROSE AVE
PENROSE FERRY RD
26TH ST
SHEAFF LN
DAVINCI DR
UBER ST
LANVALE PL
DENFIELD PL
BOISE PL
LEYTE PL
CHAUCER ST
BROAD ST

Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- Basement Fans

0 145 290 580 Feet

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SITE LAYOUT

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
1

PATH: I:\20\2023 2:36:15 PM Last saved by

Legend

UtilityPoints_Site2013FigureC130_20170306

- Existing Manhole
- Proposed Manhole

UtilityLines_Site2013FigureC130_20170306

- Existing Electric
- Existing Gas
- Existing Storm
- Existing Water
- Proposed Interior Storm
- Proposed Storm

UtilityLines_DSCP_Figure6_1958

- 24” Comb. St. Sewer & U'drain
- 3’-6” sewer
- 8’-10” sewer

UtilityPoint_GeneralGasMap_1986

- Gas Meter
- Manhole
- Valve

UtilityLines_GeneralGasMap_1986

- Gas
- Oil

UtilityPoints_GeneralElectricalMap_1986

- Manhole
- Handhole
- Transformer
- Light Pole
- Luminaire
- Steel Standard
- Flood Light
- Sub Station

UtilityLines_GeneralElectricalMap_1986

- AER
- U G

UtilityPoints_GeneralSewerandStormMap_1986

- Catch Basin
- Manhole

UtilityLines_GeneralSewerandStormMap_1986

- Sewer

UtilityPoints_GeneralWaterMap_1986

- Fire Hydrant
- Post Indicator
- Tower
- Valve
- Water Meter

UtilityLines_GeneralWaterMap_1986

- Fire Protection
- Water

UtilityPoints_GeneralHeatingAndProcessSteammap_1986

- Boiler Plant
- Manhole

UtilityLines_GeneralHeatingAndProcessSteammap_1986

- Steam Return
- Steam Supply
- Steam Supply & Return

UtilityLines_SetA_Figure3_1993

- Fuel Oil Tunnel

UtilityLines_Figure10_1918

- 2200 Volt Lines
- City’s water main
- Drainage
- High Pressure Water Fire Protection Lines
- Steam Heating Mains
- Water Supply

UtilityPoints_SetA_Figure5_2003

- Vault

UtilityLines_SetA_Figure5_2003

- Fuel Tunnel
- Steam Tunnel

UtilityLines_SetA_Figure7_2003

- Drainage
- Fire
- Gas
- Proposed Utilities Below 7'
- Water

UtilityPoints_SetA_figure9_1950

- Catch Basin
- Manhole

UtilityLineS_SetA_Figure9_1950

- Sewer

Buildings_Figure10_1918

- Building

UtilityPoints_SetA_Figure11_1952

- Catch Basin
- Manhole

UtilityLines_SetA_Figure11_1952

- Drainage

Utilities_SetA_Figure12_1984

- UST_Tank
- Preferential Pathway Phase1
- Preferential Pathway Phase2
- In-Door Air
- Near Source
- Sub-slab
- Mitigation System

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES MAP LEGEND

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE **2B**

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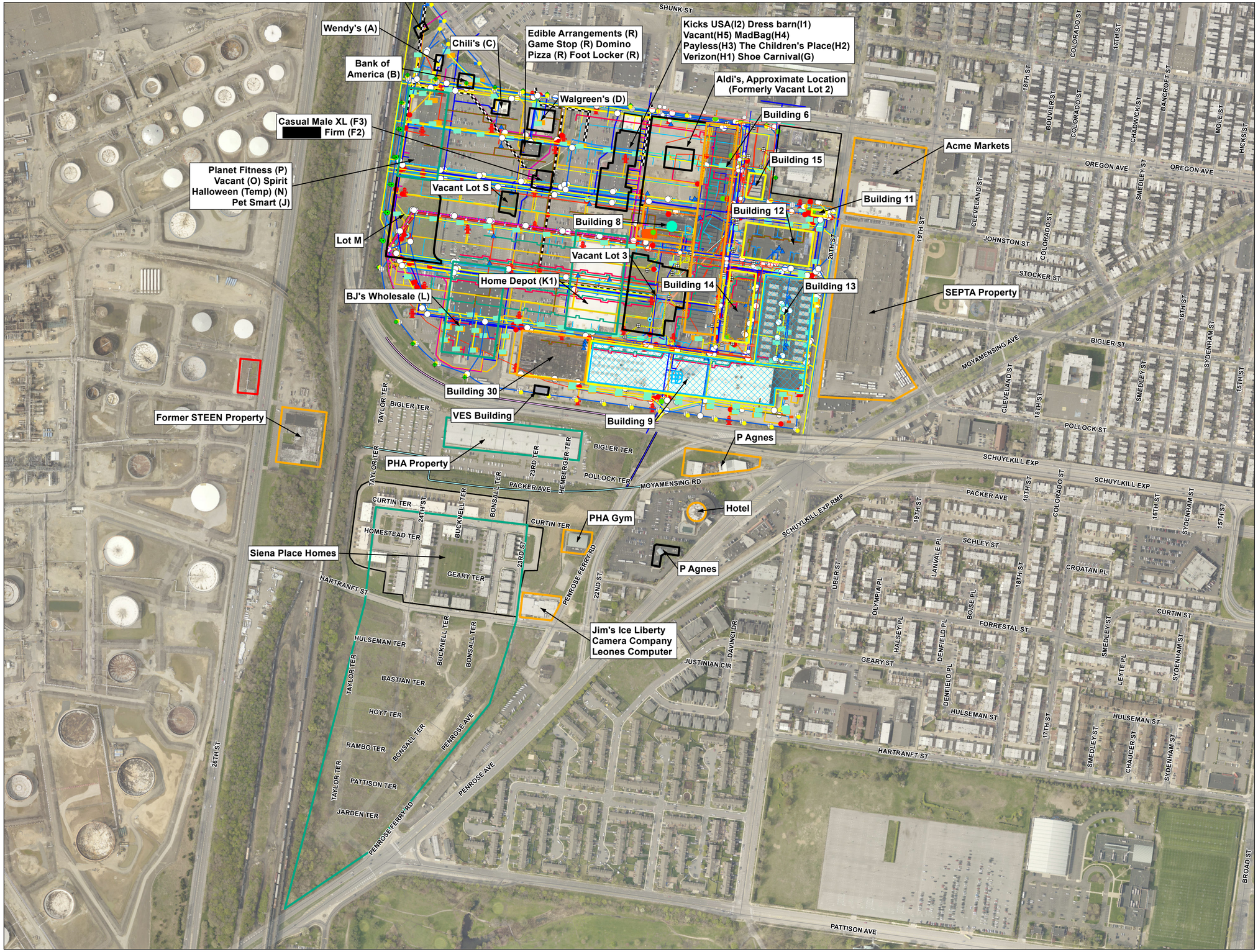

Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- Basement Fans

0 125 250 500 Feet

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SITE LAYOUT AND HISTORICAL UTILITIES

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
2B

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

VARE AVE
24TH ST
OREGON AVE
21ST ST
OREGON AVE
JOHNSTON ST
20TH ST
19TH ST

Pump House?
Wendy's (A)
Bank of America (B)
Chili's (C)
Walgreen's (D)
Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)
Two sample locations per individual store to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.
Aldi's, Approximate Location (Formerly Vacant Lot 2)
Acme Markets
Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)
Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)
Casual Male XL (F3)
Firm (F2)
Two sample locations per individual store in Building R to be field selected for both Phase 3 sub-slab samples and Phase 3 indoor air samples, if needed.
Building 15
Building 6
Building 11
Lot M
Vacant Lot S
Building 8
Building 12
SEPTA Property
Home Depot (K1)
Building 14
BJ's Wholesale (L)
Building 13

0 90 180 270 360
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES AND PROPOSED SAMPLING LOCATIONS VIEW 1

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 3A

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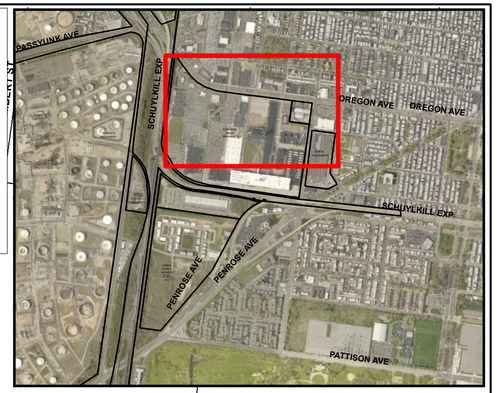
PATH:

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)



VARE AVE
24TH ST
Pump House?
Wendy's (A)
Bank of America (B)
Chili's (C)
Walgreen's (D)
OREGON AVE
Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)
21ST ST
Two sample locations per individual store to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.
Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)
Aldi's, Approximate Location (Formerly Vacant Lot 2)
OREGON AVE
Acme Markets
Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)
Casual Male XL (F3)
Firm (F2)
Two sample locations per individual store in Building R to be field selected for both Phase 3 sub-slab samples and Phase 3 indoor air samples, if needed.
Building 15
Building 6
Building 11
Lot M
Vacant Lot S
Building 8
JOHNSTON ST
SEPTA Property
Building 12
Home Depot (K1)
0 90 180 270 360
SCALE IN FEET
Building 14
20TH ST
19TH ST
BJ's Wholesale (L)
Building 13
Vacant Lot 3

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PATH:

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

PROPOSED SAMPLING LOCATIONS VIEW 1

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE **3B**

Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)

Two sample locations per individual store to be field selected for both Phase 2 sub-slab samples and Phase 3 indoor air samples, if needed.

Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)

Aldi's, Approximate Location (Formerly Vacant Lot 2)

Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)

Casual Male XL (F3)
Firm (F2)

Two sample locations per individual store in Building R to be field selected for both Phase 3 sub-slab samples and Phase 3 indoor air samples, if needed.

Lot M

Vacant Lot S

Building 8

Building 6

Building 15

Building 11

Home Depot (K1)

Building 12

Building 14

Vacant Lot 3

SEPTA Property

Building 13

Acme Markets

BJ's Wholesale (L)

Building 30

Building 9
Partial Basement

P Agnes

SCHUYLKILL EXP

OREGON AVE

JOHNSTON ST

20TH ST

BIGLER ST

BIGLER TER

POLLOCK TER

POLLOCK ST

TAYLOR TER

CROSKEY TER

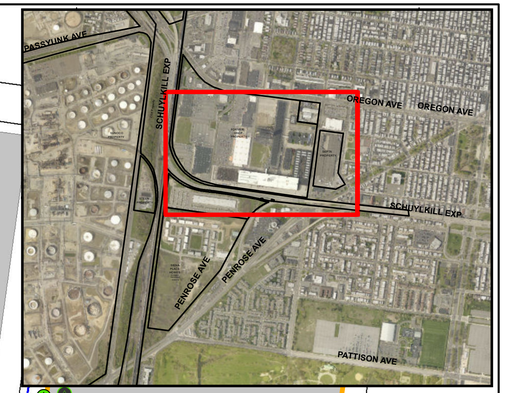
MOYAMENSING RD

PENROSE AVE

PACKER AVE

SCHUYLKILL EXP RMP

PATTISON AVE



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SCALE IN FEET

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES AND PROPOSED SAMPLING LOCATIONS VIEW 2

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4A

PATH: d 1/20/2023 2:46:22 PM Last save by:

Planet Fitness (P)
Vacant (O)
Spirit Halloween (Temp) (N)
Pet Smart (J)

Chili's (C)

Walgreen's (D)

Edible Arrangements (R)
Game Stop (R)
Domino Pizza (R)
Foot Locker (R)

Casual Male XL (F3)
Firm (F2)

Staples (E)
Kicks USA (I2)
Dress barn (I1)
Vacant (H5)
MadBag (H4)
Payless (H3)
The Children's Place (H2)
Verizon (H1)
Shoe Carnival (G)

Aldi's, Approximate Location
(Formerly Vacant Lot 2)

Lot M

Vacant Lot S

Building 8

Building 6

Building 15

Building 11

Building 12

Home Depot (K1)

Building 14

Vacant Lot 3

Acme Markets

SEPTA Property

Building 13

BJ's Wholesale (L)

Building 30

VES Building

PHA Property

Building 9
Partial Basement

P Agnes

SCHUYLKILL EXP

OREGON AVE

JOHNSTON ST

20TH ST

BIGLER ST

BIGLER TER

TAYLOR TER

POLLOCK TER

POLLOCK ST

CROSKEY TER

MOYAMENSING RD

MOYAMENSING

PENROSE AVE

PACKER AVE

SCHUYLKILL EXP RMP

PASSYUNK AVE

PATTISON AVE

0 100 200 300 400
SCALE IN FEET

Legend:

- Buildings with Basements
- No VI System or Unknown
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

PROPOSED SAMPLING LOCATIONS VIEW 2

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4B

PATH: 1/20/2023 2:51:31 PM Last save by:

Former STEEN Property

PHA Property

VES Building

Building 9
Partial Basement

P Agnes

Hotel

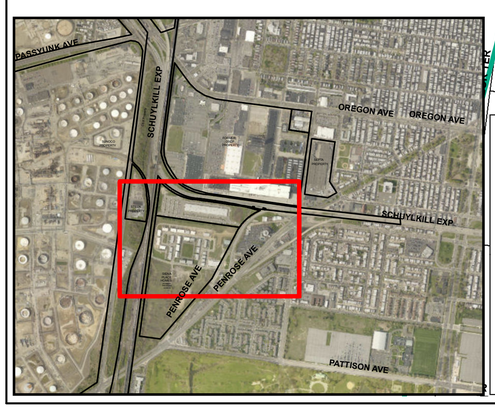
PHA Gym

P Agnes

Jim's Ice
Liberty Camera Company
Leones Computer

SIENNA PLACE HOMES

BIGLER TER
POLLOCK TER
PACKER TER
PACKER AVE
CURTIN TER
HOMESTEAD TER
GEARY TER
HULSEMAN TER
HOMESTEAD ST
BIGLER TER
POLLOCK TER
CURTIN TER
TAYLOR TER
TAYLOR TER
TAYLOR TER
PHA DRIVEWAY
BUCKNELL TER
BONSALL TER
23RD TER
HEMBERGER TER
CROSKEY TER
23RD ST
24TH ST
22ND ST
22ND ST
20TH ST
26TH ST
HARTRANFT ST
SCHUYLKILL EXP
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
SCHUYLKILL EXP RMP
MOYAMENSING RD
PENROSE AVE
PENROSE FERRY RD
JUSTINIAN CIR
DAVINCI DR
GEARY ST



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- Basement Fans
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

0 100 200 300 400
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

HISTORICAL UTILITIES AND PROPOSED SAMPLING LOCATIONS VIEW 3

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 5A

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PATH:

Former STEEN Property

PHA Property

VES Building

Building 9
Partial Basement

P Agnes

P Agnes

Hotel

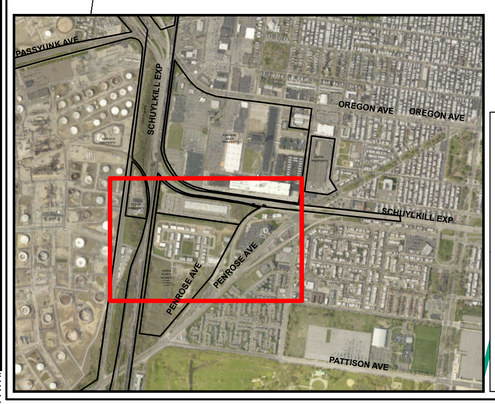
PHA Gym

Building E
Jim's Ice
Liberty Camera Company
Leones Computer

Two sample locations per
individual business in Building E
to be field selected for both
Phase 2 sub-slab samples and Phase 3
indoor air samples, if needed.

SIENNA PLACE HOMES

26TH ST
TAYLOR TER
BIGLER TER
POLLOCK TER
PHA DRIVEWAY
PACKER TER
PACKER AVE
BUCKNELL TER
23RD TER
HEMBERGER TER
CROSKEY TER
CURTIN TER
24TH ST
BONSALL TER
HOMESTEAD TER
23RD ST
GEARY TER
HARTRANFT ST
HULSEMAN TER
22ND ST
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
PENROSE FERRY RD
PENROSE AVE
MOYAMENSING RD
HOMESTEAD ST
20TH ST
JUSTINIAN CIR
DAVINCI DR
GEARY ST



Legend:

- Buildings with Basements
- No VI System or Unknown
- Sewer Vacuum System
- VI System (Barrier or Passive Vent)
- VI System (Basement Fans)
- Inferred Extent of Product (September 2017)
- Inferred Extent of Product (October 2002, dashed where inferred)
- Preferential Pathway, Phase1
- Near Source, Phase 1
- Sub-slab, Phase 1
- Indoor Air Phase 1
- Sub-Slab Vapor Sample From Existing Passive Mitigation System Phase 1
- Sub-slab, Phase 2 (If needed)
- Preferential Pathway, Phase2 (If needed)
- Indoor Air, Phase 2 (If needed)
- Indoor Air, Phase 3 (If needed)
- Sub-slab, Phase 3 (If needed)

0 0 100 200 300 400
SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

PROPOSED SAMPLING LOCATIONS VIEW 3

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FIGURE **5B**

PATH: 1/20/2023 3:01:07 PM Last save by:

SUNOCO PROPERTY

CSX Property

FORMER DSCP PROPERTY

SEPTA PROPERTY

Pollock-Packer Sewer

MH Steen

FORMER STEEN PROPERTY

PHA PROPERTY

MH A

MH B

MH C

MH D

MH E

MH F

MH G

MH H

MH Cluster at 19th and Moyamensing

Pollock-Packer Sewer

26th Street Sewer

SIENA PLACE HOMES
(FORMER PASSYUNK HOMES)

1

10

100

Legend:

- DSCP Shallow Benzene Iso-Concentration Contours - 2019
- DSCP Shallow Benzene Iso-Concentration Contours - 2022

DSCP Shallow Benzene Iso-Concentration Contours 2019

Contour Interval

- 1 µg/L
- 10 µg/L
- 100 µg/L
- 1000 µg/L
- Manhole
- Sewer Line
- Interpreted Limits of the** "Hole/Breach"
- GWElev4Q2020

Notes:

(µg/L) = micrograms per liter

** Approximate edges of the breach in the confining bed between the Site's shallow and deep aquifer zones as discussed during the March 6, 2013 meeting with the PADEP, DLA and USACE

Imagery Source:
Maxar, 10/3/2020, accessed via ESRI World Imagery Service

0 250 500 750 1,000

SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SHALLOW GROUNDWATER BENZENE ISO-CONCENTRATION CONTOURS 2019-2022 OVERLAY

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FIGURE 6

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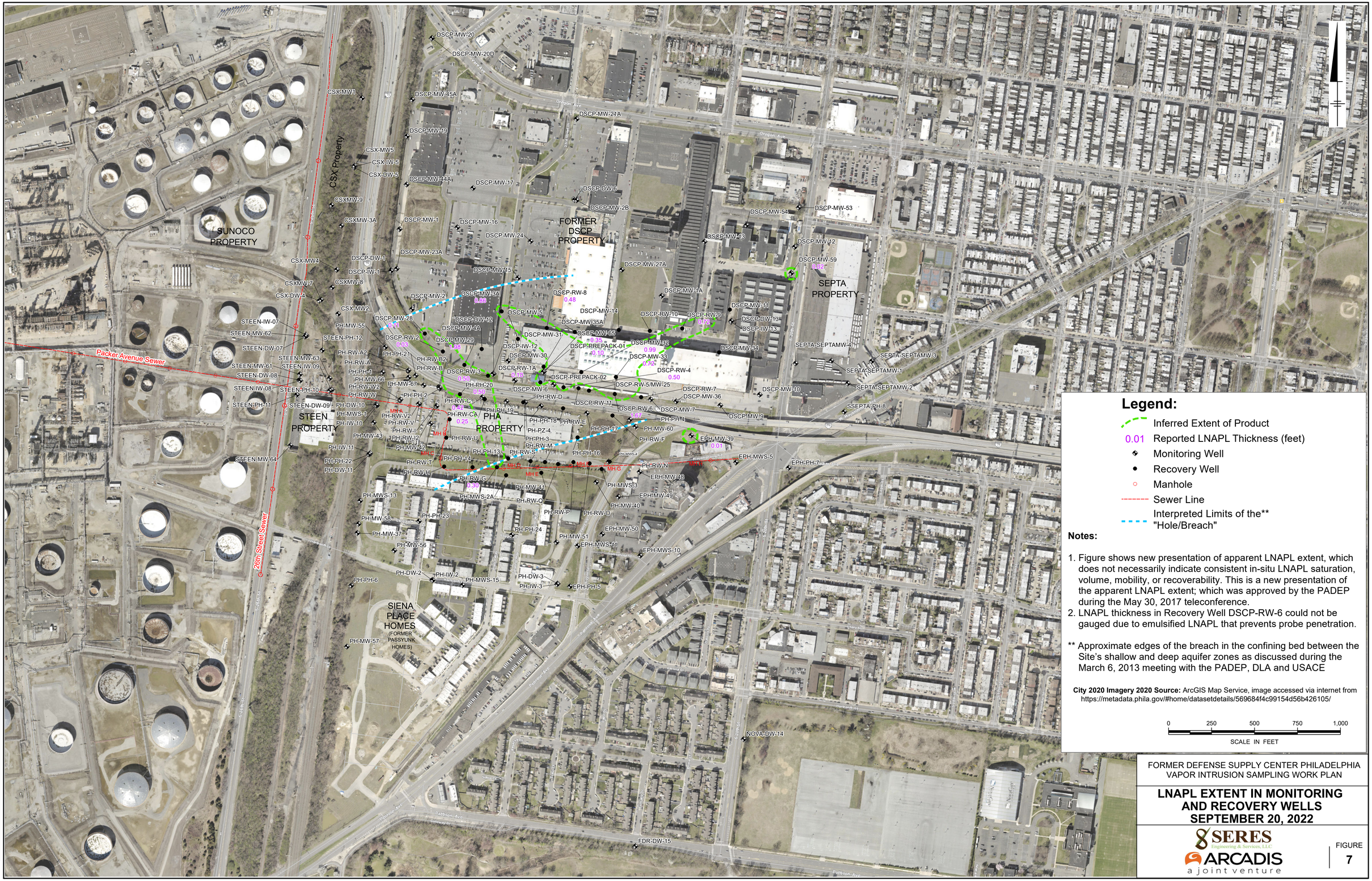

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

LNAPL EXTENT IN MONITORING AND RECOVERY WELLS SEPTEMBER 20, 2022

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FIGURE 7

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PATH

SIENNA PLACE HOMES

PHA PROPERTY

Legend:

- Proposed Location of Pipe Bedding Vapor Samples
- Sienna Place Sewer Lateral
- Existing Pollock-Packer Sewer

Notes:

1. Locations of Pipe Bedding Vapor Samples to be field verified in conjunction with private utility locater.
2. Sewer Conduit Vapor Samples to be collected from cleanouts or manholes located along the same sewer laterals as close as possible to the pipe bedding vapor sample locations.

0 230 460 690 920

SCALE IN FEET

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

SEWER LATERAL CONNECTIONS TO SIENNA PLACE

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FIGURE 8

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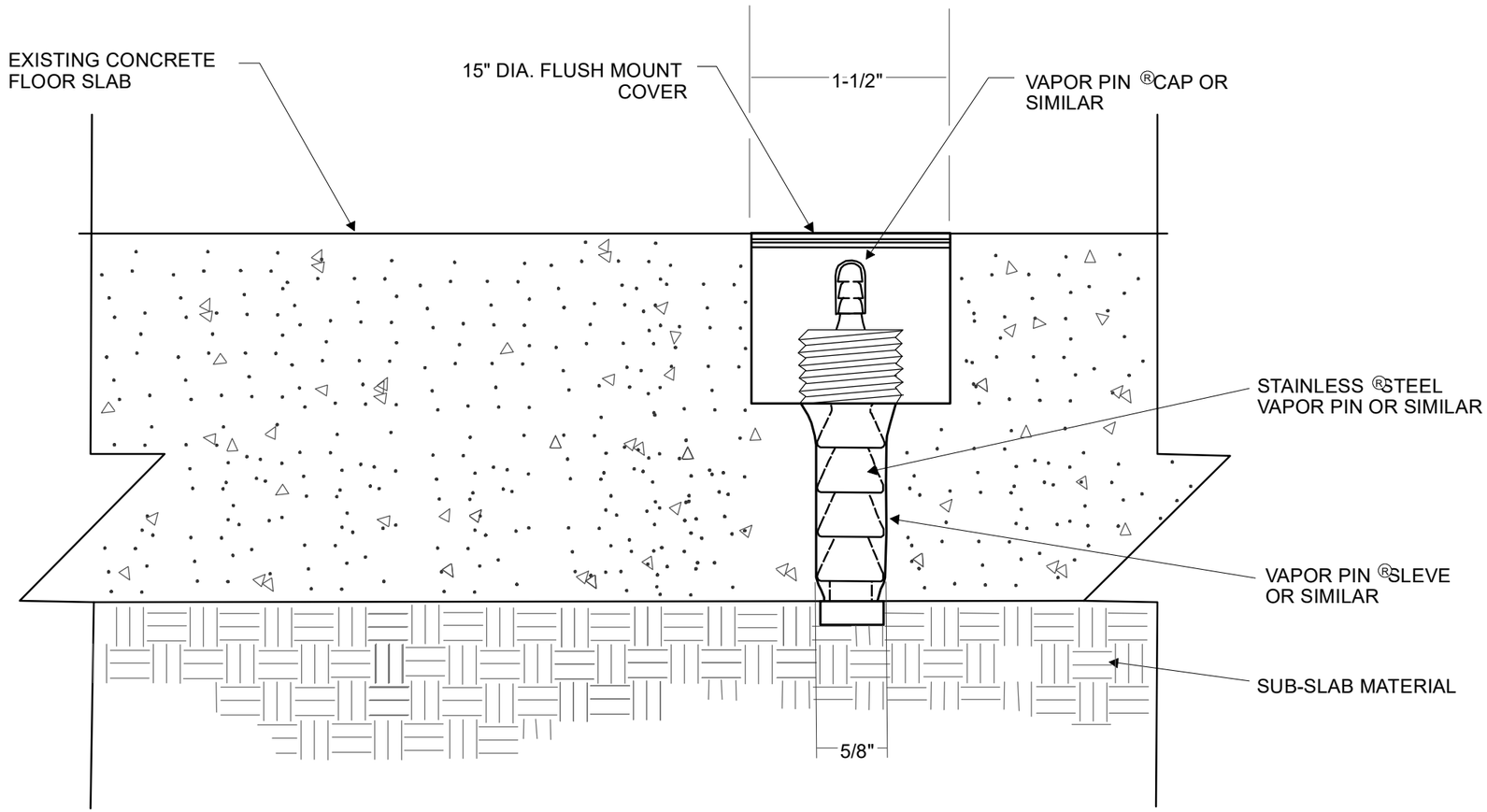

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

TYPICAL VAPOR PIN SUBSLAB MONITORING POINT DETAIL

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FIGURE
9

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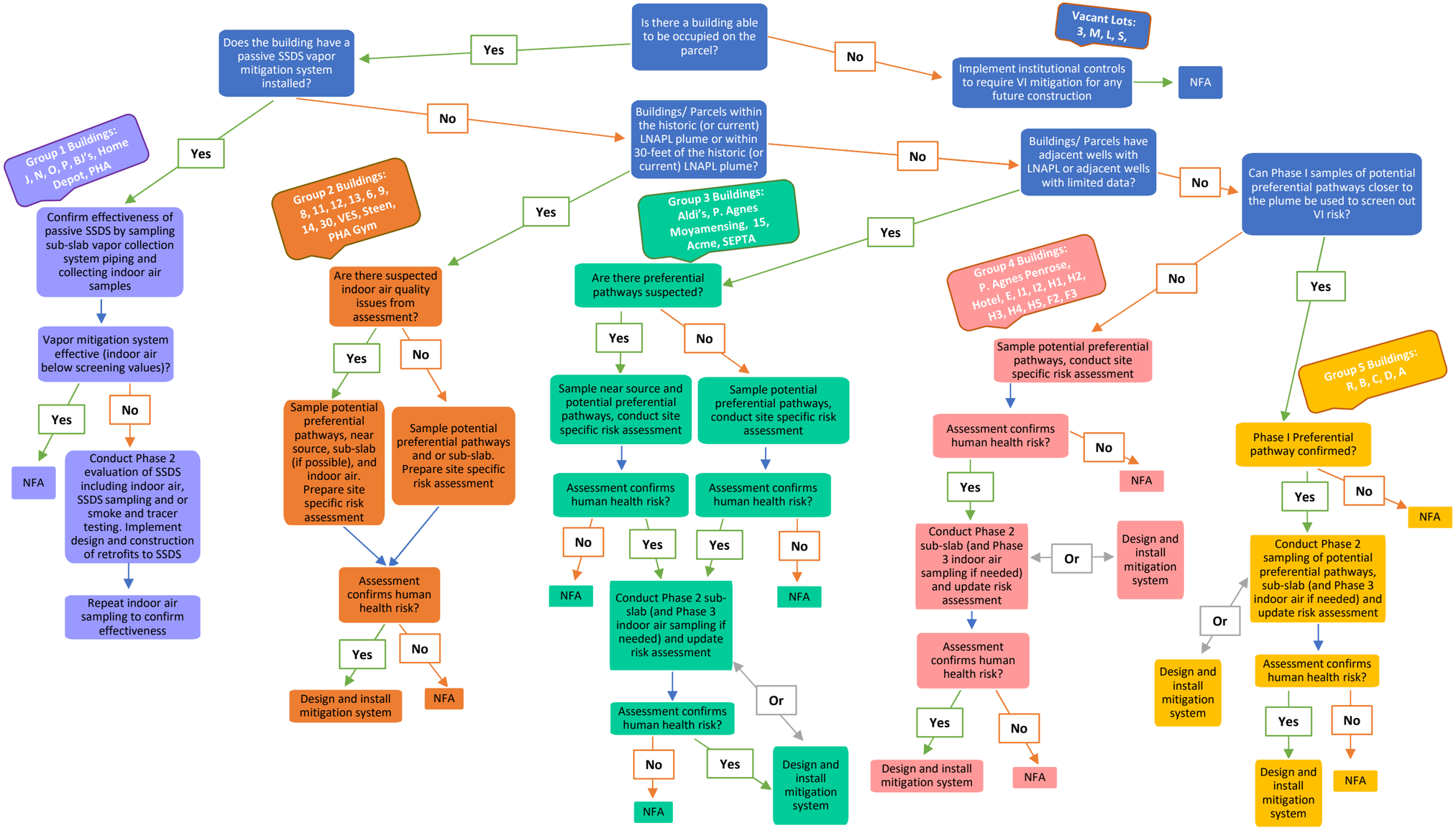
Appendix A

VI Sampling Plan Decision-Making Flow Charts



SSDS: Sub-slab Depressurization System
NFA: No Further Action
LNAPL: Light Non-aqueous Phase Liquid
VL: Vacant Lot

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

VI INVESTIGATION STRATEGY FLOW CHART FOR COMMERCIAL-INDUSTRIAL BUILDINGS AT THE FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

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APPENDIX A
1

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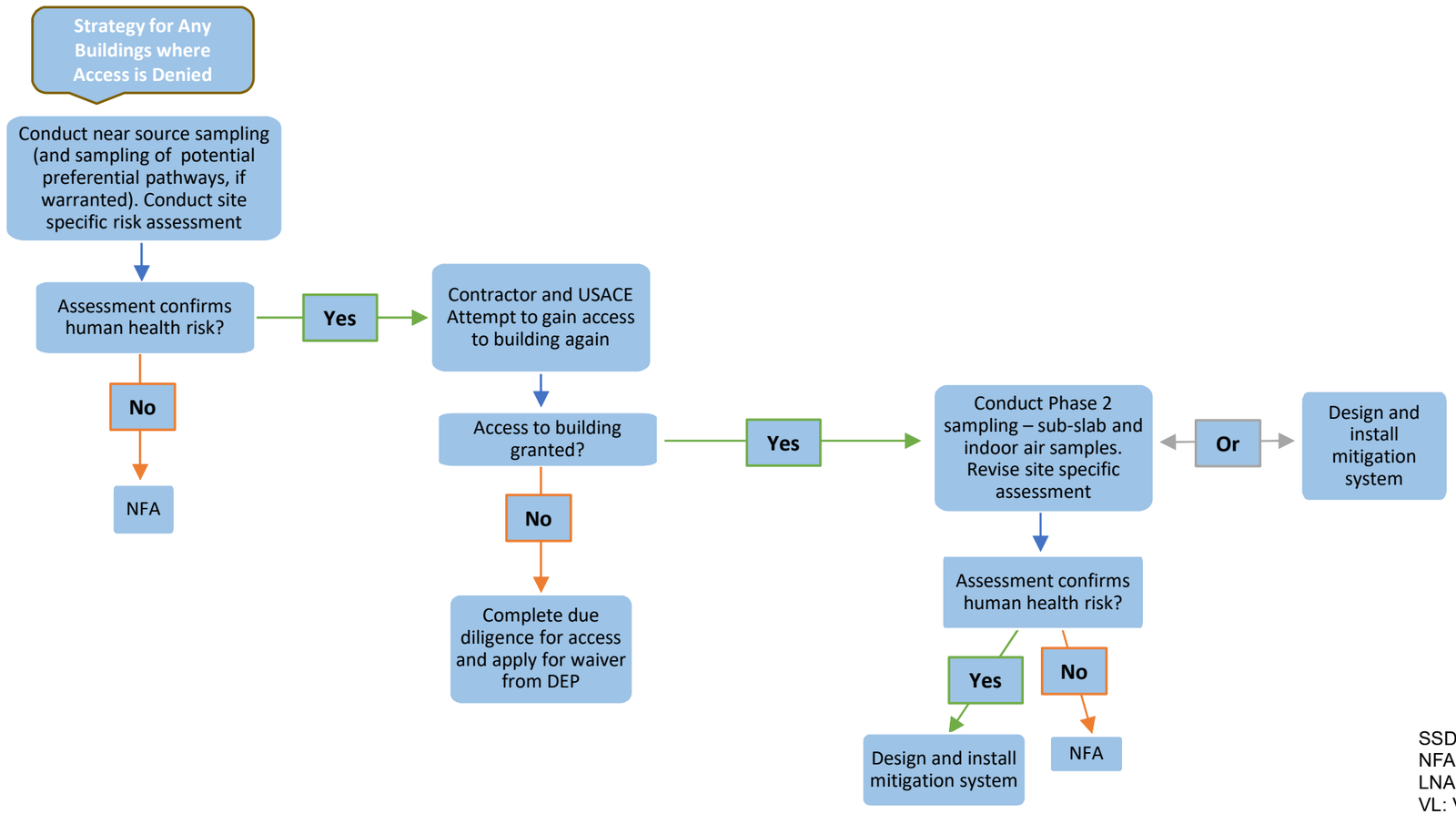

SSDS: Sub-slab Depressurization System
NFA: No Further Action
LNAPL: Light Non-aqueous Phase Liquid
VL: Vacant Lot

FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

VI INVESTIGATION STRATEGY FLOW CHART FOR ANY COMMERCIAL-INDUSTRIAL BUILDING WHERE ACCESS HAS BEEN DENIED AT THE FORMER DEFENSE SUPPLY CENTER PHILADELPHIA

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APPENDIX A
2

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Appendix B

Arcadis Technical Guidance Instructions

TGI - Sub-Slab Soil Gas Sampling Point Installation Using Vapor PIN™ Approach

Rev: 2

Rev Date: December 30, 2021

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
	1	July 20, 2017	All	Original/Rev 1	[redacted]
	2	December 30, 2021	All	Rev 2 for QMS Library / Updates	[redacted]

Approval Signatures

Prepared by: [redacted] 7/20/2017

[redacted] (Preparer) Date

Reviewed by: [redacted] 12/30/2021

[redacted] (Subject [redacted] Expert) Date

1 Introduction

This Technical Guidance Instruction (TGI) provides the methods and procedures for installing sub-slab vapor ports using the Vapor Pin™ approach.

2 Intended Use and Responsibilities

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

It is the responsibility of the Arcadis Certified Project Manager (CPM) to provide this document to the persons conducting services that fall under the scope and purpose of this procedure, instruction, and/or guidance. The Arcadis CPM will also ensure that the persons conducting the work falling under this document are appropriately trained and familiar with its content. The persons conducting the work under this document are required to meet the minimum competency requirements outlined herein, and inquire to the CPM regarding any questions, misunderstanding, or discrepancy related to the work under this document.

This document is not considered to be all inclusive nor does it apply to all projects. It is the CPM's responsibility to determine the proper scope and personnel required for each project. There may be project- and/or client- and/or state-specific requirements that may be more or less stringent than what is described herein. The CPM is responsible for informing Arcadis and/or Subcontractor personnel of omissions and/or deviations from this document that may be required for the project. In turn, project staff are required to inform the CPM if or when there is a deviation or omission from work performed as compared to what is described herein.

In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

3 Scope and Application

This document describes the procedures for installing permanent sub-slab sampling probes using the Vapor Pin™ approach. These sample probes can then be used for the collection of sub-slab soil gas samples, for vacuum readings, or other uses. When not in use, the probes can be sealed in place without having to abandon the point.

The following sections list the necessary materials, equipment, and detailed instructions for installing sub-slab sampling points using the Vapor Pin™ approach.

4 Personnel Qualifications

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, site-specific training, first-aid, and cardiopulmonary resuscitation (CPR), as

needed. Arcadis field sampling personnel will be well versed in the relevant standard operating procedures (SOPs), technical guidance instructions (TGIs) and possess the required skills and experience necessary to successfully complete the desired field work. Arcadis personnel responsible for leading sub-slab soil gas sampling point installation activities must have previous sub-slab soil gas sampling point installation experience.

5 Equipment List

- Appropriate personal protective equipment (PPE), as required by the site-specific Health and Safety Plan (HASP) and the job safety analysis (JSA)
- Electric hammer drill (big – e.g., Bosch, Hilti, etc.)
- 5/8-inch and 1 ½-inch concrete drill bits for impact drill (drill bit length contingent on slab thickness)
- 2-inch concrete coring drill bit (for stainless steel flush mount cover installation)
- Contractor Cox Colvin Vapor Pin™ Kit that includes:
  - Decontaminated Stainless Steel Vapor Pin™ with barbed fitting (0.5-inch outside diameter at end, 0.8125-inch diameter at middle, 3.5-inch in length)
  - Vapor Pin™ sleeves
  - Vapor Pin™ rubber protective caps
  - Secure, steel flush mount covers or plastic flush mount cover
  - Spanner screwdriver
  - Stainless steel drilling guide
  - Installation/Extraction tool
  - Bottle brush
  - Vapor Pin™ SOP
- Photoionization detector (PID) with appropriate eV lamp for site related contaminants of concern (COCs)
- Dead blow hammer
- Pliers
- Whisk broom and dustpan or shop vacuum with clean fine-particle filter
- Spray bottle with distilled water
- Paper towels
- Nitrile gloves
- Work gloves
- Knee pads
- Ground fault circuit interrupter (GFCI)
- Extension cords capable of amperage required for hammer drill
- Plastic sheeting
- Field notebook and/or FieldNow® application

6 Cautions

The following cautions and field tips should be reviewed and considered prior to installing or collecting a sub-slab soil gas sample.

- When drilling sample collection holes, be mindful of utilities that may be in the area. Always complete utility location, identification and marking before installing sub-slab ports as required by the Arcadis Utility Location Policy and Procedure. Be aware that public utility locator organizations frequently do not provide location information within buildings so alternative lines of evidence must be used. If the driller is concerned about a particular location, consult the project manager about moving it to another location. Do not hesitate to use Stop Work Authority; if something doesn't seem right stop and remedy the situation.
- Use of Vapor Pins™ and drill bit length will be based on the thickness of the slab encountered. Every effort will be made to establish the thickness of the slab during the preliminary investigation activities, such as interviews with site personnel, review of construction drawings, building walk through and utility clearance process. If slab is determined to be too thin for Vapor Pins™ – install a standard port using the permanent probe approach consistent with the corresponding TGI.
- Sampling personnel should not handle hazardous substances (such as gasoline), permanent marking pens (sharpies), use hand sanitizer, wear/apply fragrances, or smoke cigarettes/cigars before and/or during the installation event.
- Only a clean decontaminated hammer drill and drill bits should be used for installation. A hammer drill dedicated to VI work is preferred. Be extra cautious if using rental equipment.
- Field personnel will properly seal the sub-slab soil gas sampling point at the slab surface to prevent leaks of atmosphere into the sub-slab soil gas sampling point during purging and sampling. Permanent ports will be fit snug into the predrilled hole by ensuring that the silicone sleeve is fitted properly around the Vapor Pin™ before installation and expands sufficiently inside the hole during installation. A protective cap will be installed on the end of the barb fitting. If this is not done properly, the integrity of the sample port may be compromised.
- If possible, have equipment shipped two to three days before the scheduled start of the installation event so that all materials can be checked. Order replacements if needed.

7 Health and Safety Considerations

All sampling personnel should review the appropriate HASP and JSA prior to beginning work to be aware of all potential hazards associated with the job site and the specific task. Field sampling must be carefully performed to minimize the potential for injury and the spread of hazardous substances. For sub-slab soil gas sampling point installation, drilling with an electric concrete impact drill should be done only by personnel with prior experience using such a piece of equipment or directly supervised by an experienced person and with the appropriate health and safety measures in place as presented in the JSA. It is possible to encounter high concentrations of VOCs in sub-slab soil gas, so the amount of time the borehole remains open should be minimized. For the same reason, when installing sub-slab soil gas sampling points in spaces with minimal dilution potential, such as closets, it is advisable to provide local ventilation. Finally, sub-slab soil gas sampling point installation should be completed at least 24 hours in advance or after any indoor air sampling to avoid cross contamination of the indoor air samples.

Proper procedures should be used to eliminate exposure to silca dust when drilling through concrete and asbestos containing materials such as floor tile, etc.

8 Procedure

Permanent sub-slab soil gas sampling points are installed using a hammer drill and manual placement of the Vapor Pin™ probe. After a dry fit, the vapor probe is inserted into the hole and installed using a dead blow hammer to tap the installation/extraction tool over the Vapor Pin™ to protect the barb fitting. The vapor probe is equipped with a rubber protective cap that is used to close the sampling port when not in use. A figure presenting a properly installed Vapor Pin™ is below:

Figure 1 - Cross-section of properly installed Vapor Pin™(Cox-Colvin Vapor Pin™ Installation SOP [2016])

The Vapor Pin™ and tubing will be purged prior to collecting the soil gas sample. Detailed installation methods are as follows:

1. Complete the procedure in the Arcadis Utility Location and Clearance Standard prior to drilling activities.
2. Remove, only to the extent necessary, any covering on top of the slab (e.g., carpet) if present.
3. Lay down plastic sheeting to keep the work area clean. Check to make sure shop vacuum is working properly and fine concrete particles will not pass through filter.
4. Advance the 1½-inch drill bit approximately 1.75 inches into the slab (Please note that if the stainless-steel flush mount is being used, advance the 2-inch drill bit approximately 1/8 inch into the slab first before using the 1½-inch drill bit). This hole is drilled deep enough to permit the top of the Vapor Pin™ to be set flush with the slab when the Vapor Pin™ is inserted into the 5/8-inch hole drilled under Step 7, below. Careful not to advance too far into the slab. This will cause the threaded portion of the Vapor Pin™ to be set too deeply to engage with stainless-steel cover. Clean up cuttings with shop vacuum, bottle brush, and dust pan.
5. Drill a 5/8-inch-diameter hole into the concrete slab using the hammer drill. Do not fully penetrate the slab at this time. Stop drilling approximately 1-inch short of penetrating the slab.
6. Use the shop vacuum, bottle brush and dust broom to clean up the work area and material that may have fallen into and around the drill hole.

7. Advance the 5/8-inch drill bit the remaining thickness of the slab and approximately 3 inches into the sub-slab material to create an open cavity. Record any observations from the drill cuttings, if possible, regarding approximate soil type(s), presence of soil moisture/water, and presence or absence of a plastic sub-slab sheet. Record PID readings.
8. Use the bottle brush, dust broom and dust pan to clean material around and within the hole. Do not use the shop vacuum to clean up the drill hole after the full thickness of the slab has been penetrated.
9. Using a Vapor Pin™ without the silicone sleeve fitted, test fit the components so that the proper depth of the 1½-inch hole provides enough space for the Vapor Pin™. Adjust so that the Vapor Pin™ will lie flush with the slab surface and does not create a tripping hazard.
10. Re-drill the 5/8-inch hole to ensure it remains clear. This can also be accomplished using a piece of steel rod, sample tubing or a piece of heavy wire (e.g., coat hanger).
11. Assemble the Vapor Pin™ for installation by fitting the silicone sleeve over the lower end of the pin.
12. Place the lower end of Vapor Pin™ assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the Vapor Pin™ to protect the barb fitting, and tap the Vapor Pin™ into place using a dead blow hammer. Make sure the installation/extraction tool is aligned with the Vapor Pin™ to avoid damaging the barb fitting. Place the rubber protective cap over the Vapor Pin™ barb so that it covers the first barb. Do not push the cap down so that it is flush as this will make it very difficult to remove when preparing to sample.
13. For flush mount installations, cover the Vapor Pin™ with a flush mount cover, using either the plastic cover or by threading the stainless-steel secure cover onto the Vapor Pin™. Replace the surface covering (e.g., carpet) if warranted. Sample collection location should be returned to pre-sampling conditions to the extent feasible given the presence of a permanent probe.
14. All permanent sub-slab soil gas sampling points should be allowed to equilibrate for a minimum of 24 hours before proceeding to sample collection.

9 Waste Management

Silica dust generated from drilling through concrete must be captured and disposed of properly. If drilling through known or potential asbestos containing materials (e.g., floor tile, linoleum, etc.), discuss with the project manager and VI lead for proper management and disposal of dust and cuttings.

10 Data Recording and Management

Digital data collection is the Arcadis standard using available FieldNow® applications that enable real-time, paperless data collection, entry, and automated reporting. Paper forms should only be used as backup to FieldNow® digital data collection and/or as necessary to collect data not captured by available FieldNow® applications. The Field Now® digital form applications follow a standardized approach, correlate to most TGIs and are available to all projects accessible with a PC or capable mobile device. Once the digital forms are saved within FieldNow®, the data is instantly available for review on a web interface. This facilitates review by project management team members and SMEs enabling error or anomalous data detection for correction while the staff are still in the field. Continual improvements of FieldNow® applications are ongoing, and revisions are made as necessary in response to feedback from users and subject [redacted] experts.

11 Quality Assurance

Conduct quality assurance as required by the project-specific work plan and/or Quality Assurance Project Plan (QAPP).

12 References

Cox-Colvin & Associates, Inc. 2016. Standard Operating Procedure Installation and Extraction of the Vapor Pin™. http://vaporpin.coxcolvin.com/wp-content/uploads/2016/09/Vapor-Pin-SOP-09-2016-Web.pdf

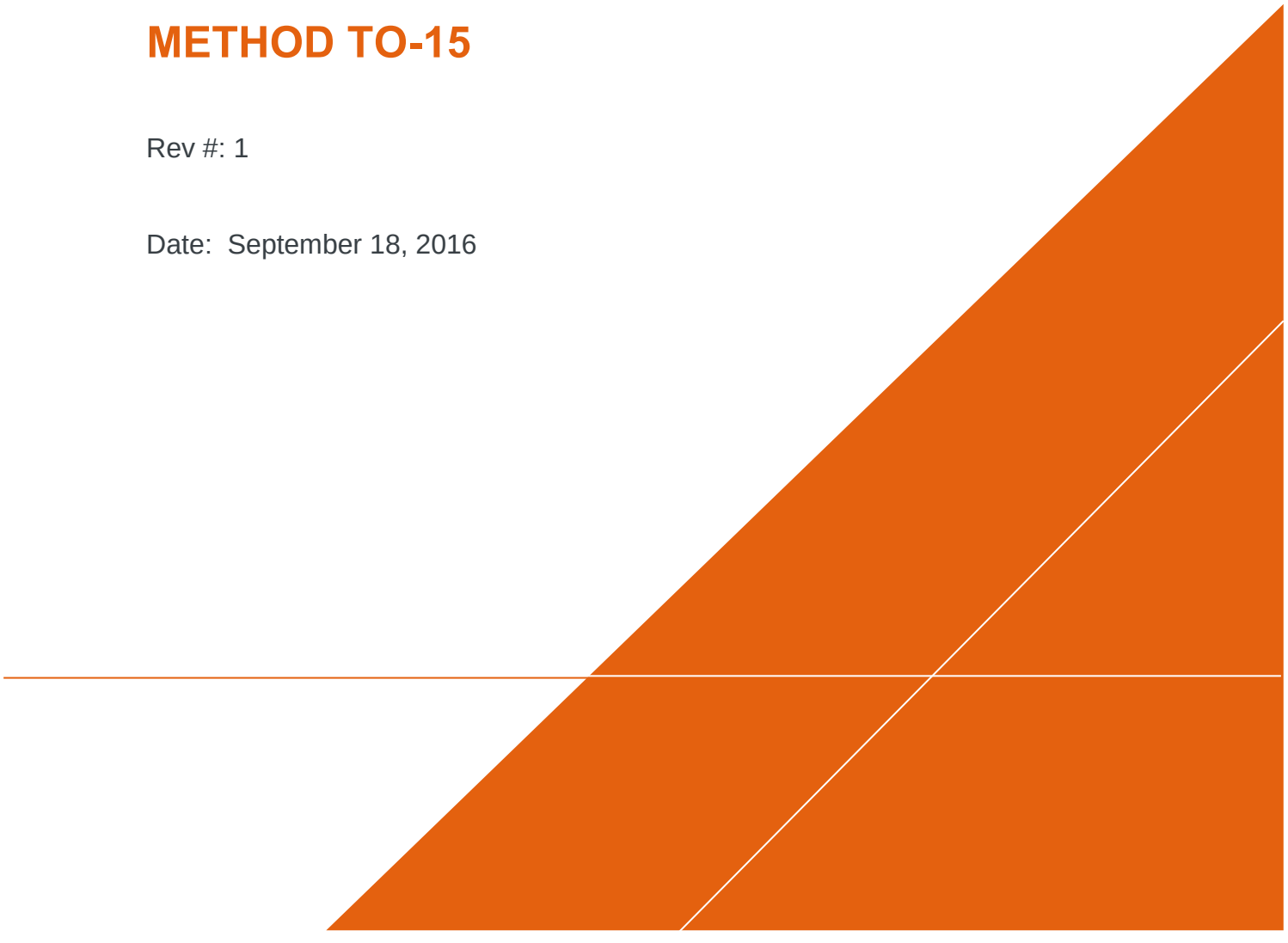
Arcadis U.S., Inc.
[redacted]
www.arcadis.com

ARCADIS Design & Consultancy for natural and built assets

TGI - SUB-SLAB SOIL VAPOR OR SOIL VAPOR SAMPLING USING WHOLE AIR CANISTERS ANALYZED VIA USEPA METHOD TO-15

Rev #: 1

Date: September 18, 2016



SOP VERSION CONTROL

Revision No	Revision Date	Page No(s)	Description	Reviewed by
1	9/18/2016	All	Updated Rev0	[redacted]

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APPROVAL SIGNATURES

Prepared by: [redacted] Date: 9/18/2016

Reviewed by: [redacted] Date: 9/18/2016
[redacted] (Technical Expert)

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I. INTRODUCTION

This Technical Guidance Instruction (TGI) document describes the procedures to conduct a building survey prior to indoor air sampling.

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

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In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

II. SCOPE AND APPLICATION

This document describes the procedures for collecting exterior soil vapor or sub-slab soil vapor (herein referred to as "soil vapor") samples using whole air canisters for the analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15 (TO-15). This document assumes a sample port – either sub-slab or exterior soil vapor – has already been installed. This document covers the above ground assembly and sampling methods.

Method TO-15 uses a 1-liter 3-liter or 6-liter SUMMA® passivated stainless steel canister to collect a whole-air sample. The whole-air sample is then analyzed for VOCs using a quadrupole or ion-trap gas chromatograph/mass spectrometer (GS/MS) system to provide typical compound detection limits of 0.5 parts per billion volume (ppbv).

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The following sections list the necessary equipment and detailed instructions for collecting soil vapor samples for VOC analysis.

III. PERSONNEL QUALIFICATIONS

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, site-specific training, first-aid, and cardiopulmonary resuscitation (CPR), as needed. Arcadis field sampling personnel will be well versed in the relevant technical guidance instructions (TGIs) and possess the required skills and experience necessary to successfully complete the desired field work. Arcadis personnel responsible for leading soil vapor sample collection activities must have previous soil vapor sampling experience.

IV. EQUIPMENT LIST

The equipment required for soil vapor sample collection is presented below:

- 1,3, or 6 – liter stainless steel SUMMA® canisters (order at least one extra, if feasible) (batch certified canisters or individual certified canisters as required by the project);
- Flow controllers with in-line particulate filters and vacuum gauges; flow controllers are pre-calibrated to specified sample duration (e.g.,5-, 10, or 30- minutes) or flow rate (e.g., < 200 milliliters per minute [mL/min]); confirm with the laboratory that the flow controller comes with an in-line particulate filter and pressure gauge (order at least one extra, if feasible);
- 1/4-inch OD tubing (Teflon®, or similar);
- Extra 1/4-inch Swagelok front and back compression sleeves
- Decontaminated stainless steel Swagelok or comparable “T” fitting and ball or needle valve for isolation of purge leg of sample train;
- Stainless steel duplicate “T” fitting provided by the laboratory (if collecting duplicate [i.e., split] samples);
- 60-mL syringe equipped with a three-way leur lock valve;
- Appropriate equipment and materials for quality assurance testing as laid out in the respective quality assurance TGIs (i.e., helium leak testing, water dam testing, methane testing);
- Appropriate-sized open-end wrench (typically 9/16-inch and ½”);
- Tedlar® bag to collect purge air for venting outside a structure if working inside;
- Portable weather meter, if appropriate;

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- Chain-of-custody (COC) form;
- Sample collection log (attached);
- Nitrile gloves;
- Work gloves; and
- Field notebook

V. CAUTIONS

The following cautions and field tips should be reviewed and considered prior to installing or collecting a soil vapor sample.

- Sampling personnel should not handle hazardous substances (such as gasoline), permanent marking pens (sharpies), wear/apply fragrances, or smoke cigarettes/cigars before and/or during the sampling event.
- Ensure that the flow controller is pre-calibrated to the proper sample collection duration (confirm with laboratory). Sample integrity can be compromised if sample collection is extended to the point that the canister reaches atmospheric pressure. Sample integrity is maintained if sample collection is terminated prior to the target duration and a measurable vacuum (e.g., 3 -7 – inches Hg) remains in the canister when sample collection is terminated.
- The integrity of the sample train will be tested in accordance with the project specific requirements. These procedures are contained in their own TGI documents and include helium leak testing, water dam testing, and methane screening.
- It is important to record the canister pressure, start and stop times, and sample identification on a proper field sampling form. You should observe and record the time/pressure at the start, and then again one or two hours after starting the sample collection. It is a good practice to lightly tap the pressure gauge with your finger before reading it to make sure it is not stuck. If the canister is running correctly for a 24-hour period, the vacuum will have decreased slightly after one or two hours (for example from 29 inches to 27 inches). Consult your project manager, risk assessor or air sampling expert by phone if the SUMMA canister does not appear to be working properly.
- Ensure that there is still measurable vacuum in the SUMMA® after sampling. Sometimes the gauges sent from labs have offset errors, or they stick.
- When sampling carefully consider elevation. If your site is over 2,000’ above sea level or the difference in elevation between your site and your lab is more than 2,000’ then pressure effects will be significant. If you take your samples at a high elevation they will contain less air for a given ending pressure reading. High elevation samples analyzed at low elevation

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will result in more dilution at the lab, which could affect reporting limits. Conversely low elevation samples when received at high elevation may appear to not have much vacuum left in them. http://www.uigi.com/Atmos_pressure.html.

- If possible, have equipment shipped a two to three days before the scheduled start of the sampling event so that all materials can be checked. Order replacements if needed.

- Requesting extra canisters and flow controllers from the laboratory should also be considered to ensure that you have enough equipment on site in case of an equipment failure.

- Check the seal around the soil vapor sampling port by using a tracer gas (e.g., helium) or other method established in the appropriate guidance document. See TGI library and project specific instructions for appropriate TGIs.

VI. HEALTH AND SAFETY CONSIDERATIONS

All sampling personnel should review the appropriate health and safety plan (HASP) and job safety analysis (JSA) prior to beginning work to be aware of all potential hazards associated with the job site and the specific task. Field sampling must be carefully performed to minimize the potential for injury and the spread of hazardous substances.

VII. SOIL VAPOR SAMPLE COLLECTION

Sample Train Assembly

The following procedures should be used to collect a soil vapor sample using a whole air canister (i.e., SUMMA canister). These methods can be used for both exterior soil vapor samples and interior sub-slab soil vapor samples collected from both permanent or temporary sample points installations. A schematic of the suggested sample train set up is included below

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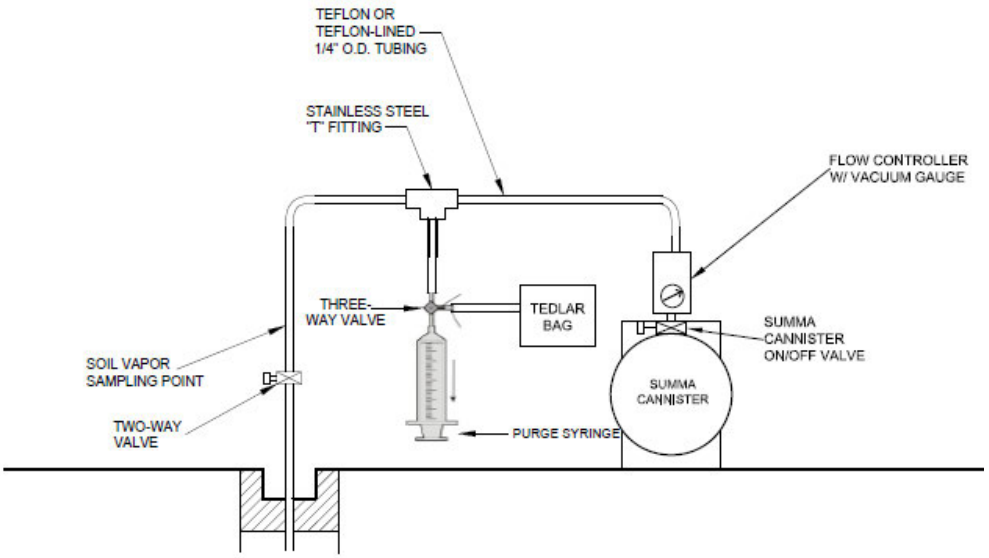

1. Assemble the sample train by removing the cap from the SUMMA canister and connecting the flow controller with in-line particulate filter and vacuum gauge. The flow controller attaches directly to the canister and dictates the sample duration. This piece will come preset from the laboratory.

2. Attach the canister and flow controller assembly to a stainless steel T-fitting using a short length of 1/4-inch OD Teflon tubing. This T-fitting adds a leg to the sample train that will be used to purge “dead” air from the sample train in order to collect a more representative sample.

3. Connect the purge syringe with three-way valve to one of the free ends of the T-fitting using a length of Teflon sample tubing, Swagelok compression fittings and silicon tubing.

4. Attach the Swagelok two-way valve to the remaining free end of the T-fitting using a short length of ¼-inch OD Teflon tubing. The two-way valve will be immediately adjacent to the sample point in the train assembly. This valve is used to isolate the sample train from the sample point prior to sampling in order to test the sample train’s integrity.

5. When collecting duplicate or other quality assurance/quality control (QA/QC) samples as required by applicable regulations and guidance, couple two SUMMA canisters using stainless steel Swagelok duplicate sample T-fitting supplied by the laboratory. Attach flow controller with in-line particulate filter and vacuum gauge to duplicate sample T-fitting provided by the laboratory.

6. Attach the terminal end of the two-way Swagelok valve to the sample port as appropriate. This may be done using the options below:

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a. Use a section of silicon tube to connect the Teflon sample tubing to the barbed fitting of a Vapor Pin™ port.

b. Use Swagelok compression fittings to connect Teflon tubing to sampling port. Teflon tape should never be used on Swagelok compression fitting connections.

c. Wrap the Teflon tubing with Teflon tape to seal around the slab then use VOC free clay to further seal around the slab if using temporary points.

Sample Documentation

1. Record on the sample log and COC form the flow controller number with the appropriate SUMMA® canister number.

2. Record the following information on the sample log, if appropriate (contact the local airport or other suitable information source [e.g., site-specific measurements, weatherunderground.com] to obtain the information):

   a. wind speed and direction;

   b. ambient temperature;

   c. barometric pressure; and

   d. relative humidity.

3. Take a photograph of the SUMMA® canister and surrounding area.

Sample Collection

1. Perform a leak-down-test by closing the two-way valve to the sample port. Open the three-way valve to the syringe and pull a vacuum. Quickly close the three-way valve and record the pressure indicated on the gauge connected to the canister. If there are no leaks in the system this vacuum should be held. If vacuum holds proceed with sample collection; if not attempt to rectify the situation by tightening fittings.

2. Open the two-way valve and purge the soil vapor sampling port and tubing with the portable sampling pump. Purge approximately three volumes of air from the soil vapor sampling port and sampling line using a flow rate of 200 mL/min. Purge volume is calculated by the following equation “purge volume = 3 x Pi x inner radius of tubing^2 x length of tubing. Purge air will be collected into a Tedlar bag to provide that VOCs are not released into interior spaces. Perform quality control method tests concurrently, as appropriate

3. Close the three-way valve to the syringe in order to isolate this leg of the sample train.

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4. Open the SUMMA® canister valve to initiate sample collection. Record on the sample log (attached) the time sampling began and the canister pressure.

   If the initial vacuum pressure registers less than -25 inches of Hg, then the SUMMA® canister is not appropriate for use and another canister should be used.

5. Check the SUMMA canister approximately half way through the sample duration and note progress on sample logs.

Termination of Sample Collection

1. Arrive at the SUMMA® canister prior to the end of sample collection.

2. Record the final vacuum pressure. Stop collecting the sample by closing the SUMMA® canister valves. The canister should have a minimum amount of vacuum (approximately 5 inches of Hg or slightly greater).

3. Record the date and local time (24-hour basis) of valve closing on the sample collection log and COC form.

4. Disconnect sample tubing from the sample port; replace any coverings or abandon as appropriate to mitigate tripping hazards.

5. Remove the particulate filter and flow controller from the SUMMA® canister, re-install the brass plug on the canister fitting, and tighten with the appropriate wrench.

6. Package the canister and flow controller per Department of Transportation regulations for return shipment to the laboratory. These regulations can be found at the Transportation Safety Program's Team Site on the Source. The SUMMA® canister does not require preservation with ice or refrigeration during shipment.

7. Complete the appropriate forms and sample labels as directed by the laboratory (e.g., affix card with a string).

8. Complete the COC form and place the requisite copies in a shipping container. Close the shipping container and affix a custody seal to the container closure. Ship the container to the laboratory via overnight carrier (e.g., Federal Express) for analysis.

VIII. WASTE MANAGEMENT

No specific waste management procedures are required.

IX. DATA RECORDING AND MANAGEMENT

Measurements will be recorded on the sample log at the time of measurement with notations of the project name, sample date, sample start and finish time, sample location (e.g., GPS

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coordinates, distance from permanent structure [e.g., two walls, corner of room]), canister serial number, flow controller serial number, initial vacuum reading, and final pressure reading. Field sampling logs and COC records will be transmitted to the Project Manager.

X. QUALITY ASSURANCE

Duplicate samples should be collected in the field as a quality assurance step per project requirements. Generally, duplicates are taken from 10% of samples, but project specific requirements should take precedence.

XI. REFERENCES

DiGiulio et. al. 2003. Draft Standard Operating Procedure (SOP) for Installation of Sub-Slab Vapor Probes and Sampling Using EPA TO-15 to Support Vapor Intrusion Investigations. http://www.cdphe.state.co.us/hm/indoorair.pdf (Attachment C)

Di Giulio et. Al. 2006. Assessment of Vapor intrusion in Homes Near the Raymark Superfund Site Using Basement and Sub-Slab Air Samples. USEPA. EPA/600/R-05/147.

New York State Department of Health (NYSDOH). 2005. DRAFT “Guidance for Evaluating Soil Vapor Intrusion in the State of New York” February 23, 2005.

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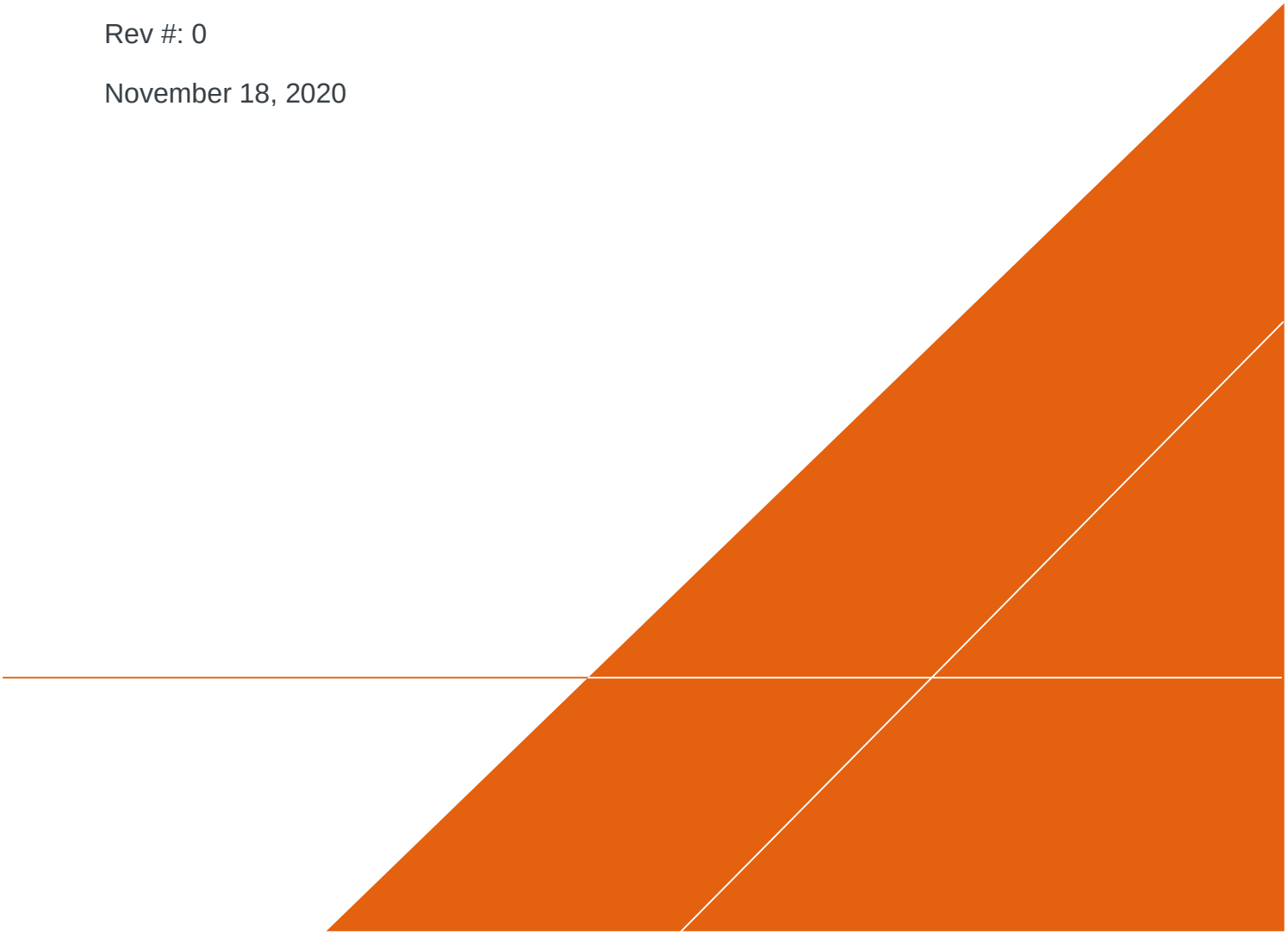
TGI – DECONTAMINATION OF COMPONENTS FOR VAPOR INTRUSION SAMPLING

Rev #: 0

November 18, 2020



VERSION CONTROL

Revision No	Revision Date	Page No(s)	Description	Reviewed by
0	11/13/2020	All	Development of TGI	Megan Hamilton

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Approval Signatures

Prepared by: [redacted] 11/13/2020

[redacted] Date:

Technical Expert Reviewed by: [redacted] 11/18/2020

[redacted] Date:

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1 Introduction

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

It is the responsibility of the Arcadis Certified Project Manager (CPM) to provide this document to the persons conducting services that fall under the scope and purpose of this procedure, instruction, and/or guidance. The Arcadis CPM will also ensure that the persons conducting the work falling under this document are appropriately trained and familiar with its content. The persons conducting the work under this document are required to meet the minimum competency requirements outlined herein, and inquire to the CPM regarding any questions, misunderstanding, or discrepancy related to the work under this document.

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In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

2 Scope and Application

This Technical Guidance Instruction (TGI) document describes the procedures to decontaminate components used during the installation and sampling of soil vapor monitoring locations (sub-slab and exterior soil gas probes).

3 Personnel Qualifications

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site-specific training, first aid, and cardiopulmonary resuscitation (CPR), as needed. Arcadis field sampling personnel will be competent in the relevant procedures and possess the required skills and experience necessary to successfully complete the desired decontamination procedures and field work.

4 Equipment List

Precautions regarding cross-contamination should be strongly considered. Laboratory reporting limits for soil vapor samples are in the parts-per billion (ppb) and equipment contamination could affect overall data quality. Only confirmed clean or new equipment should be used for decontamination.

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Specific components required for decontamination may vary depending on project scope of work and objectives for the site. Relevant components to decontaminate are listed below.

Sampling Components	Installation Components
Stainless-steel valves, nuts, caps, ferrules	Hammer drill bits
Stainless-steel Vapor Pins including extensions	Hand auger
Stainless-steel vapor screens (exterior soil gas)	Drill rig tooling

Reusable drill rig tooling and equipment decontamination procedures are provided in other associated TGIs. Arcadis recommends following approved procedures for the decontamination of drilling subcontractor equipment.

The equipment required to complete decontamination of the above components is listed below:

- Stainless-Steel Bowl or Bucket for Drill Bits
- Personal Protective Equipment including Nitrile Gloves and Safety Glasses
- Paper Towels
- Brushes – bottle brush or toothbrush, wire brush
- Distilled Water
- Trisodium Phosphate (TSP), Alconox, Liquinox or equivalent (TSP preferred)

Sampling components should be decontaminated prior to mobilization to the site.

5 Cautions and Health and Safety Considerations

Take safety precautions as with handling any heavy-duty cleaner using nitrile gloves and safety glasses throughout the decontamination process.

6 Procedure

Decontamination procedures should be completed prior to arrival at the project site and will vary dependent upon the application as detailed below.

- Place supplies (valves, nuts, caps, ferrules, tees, vapor pins, vapor pin extensions, and/or vapor screens) into the stainless-steel bowl or plastic bucket for drill bits.
  - Used components need to be completely broken down (tubing and ferrules cannot be reused).
  - Valves should be in the open position.
- Pour a mixture of distilled water and TSP (or equivalent) into the bowl completely covering all components. Follow the TSP (or equivalent) mixing instructions.
- Mix applicable components and soapy mixture.
- Use the toothbrush or bottle brush to clean components.
- Drain the soapy mixture from the stainless-steel bowl into a bucket or sanitary sewer, leaving the components.

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- Rinse components in distilled water and completely empty the rinsate into a bucket or sanitary sewer. Repeat the rinsing process two additional times or continue rinsing until soapy mixture is not visible.
- Shake water from components and place on clean, dry paper towels.
- Allow all components to completely dry by using paper towels, a fan, air dry, or a combination of these prior to assembly/use.

Hammer drill bits used during the installation of sub-slab ports need to be decontaminated prior to use at each new installation location in the field and is outlined below:

- Create a solution of TSP cleaner (or equivalent) and distilled water in a clean spray bottle.
- Prepare another spray bottle with clean distilled water for rinsing.
- Remove any soil clinging to hammer drill bits with a wire brush.
- Place the drill bit into a clean, new, 5-gallon bucket.
- Spray the drill bit with the cleaning solution over enough paper towels to absorb the water and capture the solution into the bucket.
- Thoroughly clean the drill bit with a scrub brush.
- Repeat process with cleaning solution.
- Rinse by spraying the drill bit with clean distilled water and capture the rinse water in the bucket.
- Wipe drill bit down with paper towels.
- Repeat rinsing process.
- Completely dry drill bits with clean paper towels.

7 Waste Management

Used cleaning solution water and rinsate water utilized for decontaminating sampling components can be disposed directly into the sanitary sewer. Used cleaning solution water and rinsate water utilized for decontaminating installation components should be containerized and disposed of in accordance with project specifications.

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Appendix C

Indoor Air Building Survey Form and Indoor Air Sampling Technical Guidance Instructions

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

Survey Completed by: _____ Date: _____

Site Name:

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: _____

Property Contact: _____ Owner / Renter / other: _____

Contact's Phone: home _____ work _____ cell _____

Building occupants: Children under age 13 _____ Children age 13–18 _____ Adults _____

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors—below grade: _____ (full basement / crawl space / slab) at or above grade: _____

Basement size: _____ ft^2 Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation hot water radiation
kerosene heater electric baseboard heat pump other (specify): _____

Type of ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / No* Irrigation/private well? *Yes / Yes (but not used) / No*

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Does the building have an attached garage? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / No*

Have the occupants noticed any unusual odors in the building? *Yes / No*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / No*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / No

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

TGI - Indoor or Ambient Air Sampling and Analysis Via USEPA Method TO-15

Rev: 2

Rev Date: December 30, 2021

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
	1	August 19, 2016	All	Update Rev 0	[redacted]
	2	December 30, 2021	All	Updated Rev 1 and for QMS Relaunch	[redacted]

Approval Signatures

Prepared by: [redacted] 12/30/2021

[redacted] (Subject [redacted] Expert) Date

Reviewed by: [redacted] 12/30/2021

[redacted] (Subject [redacted] Expert) Date

1 Introduction

This document describes specific procedures and considerations to be used by Arcadis staff to collect indoor air or ambient air samples in passivated stainless-steel canisters (e.g., SUMMA®) for the analysis of volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Compendium Method TO-15 (TO-15).

2 Intended Use and Responsibilities

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

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In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

3 Scope and Application

This Technical Guidance Instruction (TGI) document describes the methods and procedures for collecting indoor air or ambient air samples with passivated stainless-steel canisters (e.g., SUMMA®) and the subsequent analysis of volatile organic compounds (VOCs) using USEPA TO-15.

4 Personnel Qualifications

Arcadis field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, site-specific training, first aid, and cardiopulmonary resuscitation (CPR), as

needed. Arcadis field sampling personnel will be competent in the relevant procedures and possess the required skills and experience necessary to successfully collect indoor air and ambient air samples and the desired field work. Arcadis personnel responsible for directing indoor air and/or ambient air sample collection activities must have previous indoor air sampling experience and be able to complete the field work without direct supervision.

5 Equipment List

The equipment required for indoor air and ambient air collection is presented below:

- 6-liter, stainless steel passivated canisters (e.g., SUMMA®). Request one canister for each sampling location, plus duplicate canisters per project-specific requirements. If feasible, order extra canisters at a rate of 10 to 20% of the total number of sampling canisters (including duplicates).
- Flow controllers with in-line particulate filters and vacuum gauges. Flow controllers are pre-calibrated by the laboratory to the sampling duration [typically 8-hours in commercial/industrial settings and 24-hours in residential settings] specified by the project team). Vacuum gauges are also generally supplied by the laboratory. Flow controllers can be connected to the canister via 9/16-inch compression fittings or quick-connect fittings.
- Open-end wrench. Typical canister caps require 9/16-inch wrenches.
- Chain-of-custody (COC) form.
- Sample collection log (attached) or the Fulcrum Application: FieldNow® – TO-15 Indoor/Outdoor Air Collection Log Version 2.0 (Tier 1).
- Box, chair, tripod, or similar to hold canister above the ground surface at approximate breathing height (3-5 feet).
- Hand-held weather meter (optional).
- Nitrile gloves
- Camera (if photography is permitted at sampling locations).
- Chain and padlock or bike lock (for securing ambient air canisters).
- Zip ties
- Independent digital gauge (optional).
- Outdoor Air Sampling Tag noting: “Environmental Testing – Do Not Disturb”

For abnormal situations (i.e., sumps, crawlspaces with no access, where canisters must be hidden, etc.), Teflon tubing may be used to collect an air sample. In these situations, ¼-inch Swagelok fittings (including nut, front sleeve, and back sleeve) or other methods may be appropriate to affix tubing to canister. Teflon tubing may be connected to various lengths of electrical fish rods with zip ties (do not use tape) to direct the end of the tubing into a crawlspace or other area.

6 Cautions

Care must be taken to minimize the potential for introducing interferences during the sampling event. As such, keep canisters away from heavy pedestrian traffic areas (e.g., main entranceways, walkways), if possible. Sampling personnel should not handle hazardous substances (such as gasoline), permanent marking pens (sharpies), wear/apply fragrances, use hand sanitizer, or smoke cigarettes before and/or during the sampling event.

Specify sample collection duration with the laboratory when ordering equipment and confirm with the laboratory upon equipment receipt. Sample integrity can be compromised if sample collection is extended to the point that the canister reaches atmospheric pressure. Sample integrity is maintained if sample collection is terminated prior to the target sample duration and a measurable vacuum (e.g., 5 inches Hg) remains in the canister when sample collection is terminated. In extreme cold temperature, it is suggested the final measurable vacuum remains higher (e.g., 10 inches of Hg) to account for pressure loss. Digital gauges are recommended.

7 Health and Safety Considerations

All sampling personnel should review the appropriate health and safety plan (HASP) and job safety analysis (JSA) prior to beginning work to be aware of all potential hazards associated with the job site and the specific task.

8 Procedure

Preparation of Passivated Canister and Collection of Sample

1. Record the following information on the sampling form (use a hand-held weather meter, contact the local airport or other suitable information source [e.g., weatherunderground.com] to obtain the following information):
   - Ambient temperature
   - Barometric pressure
   - Wind speed
   - Relative humidity
   - Significant recent precipitation
   - Snow/ice cover
1. For indoor air sampling, note whether the heating, ventilation, and air conditioning (HVAC) system is operational and record settings.
2. For outdoor air sampling, canisters should be initiated at least 30 minutes prior to initiating the first indoor air sample and should be placed upwind of the structure(s) being sampled.
2. Attach an outdoor air tag to each outdoor air canister using a zip tie as applicable. Outdoor air tags are usually only required for off-site locations where disturbance of the canister may occur. The outdoor air tag should include the words, “Environmental Testing – Do Not Disturb”. If possible, place the outdoor air canister(s) in areas with less foot traffic.
3. Choose the sampling location in accordance with the project sampling plan. If a breathing zone sample is required, place the canister on a box, chair, tripod, or other similar stand to locate the canister orifice 3 to 5 feet above the ground or floor surface. The canister may be affixed to wall/ceiling support with nylon rope or placed on a stable surface. In general, areas near windows, doors, air supply vents, and/or other potential sources of “drafts” shall be avoided.
4. Record canister serial number and flow controller number on the sampling log or FieldNow® application and COC form. Assign sample identification (ID) and record on canister ID tag on the sample collection log or FieldNow® application and COC form.
5. Remove the brass dust cap from the canister with the wrench. Attach the independent gauge provided by the laboratory or a digital gauge to the canister. For compression fittings tighten with fingers first, then gently with

the wrench (roughly a quarter turn). Use caution not to over tighten fittings. For quick-connect fittings simply attach the gauge to the canister. Open the canister and record the initial vacuum on the sampling log or FieldNow® application and COC form. Close the canister and remove the gauge. The initial pressure reading should be evaluated with respect to project-specific and regulatory jurisdictional requirements. If the initial pressure registers less than -25 inches of Hg, then the canister is not appropriate for use, and another canister should be used. Note: confirm specific project jurisdiction regulatory requirements for initial pressure.

6. Attach the flow controller and integrated vacuum gauge to the canister with the wrench. Tighten with fingers first, then gently with the wrench (roughly a quarter turn). Use caution not to over tighten fittings. Some laboratories ship the canister and flow controller pre-assembled. Confirm that connections are appropriately tight. For quick-connect fittings simply attach to the canister. Caution – some quick-connect canisters do not have valves and begin sampling as soon as the flow controller is attached.
7. Open the canister valve to initiate sample collection. Record the date and local time (24-hour basis) of valve opening on the sample collection log and COC form. Collection of duplicate samples will include collecting two samples side by side at the same time or by using a duplicate tee. Duplicate tees can be requested from the laboratory and made from Teflon tubing and Swagelok fittings.
8. Check the initial canister pressure using the vacuum gauge. Ensure the initial pressure on the flow controller vacuum gauge matches the pressure from the independent gauge, note difference in the canister on the sample log.
9. Photograph the canister and surrounding area within the FieldNow® application; if photography is permitted at sampling locations. Also photograph the sample tag.
3. If feasible, check the canister approximately half-way through the sample duration and note progress on sample logs.

Termination of Sample Collection

1. Arrive at the sampling location at least 1 to 2 hours prior to the end of the sampling interval (e.g., 6 hours following sample initiation for an 8-hour sampling duration).
2. The appropriate canister pressure for termination of sampling is between -2 and -10 inches of Hg with the optimal ending pressure of -5 inches of Hg. Leaving some vacuum in the canister provides a way to ensure that the sample was collected over the appropriate duration and to evaluate whether the canister leaks before it reaches the laboratory. Stop collecting the sample by turning the valve on the canister when the canister pressure reaches approximately -5 inches of Hg and when the desired sample time has elapsed. If the canister pressure is outside of the appropriate range at the end of the sampling duration, consult with the project manager before ending the sample.
3. Record the final canister pressure. Record the date and local time (24-hour basis) of valve closing on the sample collection log or FieldNow® application and COC form.
4. Remove the flow controller from the canister. Connect the independent gauge to confirm the final canister pressure using the procedure as described above. Re-install brass cap on canister fitting and tighten with the wrench.
5. Package the canister and flow controller in accordance with Department of Transportation regulations available on the Transportation Health and Safety's Team Site on the Source for return shipment to the laboratory. The canister does not require preservation with ice or refrigeration during shipment.
6. Complete the forms and sample labels provided by the laboratory as directed (e.g., affix card with string).

7. Complete the COC form; copy, photograph, or scan a version for the project file (if possible); and place the form in the shipping container. Close the shipping container and affix the custody seal to the container closure. Transmit canisters via courier delivery service (e.g., Federal Express or UPS) to laboratory for analysis.

9 Waste Management

No specific waste management procedures are required.

10 Data Recording and Management

Digital data collection is the Arcadis standard using available FieldNow® applications that enable real-time, paperless data collection, entry, and automated reporting. Paper forms should only be used as backup to FieldNow® digital data collection and/or as necessary to collect data not captured by available FieldNow® applications. The Field Now® digital form applications follow a standardized approach, correlate to most TGIs and are available to all projects accessible with a PC or capable mobile device. Once the digital forms are saved within FieldNow®, the data is instantly available for review on a web interface. This facilitates review by project management team members and SMEs enabling error or anomalous data detection for correction while the staff are still in the field. Continual improvements of FieldNow® applications are ongoing, and revisions are made as necessary in response to feedback from users and subject [redacted] experts.

Notes and pictures taken during the sampling process that cannot be collected using the FieldNow® application will be compiled and uploaded to the project specific folder on SharePoint and/or Collaboration Hub.

11 Quality Assurance

Conduct quality assurance as required by the project-specific work plan and/or Quality Assurance Project Plan (QAPP). Additionally:

4. Canisters should be pre-cleaned by an accredited laboratory and individually certified clean.
5. Communicate with laboratory to insure that project-specific reporting limits and deliverables are met.
6. If tubing is used during sampling activities, the tubing should be Teflon or Teflon-lined tubing.
7. All fittings should be stainless-steel.
8. Ambient (outdoor) air sample(s) should be collected each day of the indoor air sampling event to evaluate background VOC concentrations.

12 References

Not Applicable

Arcadis U.S., Inc.

[redacted]

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Appendix D

Activity Hazard Analyses

Activity Hazard Analysis (AHA)

Activity/Work Task: **Direct Push Activities**	Overall Risk Assessment Code (RAC) (Use highest code)	**L**
Project Location: Siena Place	**Risk Assessment Code (RAC) Matrix**	
Contract Number: [redacted]		
Date Prepared: 3-24-15		
Prepared by (Name/Title): [redacted] Project Manager		
Reviewed by (Name/Title): [redacted] CIH, SSHO		
Notes: (Field Notes, Review Comments, etc.)		

Severity	**Probability**				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**E**	**E**	**H**	**H**	**M**
Critical	**E**	**H**	**H**	**M**	**L**
Marginal	**H**	**M**	**M**	**L**	**L**
Negligible	**M**	**L**	**L**	**L**	**L**

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- **E = Extremely High Risk**
- **H = High Risk**
- **M = Moderate Risk**
- **L = Low Risk**

Job Steps	Hazards	Controls	RAC
Direct Push Geoprobe Well Installation	1. Overhead / underground utilities 2. Slips and Falls 3. Striking/struck by, caught-between operating equipment 4. Noise 5. Severe Weather 6. Sunburn 7. Heat/Cold Stress 8. Exposure to contaminated soils and ground water	1. Overhead and underground utilities shall be identified prior to any ground intrusive activities. Manual digging or an air knife shall be employed to clear shaft locations down to eight feet. 2. Keep tools, truck tackle, chains and load straps out of walking lanes 3. Isolate equipment operating areas; make eye contact with operators before approaching equipment; provide back-up alarms on all operating equipment; equipment shall not be used within regulated areas surrounding overhead utilities; Workers shall know the location of drill/geoprobe kill switches; moving shafts, drivel belts, etc shall be guarded 4. Use hearing protection working near operating equipment 5. Review weather data and anticipated conditions prior to work activities; maintain contact with (via cell phone or computer) with national weather service or similar weather data sources. 6. Use sunscreen as necessary 7. Monitor worker activity relative to ambient temperature/related conditions and follow APP/SSHP protocols 8. Wear appropriate PPE, (eye, face, and hand protection) when handling cataloging soil, sediments captured by direct push equipment	**L** **L** **M** **L** **L** **L** **L** **L**

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
Geo-probe drill rig Related hand tools and maintenance equipment PPE: Face shield, goggles, nitrile gloves, and rain suit or water resistant coveralls	Annual OSHA HAZWOPER Training 29 CFR 1910.120 / 1926.65 Project site orientation and AHA reviews	daily safety inspections daily equipment inspection

Appendix E

Current PADEP Screening Values and Anticipated Reporting Limits and Method Detection Limits

Table 1. Groundwater Statewide Health Standard Vapor Intrusion Screening Values (SV_{GW})

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
ACETALDEHYDE	75-07-0	5,300	SV	67,000	SV	22,000	SV
ACETONE	67-64-1	37,000,000	SV	470,000,000	SV	160,000,000	SV
ACETONITRILE	75-05-8	75,000	SV	940,000	SV	310,000	SV
ACROLEIN	107-02-8	6.8	SV	86	SV	29	SV
ACRYLAMIDE	79-06-1	3,200,000	SV	120,000,000	SV	41,000,000	SV
ACRYLIC ACID	79-10-7	150,000	SV	1,900,000	SV	650,000	SV
ACRYLONITRILE	107-13-1	110	SV	1,700	SV	560	SV
ALLYL ALCOHOL	107-18-6	1,000	SV	13,000	SV	4,300	SV
AMMONIA	7664-41-7	230,000	SV	2,900,000	SV	960,000	SV
ANILINE	62-53-3	27,000	SV	340,000	SV	110,000	SV
BENZENE	71-43-2	23	SV	350	SV	120	SV
BENZYL CHLORIDE	100-44-7	58	SV	870	SV	290	SV
BETA PROPIOLACTONE	57-57-8	0.012	MSC	0.063	MSC	0.063	MSC
BIPHENYL, 1,1-	92-52-4	91	MSC	970	SV	430	MSC
BIS(2-CHLOROETHYL)ETHER	111-44-4	240	SV	3,600	SV	1,200	SV
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	1,700	SV	25,000	SV	8,500	SV
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0040	SV	0.060	SV	0.020	SV
BROMOCHLOROMETHANE	74-97-5	1,200	SV	15,000	SV	5,000	SV
BROMODICHLOROMETHANE	75-27-4	80	MSC	200	SV	80	MSC
BROMOMETHANE	74-83-9	26	SV	330	SV	110	SV
BUTADIENE, 1,3-	106-99-0	0.39	SV	5.9	SV	2.0	SV
CARBON DISULFIDE	75-15-0	2,000	SV	25,000	SV	8,200	SV
CARBON TETRACHLORIDE	56-23-5	6.0	SV	91	SV	30	SV
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	330,000	SV	1,400,000	Sol.	1,400,000	SV
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	3.8	SV	48	SV	16	SV
CHLOROBENZENE	108-90-7	760	SV	9,600	SV	3,200	SV
CHLORODIBROMOMETHANE	124-48-1	80	MSC	670	SV	220	SV
CHLORODIFLUOROMETHANE	75-45-6	110,000	MSC	540,000	SV	440,000	MSC
CHLOROETHANE	75-00-3	35,000	SV	440,000	SV	150,000	SV
CHLOROFORM	67-66-3	80	MSC	180	SV	80	MSC
CHLOROPRENE	126-99-8	0.16	MSC	0.90	SV	0.83	MSC
CHLOROPROPANE, 2-	75-29-6	230	SV	2,900	SV	970	SV
CRESOL(S)	1319-77-3	20,000,000	Sol.	20,000,000	Sol.	20,000,000	Sol.

Table 1. Groundwater Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (□g/L)	Type	Nonresidential (□g/L)	Type	Converted Residential (□g/L)	Type
CUMENE (ISOPROPYL BENZENE)	98-82-8	1,900	SV	24,000	SV	8,000	SV
CYCLOHEXANE	110-82-7	13,000	MSC	53,000	MSC	53,000	MSC
CYCLOHEXANONE	108-94-1	4,000,000	SV	37,000,000	Sol.	17,000,000	SV
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.57	SV	22	SV	7.2	SV
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	2.9	SV	44	SV	15	SV
DIBROMOMETHANE	74-95-3	220	SV	2,800	SV	920	SV
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.42	SV	6.3	SV	2.1	SV
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.42	SV	6.4	SV	2.1	SV
DICHLOROBENZENE, 1,2-	95-50-1	5,400	SV	69,000	SV	23,000	SV
DICHLOROBENZENE, P-	106-46-7	75	MSC	680	SV	230	SV
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	1,000	MSC	1,000	MSC	1,000	MSC
DICHLOROETHANE, 1,1-	75-34-3	110	SV	1,600	SV	550	SV
DICHLOROETHANE, 1,2-	107-06-2	34	SV	510	SV	170	SV
DICHLOROETHYLENE, 1,1-	75-35-4	300	SV	3,800	SV	1,300	SV
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	600	SV	7,600	SV	2,500	SV
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	7,600	SV	95,000	SV	32,000	SV
DICHLOROPROPANE, 1,2-	78-87-5	37	SV	560	SV	190	SV
DICHLOROPROPENE, 1,3-	542-75-6	75	SV	1,100	SV	380	SV
DICYCLOPENTADIENE	77-73-6	0.63	MSC	2.6	MSC	2.6	MSC
DIOXANE, 1,4-	123-91-1	30,000	SV	450,000	SV	150,000	SV
EPICHLOROHYDRIN	106-89-8	930	SV	12,000	SV	3,900	SV
ETHOXYETHANOL, 2- (EGEE)	110-80-5	22,000,000	SV	280,000,000	SV	94,000,000	SV
ETHYL ACETATE	141-78-6	23,000	SV	290,000	SV	98,000	SV
ETHYL ACRYLATE	140-88-5	1,100	SV	14,000	SV	4,700	SV
ETHYL BENZENE	100-41-4	700	MSC	860	SV	700	MSC
ETHYL METHACRYLATE	97-63-2	29,000	SV	370,000	SV	120,000	SV
ETHYLENE GLYCOL	107-21-1	420,000,000	SV	1,000,000,000	Sol.	1,000,000,000	Sol.
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	2,000	MSC	3,600	SV	2,000	MSC
FORMALDEHYDE	50-00-0	200,000	SV	3,000,000	SV	990,000	SV
FORMIC ACID	64-18-6	69,000	SV	880,000	SV	290,000	SV
FURFURAL	98-01-1	700,000	SV	8,800,000	SV	2,900,000	SV

Table 1. Groundwater Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (□g/L)	Type	Nonresidential (□g/L)	Type	Converted Residential (□g/L)	Type
HEXACHLOROETHANE	67-72-1	31	SV	480	SV	160	SV
HEXANE	110-54-3	1,500	MSC	6,200	MSC	6,200	MSC
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	410	SV	6,200	SV	2,100	SV
METHACRYLONITRILE	126-98-7	5,400	SV	68,000	SV	23,000	SV
METHANOL	67-56-1	41,000,000	SV	510,000,000	SV	170,000,000	SV
METHOXYETHANOL, 2-	109-86-4	3,000,000	SV	38,000,000	SV	13,000,000	SV
METHYL ACRYLATE	96-33-3	4,400	SV	56,000	SV	19,000	SV
METHYL CHLORIDE	74-87-3	53	SV	810	SV	270	SV
METHYL ETHYL KETONE	78-93-3	3,900,000	SV	49,000,000	SV	16,000,000	SV
METHYL HYDRAZINE	60-34-4	320	SV	4,000	SV	1,300	SV
METHYL ISOBUTYL KETONE	108-10-1	1,000,000	SV	13,000,000	SV	4,300,000	SV
METHYL ISOCYANATE	624-83-9	44	SV	550	SV	180	SV
METHYL METHACRYLATE	80-62-6	110,000	SV	1,300,000	SV	450,000	SV
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	16,000	SV	200,000	SV	66,000	SV
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	960	SV	12,000	SV	4,000	SV
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	6,300	SV	96,000	SV	32,000	SV
METHYLNAPHTHALENE, 2-	91-57-6	380	SV	4,800	SV	1,600	SV
NAPHTHALENE	91-20-3	100	MSC	1,300	SV	440	SV
NITROBENZENE	98-95-3	1,400	SV	21,000	SV	7,000	SV
NITROPROPANE, 2-	79-46-9	3.4	SV	52	SV	17	SV
NITROSODIETHYLAMINE, N-	55-18-5	3.3	SV	120	SV	42	SV
NITROSODIMETHYLAMINE, N-	62-75-9	19	SV	710	SV	240	SV
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	91	SV	1,400	SV	460	SV
PCB-1221 (AROCLOR)	11104-28-2	3.5	SV	53	SV	18	SV
PCB-1232 (AROCLOR)	11141-16-5	3.6	SV	55	SV	18	SV
PHENOL	108-95-2	34,000,000	SV	84,000,000	Sol.	84,000,000	Sol.
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	1,200,000	SV	16,000,000	SV	5,200,000	SV
PROPYLBENZENE, N-	103-65-1	4,900	SV	52,000	Sol.	21,000	SV
PROPYLENE OXIDE	75-56-9	3,700	SV	56,000	SV	19,000	SV
STYRENE	100-42-5	18,000	SV	220,000	SV	75,000	SV
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	70	MSC	980	SV	330	SV
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	54	SV	820	SV	270	SV
TETRACHLOROETHYLENE (PCE)	127-18-4	110	SV	1,300	SV	440	SV

Table 1. Groundwater Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (□g/L)	Type	Nonresidential (□g/L)	Type	Converted Residential (□g/L)	Type
TETRAHYDROFURAN	109-99-9	26	MSC	130	MSC	130	MSC
TOLUENE	108-88-3	34,000	SV	430,000	SV	140,000	SV
TRIBROMOMETHANE (BROMOFORM)	75-25-2	2,000	SV	30,000	SV	10,000	SV
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	63,000	MSC	170,000	Sol.	170,000	Sol.
TRICHLOROBENZENE, 1,2,4-	120-82-1	80	SV	1,000	SV	340	SV
TRICHLOROBENZENE, 1,3,5-	108-70-3	59	SV	740	SV	250	SV
TRICHLOROETHANE, 1,1,1-	71-55-6	12,000	SV	160,000	SV	52,000	SV
TRICHLOROETHANE, 1,1,2-	79-00-5	11	SV	140	SV	48	SV
TRICHLOROETHYLENE (TCE)	79-01-6	9.0	SV	110	SV	38	SV
TRICHLOROPROPANE, 1,2,3-	96-18-4	44	SV	560	SV	190	SV
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.83	SV	10	SV	3.5	SV
TRIETHYLAMINE	121-44-8	2,200	SV	27,000	SV	9,100	SV
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	59	SV	750	SV	250	SV
TRIMETHYLBENZENE, 1,3,5-	108-67-8	420	MSC	1,200	MSC	1,200	MSC
VINYL ACETATE	108-05-4	18,000	SV	220,000	SV	74,000	SV
VINYL BROMIDE (BROMOETHENE)	593-60-2	2.2	SV	34	SV	11	SV
VINYL CHLORIDE	75-01-4	2.0	MSC	52	SV	17	SV
XYLENES (TOTAL)	1330-20-7	10,000	MSC	12,000	SV	10,000	MSC

Note: These groundwater screening values apply to depths of five feet or greater below the bottom of the building foundation.
Screening values for depths less than five feet are the used aquifer groundwater MSCs (Title 25 Pa. *Code* Ch. 250, Appendix A, Table 1)

Type: SV—calculated screening value
MSC—medium specific concentration (Title 25 Pa. *Code* Ch. 250, Appendix A, Table 1)
Sol.—aqueous solubility

Table 2. Soil Statewide Health Standard Vapor Intrusion Screening Values (SV_{SOIL})

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
ACETALDEHYDE	75-07-0	0.23	SGN	0.96	SGN	0.96	SGN
ACETONE	67-64-1	430	SGN	4,700	SV	1,200	SGN
ACETONITRILE	75-05-8	1.5	SGN	9.6	SV	6.0	SGN
ACROLEIN	107-02-8	0.00047	SGN	0.0020	SGN	0.0020	SGN
ACRYLAMIDE	79-06-1	37	SV	2,400	SV	480	SV
ACRYLIC ACID	79-10-7	1.9	SV	40	SV	8.1	SV
ACRYLONITRILE	107-13-1	0.010	SGN	0.051	SGN	0.051	SGN
ALLYL ALCOHOL	107-18-6	0.0068	SV	0.14	SV	0.029	SV
AMMONIA	7664-41-7	360	SGN	360	SGN	360	SGN
ANILINE	62-53-3	1.3	SV	27	SV	5.4	SV
BENZENE	71-43-2	0.13	SGN	0.13	SGN	0.13	SGN
BENZYL CHLORIDE	100-44-7	0.059	SGN	0.30	SGN	0.30	SGN
BETA PROPIOLACTONE	57-57-8	0.00015	SGN	0.00076	SGN	0.00076	SGN
BIPHENYL, 1,1-	92-52-4	40	SGN	190	SGN	190	SGN
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.0056	SV	0.14	SV	0.028	SV
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	8.0	SGN	8.0	SGN	8.0	SGN
BIS(CHLOROMETHYL)ETHER	542-88-1	0.000012	SGN	0.000060	SGN	0.000060	SGN
BROMOCHLOROMETHANE	74-97-5	1.6	SGN	1.6	SGN	1.6	SGN
BROMODICHLOROMETHANE	75-27-4	2.7	SGN	2.7	SGN	2.7	SGN
BROMOMETHANE	74-83-9	0.54	SGN	0.54	SGN	0.54	SGN
BUTADIENE, 1,3-	106-99-0	0.0086	SGN	0.041	SGN	0.041	SGN
CARBON DISULFIDE	75-15-0	130	SGN	530	SGN	530	SGN
CARBON TETRACHLORIDE	56-23-5	0.26	SGN	0.26	SGN	0.26	SGN
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	1,800	SGN	7,300	SGN	7,300	SGN
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	0.049	SGN	0.20	SGN	0.20	SGN
CHLOROBENZENE	108-90-7	6.1	SGN	6.1	SGN	6.1	SGN
CHLORODIBROMOMETHANE	124-48-1	2.5	SGN	2.5	SGN	2.5	SGN
CHLORODIFLUOROMETHANE	75-45-6	2,800	SGN	10,000	SAT	10,000	SAT
CHLOROETHANE	75-00-3	5.4	SGN	26	SGN	26	SGN
CHLOROFORM	67-66-3	2.0	SGN	2.0	SGN	2.0	SGN
CHLOROPRENE	126-99-8	0.0038	SGN	0.020	SGN	0.020	SGN
CHLOROPROPANE, 2-	75-29-6	16	SGN	67	SGN	67	SGN
CRESOL(S)	1319-77-3	310	SV	6,600	SV	1,300	SV

Table 2. Soil Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
CUMENE (ISOPROPYL BENZENE)	98-82-8	600	SGN	2,500	SGN	2,500	SGN
CYCLOHEXANE	110-82-7	1,700	SGN	6,900	SGN	6,900	SGN
CYCLOHEXANONE	108-94-1	84	SV	1,800	SV	350	SV
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.0092	SGN	0.0092	SGN	0.0092	SGN
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.0012	SGN	0.0013	SV	0.0012	SGN
DIBROMOMETHANE	74-95-3	0.32	SGN	1.4	SGN	1.4	SGN
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.00067	SGN	0.0034	SGN	0.0034	SGN
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.00078	SGN	0.0039	SGN	0.0039	SGN
DICHLOROBENZENE, 1,2-	95-50-1	59	SGN	59	SGN	59	SGN
DICHLOROBENZENE, P-	106-46-7	10	SGN	10	SGN	10	SGN
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	SGN	100	SGN	100	SGN
DICHLOROETHANE, 1,1-	75-34-3	0.75	SGN	3.9	SGN	3.9	SGN
DICHLOROETHANE, 1,2-	107-06-2	0.10	SGN	0.10	SGN	0.10	SGN
DICHLOROETHYLENE, 1,1-	75-35-4	0.19	SGN	0.19	SGN	0.19	SGN
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	2.3	SGN	2.3	SGN	2.3	SGN
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	0.076	SGN	1.5	SV	0.30	SV
DICHLOROPROPANE, 1,2-	78-87-5	0.11	SGN	0.11	SGN	0.11	SGN
DICHLOROPROPENE, 1,3-	542-75-6	0.13	SGN	0.61	SGN	0.61	SGN
DICYCLOPENTADIENE	77-73-6	0.13	SGN	0.56	SGN	0.56	SGN
DIOXANE, 1,4-	123-91-1	0.23	SV	5.9	SV	1.2	SV
EPICHLOROHYDRIN	106-89-8	0.042	SGN	0.27	SV	0.17	SGN
ETHOXYETHANOL, 2- (EGEE)	110-80-5	190	SV	4,100	SV	820	SV
ETHYL ACETATE	141-78-6	3.9	SGN	16	SGN	16	SGN
ETHYL ACRYLATE	140-88-5	0.58	SGN	2.7	SGN	2.7	SGN
ETHYL BENZENE	100-41-4	46	SGN	46	SGN	46	SGN
ETHYL METHACRYLATE	97-63-2	10	SGN	43	SGN	43	SGN
ETHYLENE GLYCOL	107-21-1	3,000	SV	10,000	SAT	10,000	SAT
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	87	SGN	87	SGN	87	SGN
FORMALDEHYDE	50-00-0	12	SGN	34	SV	12	SGN
FORMIC ACID	64-18-6	0.40	SV	8.9	SV	1.8	SV
FURFURAL	98-01-1	5.2	SV	110	SV	22	SV

Table 2. Soil Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
HEXACHLOROETHANE	67-72-1	0.56	SGN	0.56	SGN	0.56	SGN
HEXANE	110-54-3	1,400	SGN	5,600	SGN	5,600	SGN
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.0025	SV	0.063	SV	0.013	SV
METHACRYLONITRILE	126-98-7	0.069	SGN	1.2	SV	0.24	SV
METHANOL	67-56-1	270	SV	5,600	SV	1,100	SV
METHOXYETHANOL, 2-	109-86-4	18	SV	380	SV	75	SV
METHYL ACRYLATE	96-33-3	1.0	SGN	5	SGN	5	SGN
METHYL CHLORIDE	74-87-3	0.38	SGN	0.38	SGN	0.38	SGN
METHYL ETHYL KETONE	78-93-3	76	SGN	1,100	SV	210	SV
METHYL HYDRAZINE	60-34-4	0.0020	SV	0.041	SV	0.0082	SV
METHYL ISOBUTYL KETONE	108-10-1	51	SGN	210	SV	140	SGN
METHYL ISOCYANATE	624-83-9	0.029	SGN	0.12	SGN	0.12	SGN
METHYL METHACRYLATE	80-62-6	20	SGN	84	SGN	84	SGN
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	1.6	SGN	6.4	SGN	6.4	SGN
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	47	SGN	200	SGN	200	SGN
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	0.28	SGN	1.4	SV	0.28	SGN
METHYLNAPHTHALENE, 2-	91-57-6	680	SGN	1,900	SGN	1,900	SGN
NAPHTHALENE	91-20-3	25	SGN	25	SGN	25	SGN
NITROBENZENE	98-95-3	3.6	SGN	10	SGN	10	SGN
NITROPROPANE, 2-	79-46-9	0.00029	SGN	0.0015	SGN	0.0015	SGN
NITROSODIETHYLAMINE, N-	55-18-5	0.000039	SV	0.0025	SV	0.00049	SV
NITROSODIMETHYLAMINE, N-	62-75-9	0.00015	SV	0.0094	SV	0.0019	SV
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.017	SGN	0.25	SV	0.078	SGN
PCB-1221 (AROCLOR)	11104-28-2	0.18	SGN	0.83	SGN	0.83	SGN
PCB-1232 (AROCLOR)	11141-16-5	0.14	SGN	0.7	SGN	0.7	SGN
PHENOL	108-95-2	380	SV	7,900	SV	1,600	SV
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	15	SV	300	SV	61	SV
PROPYLBENZENE, N-	103-65-1	400	SGN	1,700	SGN	1,700	SGN
PROPYLENE OXIDE	75-56-9	0.052	SGN	1.1	SV	0.24	SGN
STYRENE	100-42-5	24	SGN	79	SV	24	SGN
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	18	SGN	18	SGN	18	SGN
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.026	SGN	0.13	SGN	0.13	SGN
TETRACHLOROETHYLENE (PCE)	127-18-4	0.43	SGN	0.43	SGN	0.43	SGN

Table 2. Soil Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
TETRAHYDROFURAN	109-99-9	0.57	SGN	2.8	SGN	2.8	SGN
TOLUENE	108-88-3	44	SGN	44	SGN	44	SGN
TRIBROMOMETHANE (BROMOFORM)	75-25-2	3.5	SGN	3.5	SGN	3.5	SGN
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	10,000	SAT	10,000	SAT	10,000	SAT
TRICHLOROBENZENE, 1,2,4-	120-82-1	27	SGN	27	SGN	27	SGN
TRICHLOROBENZENE, 1,3,5-	108-70-3	31	SGN	31	SGN	31	SGN
TRICHLOROETHANE, 1,1,1-	71-55-6	7.2	SGN	7.4	SV	7.2	SGN
TRICHLOROETHANE, 1,1,2-	79-00-5	0.15	SGN	0.15	SGN	0.15	SGN
TRICHLOROETHYLENE (TCE)	79-01-6	0.17	SGN	0.17	SGN	0.17	SGN
TRICHLOROPROPANE, 1,2,3-	96-18-4	3.2	SGN	3.2	SGN	3.2	SGN
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.037	SGN	0.15	SGN	0.15	SGN
TRIETHYLAMINE	121-44-8	0.36	SGN	1.5	SGN	1.5	SGN
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	8.4	SGN	35	SGN	35	SGN
TRIMETHYLBENZENE, 1,3,5-	108-67-8	74	SGN	210	SGN	210	SGN
VINYL ACETATE	108-05-4	5.0	SGN	21	SGN	21	SGN
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.073	SGN	0.38	SGN	0.38	SGN
VINYL CHLORIDE	75-01-4	0.027	SGN	0.027	SGN	0.027	SGN
XYLENES (TOTAL)	1330-20-7	990	SGN	990	SGN	990	SGN

Type: SV—calculated screening value
SGN—generic soil-to-groundwater numeric value (Title 25 Pa. *Code* Ch. 250, Appendix A, Table 3B)
SAT—residual saturation limit

Table 3. Near-Source Soil Gas Statewide Health Standard Vapor Intrusion Screening Values (SV_{NS})

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
ACETALDEHYDE	75-07-0	1,900	39,000	7,900
ACETONE	67-64-1	6,500,000	140,000,000	27,000,000
ACETONITRILE	75-05-8	13,000	260,000	53,000
ACROLEIN	107-02-8	4.2	88	18
ACRYLAMIDE	79-06-1	19	1,200	250
ACRYLIC ACID	79-10-7	210	4,400	880
ACRYLONITRILE	107-13-1	72	1,800	360
ALLYL ALCOHOL	107-18-6	21	440	88
AMMONIA	7664-41-7	21,000	440,000	88,000
ANILINE	62-53-3	210	4,400	880
BENZENE	71-43-2	620	16,000	3,100
BENZYL CHLORIDE	100-44-7	99	2,500	500
BETA PROPIOLACTONE	57-57-8	1.2	31	6.1
BIPHENYL, 1,1-	92-52-4	83	1,800	350
BIS(2-CHLOROETHYL)ETHER	111-44-4	15	370	74
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	490	12,000	2,500
BIS(CHLOROMETHYL)ETHER	542-88-1	0.079	2.0	0.40
BROMOCHLOROMETHANE	74-97-5	8,300	180,000	35,000
BROMODICHLOROMETHANE	75-27-4	130	3,300	660
BROMOMETHANE	74-83-9	1,000	22,000	4,400
BUTADIENE, 1,3-	106-99-0	160	4,100	820
CARBON DISULFIDE	75-15-0	150,000	3,100,000	610,000
CARBON TETRACHLORIDE	56-23-5	810	20,000	4,100
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	10,000,000	220,000,000	44,000,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	210	4,400	880
CHLOROBENZENE	108-90-7	10,000	220,000	44,000
CHLORODIBROMOMETHANE	124-48-1	180	4,500	910
CHLORODIFLUOROMETHANE	75-45-6	10,000,000	220,000,000	44,000,000
CHLOROETHANE	75-00-3	2,100,000	44,000,000	8,800,000
CHLOROFORM	67-66-3	210	5,300	1,100
CHLOROPRENE	126-99-8	16	410	82
CHLOROPROPANE, 2-	75-29-6	21,000	440,000	88,000

Table 3. Near-Source Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
CRESOL(S)	1319-77-3	130,000	2,600,000	530,000
CUMENE (ISOPROPYL BENZENE)	98-82-8	83,000	1,800,000	350,000
CYCLOHEXANE	110-82-7	1,300,000	26,000,000	5,300,000
CYCLOHEXANONE	108-94-1	150,000	3,100,000	610,000
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.32	20	4.1
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	8.1	200	41
DIBROMOMETHANE	74-95-3	830	18,000	3,500
DICHLORO-2-BUTENE, 1,4-	764-41-0	1.2	29	5.8
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	1.2	29	5.8
DICHLOROBENZENE, 1,2-	95-50-1	42,000	880,000	180,000
DICHLOROBENZENE, P-	106-46-7	440	11,000	2,200
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	21,000	440,000	88,000
DICHLOROETHANE, 1,1-	75-34-3	3,000	77,000	15,000
DICHLOROETHANE, 1,2-	107-06-2	190	4,700	940
DICHLOROETHYLENE, 1,1-	75-35-4	42,000	880,000	180,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	13,000	260,000	53,000
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	130,000	2,600,000	530,000
DICHLOROPROPANE, 1,2-	78-87-5	490	12,000	2,500
DICHLOROPROPENE, 1,3-	542-75-6	1,200	31,000	6,100
DICYCLOPENTADIENE	77-73-6	63	1,300	260
DIOXANE, 1,4-	123-91-1	630	16,000	3,200
EPICHLOROHYDRIN	106-89-8	210	4,400	880
ETHOXYETHANOL, 2- (EGEE)	110-80-5	42,000	880,000	180,000
ETHYL ACETATE	141-78-6	15,000	310,000	61,000
ETHYL ACRYLATE	140-88-5	1,700	35,000	7,000
ETHYL BENZENE	100-41-4	1,900	49,000	9,800
ETHYL METHACRYLATE	97-63-2	63,000	1,300,000	260,000
ETHYLENE GLYCOL	107-21-1	83,000	1,800,000	350,000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	150,000	3,100,000	610,000
FORMALDEHYDE	50-00-0	370	9,400	1,900
FORMIC ACID	64-18-6	63	1,300	260
FURFURAL	98-01-1	10,000	220,000	44,000

Table 3. Near-Source Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
HEXACHLOROETHANE	67-72-1	490	12,000	2,500
HEXANE	110-54-3	150,000	3,100,000	610,000
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	1.0	25	5.0
METHACRYLONITRILE	126-98-7	6,300	130,000	26,000
METHANOL	67-56-1	830,000	18,000,000	3,500,000
METHOXYETHANOL, 2-	109-86-4	4,200	88,000	18,000
METHYL ACRYLATE	96-33-3	4,200	88,000	18,000
METHYL CHLORIDE	74-87-3	2,700	68,000	14,000
METHYL ETHYL KETONE	78-93-3	1,000,000	22,000,000	4,400,000
METHYL HYDRAZINE	60-34-4	4.2	88	18
METHYL ISOBUTYL KETONE	108-10-1	630,000	13,000,000	2,600,000
METHYL ISOCYANATE	624-83-9	210	4,400	880
METHYL METHACRYLATE	80-62-6	150,000	3,100,000	610,000
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	6,300	130,000	26,000
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	8,300	180,000	35,000
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	19,000	470,000	94,000
METHYLNAPHTHALENE, 2-	91-57-6	630	13,000	2,600
NAPHTHALENE	91-20-3	140	3,600	720
NITROBENZENE	98-95-3	120	3,100	610
NITROPROPANE, 2-	79-46-9	1.8	45	9.1
NITROSODIETHYLAMINE, N-	55-18-5	0.045	2.9	0.57
NITROSODIMETHYLAMINE, N-	62-75-9	0.14	8.8	1.8
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	3.0	77	15
PCB-1221 (AROCLOR)	11104-28-2	8.5	220	43
PCB-1232 (AROCLOR)	11141-16-5	8.5	220	43
PHENOL	108-95-2	42,000	880,000	180,000
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	42,000	880,000	180,000
PROPYLBENZENE, N-	103-65-1	210,000	4,400,000	880,000
PROPYLENE OXIDE	75-56-9	1,300	33,000	6,600
STYRENE	100-42-5	210,000	4,400,000	880,000
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	660	17,000	3,300
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	84	2,100	420
TETRACHLOROETHYLENE (PCE)	127-18-4	8,300	180,000	35,000

Table 3. Near-Source Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
TETRAHYDROFURAN	109-99-9	2,500	63,000	13,000
TOLUENE	108-88-3	1,000,000	22,000,000	4,400,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	4,400	110,000	22,000
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	6,300,000	130,000,000	26,000,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	420	8,800	1,800
TRICHLOROBENZENE, 1,3,5-	108-70-3	420	8,800	1,800
TRICHLOROETHANE, 1,1,1-	71-55-6	1,000,000	22,000,000	4,400,000
TRICHLOROETHANE, 1,1,2-	79-00-5	42	880	180
TRICHLOROETHYLENE (TCE)	79-01-6	420	8,800	1,800
TRICHLOROPROPANE, 1,2,3-	96-18-4	63	1,300	260
TRICHLOROPROPENE, 1,2,3-	96-19-5	63	1,300	260
TRIETHYLAMINE	121-44-8	1,500	31,000	6,100
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	1,500	31,000	6,100
TRIMETHYLBENZENE, 1,3,5-	108-67-8	1,500	31,000	6,100
VINYL ACETATE	108-05-4	42,000	880,000	180,000
VINYL BROMIDE (BROMOETHENE)	593-60-2	150	3,800	770
VINYL CHLORIDE	75-01-4	160	14,000	2,700
XYLENES (TOTAL)	1330-20-7	21,000	440,000	88,000

Table 4. Sub-Slab Soil Gas Statewide Health Standard Vapor Intrusion Screening Values (SV_{SS})

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
ACETALDEHYDE	75-07-0	360	5,100	1,500
ACETONE	67-64-1	1,200,000	17,000,000	5,200,000
ACETONITRILE	75-05-8	2,400	34,000	10,000
ACROLEIN	107-02-8	0.80	11	3.4
ACRYLAMIDE	79-06-1	3.7	160	47
ACRYLIC ACID	79-10-7	40	560	170
ACRYLONITRILE	107-13-1	14	230	69
ALLYL ALCOHOL	107-18-6	4.0	56	17
AMMONIA	7664-41-7	4,000	56,000	17,000
ANILINE	62-53-3	40	560	170
BENZENE	71-43-2	120	2,000	610
BENZYL CHLORIDE	100-44-7	19	320	96
BETA PROPIOLACTONE	57-57-8	0.23	3.9	1.2
BIPHENYL, 1,1-	92-52-4	16	220	67
BIS(2-CHLOROETHYL)ETHER	111-44-4	2.8	48	14
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	94	1,600	470
BIS(CHLOROMETHYL)ETHER	542-88-1	0.015	0.25	0.076
BROMOCHLOROMETHANE	74-97-5	1,600	22,000	6,700
BROMODICHLOROMETHANE	75-27-4	25	430	130
BROMOMETHANE	74-83-9	200	2,800	840
BUTADIENE, 1,3-	106-99-0	31	520	160
CARBON DISULFIDE	75-15-0	28,000	390,000	120,000
CARBON TETRACHLORIDE	56-23-5	160	2,600	790
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	2,000,000	28,000,000	8,400,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	40	560	170
CHLOROBENZENE	108-90-7	2,000	28,000	8,400
CHLORODIBROMOMETHANE	124-48-1	35	580	170
CHLORODIFLUOROMETHANE	75-45-6	2,000,000	28,000,000	8,400,000
CHLOROETHANE	75-00-3	400,000	5,600,000	1,700,000
CHLOROFORM	67-66-3	41	680	210
CHLOROPRENE	126-99-8	3.1	52	16
CHLOROPROPANE, 2-	75-29-6	4,000	56,000	17,000

Table 4. Sub-Slab Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
CRESOL(S)	1319-77-3	24,000	340,000	100,000
CUMENE (ISOPROPYL BENZENE)	98-82-8	16,000	220,000	67,000
CYCLOHEXANE	110-82-7	240,000	3,400,000	1,000,000
CYCLOHEXANONE	108-94-1	28,000	390,000	120,000
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.062	2.6	0.79
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	1.6	26	7.9
DIBROMOMETHANE	74-95-3	160	2,200	670
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.22	3.7	1.1
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.22	3.7	1.1
DICHLOROBENZENE, 1,2-	95-50-1	8,000	110,000	34,000
DICHLOROBENZENE, P-	106-46-7	85	1,400	430
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	4,000	56,000	17,000
DICHLOROETHANE, 1,1-	75-34-3	590	9,800	3,000
DICHLOROETHANE, 1,2-	107-06-2	36	610	180
DICHLOROETHYLENE, 1,1-	75-35-4	8,000	110,000	34,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	2,400	34,000	10,000
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	24,000	340,000	100,000
DICHLOROPROPANE, 1,2-	78-87-5	94	1,600	470
DICHLOROPROPENE, 1,3-	542-75-6	230	3,900	1,200
DICYCLOPENTADIENE	77-73-6	12	170	51
DIOXANE, 1,4-	123-91-1	120	2,000	610
EPICHLOROHYDRIN	106-89-8	40	560	170
ETHOXYETHANOL, 2- (EGEE)	110-80-5	8,000	110,000	34,000
ETHYL ACETATE	141-78-6	2,800	39,000	12,000
ETHYL ACRYLATE	140-88-5	320	4,500	1,300
ETHYL BENZENE	100-41-4	370	6,300	1,900
ETHYL METHACRYLATE	97-63-2	12,000	170,000	51,000
ETHYLENE GLYCOL	107-21-1	16,000	220,000	67,000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	28,000	390,000	120,000
FORMALDEHYDE	50-00-0	72	1,200	360
FORMIC ACID	64-18-6	12	170	51
FURFURAL	98-01-1	2,000	28,000	8,400

Table 4. Sub-Slab Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
HEXACHLOROETHANE	67-72-1	94	1,600	470
HEXANE	110-54-3	28,000	390,000	120,000
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.19	3.2	1.0
METHACRYLONITRILE	126-98-7	1,200	17,000	5,100
METHANOL	67-56-1	160,000	2,200,000	670,000
METHOXYETHANOL, 2-	109-86-4	800	11,000	3,400
METHYL ACRYLATE	96-33-3	800	11,000	3,400
METHYL CHLORIDE	74-87-3	520	8,700	2,600
METHYL ETHYL KETONE	78-93-3	200,000	2,800,000	840,000
METHYL HYDRAZINE	60-34-4	0.80	11	3.4
METHYL ISOBUTYL KETONE	108-10-1	120,000	1,700,000	510,000
METHYL ISOCYANATE	624-83-9	40	560	170
METHYL METHACRYLATE	80-62-6	28,000	390,000	120,000
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	1,200	17,000	5,100
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	1,600	22,000	6,700
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	3,600	61,000	18,000
METHYLNAPHTHALENE, 2-	91-57-6	120	1,700	510
NAPHTHALENE	91-20-3	28	460	140
NITROBENZENE	98-95-3	23	390	120
NITROPROPANE, 2-	79-46-9	0.35	5.8	1.7
NITROSODIETHYLAMINE, N-	55-18-5	0.0086	0.37	0.11
NITROSODIMETHYLAMINE, N-	62-75-9	0.026	1.1	0.34
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.59	10	3.0
PCB-1221 (AROCLOR)	11104-28-2	1.6	28	8.3
PCB-1232 (AROCLOR)	11141-16-5	1.6	28	8.3
PHENOL	108-95-2	8,000	110,000	34,000
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	8,000	110,000	34,000
PROPYLBENZENE, N-	103-65-1	40,000	560,000	170,000
PROPYLENE OXIDE	75-56-9	250	4,300	1,300
STYRENE	100-42-5	40,000	560,000	170,000
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	130	2,100	640
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	16	270	81
TETRACHLOROETHYLENE (PCE)	127-18-4	1,600	22,000	6,700

Table 4. Sub-Slab Soil Gas Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)	Converted Residential ($\mu g/m^3$)
TETRAHYDROFURAN	109-99-9	480	8,100	2,400
TOLUENE	108-88-3	200,000	2,800,000	840,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	850	14,000	4,300
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	1,200,000	17,000,000	5,100,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	80	1,100	340
TRICHLOROBENZENE, 1,3,5-	108-70-3	80	1,100	340
TRICHLOROETHANE, 1,1,1-	71-55-6	200,000	2,800,000	840,000
TRICHLOROETHANE, 1,1,2-	79-00-5	8.0	110	34
TRICHLOROETHYLENE (TCE)	79-01-6	80	1,100	340
TRICHLOROPROPANE, 1,2,3-	96-18-4	12	170	51
TRICHLOROPROPENE, 1,2,3-	96-19-5	12	170	51
TRIETHYLAMINE	121-44-8	280	3,900	1,200
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	280	3,900	1,200
TRIMETHYLBENZENE, 1,3,5-	108-67-8	280	3,900	1,200
VINYL ACETATE	108-05-4	8,000	110,000	34,000
VINYL BROMIDE (BROMOETHENE)	593-60-2	29	490	150
VINYL CHLORIDE	75-01-4	30	1,700	520
XYLENES (TOTAL)	1330-20-7	4,000	56,000	17,000

Table 5. Indoor Air Statewide Health Standard Vapor Intrusion Screening Values (SV_{IA})

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
ACETALDEHYDE	75-07-0	9.4	39
ACETONE	67-64-1	32,000	140,000
ACETONITRILE	75-05-8	63	260
ACROLEIN	107-02-8	0.021	0.088
ACRYLAMIDE	79-06-1	0.096	1.2
ACRYLIC ACID	79-10-7	1.0	4.4
ACRYLONITRILE	107-13-1	0.36	1.8
ALLYL ALCOHOL	107-18-6	0.10	0.44
AMMONIA	7664-41-7	100	440
ANILINE	62-53-3	1.0	4.4
BENZENE	71-43-2	3.1	16
BENZYL CHLORIDE	100-44-7	0.50	2.5
BETA PROPIOLACTONE	57-57-8	0.0061	0.031
BIPHENYL, 1,1-	92-52-4	0.42	1.8
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.074	0.37
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	2.4	12
BIS(CHLOROMETHYL)ETHER	542-88-1	0.00039	0.0020
BROMOCHLOROMETHANE	74-97-5	42	180
BROMODICHLOROMETHANE	75-27-4	0.66	3.3
BROMOMETHANE	74-83-9	5.2	22
BUTADIENE, 1,3-	106-99-0	0.81	4.1
CARBON DISULFIDE	75-15-0	730	3,100
CARBON TETRACHLORIDE	56-23-5	4.1	20
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	52,000	220,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	1.0	4.4
CHLOROBENZENE	108-90-7	52	220
CHLORODIBROMOMETHANE	124-48-1	0.90	4.5
CHLORODIFLUOROMETHANE	75-45-6	52,000	220,000
CHLOROETHANE	75-00-3	10,000	44,000
CHLOROFORM	67-66-3	1.1	5.3
CHLOROPRENE	126-99-8	0.081	0.41
CHLOROPROPANE, 2-	75-29-6	100	440
CRESOL(S)	1319-77-3	630	2,600

Table 5. Indoor Air Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
CUMENE (ISOPROPYL BENZENE)	98-82-8	420	1,800
CYCLOHEXANE	110-82-7	6,300	26,000
CYCLOHEXANONE	108-94-1	730	3,100
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.0016	0.020
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.041	0.20
DIBROMOMETHANE	74-95-3	4.2	18
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.0058	0.029
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.0058	0.029
DICHLOROBENZENE, 1,2-	95-50-1	210	880
DICHLOROBENZENE, P-	106-46-7	2.2	11
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	440
DICHLOROETHANE, 1,1-	75-34-3	15	77
DICHLOROETHANE, 1,2-	107-06-2	0.94	4.7
DICHLOROETHYLENE, 1,1-	75-35-4	210	880
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	63	260
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	630	2,600
DICHLOROPROPANE, 1,2-	78-87-5	2.4	12
DICHLOROPROPENE, 1,3-	542-75-6	6.1	31
DICYCLOPENTADIENE	77-73-6	0.31	1.3
DIOXANE, 1,4-	123-91-1	3.2	16
EPICHLOROHYDRIN	106-89-8	1.0	4.4
ETHOXYETHANOL, 2- (EGEE)	110-80-5	210	880
ETHYL ACETATE	141-78-6	73	310
ETHYL ACRYLATE	140-88-5	8.3	35
ETHYL BENZENE	100-41-4	9.7	49
ETHYL METHACRYLATE	97-63-2	310	1,300
ETHYLENE GLYCOL	107-21-1	420	1,800
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	730	3,100
FORMALDEHYDE	50-00-0	1.9	9.4
FORMIC ACID	64-18-6	0.31	1.3
FURFURAL	98-01-1	52	220
HEXACHLOROETHANE	67-72-1	2.4	12
HEXANE	110-54-3	730	3,100

Table 5. Indoor Air Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.0050	0.025
METHACRYLONITRILE	126-98-7	31	130
METHANOL	67-56-1	4,200	18,000
METHOXYETHANOL, 2-	109-86-4	21	88
METHYL ACRYLATE	96-33-3	21	88
METHYL CHLORIDE	74-87-3	14	68
METHYL ETHYL KETONE	78-93-3	5,200	22,000
METHYL HYDRAZINE	60-34-4	0.021	0.088
METHYL ISOBUTYL KETONE	108-10-1	3,100	13,000
METHYL ISOCYANATE	624-83-9	1.0	4.4
METHYL METHACRYLATE	80-62-6	730	3,100
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	31	130
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	42	180
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	94	470
METHYLNAPHTHALENE, 2-	91-57-6	3.1	13
NAPHTHALENE	91-20-3	0.72	3.6
NITROBENZENE	98-95-3	0.61	3.1
NITROPROPANE, 2-	79-46-9	0.0090	0.045
NITROSODIETHYLAMINE, N-	55-18-5	0.00022	0.0029
NITROSODIMETHYLAMINE, N-	62-75-9	0.00069	0.0088
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.015	0.077
PCB-1221 (AROCLOR)	11104-28-2	0.043	0.22
PCB-1232 (AROCLOR)	11141-16-5	0.043	0.22
PHENOL	108-95-2	210	880
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	210	880
PROPYLBENZENE, N-	103-65-1	1,000	4,400
PROPYLENE OXIDE	75-56-9	6.6	33
STYRENE	100-42-5	1,000	4,400
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	3.3	17
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.42	2.1
TETRACHLOROETHYLENE (PCE)	127-18-4	42	180
TETRAHYDROFURAN	109-99-9	13	63
TOLUENE	108-88-3	5,200	22,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	22	110

Table 5. Indoor Air Statewide Health Standard Screening Values (cont.)

Regulated Substance	CAS No.	Residential ($\mu g/m^3$)	Nonresidential ($\mu g/m^3$)
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	31,000	130,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	2.1	8.8
TRICHLOROBENZENE, 1,3,5-	108-70-3	2.1	8.8
TRICHLOROETHANE, 1,1,1-	71-55-6	5,200	22,000
TRICHLOROETHANE, 1,1,2-	79-00-5	0.21	0.88
TRICHLOROETHYLENE (TCE)	79-01-6	2.1	8.8
TRICHLOROPROPANE, 1,2,3-	96-18-4	0.31	1.3
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.31	1.3
TRIETHYLAMINE	121-44-8	7.3	31
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	7.3	31
TRIMETHYLBENZENE, 1,3,5-	108-67-8	7.3	31
VINYL ACETATE	108-05-4	210	880
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.76	3.8
VINYL CHLORIDE	75-01-4	0.79	14
XYLENES (TOTAL)	1330-20-7	100	440

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APPENDIX B
Indoor Air Building Surveys

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1 / 22 / 24

Site Name: BJ's

Contact:

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 2300 W OREGON AVE

Property Contact: [redacted] Owner / Renter / other: Manager

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / (industrial)

Describe building: _____

Number of floors—below grade: 1 (full basement / crawl space / slab) at or above grade: 2nd floor

Basement size: _____ ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / (concrete) / asphalt / other (specify) _____

Basement sump present? *Yes* / (*No*) Sump pump? *Yes* / *No* Standing water? *Yes* / *No*

Basement used as living space? *Yes* / (*No*)

Type of heating system (circle all that apply):

(hot air circulation)	hot air radiation	wood	steam radiation	hot water radiation
kerosene heater	electric baseboard	heat pump	other (specify): _____	

Type of ventilation system (circle all that apply):

(central air conditioning)	mechanical fans	bathroom ventilation fans
individual air conditioning units	kitchen range hood fan	other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / (electric) / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes* / *Yes (but not used)* / (*No*) Irrigation/private well? *Yes* / *Yes (but not used)* (*No*)

Existing subsurface depressurization (radon) system in place? *Yes* / (*No*) Operating? *Yes* / *No*

Building address: 2300 W Oregon Ave

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Fork lift > Electric Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	Propane tanks outside	
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners	RECIEVING	
Carpet / upholstery cleaners	CENTER OF BUILDING	
Other house cleaning products	AISLE 4	
Moth balls		
Polishes / waxes		
Insecticides	4	
Furniture / floor polish	Middle	
Nail polish / polish remover		
Hairspray	22	
Cologne / perfume	22	
Air fresheners	4 or 5	
Fuel tank (inside building)	Empty Propane tanks	NA
Wood stove or fireplace	Center	NA
New furniture / upholstery	Center	
New carpeting / flooring	right side wall	NA
Recent painting in building?	No	NA
Hobbies—glues, paints, etc.	No	

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (No) How often? _____

Does the building have an attached garage? (Yes) / *No* Tire Bay

If so, is a car usually parked in the garage? *Yes* / (No)

Do the occupants of the building have their clothes dry-cleaned? *Yes* / (No)

Have the occupants noticed any unusual odors in the building? (Yes) / *No*

Describe (with location): Random Gas Smell, Throughout building, mainly 2nd floor Break room

Any known spills of a chemical immediately outside or inside the building? *Yes* / (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/22/24

Site Name: Home Depot

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2200 OREGON AVE

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / ~~industrial~~

Describe building: _____

Number of floors—below grade: 1 (full basement / crawl space / slab) at or above grade: _____

Basement size: _____ ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: ~~poured concrete~~ / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes* / ~~*No*~~ Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes* ~~*No*~~

Type of heating system (circle all that apply):
hot air circulation — hot air radiation — wood — steam radiation — hot water radiation
kerosene heater — electric baseboard — heat pump — other (specify): _____

Type of ventilation system (circle all that apply):
central air conditioning — mechanical fans — bathroom ventilation fans
individual air conditioning units — kitchen range hood fan — other (specify): _____

Type of fuel utilized (circle all that apply):
natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used)* *No* Irrigation/private well? *Yes / Yes (but not used)* / ~~*No*~~

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Unknown

Building address: 2200 Oregon Ave

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	Tool Rental / Gas can storage area	
Gas-powered equipment	Equipment, Heaters, Products	
Kerosene storage cans	~~Eq~~, Receiving, In Aisle	
Paints / thinners / strippers	Paint, Garden	
Cleaning solvents	Garden	
Oven cleaners	Garden	
Carpet / upholstery cleaners	Garden, Floorins	
Other house cleaning products	Garden	
Moth balls	Garden	
Polishes / waxes	Garden, Floorins	
Insecticides	Garden	
Furniture / floor polish	Garden	
Nail polish / polish remover	Paints, Garden	
Hairspray	—	
Cologne / perfume	—	
Air fresheners	Garden	
Fuel tank (inside building)	Empty tanks, none loaded inside	NA
Wood stove or fireplace	—	NA
New furniture / upholstery	—	
New carpeting / flooring	Back wall, carpeting and floorins	NA
Recent painting in building?	no	NA
Hobbies—glues, paints, etc.	Paint	

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (No) How often? _____

Does the building have an attached garage? *Yes* / (No)

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes* / (No)

Have the occupants noticed any unusual odors in the building? *Yes* / (No)

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes* / (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 11/22/24

Site Name: DSCP VI Investigation - PHA (Philadelphia Housing Authority)

Contact: [redacted]

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 3100 Penrose Ferry Road, Philadelphia, PA 19145

Property Contact: [redacted] Owner / Renter / (other): head of environmental department

Contact's Phone: home _____ work _____ cell [redacted]

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults ~75

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: Long, Rectangular / Garage w/ storage supplies / abandoned office space

Number of floors—below grade: 0 (full basement / crawl space / slab) at or above grade: 1

Basement size: NA ft² Basement floor: concrete / dirt / floating / other (specify): NA

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / (asphalt) / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):

hot air circulation	hot air radiation	wood	steam radiation	hot water radiation
kerosene heater	electric baseboard	heat pump	(other (specify): forced air	

Type of ventilation system (circle all that apply):

(central air conditioning)	mechanical fans	bathroom ventilation fans
individual air conditioning units	kitchen range hood fan	other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / (No)* Irrigation/private well? *Yes / Yes (but not used) / (No)*

Existing subsurface depressurization (radon) system in place? *Yes / (No)* Operating? *Yes / No*

Building address: 3100 Penrose Ferry Road

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		NO
Gas-powered equipment		NO
Kerosene storage cans		NO
Paints / thinners / strippers	Garage / Storage Area	Yes / Sealed
Cleaning solvents	Bleach (Bathrooms)	NO
Oven cleaners		NO
Carpet / upholstery cleaners		NO
Other house cleaning products	Storage Closet / Bathrooms	NO
Moth balls		NO
Polishes / waxes		NO
Insecticides		NO
Furniture / floor polish		NO
Nail polish / polish remover		NO
Hairspray		NO
Cologne / perfume		NO
Air fresheners		NO
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery	Stored in garage area (packages sealed)	Yes
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		NO

Part IV — Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No — How often? Daily

Does the building have an attached garage? (Yes) / No

If so, is a car usually parked in the garage? Yes / (No)

Do the occupants of the building have their clothes dry-cleaned? Yes / No

Have the occupants noticed any unusual odors in the building? Yes / (No)

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? Yes / (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? Yes (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 11/22/24

Site Name: DSCP VI INVESTIGATION - PetSmart

Contact:

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 2360 Oregon Avenue, Philadelphia, PA 19145

Property Contact: [redacted] Owner / Renter / (other) Store Manager

Contact's Phone: home _____ work _____ cell [redacted]

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults ____

300 ppl per day (Estimated Amount)

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: Pet Store w/ Animal Hospital in back. Shelves filled w/ pet supplies

Number of floors—below grade: 0 (full basement / crawl space / slab) at or above grade: 1

Basement size: NA ft² Basement floor: concrete / dirt / floating / other (specify): NA

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / (asphalt) / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
(hot air circulation) hot air radiation wood steam radiation hot water radiation
~~kerosene heater~~ electric baseboard heat pump other (specify): _____

Type of ventilation system (circle all that apply):
(central air conditioning) mechanical fans bathroom ventilation fans
~~individual air conditioning units~~ kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used)* (No) Irrigation/private well? *Yes / Yes (but not used)* (No)

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Building address: 2360 Oregan Ave

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		No
Gas-powered equipment		No
Kerosene storage cans		No
Paints / thinners / strippers	cash office, storage room	Yes
Cleaning solvents	Storage closet	Yes
Oven cleaners		No
Carpet / upholstery cleaners		No
Other house cleaning products	Storage Closet	Yes
Moth balls		No
Polishes / waxes		Yes
Insecticides		No
Furniture / floor polish		No
Nail polish / polish remover		No
Hairspray		No
Cologne / perfume		No
Air fresheners		No
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		No
New carpeting / flooring		NA
Recent painting in building?	two years ago Two weeks AGO (shelves)	NA
Hobbies—glues, paints, etc.		No

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (No) How often? _____

Does the building have an attached garage? *Yes* / (No)

If so, is a car usually parked in the garage? *Yes* / (No)

Do the occupants of the building have their clothes dry-cleaned? *Yes* / (No)

Have the occupants noticed any unusual odors in the building? (Yes) / *No*

Describe (with location): from construction next door. Fire department came and gave all good

Any known spills of a chemical immediately outside or inside the building? *Yes* (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 11/22/24

Site Name: DSCP VI INVESTIGATION - PLANET FITNESS

Contact:

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 2350 Oregon Avenue, Philadelphia, PA 19145

Property Contact: [redacted] Owner / Renter / (other:) Manager

Contact's Phone: home [redacted] work _____ cell [redacted]

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults 800

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: Planet fitness gym, open space, 2 supply closets, 2 locker rooms

Number of floors—below grade: 0 (full basement / crawl space / slab) at or above grade: 1

Basement size: NA ft² Basement floor: concrete / dirt / floating / other (specify): NA

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / (asphalt) / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
(hot air circulation) hot air radiation wood steam radiation hot water radiation
kerosene heater electric baseboard heat pump other (specify): _____

Type of ventilation system (circle all that apply):
(central air conditioning) mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / (No)* Irrigation/private well? *Yes / Yes (but not used) (No)*

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Building address: 2350 Oregon Ave

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		N
Gas-powered equipment		N
Kerosene storage cans		N
Paints / thinners / strippers	Back Storage ↓	Y
Cleaning solvents	↓	Y
Oven cleaners	↓	Y
Carpet / upholstery cleaners	↓	Y
Other house cleaning products		N
Moth balls		N
Polishes / waxes		N
Insecticides		N
Furniture / floor polish		N
Nail polish / polish remover		N
Hairspray		N
Cologne / perfume		N
Air fresheners	Bathrooms / Offices	Y
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		N
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		N

Part IV — Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No How often? _____

Does the building have an attached garage? Yes / (No)

If so, is a car usually parked in the garage? Yes / (No)

Do the occupants of the building have their clothes dry-cleaned? Yes / (No)

Have the occupants noticed any unusual odors in the building? Yes / (No)

Describe (with location): Historic Refinery, Vacant NC

Any known spills of a chemical immediately outside or inside the building? Yes / (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? Yes (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1123124

Site Name: DSCP VI Investigation - VES Building

Contact: [redacted]

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 2990 S 20th St. Philadelphia, PA 19145

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work _____ cell [redacted]

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults 1

Part II — Building Characteristics → Government / Remediation

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors—below grade: 0 (full basement / crawl space / slab) at or above grade: 1 w/ mezzanine

Basement size: NA ft² Basement floor: concrete / dirt / floating / other (specify): NA

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / (concrete) / (asphalt) / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
hot air circulation — hot air radiation — wood — steam radiation — hot water radiation
kerosene heater — (electric baseboard) — heat pump — other (specify): _____

Type of ventilation system (circle all that apply):
central air conditioning — mechanical fans — bathroom ventilation fans
individual air conditioning units — kitchen range hood fan — other (specify): Roof

Type of fuel utilized (circle all that apply):
Natural gas / (electric) / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) /* (No) Irrigation/private well? *Yes / Yes (but not used)* (No)

Existing subsurface depressurization (radon) system in place? *Yes /* (No) Operating? *Yes / No*

Building address: 2990 S 20th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		No
Gas-powered equipment		Yes
Kerosene storage cans		No
Paints / thinners / strippers		Yes
Cleaning solvents		No
Oven cleaners		No
Carpet / upholstery cleaners		No
Other house cleaning products		Yes
Moth balls		No
Polishes / waxes		No
Insecticides		No
Furniture / floor polish		No
Nail polish / polish remover		No
Hairspray		No
Cologne / perfume		No
Air fresheners		No
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		No
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		No

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (*No*) How often? _____

Does the building have an attached garage? (*Yes*) / *No*

If so, is a car usually parked in the garage? (*Yes*) / (*No*) Occasionally

Do the occupants of the building have their clothes dry-cleaned? *Yes* / (*No*)

Have the occupants noticed any unusual odors in the building? *Yes* (*No*)

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes* (*No*)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / (*No*)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

PENNSYLVANIA STATE POLICE
LIQUOR CONTROL ENFORCEMENT

[redacted]
SERGEANT

PHILA. DISTRICT OFFICE COMMANDER
2810 S. 20TH STREET, BLD #6
PHILADELPHIA, PENNSYLVANIA 19145

[redacted]

Would they get copies of results

Pennsylvania Department of Envi

INDOOR AIR BUILDING SURVEY FORM

Survey Completed by: [redacted] Date: 1/24/24

Site Name: DSCP VI investigation - Building 6 (1st Floor) Bay A

Contact: [redacted]

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2810 S. 20th Street, Bld. #6, Philadelphia, PA

Property Contact: [redacted] Owner / Renter / other: Sergeant

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults 30

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: long rectangular, 2 floors, 1 half bath, ~~one~~ floors are police offices first floor bike place w/ garage, rest abandoned

Number of floors—below grade: 0 (full basement / crawl space / slab) at or above grade: 2

Basement size: NA ft² Basement floor: concrete / dirt / floating / other (specify): NA

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
hot air circulation, hot air radiation, wood, steam radiation, hot water radiation, kerosene heater, electric baseboard, heat pump, other (specify): _____

Type of ventilation system (circle all that apply):
central air conditioning, mechanical fans, bathroom ventilation fans, individual air conditioning units, kitchen range hood fan, other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / No* Irrigation/private well? *Yes / Yes (but not used) / No*

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Building address: 2810 S. 20th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		N
Gas-powered equipment		N
Kerosene storage cans		N
Paints / thinners / strippers		N
Cleaning solvents		Y
Oven cleaners		N
Carpet / upholstery cleaners		N
Other house cleaning products		Y
Moth balls		N
Polishes / waxes	Shoe Polish	
Insecticides		Y
Furniture / floor polish		N
Nail polish / polish remover	on Desk Maybe	
Hairspray	↓	
Cologne / perfume	↓	
Air fresheners		Y
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		N
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		N

Part IV — Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No How often? Outside

Does the building have an attached garage? (Yes) / No

If so, is a car usually parked in the garage? Yes / (No)

Do the occupants of the building have their clothes dry-cleaned? (Yes) / No

Have the occupants noticed any unusual odors in the building? (Yes) / No

Describe (with location): Gas smell by office

Any known spills of a chemical immediately outside or inside the building? Yes / (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? Yes (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

[redacted]

Disregard, on second floor of Bay A

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/22/24

Site Name: DSCP VI Investigation - Building 6

Contact:

Participation

Do you wish to participate in the indoor air testing program? *Yes / No*

* any time come into here. contact Sky Management

Part I — Occupants

Bld 6 2nd floor (South end)

[redacted], Bike Bay B

Building Address: _____

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work _____ cell [redacted]

Building occupants: Children under age 13 _____ Children age 13–18 _____ Adults 80/85 (police) 45 (Bike)

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors—below grade: 2 (full basement / crawl space / slab) at or above grade: 2

Basement size: _____ ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):

hot air circulation | hot air radiation | wood | steam radiation | hot water radiation
kerosene heater | electric baseboard | heat pump | other (specify): _____

Type of ventilation system (circle all that apply):

central air conditioning | mechanical fans | bathroom ventilation fans
individual air conditioning units | kitchen range hood fan | other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / No* Irrigation/private well? *Yes / Yes (but not used) / No*

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Building address: 2810 S 30th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	Garage	NO
Gas-powered equipment		NO
Kerosene storage cans		
Paints / thinners / strippers	(Bike shop)	Y
Cleaning solvents	↓	Y
Oven cleaners		NO
Carpet / upholstery cleaners		Y
Other house cleaning products		Y
Moth balls		N
Polishes / waxes	Bike shop	Y
Insecticides		N
Furniture / floor polish		N
Nail polish / polish remover		N
Hairspray		N
Cologne / perfume		N
Air fresheners		Y
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		N
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		N

Y Y Y Y N Y N N N N N Y

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Does the building have an attached garage? (Yes) / *No*

If so, is a car usually parked in the garage? *Yes / No* (sometimes)

Do the occupants of the building have their clothes dry-cleaned? *Yes / No*

Have the occupants noticed any unusual odors in the building? (Yes) / *No*

Describe (with location): Gas smell coming from outside

Any known spills of a chemical immediately outside or inside the building? *Yes / No*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes / No*

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 11/22/24

Site Name: DSCP VI Investigation - Building 11

Contact:

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 2800 S 20th St, Philadelphia, PA. 19145

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults 5

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: Small Kitchen & conference room / Basement

Number of floors—below grade: 1 (full basement / crawl space / slab) at or above grade: 1

Basement size: _____ ft² Basement floor: (concrete) / dirt / floating / other (specify): tiles

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: (grass) / (concrete) / (asphalt) / other (specify) _____

Basement sump present? (Yes) / No Sump pump? (Yes) / No Standing water? Yes / (No)

Basement used as living space? Yes / (No)

Type of heating system (circle all that apply):

(hot air circulation)	hot air radiation	wood	steam radiation	hot water radiation
~~kerosene heater~~	electric baseboard	heat pump	(other (specify): Gas	

Type of ventilation system (circle all that apply):

(central air conditioning)	mechanical fans	bathroom ventilation fans
~~individual air conditioning units~~	kitchen range hood fan	other (specify): _____

Type of fuel utilized (circle all that apply):
(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? Yes / Yes (but not used) / (No) Irrigation/private well? Yes / Yes (but not used) / (No)

Existing subsurface depressurization (radon) system in place? Yes / No Operating? Yes / No

Building address: 2800 S 20th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	Garage	Y
Gas-powered equipment		Y
Kerosene storage cans		N
Paints / thinners / strippers	Basement / G	Y
Cleaning solvents		Y
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		Y
Moth balls		N/Y
Polishes / waxes		Y
Insecticides		
Furniture / floor polish		Y
Nail polish / polish remover		N
Hairspray		N
Cologne / perfume		N
Air fresheners		Y
Fuel tank (inside building)	Old Generator	NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No — How often? _____

Does the building have an attached garage? (Yes) / No

If so, is a car usually parked in the garage? Yes / (No)

Do the occupants of the building have their clothes dry-cleaned? Yes / (No)

Have the occupants noticed any unusual odors in the building? Yes / (No)

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? Yes / (No)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? Yes / (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/23/24

Site Name: Building 12

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2810 S 20th St Building 12, Philadelphia 19145

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 _____ Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: Office And Vocational Classroom

Number of floors—below grade: 3 with Basement (full basement) / crawl space / slab) at or above grade: _____

Basement size: 66,000 ft² Basement floor: (concrete) / dirt / floating / other (specify): _____

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: (grass) / (concrete) / asphalt / other (specify) _____

Basement sump present? (Yes) / No Sump pump? (Yes) / No Standing water? Yes / (No)

Basement used as living space? Yes / (No)

Type of heating system (circle all that apply):
(hot air circulation) hot air radiation wood steam radiation hot water radiation
~~kerosene heater~~ electric baseboard heat pump other (specify): _____

Type of ventilation system (circle all that apply):
~~central air conditioning~~ mechanical fans bathroom ventilation fans
(individual air conditioning units) kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):
(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used)* (No) Irrigation/private well? *Yes / Yes (but not used)* (No)

Existing subsurface depressurization (radon) system in place? *Yes* / (No) Operating? *Yes* / (No)

Building address: 2810 S 20th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers	Storage Closet	
Cleaning solvents		
Oven cleaners	Kitchen	
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery	Through out building	
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.	Shop class	

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Does the building have an attached garage? *Yes / (No)*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / (No)*

Have the occupants noticed any unusual odors in the building? *Yes / No*

Describe (with location): Sewage smell through out building

Any known spills of a chemical immediately outside or inside the building? *Yes / (No)*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes / No*

If so, when and which chemicals? exterminator

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/23/24

Site Name: Buildings 14

Contact:

Participation

Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2800 S 20th St, Building 14

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: _____

Number of floors—below grade: 2 plus Basement (full basement) / crawl space / slab) at or above grade: _____

Basement size: 20,000 ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: (grass) / (concrete) / (asphalt) / other (specify) _____

Basement sump present? *Yes* / (*No*) Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes* / (*No*)

Type of heating system (circle all that apply):

(hot air circulation) hot air radiation wood steam radiation hot water radiation
kerosene heater electric baseboard heat pump other (specify): None

Type of ventilation system (circle all that apply):

(central air conditioning) mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan other (specify): None

Type of fuel utilized (circle all that apply):

(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake None

Septic system? *Yes / Yes (but not used) /* (*No*) Irrigation/private well? *Yes / Yes (but not used) /* (*No*)

Existing subsurface depressurization (radon) system in place? *Yes* / (*No*) Operating? *Yes / No*

Building address: 2800 S 20th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	None	
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Does the building have an attached garage? *Yes / (No)*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / (No)*

Have the occupants noticed any unusual odors in the building? *Yes / (No)*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / (No)*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes / (No)*

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/22/24

Site Name: U-Haul

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2990 S 20th St

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: _____

Number of floors—below grade: ____ (~~full basement~~ / crawl space / slab) at or above grade: _____

Basement size: _____ ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / (asphalt) / other (specify) _____

Basement sump present? *Yes* / (*No*) Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes* / (*No*)

Type of heating system (circle all that apply):
(hot air circulation) ~~hot air radiation~~ wood steam radiation hot water radiation
kerosene heater (electric baseboard) heat pump other (specify): _____

Type of ventilation system (circle all that apply):
(central air conditioning) mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):
(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) /* (*No*) Irrigation/private well? *Yes / Yes (but not used) /* (*No*)

Existing subsurface depressurization (radon) system in place? *Yes* / (*No*) Operating? *Yes* / (*No*)

Building address: 2990 S 20th St.

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	Tool room	
Gas-powered equipment	Tool room	
Kerosene storage cans		
Paints / thinners / strippers	Basement / tool room	
Cleaning solvents	//	
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (*No*) How often? _____

Does the building have an attached garage? (*Yes*) / *No*

If so, is a car usually parked in the garage? (*Yes*) / *No*

Do the occupants of the building have their clothes dry-cleaned? *Yes* / (*No*)

Have the occupants noticed any unusual odors in the building? *Yes* / (*No*)

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes* / (*No*)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / (*No*)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 11/23/24

Site Name: DSCP VI Investigation - PHA GYM

Contact: Steve Koplove

Participation
Do you wish to participate in the indoor air testing program? (Yes) / No

Part I — Occupants

Building Address: 3100 Penrose Ferry Road, Philadelphia, PA 19145

Property Contact: [redacted] Owner / (Renter) / other: _____

Contact's Phone: home _____ work _____ cell [redacted]

Building occupants: Children under age 13 1 Children age 13–18 _____ Adults 5

Sometimes children use it for baseball practice

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / (office) / strip mall / (commercial) / industrial

Describe building: _____

Number of floors—below grade: 0 (full basement / crawl space / slab) at or above grade: 1

Basement size: NA ft² Basement floor: concrete / dirt / floating / other (specify): NA

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
hot air circulation / hot air radiation / wood / steam radiation / hot water radiation
kerosene heater / electric baseboard / heat pump / other (specify): forced hot air

Type of ventilation system (circle all that apply):
central air conditioning / mechanical fans / bathroom ventilation fans
individual air conditioning units / kitchen range hood fan / other (specify): _____

Type of fuel utilized (circle all that apply):
(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used)* (/ No) Irrigation/private well? *Yes / Yes (but not used)* (/ No)

Existing subsurface depressurization (radon) system in place? *Yes / No* Operating? *Yes / No*

Building address: 3100 Penrose Ferry Road

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		N
Gas-powered equipment	Tractors on baseball field	y
Kerosene storage cans		N
Paints / thinners / strippers	Sometimes spray paint in storage	y
Cleaning solvents	Janitor Closet	y
Oven cleaners		N
Carpet / upholstery cleaners		N
Other house cleaning products	Janitor Closet	y
Moth balls		N
Polishes / waxes	Storage Closet	y
Insecticides		N
Furniture / floor polish		N
Nail polish / polish remover		N
Hairspray		N
Cologne / perfume		N
Air fresheners		y
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		N
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes* (*No*) How often? _____

Does the building have an attached garage? *Yes* (*No*)

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes* (*No*)

Have the occupants noticed any unusual odors in the building? *Yes* (*No*)

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes* (*No*)

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* (No)

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/23/24

Site Name: Aldi's

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2810 S 20th St

Property Contact: [redacted] Owner / Renter / other: Manager

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 X Children age 13–18 X Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / (commercial) / industrial

Describe building: Food Store

Number of floors—below grade: 1 (full basement / crawl space / slab) None at or above grade: _____

Basement size: _____ ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: (poured concrete) / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / (asphalt) / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes / No*

Type of heating system (circle all that apply):
(hot air circulation) hot air radiation wood steam radiation hot water radiation
kerosene heater electric baseboard heat pump other (specify): _____

Type of ventilation system (circle all that apply):
(central air conditioning) mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):
(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) /* (No) Irrigation/private well? *Yes / Yes (but not used)* (/ No)

Existing subsurface depressurization (radon) system in place? *Yes /* (No) Operating? *Yes / No*

Building address: 2810 S 20th Street

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	None	
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Does the building have an attached garage? *Yes / (No)*

If so, is a car usually parked in the garage? *Yes / (No)*

Do the occupants of the building have their clothes dry-cleaned? *Yes / (No)*

Have the occupants noticed any unusual odors in the building? *Yes / (No)*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / (NO)*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes / (No)*

If so, when and which chemicals? _____

CO2 Container and monitor for refrigeration

— Thank you for taking the time to fill out this survey form. —

Pennsylvania Department of Environmental Protection

INDOOR AIR BUILDING SURVEY FORM

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Survey Completed by: [redacted] Date: 1/23/24

Site Name: Building 15

Contact:

Participation
Do you wish to participate in the indoor air testing program? *Yes / No*

Part I — Occupants

Building Address: 2800 S 20th St, Building 15

Property Contact: [redacted] Owner / Renter / other: _____

Contact's Phone: home _____ work [redacted] cell _____

Building occupants: Children under age 13 ____ Children age 13–18 ____ Adults X

Part II — Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors—below grade: 2 Floors Plus Basement (full basement / crawl space / slab) at or above grade: _____

Basement size: 50,000 ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: poured concrete / cinder block / stone / other (specify) _____

Type of ground cover around outside of building: ~~grass~~ / concrete / asphalt / other (specify) _____

Basement sump present? *Yes* / (No) Sump pump? *Yes / No* Standing water? *Yes / No*

Basement used as living space? *Yes* / (No)

Type of heating system (circle all that apply):

~~hot air circulation~~	hot air radiation	wood	steam radiation	hot water radiation
~~kerosene heater~~	electric baseboard	heat pump	other (specify): _____	

Type of ventilation system (circle all that apply):

central air conditioning	mechanical fans	bathroom ventilation fans
~~individual air conditioning units~~	kitchen range hood fan	other (specify): _____

Type of fuel utilized (circle all that apply):
~~Natural gas~~ / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used)* (No) Irrigation/private well? *Yes / Yes (but not used)* (No)

Existing subsurface depressurization (radon) system in place? *Yes* (No) Operating? *Yes / No*

Building address: 2800 S 20th Street

Part III — Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item can be removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Remove Prior to Sampling? (Yes / No / NA)
Gasoline storage cans	None	
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies—glues, paints, etc.		

Part IV — Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Does the building have an attached garage? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / No*

Have the occupants noticed any unusual odors in the building? *Yes / No*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / No*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes / No*

If so, when and which chemicals? _____

— Thank you for taking the time to fill out this survey form. —

APPENDIX C
Indoor Air Sampling Logs

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI investigation Job No.: 2104.C205

Personnel: [redacted] Weather: 30s/40s Mostly Cloudy

Canister Type: 6L Summa Sample Period: 24 hours

Sample ID	PHA-IA-1 - 01292024	PHA-IA-2 - 01292024 ✓	PHA-IA-3 - 01292024	PHA-IA-4 - 01292024	PHA-IA-5 - 01292024 ✓	PHA-AA-1 - 01292024 ✓
Start Date	1/29/24	1/29/24	1/29/24	1/29/24	1/29/24	1/29/24
Start Time	09:55	10:15	10:20	10:30	10:38	10:48
Start Canister Pressure (in Hg)	-27	-29	-30	-30	-30	-30
Start Temperature (F)	39°	39°	39°	39°	39°	39°
Start Atmospheric Pressure (in Hg)	29.87	29.87	29.87	29.87	29.87	29.87
End Date	X	1/30/24			1/30/24	1/30/24
End Time	X	10:15	COMPROMISED: NOT BEING SAMPLED		10:38	10:45
End Canister Pressure (in Hg)	X	-3			-5	-1
End Temperature (F)	X	38°	38°	38°	38°	38°
End Atmospheric Pressure (in Hg)	X	30.24	30.24	30.24	30.24	30.24
Min/Max Temperature (F)	X	36°/42°	36°/42°	36°/42°	36°/42°	36°/42°
Min/Max A. Pressure (in Hg)	X	29.87 30.32 23	29.87 30.32 23	29.87 30.32 23	29.87 30.32 23	29.87 30.32 23
Air Speed Range (mph)	X	NA	NA	NA	NA	22 mph - max 3 mph - min
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Outdoor
Canister ID	AS01145	AS01640	AS01816	AS00547	AS00837	AS01219
Flow Control ID	SFC00472	SFC00732	SFC00055	SFC00587	SFC00799	SFC00719
Sample Height (ft)	4.0	3.0	3.0	5.0	5.0	3.0

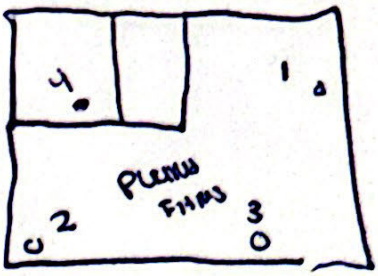
Comments:

PHA-AA-1-012924. Wind = 13 mph @ set up, Direction - SE

PHA-IA-1-01292024 - 24 hour controller but lost pressure after an hour. Being redone w/ new canister and new controller

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG



Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Mostly Cloudy

Canister Type: 6L Summa ✓ Sample Period: 24 Hours ✓

Sample ID	PHA-IA-1-01292024 ✓	Building J-IA-1-01292024 ✓	Building J-IA-2-01292024 ✓	Building P-IA-1-01292024 ✓	Building P-IA-2-01292024 ✓	Building P-IA-3-01292024 ✓
Start Date	1/29/24	1/29/24	1/29/24	1/29/24	1/29/24	1/29/24
Start Time	11:30	11:50	11:55	12:05	12:10	12:15
Start Canister Pressure (in Hg)	-30	-29	-30	-29	-30	-30
Start Temperature (F)	39°	42°	42°	42°	42°	42°
Start Atmospheric Pressure (in Hg)	29.87	29.87	29.87	29.87	29.87	29.83
End Date	1/30/24	1/30/24	1/30/24	1/30/24	1/30/24	1/30/24
End Time	11:30	11:50	11:55	12:05	12:10	12:15
End Canister Pressure (in Hg)	-4.5	-4	-5	-3	-7	-5
End Temperature (F)	38°	38°	38°	38°	38°	38°
End Atmospheric Pressure (in Hg)	30.24	30.24	30.24	30.24	30.24	30.24
Min/Max Temperature (F)	36°/42°	36°/42°	36/42°	36°/42°	36°/42°	36°/42°
Min/Max A. Pressure (in Hg)	29.87 30.23	29.87 30.23	29.87 30.23	29.87 30.23	29.87 30.23	29.87 30.23
Air Speed Range (mph)	NA	NA	NA	NA	NA	NA
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AC02292	AS01577	AC02209	AS01820	AC01890	AC02134
Flow Control ID	SFC00299	SFC00803	SFC00792	SFC00748	SFC00274	SFC00721
Sample Height (ft)	4.0	5.0	3.0	6.0	7.0	5.0

Comments:

Building J samples have name - Building J(PS)-IA-X-012924. PS = Pet Smart

Building P samples 1 through 3 - Building P(PF)-IA-X-012924

PF = Planet Fitness

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI investigation Job No.: 2104.0203

Personnel: [redacted] Weather: 30s/40s Cloudy

Canister Type: 6 L Summa Sample Period: 24 hour

Building P (Nova Care)

Sample ID	~~Building P~~ - IA-4 012924	PONJ-AA-1-012924	BJs-IA-1-012924	BJs-IA-2-012924	BJs-IA-3-012924	BJs-IA-4-012924
Start Date	1/29/24	1/29/24	1/29/24	1/29/24	1/29/24	1/29/24
Start Time	12:25	12:33	13:15	13:25	13:30	13:33
Start Canister Pressure (in Hg)	-30	-30	-30	-30	-30	-30
Start Temperature (F)	42°	42°	42°	42°	42°	42°
Start Atmospheric Pressure (in Hg)	29.88	29.88	29.88	29.86	29.88	29.88
End Date	1/30/24	1/30/24	1/30/24	1/30/24	1/30/24	1/30/24
End Time	12:25	12:33	13:15	13:25	13:30	13:33
End Canister Pressure (in Hg)	-5	-3.5	-10	-4.5	-5.0	-4
End Temperature (F)	41°	41°	41°	41°	41°	41°
End Atmospheric Pressure (in Hg)	30.24	30.24	30.24	30.24	30.24	30.24
Min/Max Temperature (F)	36°/42°	36°/42°	36°/42°	36°/42°	36°/42°	36°/42°
Min/Max A. Pressure (in Hg)	29.87 30.23	29.87 30.23	29.88 30.23	29.88 30.23	29.88 30.23	29.89 30.23
Air Speed Range (mph)	NA	22 mph 0 mph	NA	NA	NA	NA
Indoor/Outdoor	Indoor	Outdoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AS00749	AS00937	AS01218	AS01291	AS01488	AS00954
Flow Control ID	SFC00021	SFC00558	SFC00519	SFC00481	SFC00220	SFC00199
Sample Height (ft)	5.0	5.0	5.0	5.0	6.0	6.0

Comments:

Building P (NC)-IA-4-012924 → NC = Novacare Physical Therapy

wind for PONJ-AA-1-012924 = 11 mph @ set up in SE direction

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Cloudy

Canister Type: 6 L Summa Sample Period: 24 hour

Sample ID	BJs-IA-5-012924	BJ-AA-1-012924	Home Depot-IA-1-013024	Home Depot-IA-2-013024	Home Depot-IA-3-013024	Home Depot-IA-DUP-013024
Start Date	1/29/24	1/29/24	1/30/24	1/30/24	1/30/24	1/30/24
Start Time	13:40	13:55	09:00	09:05	09:20	09:20
Start Canister Pressure (in Hg)	-30	-28	-30	-25	-30	-29
Start Temperature (F)	42°	42°	34°	34°	34°	34°
Start Atmospheric Pressure (in Hg)	29.88	29.88	30.23	30.23	30.23	30.23
End Date	1/30/24	1/30/24	1/31/24	1/31/24	1/30/24	1/30/24
End Time	13:40	13:55	09:35	09:05	09:20	09:20 / 00:00
End Canister Pressure (in Hg)	-7.5	-1	-8	-1	-6	-3
End Temperature (F)	41°	41°	36°	36°	36°	36°
End Atmospheric Pressure (in Hg)	30.24	30.24	30.14	30.14	30.14	30.14
Min/Max Temperature (F)	36°/42°	36°/42°	36°/39°	36°/39°	36°/39°	36°/39°
Min/Max A. Pressure (in Hg)	29.88 30.23	29.88 30.23	30.09/ 30.22	30.09/ 30.22	30.09/ 30.22	30.09/ 30.22
Air Speed Range (mph)	NA	22 mph 0 mph	NA	NA	NA	NA
Indoor/Outdoor	Indoor	Outdoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AC02319	AC02113	AS01855	AC02291	AS00891	AC01157
Flow Control ID	SFC00641	SFC00795	SFC00659	SFC00501	SFC00603	SFC00753
Sample Height (ft)	4.0	3.0	5.0	6.0	5.0	5.0

Comments: aisle 26 aisle 11 aisle 34 aisle 34

- Wind @ set up for BJ-AA-1-012924 = 26 mph NNW
- Home Depot-IA-DUP-013024 Done w/ Home Depot-IA-3-013024
- Home Depot-IA-1-013024 moved in aisle during 24 hr sampling period. Can unnamed

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30/40s. Cloudy

Canister Type: 6 L Summa ✓ Sample Period: 24 hours ✓

Sample ID	Home Depot - IA-4-013024	Home Depot - IA-5-013024	Home Depot - AA-1-013024			
Start Date	11/30/24	11/30/24	11/30/24			
Start Time	09:25	09:50	10:10			
Start Canister Pressure (in Hg)	30	29	30			
Start Temperature (F)	34°	34°	38°			
Start Atmospheric Pressure (in Hg)	30.23	30.23	30.24			
End Date	11/31/24	11/31/24	11/31/24			
End Time	09:00	09:50	10:10			
End Canister Pressure (in Hg)	-1	-3	-3.5			
End Temperature (F)	36°	36°	36°			
End Atmospheric Pressure (in Hg)	30.14	30.14	30.14			
Min/Max Temperature (F)	36°/39°	36°/39°	36°/39°			
Min/Max A. Pressure (in Hg)	30.09/30.22	30.09/30.22	30.09/30.22			
Air Speed Range (mph)	NA	NA	3-min & max NA			
Indoor/Outdoor	Indoor	Indoor	Outdoor			
Canister ID	AS01096	AS01343	AS01801			
Flow Control ID	SFC00700	SFC00810	SFC00564			
Sample Height (ft)	5.0	6.0	3.0			

Comments: ISE 2 | ISE 37 | ↓ Outside on picnic tables Wind = 5 mph ENE

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 40's Mostly Cloudy

Canister Type: 6 L Sample Period: 24 hours

Sample ID	VES-IA-1-020124	VES-IA-2-020124	VES-AA-1-020124	Building 11-IA-1-020124	Building 11-IA-2-020124	Building 11-AA-1-020124
Start Date	2/1/24	2/1/24	2/1/24	2/1/24	2/1/24	2/1/24
Start Time	09:57	10:07	10:28	11:02	11:08	11:31
Start Canister Pressure (in Hg)	-29	-25	-29	-30+	-29	-29.5
Start Temperature (F)	37°	37°	37°	41°	41°	41°
Start Atmospheric Pressure (in Hg)	30.09	30.09	30.09	30.09	30.07	30.07
End Date	2/2/24	2/2/24	2/2/24	2/2/24	2/2/24	2/2/24
End Time	10:00	07:45	07:45	08:33	08:32	08:30
End Canister Pressure (in Hg)	-5	-1	-1	-3	-1	-1
End Temperature (F)	42°	40°	40°	40°	40°	40°
End Atmospheric Pressure (in Hg)	29.86	29.84	29.84	29.84	29.84	29.84
Min/Max Temperature (F)	48°/37°	48°/40°	48°/40°	48°/40°	48°/40°	48°/40°
Min/Max A. Pressure (in Hg)	30.09/29.83	30.09/29.83	30.09/29.83	30.07/29.83	30.07/29.83	30.07/29.83
Air Speed Range (mph) Max	~~X~~ 12	12	12	12	12	12
Indoor/Outdoor	Indoor	Indoor	Outdoor	Indoor	Indoor	Outdoor
Canister ID	AC02126	AC00906	AC01049	AC01149	AC02294	AC01840
Flow Control ID	SFC00781	SFC00712	SFC00821	SFC 96100	SFC00430	SFC00008
Sample Height (ft)	4.0	4.0	1.0	4.5	4.0	3.5

Comments:

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Sunny/Partly Cloudy

Canister Type: 6L Sample Period: 24 hr

Sample ID	Building 30 -IA-1 -020524	Building 30 -IA-2 -020524	Building 30 -AA-1 -020524	Building 14 -IA-1 -020524	Building 14 -IA-2 -020524	Building 14 -AA-1 -020524
Start Date	2/5/24	2/5/24	2/5/24	2/5/24	2/5/24	2/5/24
Start Time	09:30	09:33	09:40	10:15	10:20	10:30
Start Canister Pressure (in Hg)	-30+	-30+	-30+	-30	-30+	-30
Start Temperature (F)	38°	38°	38°	39°	39°	39°
Start Atmospheric Pressure (in Hg)	29.97	29.97	29.97	29.97	29.97	29.97
End Date	2/6/24	2/6/24	2/6/24	2/6/24	2/6/24	2/6/24
End Time	08:50	08:50	09:00	09:35	09:40	09:45
End Canister Pressure (in Hg)	-7	-8	-10	-5	-5	-5
End Temperature (F)	30°	30°	30°	32°	32°	32°
End Atmospheric Pressure (in Hg)	30.19	30.19	30.20	30.20	30.20	30.20
Min/Max Temperature (F)	48°/28°	48°/28°	48°/28°	48°/28°	48°/28°	48°/28°
Min/Max A. Pressure (in Hg)	30.19/ 29.91	30.19/ 29.91	30.20/ 29.91	30.20/ 29.91	30.20/ 29.91	30.20/ 29.91
Air Speed Range (mph) max	16	16	16	16	16	16
Indoor/Outdoor	Indoor	Indoor	Outdoor	Indoor	Indoor	Outdoor
Canister ID	AC00178	AS01575	AC02443	AS01512	AS01761	AS01744
Flow Control ID	SFC00829	SFC00451	SFC00512	SFC00548	SFC00462	SFC00587
Sample Height (ft)	3.0	4.0	1.0	3.0	3.0	4.0

Comments: WIND = 6 MPH NNE 6MPH = NNE WIND

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather:

Canister Type: 6L Sample Period: 24 hr

Sample ID	Building 12 -IA-1 -020524	Building 12 -IA-2 -020524	Building 12 -IA-3 -020524	Building 12 -IA-4 -020524	Building 12 -AA-1 -020524	Building C(B) -IA-3 -020524
Start Date	2/5/24	2/5/24	2/5/24	2/5/24	2/5/24	2/5/24
Start Time	11:00	11:05	11:11	11:13	11:20	13:20
Start Canister Pressure (in Hg)	-30	-30+	-30	-30+	-29	-30+
Start Temperature (F)	40°	41°	41°	41°	41°	44°
Start Atmospheric Pressure (in Hg)	29.97	29.97	29.96	29.96	29.96	29.94
End Date	2/6/24	2/6/24	2/6/24	2/6/24	2/6/24	2/6/24
End Time	10:30	10:32	10:34	10:36	10:50	12:20
End Canister Pressure (in Hg)	-3	-5	-3	-5	-1	-8
End Temperature (F)	33°	33°	33°	33°	36°	40°
End Atmospheric Pressure (in Hg)	30.19	30.19	30.19	30.19	30.19	30.18
Min/Max Temperature (F)	48°/28°	48°/28°	48°/28°	48°/28°	48°/28°	48°/28°
Min/Max A. Pressure (in Hg)	30.19/ 29.91	30.19/ 29.91	30.19/ 29.91	30.19/ 29.91	30.19/ 29.91	30.18/ 29.91
Air Speed Range (mph) Max	16	16	16	16	16	16
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Outdoor	Indoor
Canister ID	AS01425	AC01267	AS00838	AS01436	AC00747	AC02525
Flow Control ID	SFC00272	SFC00178	SFC00435	SFC00596	SFC00713	SFC00453
Sample Height (ft)	3.0	5.0	4.0	5.0	4.0	4.0

Comments:

Gauge start @ -5

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30/40, Scattered Clouds

Canister Type: 6L Sample Period: 24 hr

Sample ID	Building 8 -IA-2 -020624	Building 8 -AA-1 -020624	Building 6(A) -IA-1 -020724	Building 6(A) -IA-2 -020724	Building 6(B) -IA-4 -020724	Building 6(B) -IA-5 -020724
Start Date	2/6/24	2/6/24	2/7/24	2/7/24	2/7/24	2/7/24
Start Time	10:20	10:25	08:40	08:45	08:55	08:50
Start Canister Pressure (in Hg)	-28Hg	-24	-30+	-30	-28	-30
Start Temperature (F)	34°	33°	36°	36°	36°	36°
Start Atmospheric Pressure (in Hg)	30.20	30.20	30.34	30.34	30.34	30.34
End Date	2/7/24	2/7/24	2/8/24	2/8/24	2/8/24	2/8/24
End Time	08:30	08:35	08:40	08:35	08:50	08:45
End Canister Pressure (in Hg)	-1	-1	-5	-5	-1	-5
End Temperature (F)	36°	36°	39°	39°	39°	39°
End Atmospheric Pressure (in Hg)	30.34	30.34	30.33	30.33	30.33	30.33
Min/Max Temperature (F)	44°/30°	44°/30°	49°/33°	49°/33°	49°/33°	49°/33°
Min/Max A. Pressure (in Hg)	30.34/ 30.16	30.34/ 30.16	30.34/ 30.26	30.34/ 30.26	30.34/ 30.26	30.34/ 30.26
Air Speed Range (mph) Max	9	9	9	9	9	9
Indoor/Outdoor	Indoor	Outdoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AS01826	AC02065	AS01573	AS01313	AS01140	AS01644
Flow Control ID	SFC00708	SFC00788	SFC00820	SFC00748	SFC00786	SFC00743
Sample Height (ft)	3.0	5.0	4.0	4.5	4.5	3.0

Comments: WIND: 8 MPH ↗

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation

Job No.: 2104.0205

Personnel: [redacted]

Weather: 30/40°, Scattered Clouds

Canister Type: 6L

Sample Period: 24 Hrs

Sample ID	Building G(C) -IA-G -020724	Building G -IA-DUP -020724	Building G(C) -IA-7 -020724	Building G(D) -IA-8 -020724	Building G(E) -IA-9 -020724	Building G -AA-1 -020724
Start Date	2/7/24	2/7/24	2/7/24	2/7/24	2/7/24	2/7/24
Start Time	09:15	09:15	09:18	09:20	09:28	09:40
Start Canister Pressure (in Hg)	-30	-30	-29	-29	-30	-30
Start Temperature (F)	38°	38°	38°	38°	38°	38°
Start Atmospheric Pressure (in Hg)	30.34	30.34	30.34	30.34	30.34	30.34
End Date	2/8/24	2/8/24	2/8/24	2/8/24	2/8/24	2/8/24
End Time	08:55	08:55 (00:00)	09:00	09:03	09:08	09:25
End Canister Pressure (in Hg)	-1	-3	-1	-5	-1	-3.5
End Temperature (F)	35°	35°	35°	35°	35°	35°
End Atmospheric Pressure (in Hg)	30.33	30.33	30.33	30.33	30.34	30.34
Min/Max Temperature (F)	49°/33°	49°/33°	49°/33°	49°/33°	49°/33°	49°/33°
Min/Max A. Pressure (in Hg)	30.33/30.26	30.33/30.26	30.33/30.26	30.33/30.26	30.34/30.26	30.34/30.26
Air Speed Range (mph) Max	8	8	8	8	8	8
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Outdoor
Canister ID	AC01918	AS00764	AS01562	AC02239	AC02392	AS01803
Flow Control ID	SFC00737	SFC00742	SFC00754	SFC00822	SFC00592	SFC00434
Sample Height (ft)	3.0	3.0	3.0	3.0	4.0	5.0

Comments:

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Scattered Clouds

Cansiter Type: 6L Sample Period: 24 HR

Sample ID	Building 8 -IA-1 -020724					
Start Date	2/7/24					
Start Time	09:50					
Start Canister Pressure (in Hg)	-29					
Start Temperature (F)	40°					
Start Atmospheric Pressure (in Hg)	30.34					
End Date	2/8/24					
End Time	09:35					
End Canister Pressure (in Hg)	-1					
End Temperature (F)	43°					
End Atmospheric Pressure (in Hg)	30.34					
Min/Max Temperature (F)	44°/33°					
Min/Max A. Pressure (in Hg)	30.34/ 30.26					
Air Speed Range (mph)	8					
Indoor/Outdoor	Indoor					
Canister ID	AC02431					
Flow Control ID	SFC00741					
Sample Height (ft)	5.0					

Comments:

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30°/14°s, Snow then Sunny

Canister Type: 6L Sample Period: 24 hr

Building 9(A)-IA → D

Sample ID	Building 9-(A)-1-021324	Building 9-(DUP)-2-021324	Building 9-(A)-3-021324	Building 9-(B)-3-021324	Building 9-(B)-4-021324	Building 9(B)-5-021324
Start Date	2/13/24	2/13/24	2/13/24	2/13/24	2/13/24	2/13/24
Start Time	11:53	11:53	12:00	12:02	12:12	12:34
Start Canister Pressure (in Hg)	-28	-27	-29	-30	-29	-29
Start Temperature (F)	35°	35°	35°	35°	35°	37°
Start Atmospheric Pressure (in Hg)	29.58	29.58	29.58	29.58	29.58	29.60
End Date	2/14/24	2/14/24	2/14/24	2/14/24	2/14/24	2/14/24
End Time	11:58	(00:00)	11:59	11:59	12:00	11:50
End Canister Pressure (in Hg)	-1	-5	-3	-1	-1	-2
End Temperature (F)	36°	36°	36°	36°	36°	36°
End Atmospheric Pressure (in Hg)	30.12	30.12	30.12	30.12	30.12	30.12
Min/Max Temperature (F)	42°/34°	42°/34	42°/34°	42°/34°	42°/34°	42°/34°
Min/Max A. Pressure (In Hg)	30.12/29.58	30.12/29.58	30.12/29.58	30.12/29.58	30.12/29.58	30.12/29.60
Air Speed Range (mph) max	22	22	22	22	22	22
Indoor/Outdoor	indoor	indoor	indoor	Indoor	Indoor	Indoor
Canister ID	AS00548	AS01124	AS01591	AS01759	AS01736	AS00534
Flow Control ID	SFC00294	SFC00040	SFC00793	SFC00752	SFC00632	SFC00659
Sample Height (ft)	3.0	3.0	2.0	4.0	3.0	3.0

Comments: Start at -4

Fans in Basement turned off @ approx 11:45 on 2/13/24 and turned on @ approx 12:05 on 2/14/24

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Snow then Sunny

Canister Type: 6L Sample Period: 24 hr

Sample ID	Building 9(D) -IA-6 -021324	Building 9(E) -IA-7 -021324	Building 9(E) -IA-8 -021923	Building 9(F) -IA-9 -021324	Building 9(F) -IA-10 -021324	Building 9(C) -IA-11 -021324
Start Date	2/13/24	2/13/24	2/13/24	2/13/24	2/13/24	2/13/24
Start Time	12:36	12:50	12:58	13:10	13:15	13:20
Start Canister Pressure (In Hg)	-27.5	-30	-28	-28	-29	-28
Start Temperature (F)	37°	37°	37°	37°	38°	38°
Start Atmospheric Pressure (In Hg)	29.60	29.60	29.60	29.60	29.60	29.62
End Date	2/14/24	2/14/24	2/14/24	2/14/24	2/14/24	2/14/24
End Time	11:55	11:48	11:51	12:13	12:12	11:53
End Canister Pressure (In Hg)	-3	-1	-3.5	-4	-5	-5
End Temperature (F)	36°	36°	36°	36°	36°	36°
End Atmospheric Pressure (In Hg)	30.12	30.12	30.12	30.12	30.12	30.12
Min/Max Temperature (F)	42°/34°	42°/34°	42°/34°	42°/34°	42°/34°	42°/34°
Min/Max A. Pressure (In Hg)	30.12/ 29.60	30.12/ 29.60	30.12/ 29.60	30.12/ 29.60	30.12/ 29.60	30.12/ 29.62
Air Speed Range (mph)	22	22	22	22	22	22
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AS01864	AS01528	AS01486	AS01571	AC02257	AS01752
Flow Control ID	SFC00274	SFC00700	SFC00721	SFC00799	SFC00753	SFC00632
Sample Height (ft)	0.0	0.0	0.0	0.0	0.0	3.0

Comments:

Fans in Basement turned off @ approx 11:45 on 2/13/24 and turned on @ approx 12:05 on 2/14/24

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Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Snow then Sunny

Canister Type: 6L Sample Period: 24 hr

Sample ID	Building 9 (C) - IA-1Z - 021324	Building 9 - AA-1 - 021324				
Start Date	2/13/24	2/13/24				
Start Time	13:30	13:42				
Start Canister Pressure (in Hg)	-25	-30				
Start Temperature (F)	39°	40°				
Start Atmospheric Pressure (in Hg)	29.62	29.63				
End Date	2/14/24	2/14/24				
End Time	11:51	12:30				
End Canister Pressure (in Hg)	-1	-1				
End Temperature (F)	36°	36°				
End Atmospheric Pressure (in Hg)	30.12	30.12				
Min/Max Temperature (F)	42°/34°	42°/34°				
Min/Max A. Pressure (in Hg)	30.12/ 29.62	30.12/ 29.63				
Air Speed Range (mph)	22	22				
Indoor/Outdoor	Indoor	Outdoor				
Canister ID	AC02300	AS01555				
Flow Control ID	SFC00603	SFC00789				
Sample Height (ft)	0.0	0.0				

Comments:

Fans in basement turned off @ approx 11:45 on 2/13/24 and turned on @ approx 12:05 on 2/14/24

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 40s, Cloudy

Canister Type: 6 L Sample Period: 24 hr

Sample ID	PHA-IA-3-020124	PHA-IA-4-020124				
Start Date	2/1/24	2/1/24				
Start Time	13:10	13:25				
Start Canister Pressure (in Hg)	-30	-28				
Start Temperature (F)	47°	47°				
Start Atmospheric Pressure (in Hg)	29.99	29.99				
End Date	2/2/24	2/2/24				
End Time	12:30	08:35				
End Canister Pressure (in Hg)	-5	-1				
End Temperature (F)	37°F	39°F				
End Atmospheric Pressure (in Hg)	29.85	29.84				
Min/Max Temperature (F)	[illegible]°	[illegible]°				
Min/Max A. Pressure (in Hg)	41°/44° 29.82/30.01	41°/44° 29.82/30.0				
Air Speed Range (mph)	0 mph → 17 mph	0 mph → 17 mph				
Indoor/Outdoor	Indoor	Indoor				
Canister ID	A500860	AC01896				
Flow Control ID	SFC00204	SFC00486				
Sample Height (ft)	5.0	3.0				

Comments:

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 0104.0005

Personnel: [redacted] Weather: 30s/40s, Sunny

Canister Type: 6L Sample Period: 24 hour

Sample ID	Home Depot-IA-2-021924	Home Depot-IA-3-021924	Home Depot-IA-DUP-021924	Home Depot-IA-4-021924		
Start Date	02/19/24	02/19/24	02/19/24	02/19/24		
Start Time	9:21	9:37	9:37	9:42		
Start Canister Pressure (in Hg)	-30 +	-30	-30	-30		
Start Temperature (F)	35°	35°	35°	35°		
Start Atmospheric Pressure (in Hg)	30.19	30.19	30.19	30.19		
End Date	02/20/24	02/20/24	02/20/24	02/20/24		
End Time	9:08	9:11	9:11 (00:00)	9:30		
End Canister Pressure (in Hg)	-4.0	-5.0	-7.0	-5.0		
End Temperature (F)	30°	30°	30°	30°		
End Atmospheric Pressure (in Hg)	30.49	30.49	30.49	30.49		
Min/Max Temperature (F)	26°/45°	26°/45°	26°/45°	26°/45°		
Min/Max A. Pressure (in Hg)	30.16/30.49	30.16/30.49	30.16/30.49	30.16/30.49		
Air Speed Range (mph)	NA	NA	NA	NA		
Indoor/Outdoor	indoor	indoor	indoor	indoor		
Canister ID	AS00327	AS00279	AS01728	AS01828		
Flow Control ID	SFC00787	SFC00806	SFC00792	SFC00558		
Sample Height (ft)	6Ft	5	5	5		

Comments: [redacted] aisle 11 aisle 34 → aisle 2

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 70s/80s, Sunny

Canister Type: 6.0L Sample Period: 24-HR

Sample ID	PHA-IA-1-042924 ✓	PHA-IA-2-042924 ✓	PHA-IA-3-042924 ✓	PHA-IA-4-042924 ✓	PHA-IA-5-042924 ✓	PHA-AA-1-042924 ✓
Start Date	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24
Start Time	09:00	09:07	09:15	09:20	09:30	09:40
Start Canister Pressure (in Hg)	-29	-30	-30	-29	-30	-30
Start Temperature (F)	66°	70°	71°	71°	71°	71°
Start Atmospheric Pressure (in Hg)	30.02	30.02	30.02	30.02	30.03	30.03
End Date	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24
End Time	08:39	08:44	08:46	08:48	09:03	09:10
End Canister Pressure (in Hg)	-1	-2	-5	-5	-5	-5
End Temperature (F)	67°	67°	67°	67°	69°	69°
End Atmospheric Pressure (in Hg)	29.91	29.91	29.91	29.91	29.91	29.91
Min/Max Temperature (F)	62°F/90°F	62/90	62/90	62/90	62/90	62/90
Min/Max A. Pressure (in Hg)	29.89/30.03	29.89/30.03	29.89/30.03	29.89/30.03	29.89/30.03	29.89/30.03
Air Speed Range (mph)	NA	NA	NA	NA	NA	0/13
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Outdoor
Canister ID	AC02258	AC01608	AS01237	AS00866	AS00743	AS01871
Flow Control ID	SFC00207	SFC00659	SFC00777	SFC00736	SFC00304	SFC00739
Sample Height (ft)	5	3	5	3	5	4

Comments:

Scanned with CamScanner

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 70s/80s, Sunny

Canister Type: 6.0L Sample Period: 24-HR

Sample ID	Building J (PS) -IA-1 -042924 ✓	Building J (PS)-IA-2 -042924 ✓	Building P (PF) -IA-3 -042924 ✓	Building P (PF) -IA-2 -042924 ✓	Building P (PF) -IA-1 -042924 ✓	Building P (PF) -IA-4 -042924 ✓
Start Date	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24
Start Time	09:55	10:00	10:10	10:13	10:15	10:20
Start Canister Pressure (in Hg)	-30	-30	-24	-30	-27	-29
Start Temperature (F)	71°	71°	75°	75°	75°	75°
Start Atmospheric Pressure (in Hg)	30.03	30.03	30.02	30.02	30.02	30.02
End Date	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24
End Time	09:27	09:35	09:52	09:53	09:55	10:00
End Canister Pressure (in Hg)	-4	-3.5	-1	-3	-1	-2
End Temperature (F)	69°	70°	70°	70°	70°	71°
End Atmospheric Pressure (in Hg)	29.90	29.90	29.90	29.90	29.90	29.89
Min/Max Temperature (F)	62/90	62/90	62/90	62/90	62/90	62/90
Min/Max A. Pressure (in Hg)	30.03/ 29.90	30.03/ 29.90	30.02/ 29.90	30.02/ 29.90	30.02/ 29.90	30.02/ 29.89
Air Speed Range (mph)	NA	NA	NA	NA	NA	NA
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AS01021	AC01896	AS00715	AC02172	AC02208	AS01645
Flow Control ID	SFC00225	SFC00435	SFC00281	SFC00705	SFC00820	SFC00742
Sample Height (ft)	5	3	5	8	7	5

Comments:

Moved to back by employee but not shut off.

Scanned with CamScanner

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 70s/80s, Sunny

Cansiter Type: 6.0L Sample Period: 24-HR

Sample ID	Building PONJ-AA-1-042924	BJs-IA-1-042924	BJs-IA-2-042924	BJs-IA-3-042924	BJs-IA-4-042924	BJs-IA-5-042924
Start Date	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24
Start Time	10:27	10:50	10:53	10:58	11:01	11:15
Start Canister Pressure (in Hg)	-30	-30	-25	-29	-30	-28
Start Temperature (F)	75°	79°	79°	79°	79°	79°
Start Atmospheric Pressure (in Hg)	30.02	30.02	30.02	30.02	30.02	30.02
End Date	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24	4/20/24
End Time	10:06	10:23	10:25	10:27	10:30	10:31
End Canister Pressure (in Hg)	-6	-5	-2	-2	-2	-3.5
End Temperature (F)	71°	71°	71°	71°	71°	71°
End Atmospheric Pressure (in Hg)	29.89	29.89	29.89	29.89	29.89	29.89
Min/Max Temperature (F)	62/90	62/90	62/90	62/90	62/90	62/90
Min/Max A. Pressure (in Hg)	30.02/29.89	30.02/29.89	30.02/29.89	30.02/29.89	30.02/29.89	30.02/29.89
Air Speed Range (mph)	0/13	NA	NA	NA	NA	NA
Indoor/Outdoor	outdoor	indoor	indoor	indoor	indoor	indoor
Canister ID	AC02368	AS01260	AC02161	AS00655	AS01588	AC01763
Flow Control ID	SFC00598	SFC00330	SFC00269	SFC00680	SFC00631	SFC00270
Sample Height (ft)	5	6	6	7	6	5

Comments:

Stereos (Isle 1) 5-HR Energy (Isle 12) Tostitos (Isle 28) Hair Care (Isle 22)

Scanned with CamScanner

VERINA
Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 70s 180s, Sunny

Canister Type: 6.0L Sample Period: 24-HR

	✓	✓	✓	✓	✓	✓
Sample ID	BJs-AA-1 -042924	Building 11 -IA-1-042924	Building 11 -IA-2 -042924	Building 11 -AA-1 -042924	Building 8 -IA-1 -042924	Building 8 -IA-2 -042924
Start Date	4/29/24	4/29/24	4/29/24	4/29/24	4/29/24	4/29/23
Start Time	11:20	12:45	12:47	12:55	13:05	13:08
Start Canister Pressure (in Hg)	-30	-29	-30	-30	-30	-28
Start Temperature (F)	80°	84°	84°	84°	85°	85°
Start Atmospheric Pressure (in Hg)	30.02	30.00	30.00	30.00	29.99	29.99
End Date	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24	4/30/24
End Time	11:10	12:20	12:22	12:24	12:50	12:52
End Canister Pressure (in Hg)	-4	-4	-4	-1	-4	-2
End Temperature (F)	75°	77°	77°	77°	77°	77°
End Atmospheric Pressure (in Hg)	29.88	29.87	29.87	29.87	29.87	29.87
Min/Max Temperature (F)	62/90	62/90	62/90	62/90	62/90	62/90
Min/Max A. Pressure (in Hg)	30.02/ 29.88	30.00/ 29.87	30.00/ 29.87	30.00/ 29.87	29.99/ 29.87	29.99/ 29.87
Air Speed Range (mph)	0/13	NA	NA	0/13	NA	NA
Indoor/Outdoor	Outdoor	Indoor	Indoor	Outdoor	Indoor	Indoor
Canister ID	AS01430	AC02324	AC02107	AS00703	AS00843	AC02326
Flow Control ID	SFC00194	SFC00490	SFC00338	SFC00127	SFC00724	SFC00081
Sample Height (ft)	4	3	3	3	5	3

Comments: Saw someone sitting next to it smoking

Scanned with CamScanner

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 70s/80s, Sunny

Canister Type: 6.0L Sample Period: 24-HR

Sample ID	Building 8 -AA-1 -042924	Building 14 -IA-1- 042924	Building 14 -IA-2 - 042924	Building 14 - AA-1- 042924		
Start Date	4/29/24	4/29/24	4/29/24	4/29/24		
Start Time	13:15	13:27	13:30	13:40		
Start Canister Pressure (in Hg)	-30	-29	-29	-29		
Start Temperature (F)	85°	85°	85°	85°		
Start Atmospheric Pressure (in Hg)	29.99	29.99	29.99	29.99		
End Date	4/30/24	4/30/24	4/30/24	4/30/24		
End Time	12:55	13:06	13:08	13:18		
End Canister Pressure (in Hg)	-1	-2	-1.5	-2		
End Temperature (F)	77°	79°	79°	79°		
End Atmospheric Pressure (in Hg)	29.87	29.86	29.86	29.86		
Min/Max Temperature (F)	62/90	62/90	62/90	62/90		
Min/Max A. Pressure (in Hg)	29.99/ 29.837	29.99/ 29.836	29.99/ 29.896	29.99/ 29.836		
Air Speed Range (mph)	0/13	NA	NA	0/13		
Indoor/Outdoor	Outdoor	Indoor	Indoor	Outdoor		
Canister ID	AS01850	AC02160	AC00747	AS00786		
Flow Control ID	SFC00589	SFC00251	SFC00328	SFC00274		
Sample Height (ft)	5.5	4	4	6		

Comments:

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VERINA
Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: High 70s / low 80s, Sunny

Canister Type: 6.0L Sample Period: 24-HR

Sample ID	Building 9 (A)-IA-1 -050124	Building 9 -IA-DUP -050124	Building 9 (A)-IA-2 -050124	Building 9 (B)-IA-3 -050124	Building 9 (B)-IA-4 -050124	Building 9 (D) -IA-5- 050124
Start Date	5/1/24	5/1/24	5/1/24	5/1/24	5/1/24	5/1/24
Start Time	09:35	09:35	09:45	09:48	09:52	10:03
Start Canister Pressure (in Hg)	-30	-27	-30	-30	-30	-30
Start Temperature (F)	66°	66°	66°	66°	66°	69°
Start Atmospheric Pressure (in Hg)	29.94	29.94	29.94	29.94	29.94	29.94
End Date	5/2/24	5/2/24	5/2/24	5/2/24	5/2/24	5/2/24
End Time	09:05	09:05	09:08	09:10	09:15	09:30
End Canister Pressure (in Hg)	-5	-1	-4	-5	-4	-4
End Temperature (F)	68	68	68	68	68	68
End Atmospheric Pressure (in Hg)	29.99	29.99	29.99	29.99	29.99	29.99
Min/Max Temperature (F)	81/55	81/55	81/55	81/55	81/55	81/55
Min/Max A. Pressure (in Hg)	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87
Air Speed Range (mph)	NA	NA	NA	NA	NA	NA
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AS01853	AC02420	AS01327	AS01698	AS01089	AC00846 [illegible]
Flow Control ID	SFC00475	SFC00340	SFC00748	SFC00477	SFC00697	SFC00802
Sample Height (ft)	2	2	1	2	5	1

Comments:

Basement fans shut off 4/30/24

Scanned with CamScanner

VERINA
Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: High 70s / low 80s

Canister Type: 6.0 L Sample Period: 24-HR

Sample ID	Building 9(D) -IA-6 -050124	Building 9(E) -IA-7 -050124	Building 9 (E)-IA-8 -050124	Building 9(F) -IA-9 -050124	Building 9 (F)-IA-10 -050124	Building 9(C) -IA-11 -050124
Start Date	5/1/24	5/1/24	5/1/24	5/1/24	5/1/24	5/1/24
Start Time	10:10	10:15	10:18	10:28	10:30	10:43
Start Canister Pressure (in Hg)	-29	-30+	-28	-26.5	-30	-28
Start Temperature (F)	70°	70°	70°	71°	71	71
Start Atmospheric Pressure (in Hg)	29.94	29.94	29.94	29.95	29.95	29.95
End Date	5/2/24	5/2/24	5/2/24	5/2/24	5/2/24	5/2/24
End Time	09:32	10:03	10:05	10:10	10:10	10:16
End Canister Pressure (in Hg)	-3	-5	-3	-1	-4	-3.5
End Temperature (F)	69	71	71	71	71	71
End Atmospheric Pressure (in Hg)	29.99	29.99	29.99	29.99	29.99	29.99
Min/Max Temperature (F)	81/55	81/55	81/55	81/55	81/55	81/55
Min/Max A. Pressure (in Hg)	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87
Air Speed Range (mph)	NA	NA	NA	NA	NA	NA
Indoor/Outdoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Canister ID	AC01365	AS01096	AC02817	AC02083	AC02287	AC02275
Flow Control ID	SFC00860	SFC00467	SFC00815	SFC00476	SFC00825	SFC00036
Sample Height (ft)	1	1	1	1	1	3

Comments:

Truck came in leaking oil in Bay E while sampling was occuring

Scanned with CamScanner

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104 0205

Personnel: [redacted] Weather: High 70s / Low 80s

Cansiter Type: 6.0 L Sample Period: 24-HR

Sample ID	Building 9(c)-IA-12-050124	Building 9-AA-1-050124	Building 30-IA-1-050124	Building 30-IA-2-050124	Building 30-AA-1-050124	
Start Date	5/1/24	5/1/24	5/1/24	5/1/24	5/1/24	
Start Time	10:45	10:55	11:05	11:07	11:15	
Start Canister Pressure (in Hg)	-30	-30	-29	-30	-30	
Start Temperature (F)	71°	71°	73°	73°	73°	
Start Atmospheric Pressure (in Hg)	29.95	29.95	29.96	29.96	29.96	
End Date	5/2/24	5/2/24	5/2/24	5/2/24	5/2/24	
End Time	10:98	10:55	11:00	11:00	11:05	
End Canister Pressure (in Hg)	-5	-5	-2	-3	-1	
End Temperature (F)	71	73°	73	73	73	
End Atmospheric Pressure (in Hg)	29.98	29.98	29.98	29.98	29.98	
Min/Max Temperature (F)	81/55	81/55	81/55	81/55	81/55	
Min/Max A. Pressure (in Hg)	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87	30.001 29.87	
Air Speed Range (mph)	NA	14 → 0	NA	NA	14 → 0	
Indoor/Outdoor	Indoor	Outdoor	Indoor	Indoor	Outdoor	
Canister ID	AC02416	AC01909	AC00717	AS00858	AC02421	
Flow Control ID	SFC00760	SFC00426	SFC00768	SFC00416	SFC00314	
Sample Height (ft)	1	6	4	5.5	1	

Comments:

Scanned with CamScanner

APPENDIX D
Sub-Slab Depressurization System Sampling Logs

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 210H.0205
Date: 2/1/24
Personnel: [redacted]
Weather: 30s/40s Partly Cloudy
Canister Type: 1L Summa
Atmospheric Pressure (in Hg): 30.09
Air Temperature (°F): 33°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL) 100	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
PHA-SSDS-1-020124	14:35	[redacted] mL	NA	NA	NA	NA	0.5		
PHA-SSDS-2-020124	15:18	63mL	NA	NA	NA	NA	1.1		
HD-SSDS-1-020224	09:00	40mL	NA	NA	NA	NA	0.8		
HD-SSDS-2-020224	10:30	115mL	NA	NA	NA	NA	0.7		
BJ-SSDS-1-020224	11:25	61	NA	NA	NA	NA	0.2		
BJ-SSDS-2-020224	12:00	82	NA	NA	NA	NA			

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller # 0A01420	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
PHA-SSDS-1-020124	14:35	14:39	ISC00669	[redacted]	-19	-3	
PHA-SSDS-2-020124	15:17	15:21	ISS00865	OA00516	-16	-3	
HD-SSDS-1-020224	09:33	09:38	ISS00966	OA00600	-25	-6	
HD-SSDS-2-020224	10:35	10:40	ISS01011	OA01480	-26	-8	
BJ-SSDS-1-020224	11:27	11:32	ISS00928	OA00385	-29	-5	
BJ-SSDS-2-020224	12:02	12:07	ISC00601	OA01144	-24	-5	

Tubing Volume
ID = 3/16" =
[redacted]
radius = .09375 in
= .238125 cm
= [redacted] cm²
0.05cm² x 57.15 cm
= .30400942 cm³

Comments:
PHA-SSDS-1-020124, leak down test holds for 25/30 seconds before slowly decreasing.
↳ 22.5 in tubing = 57.15 cm
PHA-SSDS-2-020124 → pressure holds for 25/30 sec for leak down test
↳ 16.6 in tubing = 39.37 cm
HD-SSDS-1-020224 → pressure holds for 20/30 sec
↳ 10.5 in tubing = 26.67 cm

BJ-SSDS-1-020224 → holds pressure for 15 sec
38.1 cm tubing

BJ-SSDS-2-020224 → pressure for 20 sec
50.8 cm tubing

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/21/24

Personnel: [redacted]

Weather: 40's / Drizzle / Cloudy

Canister Type: 1 L

Atmospheric Pressure (in Hg): 29.86

Air Temperature (°F): 44°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
PONJ-SSDS-1-020224	13:26	345	NA	NA	NA	NA	0.0		
PONJ-SSDS-DUP-020224	13:26	345	NA	NA	NA	NA	0.0		
PONJ-SSDS-2-020224	14:00	90	NA	NA	NA	NA	0.0		

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
PONJ-SSDS-1-020224	13:28	13:33	ISS00758	OA01693	-20	-5	
PONJ-SSDS-DUP-020224	13:28	13:33	ISS00988	OA00802	-28	-14	
PONJ-SSDS-2-020224	14:03	14:08	ISC00694	OA02221	-24	-5	

radius² in cm = 0.056644

Comments:

PONJ-SSD-1-020224 → Held pressure for 60 sec. Passed test → 215.9 cm tubing (+ DUP)

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104 0205

Date: 2/21/24

Personnel: [redacted]

Weather: 30s, Partly Cloudy

Canister Type: 1L

Atmospheric Pressure (in Hg): 30.47

Air Temperature (°F): 34°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
PHA-SSDS-2-022124	09:30	420 mL	NA	NA	NA	NA	0.6	0.2	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
PHA-SSDS-2-022124	9:56	10:01	ISCC0477	OA00945	-27.0	-5.0	ALS

Comments:

PHA-SSDS-2-022124 is a redo of PHA-SSDS-2-020124 bc those were messed up by the lab

Shut in test → ~10 sec

APPENDIX E
Sub-Slab Soil Gas Sampling Logs

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Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:
Date: 2/22/24
Weather: Sunny 40°F
Atmospheric Pressure (in Hg): [redacted] 30.05

Project Number: 2104.0205
Personnel: [redacted]
Canister Type: Summa Canister 1L
Air Temperature (°F): 40°F

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in ~~Tedlar~~ Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building G(B) -SSSG-1 -022224	10:00	300	38.5%	12.5	0 ppm SAMPLEPORT	0	59.7	0.7	Pass
Building G(B) -SSSG-2-022224	10:48	300	14.8%	12.5	0ppm	0	8.4	0.0	Pass
Building G(B) -SSSG-3-022224	11:20	300	10.2% 8.8%	8.7	0	0	0.0	0	Pass
Building G(C) -SSSG-4-022224	12:30	300	[illegible] PPM	5.8	0	0	0.0 0	0.0	Pass
Building G(C) -SSSG-5-022224	13:10	300	44.1	6.6	0	0	0.04	0.9	Pass
Building G(A) -SSSG-6-022224	13:45	300	39.4	19.5	0	0	6.8	0.0	Pass
Building G(A) -SSSG-7-022224	14:16	300	44.1	6.0	450 PPM	0	0	0.9	Pass
			36.0%						

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building G B-SSSG-1-022224	10:32	10:37	1SS01626	OA02256	-27.0	-8.0	ALS
Building G(B) -SSSG-2-022224	11:12	11:17	1SS01655	OA01362	-28.0	-5.5	ALS
Building G(B) -SSSG-3-022224	11:43	11:48	1SS00715	OA02253	-26.5	-6.5	ALS
Building G(C) -SSSG-4-022224	13:01	13:06	1SC00242	OA01495	-23.0	-6.0	ALS
Building G(C) -SSSG-5-022224	13:25	13:30	1SS00881	OA02048	-26	-8	ALS
Building G(A) -SSSG-6-022224	14:11	14:16	1SS01239	OA01177	-26.5	-9	ALS
Building G A -SSSG-7-022224	14:42	14:47	1SS01666	OA00578	-28.0	-9	ALS

Comments:

5 → possible old sampling port

2 → possible old sampling port

SHUT IN TEST:

SSSG-1 → ~ 10 sec
SSSG-2 → ~ 10 sec
SSSG-3 → ~ 20 sec
SSSG-4 → ~ 5/10 sec
SSSG-5 → ~ 5/10 sec
SSSG-6 → ~ 10/15 sec
SSSG-7 → ~ 10/15 sec

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SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2122124

Personnel: [redacted]

Weather: Partly Cloudy / 40s

Canister Type: 1L

Atmospheric Pressure (in Hg): 30.05

Air Temperature (°F): 40° F

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 6(D) -SSSG-8- 022224	15[illegible]	300mL	36 %	[illegible]9 %	0.0			0.0	
		300		16.0			1.0		Pass
		300		10				0.0	
	17:00	300				0.0			
	17:00	300	↓	↓	↓	↓	↓	↓	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 6(D) -SSSG-8- 022224	15[illegible]	[illegible]	[illegible]	[illegible]	-21	-3	ALS
		16[illegible]	[illegible]	[illegible]		-6	ALS
	15[illegible]	[illegible]	[illegible]	[illegible]	-26	-3	ALS
		17[illegible]	[illegible]	[illegible]		-6	ALS
		17[illegible]	[illegible]	[illegible]		-7	ALS

} 11 + DUP done together

Comments:

8-10 Maybe Old Parts

SHUT IN TEST:
SSSG-8 ~ 20/25 sec
SSSG-9 ~ 30/40 sec
SSSG-10 ~ 20 sec
SSSG-11 ~ 15/20 sec
SSSG-DUP ~ 15/20 sec

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/20/24

Personnel: [redacted]

Weather: 30s/40s, Mostly Sunny

Canister Type: 1L

Atmospheric Pressure (in Hg): 30.44

Air Temperature (°F): 40s

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 14 -SSSG-1 -022024	11:04	300	56.0	28.3	0.0	2.8	179.8	6.4	P
Building 14 -SSSG-2 -022024	11:27	300	36.4	36.0	0.0	3.6	112.9	32.9	P
Building 14 -SSSG-3 -022024	11:42	300	43.1	38.5	0.0	3.9	220.5	80.8	P
Building 14 -SSSG-4 -022024	11:55	300	—	—	—	—	282.8	0.0	

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 14 -SSSG-1-022024	13:51	13:56	1SC00496	0A01873	-28.0	-6.0	ALS
Building 14 -SSSG-2-022024	14:09	14:14	1SC00735	0A01737	-18.0	-3.0	ALS
Building 14 -SSSG-3-022024	14:24	14:29	1SC01680	0A01772	-21.0	-4.0	ALS
Building 14 -SSSG-4-022024	14:40	14:45	1SC01513	0A00880	-24.0	-8.0	ALS

Comments:

Building 14 - SSSG-1 → shut in test ~ 10 sec
Building 14 - SSSG-2 → shut in test ~ 25/30 sec
Building 14 - SSSG-3 → shut in test 15/20 sec
Building 14 - SSSG-4 → shut in test ~ 5/10 sec
↳ Helium detector constantly reading -0 PPM even after restart and recallibration

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0203

Date: 2/14/24 - 2/15/24

Personnel: [redacted]

Weather: 30's. Mostly Sunny

Canister Type: 1L

Atmospheric Pressure (in Hg): 30.13

Air Temperature (°F): 35°

10% of min helium Detected

< 10% of min helium detec. in sample port

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium ~~in Tedlar Bag~~ (% or ppm) Sample port	~~Helium Shroud-Min to Tedlar Bag Comparison~~ (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
VES-SSSG-1-021424	10:38	300 mL	55.5%	38.3%	0.0%	3.83	1.2	0.0	P
VES-SSSG-2-021424	14:25	350 mL	58.5%	38.0%	0.0%	3.80	1.8	0.2	P
Building 30-SSSG-1-021524	9:30	350 ml	50.1%	24.4%	0.025%	2.44	0.5	0.2	P
Building 30-SSSG-2-021524	10:11	300 mL	44.8%	24.9%	0.0175%	2.49	1.0	0.1	P
Building 30-SSSG-3-021524	10:33	350 mL	44.7%	38.3%	0.0%	3.83	0.6	0.3	P
Building 30-SSSG-4-021524	11:09	350 mL	50.2%	28.1%	0.0%	2.81	1.8	0.0	P
Building 30-SSSG-DUP-021524	11:09	350 mL	50.2%	28.1%	0.0%	2.81	1.8	0.0	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
VES-SSSG-1-021424	11:22	11:27	ISS00992	OA00523	-21	-7	ALS
VES-SSSG-2-021424	15:00	15:05	ISS01681	OA02053	-29	-6	ALS
Building 30-SSSG-1-021524	0945	0950	ISS00115	OA01133	-25	-5	ALS
Building 30-SSSG-2-021524	10:20	10:25	ISS00893	OA01201	-26.5	-6	ALS
Building 30-SSSG-3-021524	10:52	10:57	ISS01633	OA00396	-28	-7	ALS
Building 30-SSSG-4-021524	11:31	11:41	ISS01639	OA01102	-25	-8	ALS
Building 30-SSSG-DUP-021524	11:31	00:00	ISS01500	OA00312	-26	-10	ALS

Comments:

VES-SSSG-1-021424 held shut in test for 15 sec
VES-SSSG-1-021424 held shut in test for 15 sec
* Building 30-4 and Building 30-DUP had to be resampled b/c there was dust clogging the connectors. Sampling was stopped. Port was closed + process was repeated
Building 30-SSSG-1 shut in test → 10 sec
Building 30-SSSG-2 shut in test → 10 sec
Building 30-SSSG-3 shut in test → 10 sec
Building 30-SSSG-4 + DUP shut in test → 10 sec

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/15/24 - 2/16/24

Personnel: [redacted]

Weather: 30s/40s, Mostly Cloudy

Canister Type: 1L

Atmospheric Pressure (in Hg): 30.05

Air Temperature (°F): 39°F

Helium in sample port less than 10% of minimum

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm) sample port	Helium Shroud Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 11-SSSG-1-021524	14:10	300mL	45.9	38.3	1.0%	3.83	1.2	0.0	P
Building 11-SSSG-2-021524	14:30	300mL	42.9	37.4	0.0%	3.74	0.5	0.1	P
Building 12-SSSG-1-021624	10:07	300mL	40.1	26.0	0.0%	2.60	0.4	3.1	P
Building 12-SSSG-2-021624	10:33	300mL	44.1	32.7	0.0%	3.27	1.7	0.1	P
Building 12-SSSG-021624	11:10	300mL	46.83	44.8	0.0%	4.48	1.8	0.0	P
Building 12-SSSG-4-021624	11:37	300mL	0.0 ran out of helium				285.2	125.4	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 11-SSSG-1-021524	14:20	14:25	ISS01458	OA00154	-27	-9	ALS
Building 11-SSSG-2-021524	14:37	14:42	ISS01379	OA00871	-28	-13	ALS
Building 12-SSSG-1-021624	10:18	10:23	ISS01245	OA01699	-27	-6	ALS
Building 12-SSSG-2-021624	10:46	10:51	[illegible]	[illegible]	-16	-3	ALS
Building 12-SSSG-3-021624	11:22	11:27	ISS01429	OA01656	-23	-6	ALS
Building 12-SSSG-4-021624	11:53	11:58	ISS01603	OA00981	-19	-3	ALS
							ALS

ISS01650 OA00043

Comments:

Building 11-2: pin loose, came out of ground

Building 11-SSSG-1 → shut in test ~ 15/20 sec
Building 11-SSSG-2 → shut in test ~ 10 sec
Building 12-SSSC-1 → shut in test ~ 5/10 sec
Building 12-SSSG-2 → shut in test ~ 5/10 sec
Building 12-SSSG-3 → shut in test ~ 5/10 sec
Building 12-SSSC-4 → shut in test ~ 5/10 sec

APPENDIX F
Preferential Pathway and Near Source Sampling Logs

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation

Project Number: 11235-07

Date: 2/23/24

Personnel: [redacted]

Weather: Cloudy, 40s light rain

Canister Type: Summa 1L

Atmospheric Pressure (in Hg): 29.88

Air Temperature (°F): 42° F

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 9-PP-A-022324	0946	360	19.5%	5.4%	0	0	22.8	0.2	Pass
Building 9-PP-B-022324	1122	360	23.2%	7.3%	450 ppm	.61%	35.0	0.0	Pass
Building 9-NS-C-022324	1231	480	17.0%	6.2%	5,200 ppm	8.4%	71.2	0.1	Pass
Building 9-PP-C-022324	1330	360	8.5%	2.3%	125 ppm	.54%	57.6	0.0	Pass
Building 9-NS-D-022324	1437	480	11.2%	2.1%	1,200 ppm	5.7%	32.0	0.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 9-PP-A-022324	1025	1030	15501669	0A00110	-26	-9	ALS
Building 9-PP-B-022324	1202	1207	15501656	0A01840	-27	-9	ALS
Building 9-NS-C-022324	1253	1258	15501617	0A01430	-24	-4	ALS
Building 9-PP-C-022324	1359	1404	15501623	0A01272	-24	-7	ALS
Building 9-NS-D-022324	1442	1447	15501659	0A00911	-26	-9	ALS

Comments:

MON DAY 2/26/24 DSCP - VI Clean - MW, JK

SAMP LOC/ID	Time	Volume	Helium MAX	Helium MIN	Helium Bag	Helium SHroud	PID Bag	PID PORT	PASS?
Bldg-6_NS-A	0906	~~360~~ 480 ml	25.9%	5%			6.0	0.0	
Bldg-14_PP_C	1018	360 ml	12.2%	400 ppm			7.7	0.0	3 sec PASS
Bldg-12_PP_A	1058	360 ml	11.1%	2.2%			6.9	0.0	Pass
Bldg-12-PP-B	1203	360 ml	19.0%	2.0%		0.0	6.4	0.0	PASS
Bldg-12-PP-C	1336	360 ml	13.8%	3.2%		0.0	4.1	0.0	PASS
Bldg-11-PP-A	1410	360 ml	16.9%	3.0%		0.0	4.1	0.0	PASS
Bldg-11-PP-B	1442	360 ml	35.4%	4.1%		0.0	4.7	0.0	PASS

NOTES

0926 - Location Bldg-6_NS-A IS DOWN TO 15'. TROUBLE GETTING AN ACCURATE HELIUM DETECTION READING. HELIUM DETECTOR DIRECTLY IN PORT WITH NO HELIUM INTRODUCED SHOWS READINGS OF 2.2%. MOVE TO LOCATION Bldg-14_PP_C UNTIL ISSUE IS RESOLVED.

1013- PINE DOESNT HAVE REPLACEMENT UNIT AVAILABLE. PINE WILL INSPECT UNIT AT END OF DAY

1127- ISSUE WITH REGULATORS. SG00245 WOULD NOT QUICK CONNECT TO CANISTER. SG00347 WAS CRACKED AND FAILED PRESSURE TEST.

1220- MORE REGULATORS ISSUES. WHEN PERFORMING PRESSURE TEST, 4 GUAGES ARE BROKEN SGS 00009, SGS 00248, SGS00368, SGS 00255

1327- TEST HELIUM DETECTOR AT MW-13, READER REACHES 2.0% WHEN NEAR THE OPEN WELL. DID NOT INSERT INTO WELL, INCASE LEVELS DAMAGE METER.

SAMP ID	TIME START	TIME STOP	CANISTER#	FLOW#	Pressure Initial	Pressure Final	LAB
BLDG-14_PP_C-022624	1034	1039	15501622	SGS00350	-24	-5	ALS
BLDG-12_PP_A 022624	1138	1143	15501532	SGS00169	-28	-5	
Bldg-12_PP-B 022624	1310	1315	15501478	SGS00396	-15	-5	
Bldg-12_PP-C 022624	1352	1357	15501691	SGS00214	-26	-6	
Bldg-11-PP-A 022624	1429	1434	15501~~688~~ 668	SGS00142	-26	-5	
Bldg-11-PP-B	1517	1522	15501236	SGS00271	-26	-5	

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SOIL GAS SAMPLING LOG

Project Name:

Project Number: DSCP

Date: 2/27/24

Personnel: [redacted]

Weather: Clear 40s - 50s

Canister Type: Summa

Atmospheric Pressure (in Hg): 29.99

Air Temperature (°F):

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 14-PP-B-022724	0915	360	38.9 %	8.1 %	0	0 %	1.5	0.0	Pass
Building 14-PP-A-022724	1012	360	35.8 %	9.7 %	0	0 %	33.5	0.8	Pass
Building 9-PP-D-022724	1046	360	29.4 %	14.5 %	1,900 ppm	1.3 %	5.3	0.1	Pass
Building 13-PP-A-022724	1320	360	19.2 %	13.4 %	0	0 %	1.0	0.0	Pass
Building 15-PP-A-022724	1410	360	18.6 %	5.4 %	750 ppm	1.4 %	1.7	0.0	Pass
Building 15-PP-B-022724	1445	360	15.1 %	2.9 %	0 ppm	0 %	2.3	0.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 14-PP-B-022724	0946	0951	15501226	OA00995	-27	-9	ALS
Building 14-PP-A-022724	1029	1034	15501130	OA01292	-29	-9	ALS
Building 9-PP-D-022724	1106	1111	15501627	OA02222	-25	-8	ALS
Building 13-PP-A-022724	1333	1338	15501625	OA01312	-35	-6	ALS
Building 15-PP-A-022724	1421	1426	15501628	OA01083	-26	-6	ALS
Building 15-PP-B-022724	1454	1455	15500156	OA01169	-25	-7	ALS

Comments:
- OA00414 reads -14 when it should be 0. Faulty regulator switched with new one.
- water in Bldg 9-PP-E
- 15501674 initial pressure -12, discarded

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SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/29/24

Personnel: [redacted]

Weather: Sunny 30s - 40s

Canister Type: Summa

Atmospheric Pressure (in Hg): 30.34

Air Temperature (°F): 42

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
ES Building-PP-A -022924	1450	360	16.1%	8.7%	125 ppm	.07%	1.4ppm	0.0	Pass
Building 9-PP-F -022924	1550	360	13.5%	11.8%	0ppm	0	1.0 ppm	0.1	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
ES Building-PP-A -022924	1510	1515	1SS00891	0A00789	-25	-4	ALS
Building 9-PP-F -022924	1606	1611	1SC00441	0A00152	-24	-5	ALS

Comments:

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Date: 3/1/2024

Weather: Sunny ~~50s~~ 40s

Atmospheric Pressure (in Hg): 30.64

Project Number: 11235-

Personnel: [redacted]

Canister Type:

Air Temperature (°F): 43°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Bldg8_PP-A	1125	360	19.5.	5.3	0	0	0	0	P
Bldg8_PP-B	1300	360	10.2	1.9	400 ppm	2.1%	0	0	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Bldg8_PP-A	1228	1233	~~1SC00851~~ 1SS01034	OA00800	-19	-4	
DUP	1228	1233	OA01278 ↔	1SS00910	-29	-8	
Bldg8_PP-B	1330	1335	1SS01516	OA00036	~~-92~~ JR	-8	
					-29		

Comments:

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SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 2104,0205
Date: 3/4/24
Personnel: [redacted]
Weather: Overcast 50's - 60,
Canister Type: Summa 1L
Atmospheric Pressure (in Hg): 30.34
Air Temperature (°F): 52°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 6-PP-A -030424	0845	360	23.5%	8.7%	50 ppm	.057 %	0.8	0.0	Pass
Building 9-PP-H -030424	1014	360	21.8 %	11.4 %	125 ppm	.109 %	2.1	0.1	Pass
Building 9-PP-J -030424	1210	360	23.6 %	9.2 %	625 ppm	.679 %	0.3	0.2	Pass
Building 9-NS-I -030424	1410	480	24.4 %	12.2 %	6500 ppm *	5.33 %	346.3	332.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 6-PP-A -030424	0903	0908	1SC00431	0A00450	-27	-6	ALS
Building 9-PP-H -030424	1035	1040	1SC00684	0A02205	-25	-7	ALS
Building 9-PP-J -030424	1218	1223	1SC00938	0A01248	-26	-9	ALS
Building 9-NS-I -030424	1421	1426	1SC01275	0A02192	-28	-6	ALS

Comments:

0A01297 faulty, could not maintain vacuum.

* Bldg 9-NS-I had a background reading of 6425 before helium was introduced.

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SOIL GAS SAMPLING LOG

Project Name:

Project Number: 11235-07

Date: 3/5/2024

Personnel: [redacted]

Weather: Cloudy 40s

Canister Type: Summa, 1L

Atmospheric Pressure (in Hg): 30.07

Air Temperature (°F): 45°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Bldg 9-NS-J	1030	480	25.5%	12.1%	1.16%	9.6%	284.6	351.8	P
Bldg 9-PP-[redacted]	1110	360	21.4	8.1%	650 ppm	0.8%	121.6	0.0	P
Bldg 30-PP-A	did not	sample,	water	in	tube			1.4	
Bldg 30-NS-B	1440	480	22.2	7.8%	4200 ppm	5.4%	9.1	0.7	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Bldg 9-NS-J	1044	1049	1SC00618	QA02204	-28	-6	ALS
Bldg 9-PP-[redacted]	1047	1152	1SC00637	QA02216	-27	-8	ALS
Bldg 30-PP-A	DNS						
Bldg 30-NS-B	1453	1458	1SC00876	QA01693	-26	-3	ALS

Comments:

Flow controller QA01144 not holding/gauging pressure
QA00637 not holding pressure/sucked in water

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SOIL GAS SAMPLING LOG

Project Name:

Date: 3/6/2024

Weather: Rainy

Atmospheric Pressure (in Hg): 29.89

Project Number: 11235-07

Personnel: [redacted]

Canister Type: Summa 1L

Air Temperature (°F): 52

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Bldg 9-PP-M	1000	360	32.6	7.3	250 ppm	0.3%	5.2	0.2	P
Bldg 30-PP-B	1040	360	32.1	8.9	0	0	8.1	0.9	P
Bldg 9-NS-A	1145	480	36.7	16.7	1.2%	7%	130.4	184.5	P
Bldg 9-NS-B	1400	480	26.7	13.1	6000 ppm	4.62%	80.7	149.5	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Bldg 9-PP-M	1017	1022	1SL00608	OA00834	-27	-5	
Bldg 30-PP-B	1104	1109	1SL01089	OA01600	-26	-7	
Bldg 9-NS-A	1225	1230	1SL00697	OA00756	-25	-4	
Bldg 9-NS-B	~~1402~~ 1458	1503	1SL01347	OA01179	-28	-6	

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 2104.025
Date: 3/7/24
Personnel: [redacted]
Weather: 50s, overcast, light drizzle
Canister Type: Summa
Atmospheric Pressure (in Hg): 29.94
Air Temperature (°F): 55°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 9-NS-E -030724	1004	480 mL	34.4%	29.0%	125 ppm	.04%	52.0	1.5	Pass
Building 12-NS-B -030724	1103	480 mL	28.6%	19.4%	0	0	8.3	0.1	Pass
Building 12-NS-A -030724	1130	480 mL	35.1%	23.1%	0	0	13.2	0.0	Pass
Building 6-NS-B -030724	1301	480 mL	34.9%	19.6%	0	0	4.5	0.1	Pass
Building 6-NS-A -030724	1340	480 mL	43.2%	24.6%	2.9%	8.38%	32.6	0.6	Pass
Building 9-NS-F -030724	1440	480 mL	41.5%	29.4%	1.7%	5.78%	131.7	28.2	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 9-NS-E -030724	1019	1024	1SS01421	OA00838	-27	-9	ALS
Building 12-NS-B -030724	1107	1112	1SS01614	OA01901	-20	-5	ALS
Building 12-NS-A -030724	1145	1150	1SS01395	OA00152	-24	-4	ALS
Building 6-NS-B -030724	1313	1318	1SS01263	OA00612	-29	-9	ALS
Building 6-NS-A -030724	1347	1352	1SS01387	OA01345	-28	-5	ALS
Building 9-NS-F -030724	1455	1500	1SS00229	OA01771	-26	-3	ALS

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 11235-07

Date: March 8th 2024

Personnel: [redacted]

Weather: 30s Clear

Canister Type: Summa

Atmospheric Pressure (in Hg): 29.93

Air Temperature (°F): 60°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
STAPLE-PP-A	934	360ml	22.4%	12.7%	1.05%		55.5	2.5	PASS
STAPLE-PP-B	1020	360ml	20.9%	3.2%	125PPM		14.5	0.6	PASS
MATTRESS F-PM-PP-A	1054	360ml	18.6%	6.1%	0 PPM		62	2.3	PASS
BLDG E-PP-A	1248	360ml	25.2%	10.1%	0 PPM		67.4	0.8	PASS
Bldg-E-NS-A	1305	480ml	14.0%	5.3%	0 PPM		56.7	0.5	PASS
Bldg-E-PP-B	1350	360ml	24.8%	9.6%	0 PPM		30.8	0.3	PASS
Bldg-E-NS-B	1432	480ml	22.9%	8.8.%	0 PPM		13.7	0.3	PASS

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
STAPLES-PP-A	0955	1000	1SC00471	0A00353	-28	-7	ALS
STAPLES-PP-B	1032	1037	1SS00264	0A01389	-26	-7	"
MATTRESS F-PM-PP-A	1103	1108	1SS00921	0A01931	-29	-7	"
Building-E-PP-A	1254	1259	1SC00099	0A02088	-26	-5	"
Building-E-NS-A	1320	1325	1SS00136	0A00647	-26	-6	"
Building E-PP-B	1412	1417	1SC00812	0A00451	-29	-9	"
Building E-NS-B	1443	1448	1SS00138	0A01236	-27	-7	"

Comments:

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCR VI Investigation
Project Number:
Date: 3/11/24
Personnel: [redacted]
Weather: Sunny 30s - 40s windy
Canister Type: Summa, 1L
Atmospheric Pressure (in Hg): 29.79
Air Temperature (°F): 40°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
PAgnus 5-NS-A-031124	0945	480	15.6%	9.6%	0	0	8.9	0.1	Pass
PAgnus 5-NS-DUP-031124	0945	480	15.6%	9.6%	0	0	8.9	0.1	Pass
PAgnus 5-NS-B-031124	1043	480	17.6%	8.9%	0	0	7.2	0.0	Pass
Hotel-NS-B-031124	1205	480	12.4%	4.8%	0	0	7.1	0.0	Pass
Hotel-NS-A-031124	1245	480	14.1%	7.7%	0	0	4.3	0.0	Pass
PHA Gym-NS-A-031124	1410	480	18.3%	7.6%	0	0	2.4	0.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
PAgnus 5-NS-A-031124	1001	1005	ISS01414	OA00373	-24	-9	ALS
PAgnus 5-NS-DUP-031124	1000	1005	ISC01108	OA00946	-25	-9	ALS
PAgnus 5-NS-B-031124	1100	1105	ISS00818	OA01404	-25	-8	ALS
Hotel-NS-B-031124	1225	1230	ISC00341	OA02209	-27	-7	ALS
Hotel-NS-A-031124	1305	1310	ISC00340	OA00523	-25	-5	ALS
PHA Gym-NS-A-031124	1420	1425	ISC00116	OA02139	-27	-8	ALS

Comments:

Can ISC00155: No pressure
Controller OA01193: faulty reading
Can ISS01353: no pressure
Can ISC00780: -12

PAgnus 5-NS-DUP-031124 duplicate of PAgnus 5-NS-A-031124

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP

Project Number: 11235-07

Date: 4/29/24

Personnel: [redacted]

Weather: ~~20s-80s~~ CLEAR (HOT)

Canister Type: SUMMA 1L

Atmospheric Pressure (in Hg): 30.44

Air Temperature (°F): 20s-80s F

Helium Tracer Leak Test Field Data (for temporary sampling points only)

	Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
✓	Bldg 9-PP-A	0850	300 ml	18.5%	10.4%	0.0	0	5.7 ppm	20 ppm	PASS
✓	Bldg 9-PP-B	1005	300 ml	21.3%	11.1%	0.0	0	6.8 ppm	0.0 ppm	PASS
✓	Bldg 9-PP-C	1042	300 ml	20.4%	8.4%	0.0	0	7.5 ppm	1.6 ppm	PASS
✓	Bldg 9-PP-D	1128	300 ml	22.9%	8.8%	0.0	0	4.1 ppm	0.5 ppm	PASS
✓	Bldg 9-NS-C	1155	480 mL	15.9%	9.9%	0.0	0	13.9 ppm	83.0 ppm	PASS
	Bldg 9-NS-D	1315	480 ml	21.7%	7.1%	0.0	0	21.1 ppm	0.0 ppm	PASS
	Bldg 9-NS-E	1410	480 ml	21.9%	7.4%	0.0	0	12.1 ppm	3.0 ppm	PASS

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

	Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (In Hg)	Final Vacuum (In Hg)	Lab
✓	Building 9-PP-A-042924	0943	0948	1SS01694	OA01080	-26	-9	ALS
✓	Building 9-PP-B-042924	1018	1023	1SS01645	OA01856	-27	-9	ALS
✓	Building 9-PP-C-042924	1058	1103	1SS01593	OA02013	-29	-9	ALS
✓	Building 9-PP-D-042924	1129	1134	1SS01702	OA01558	-28	-8	ALS
	Building 9-NS-C-042924	1202	1207	1SS01701	OA01931	-29	-8	ALS
	Building 9-NS-D-042924	1339	1344	1SS01602	OA00578	-24	-7	ALS
	Building 9-NS-E-042924	1432				-28		

Comments: Bldg 9-NS-C background reading @ 2.2% before helium was introduced into shroud for leak test

FLOW # OA01134, CAN # 1SS01644 MAY HAVE COME INTO CONTACT WITH WATER IN LINE

Scanned with CamScanner

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation

Project Number: 11235-07

Date: 2/23/24

Personnel: [redacted]

Weather: Cloudy, 40s light rain

Canister Type: Summa 1L

Atmospheric Pressure (in Hg): 29.88

Air Temperature (°F): 42° F

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 9-PP-A -022324	0946	360	19.5%	5.4%	0	0	22.8	0.2	Pass
Building 9-PP-B -022324	1122	360	23.2%	7.3%	450 ppm	.61%	35.0	0.0	Pass
Building 9-NS-C -022324	1231	480	17.0%	6.2%	5,200 ppm	8.4%	71.2	0.1	Pass
Building 9-PP-C -022324	1330	360	8.5%	2.3%	125 ppm	.54%	57.6	0.0	Pass
Building 9-NS-D -022324	1437	480	11.2%	2.1%	1,200 ppm	5.7%	32.0	0.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 9-PP-A -022324	1025	1030	15501669	0A00110	-26	-9	ALS
Building 9-PP-B -022324	1202	1207	15501656	0A01840	-27	-9	ALS
Building 9-NS-C -022324	1253	1258	15501617	0A01430	-24	-4	ALS
Building 9-PP-C -022324	1359	1404	15501623	0A01272	-24	-7	ALS
Building 9-NS-D -022324	1442	1447	15501659	0A00911	-26	-9	ALS

Comments:

MON DAY 2/26/24 DSCP - VI Clean - MW, JK

SAMP LOC/ID	Time	Volume	Helium MAX	Helium MIN	Helium Bag	Helium SHroud	PID Bag	PID PORT	PASS?
Bldg-6_NS-A	0906	~~360~~ 480 ml	25.9%	5%			6.0	0.0	
Bldg-14_PP_C	1018	360 ml	12.2%	400 ppm			7.7	0.0	3 sec PASS
Bldg-12_PP_A	1058	360 ml	11.1%	2.2%			6.9	0.0	Pass
Bldg-12-PP-B	1203	360 ml	19.0%	2.0%		0.0	6.4	0.0	PASS
Bldg-12-PP-C	1336	360 ml	13.8%	3.2%		0.0	4.1	0.0	PASS
Bldg-11-PP-A	1410	360 ml	16.9%	3.0%		0.0	4.1	0.0	PASS
Bldg-11-PP-B	1442	360 ml	35.4%	4.1%		0.0	4.7	0.0	PASS

NOTES

0926 - Location Bldg-6_NS-A IS DOWN TO 15'. TROUBLE GETTING AN ACCURATE HELIUM DETECTION READING. HELIUM DETECTOR DIRECTLY IN PORT WITH NO HELIUM INTRODUCED SHOWS READINGS OF 2.2%. MOVE TO LOCATION Bldg-14_PP_C UNTIL ISSUE IS RESOLVED.

1013- PINE DOESNT HAVE REPLACEMENT UNIT AVAILABLE. PINE WILL INSPECT UNIT AT END OF DAY

1127- ISSUE WITH REGULATORS. SG00245 WOULD NOT QUICK CONNECT TO CANISTER. SG00347 WAS CRACKED AND FAILED PRESSURE TEST.

1220- MORE REGULATORS ISSUES. WHEN PERFORMING PRESSURE TEST, 4 GUAGES ARE BROKEN SGS 00009, SGS 00248, SGS00368, SGS 00255

1327- TEST HELIUM DETECTOR AT MW-13, READER REACHES 2.0% WHEN NEAR THE OPEN WELL. DID NOT INSERT INTO WELL, INCASE LEVELS DAMAGE METER.

SAMP ID	TIME START	TIME STOP	CANISTER#	FLOW#	Pressure Initial	Pressure Final	LAB
BLDG-14_PP_C-022624	1034	1039	15501622	SGS00350	-24	-5	ALS
BLDG-12_PP_A 022624	1138	1143	15501532	SGS00169	-28	-5	
Bldg-12_PP-B 022624	1310	1315	15501478	SGS00396	-15	-5	
Bldg-12_PP-C 022624	1352	1357	15501691	SGS00214	-26	-6	
Bldg-11-PP-A 022624	1429	1434	15501~~688~~ 668	SGS00142	-26	-5	
Bldg-11-PP-B	1517	1522	15501236	SGS00271	-26	-5	

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: DSCP

Date: 2/27/24

Personnel: [redacted]

Weather: Clear 40s - 50s

Canister Type: Summa

Atmospheric Pressure (in Hg): 29.99

Air Temperature (°F):

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 14-PP-B-022724	0915	360	38.9 %	8.1 %	0	0 %	1.5	0.0	Pass
Building 14-PP-A-022724	1012	360	35.8 %	9.7 %	0	0 %	33.5	0.8	Pass
Building 9-PP-D-022724	1046	360	29.4 %	14.5 %	1,900 ppm	1.3 %	5.3	0.1	Pass
Building 13-PP-A-022724	1320	360	19.2 %	13.4 %	0	0 %	1.0	0.0	Pass
Building 15-PP-A-022724	1410	360	18.6 %	5.4 %	750 ppm	1.4 %	1.7	0.0	Pass
Building 15-PP-B-022724	1445	360	15.1 %	2.9 %	0 ppm	0 %	2.3	0.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 14-PP-B-022724	0946	0951	1501226	OA00995	-27	-9	ALS
Building 14-PP-A-022724	1029	1034	1550130	OA01292	-29	-9	ALS
Building 9-PP-D-022724	1106	1111	1550162	OA02222	-25	-8	ALS
Building 13-PP-A-022724	1333	1338	1550162	OA01312	-35	-6	ALS
Building 15-PP-A-022724	1421	1426	1550162	OA01083	-26	-6	ALS
Building 15-PP-B-022724	1454	1459	1550015	OA01169	-25	-7	ALS

Comments:
- OA00414 reads -14 when it should be 0. Faulty regulator switched with new one.
- water in Bldg 9-PP-E
- 1550162 initial pressure -12, discarded

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/29/24

Personnel: [redacted]

Weather: Sunny 30s - 40s

Canister Type: Summa

Atmospheric Pressure (in Hg): 30.34

Air Temperature (°F): 42

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
ES Building-PP-A -022924	1450	360	16.1%	8.7%	125 ppm	.07%	1.4ppm	0.0	Pass
Building 9-PP-F -022924	1550	360	13.5%	11.8%	0ppm	0	1.0 ppm	0.1	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
ES Building-PP-A -022924	1510	1515	1SS00891	0A00789	-25	-4	ALS
Building 9-PP-F -022924	1606	1611	1SC00441	0A00152	-24	-5	ALS

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:
Date: 3/1/2024
Weather: Sunny 50s 40s
Atmospheric Pressure (in Hg): 30.64

Project Number: 1235-
Personnel: [redacted]
Canister Type:
Air Temperature (°F): 43°

Helium Tracer Leak Test Field Data (for temporary sampling points only)									
Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Bldg8_PP-A	1125	360	19.5.	5.3	0	0	0	0	P
Bldg8_PP-B	1300	360	10.2	1.9	400 ppm	2.1%	0	0	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information							
Sample Location/ Sample ID	Start Time	End Time	Canister ID 15501034	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Bldg8_PP-A	1228	1233	~~15600851~~	DA00800	-14	-4	
DUP	1228	1233	DAD1278 ↔ 15500910		-29	-8	
Bldg8_PP-B	1330	1335	15501516	DA00036	-9 -8 -29	-8	

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 2104,0205
Date: 3/4/24
Personnel: [redacted]
Weather: Overcast 50's - 60,
Canister Type: Summa 1L
Atmospheric Pressure (in Hg): 30.34
Air Temperature (°F): 52°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 6-PP-A -030424	0845	360	23.5%	8.7%	50 ppm	.057 %	0.8	0.0	Pass
Building 9-PP-H -030424	1014	360	21.8 %	11.4 %	125 ppm	.109 %	2.1	0.1	Pass
Building 9-PP-J -030424	1210	360	23.6 %	9.2 %	625 ppm	.679 %	0.3	0.2	Pass
Building 9-NS-I -030424	1410	480	24.4 %	12.2 %	6500 ppm *	5.33 %	346.3	332.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 6-PP-A -030424	0903	0908	ISC00431	0A00450	-27	-6	ALS
Building 9-PP-H -030424	1035	1040	ISC06684	0A02205	-25	-7	ALS
Building 9-PP-J -030424	1218	1223	ISC00938	0A01248	-26	-9	ALS
Building 9-NS-I -030424	1421	1426	ISC01275	0A02192	-28	-6	ALS

Comments:

0A01297 faulty, could not maintain vacuum.

* Bldg 9-NS-I had a background reading of 6425 before helium was introduced.

VERINA
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SOIL GAS SAMPLING LOG

Project Name:

Project Number: 11235-07

Date: 3/5/2024

Personnel: [redacted]

Weather: Cloudy 40s

Canister Type: Summa, 1L

Atmospheric Pressure (in Hg): 30.07

Air Temperature (°F): 45°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Bldg 9-NS-J	1030	480	25.5%	12.1%	1.16%	9.6%	284.6	351.8	P
Bldg 9-PP-[redacted]	1110	360	21.4	8.1%	650 ppm	0.8%	121.6	0.0	P
Bldg 30-PP-A	did not	sample,	water	in	tube			1.4	
Bldg 30-NS-B	1440	480	22.2	7.8%	4200 ppm	5.4%	9.1	0.7	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Bldg 9-NS-J	1044	1049	1SC00618	QA02204	-28	-6	ALS
Bldg 9-PP-[redacted]	1047	1152	1SC00637	QA02216	-27	-8	ALS
Bldg 30-PP-A	DNS						
Bldg 30-NS-B	1453	1458	1SC00876	QA01693	-26	-3	ALS

Comments:

Flow controller QA01144 not holding/gauging pressure
QA00637 not holding pressure/sucked in water

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Date: 3/6/2024

Weather: Rainy

Atmospheric Pressure (in Hg): 29.89

Project Number: 11235-07

Personnel: [redacted]

Canister Type: Summa 1L

Air Temperature (°F): 52

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Bldg 9-PP-M	1000	360	32.6	7.3	250 ppm	0.3%	5.2	0.2	P
Bldg 30-PP-B	1040	360	32.1	8.9	0	0	8.1	0.9	P
Bldg 9-NS-A	1145	480	36.7	16.7	1.2%	.7%	130.4	184.5	P
Bldg 9-NS-B	1400	480	26.7	13.1	6000 ppm	4.62%	80.7	149.5	P

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Bldg 9-PP-M	1017	1022	1SL00608	OA00834	-27	-5	
Bldg 30-PP-B	1104	1109	1SL01089	OA01600	-26	-7	
Bldg 9-NS-A	1225	1230	1SL00697	OA00756	-25	-4	
Bldg 9-NS-B	~~1402~~ 1458	1503	1SL01347	OA01179	-28	-6	

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation

Project Number: 2104.025

Date: 3/7/24

Personnel: [redacted]

Weather: 50s, overcast, light drizzle

Canister Type: Summa

Atmospheric Pressure (in Hg): 29.94

Air Temperature (°F): 55°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
Building 9-NS-E -030724	1004	480 mL	34.4%	29.0%	125 ppm	.04%	52.0	1.5	Pass
Building 12-NS-B -030724	1103	480 mL	28.6%	19.4%	0	0	8.3	0.1	Pass
Building 12-NS-A -030724	1130	480 mL	35.1%	23.1%	0	0	13.2	0.0	Pass
Building 6-NS-B -030724	1301	480 mL	34.9%	19.6%	0	0	4.5	0.1	Pass
Building 6-NS-A -030724	1340	480 mL	43.2%	24.6%	2.9%	8.38%	32.6	0.6	Pass
Building 9-NS-F -030724	1440	480 mL	41.5%	29.4%	1.7%	5.78%	131.7	28.2	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
Building 9-NS-E -030724	1019	1024	1SS01421	OA00838	-27	-9	ALS
Building 12-NS-B -030724	1107	1112	1SS01614	OA01901	-20	-5	ALS
Building 12-NS-A -030724	1145	1150	1SS01395	OA00152	-24	-4	ALS
Building 6-NS-B -030724	1313	1318	1SS01263	OA00612	-29	-9	ALS
Building 6-NS-A -030724	1347	1352	1SS01387	OA01345	-28	-5	ALS
Building 9-NS-F -030724	1455	1500	1SS00229	OA01771	-26	-3	ALS

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 11235-07

Date: March 8th 2024

Personnel: [redacted]

Weather: 30s Clear

Canister Type: Summa

Atmospheric Pressure (in Hg): 29.93

Air Temperature (°F): 60°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
STAPLE-PP-A	934	360ml	22.4%	12.7%	1.05%		55.5	2.5	PASS
STAPLE-PP-B	1020	360ml	20.9%	3.2%	125PPM		14.5	0.6	PASS
MATTRESS EXMI-PP-A	1054	360ml	18.6%	6.1%	0 PPM		62	2.3	PASS
BLDG E-PP-A	1248	360ml	25.2%	10.1%	0 PPM		67.4	0.8	PASS
Bldg-E-NS-A	1305	480ml	14.0%	5.3%	0 PPM		56.7	0.5	PASS
Bldg-E-PP-B	1350	360ml	24.8%	9.6%	0 PPM		30.8	0.3	PASS
Bldg-E-NS-B	1432	480ml	22.9%	8.8.%	0 PPM		13.7	0.3	PASS

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
STAPLES-PP-A	0955	1000	1SC00471	0A00353	-28	-7	ALS
STAPLES-PP-B	1032	1037	1SS00264	0A01389	-26	-7	"
MATTRESS EXMI-PP-A	1103	1108	1SS00921	0A01931	-29	-7	"
Building-E-PP-A	1254	1259	1SS00099	0A02088	-26	-5	"
Building-E-NS-A	1320	1325	1SS00136	0A00647	-26	-6	"
Building E-PP-B	1412	1417	1SC00812	0A00451	-29	-9	"
Building E-NS-B	1443	1448	1SS00138	0A01236	-27	-7	"

Comments:

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCR VI Investigation

Project Number: [redacted]

Date: 3/11/24

Personnel: [redacted]

Weather: Sunny 30s - 40s windy

Canister Type: Summa, 1L

Atmospheric Pressure (in Hg): 29.79

Air Temperature (°F): 40°

Helium Tracer Leak Test Field Data (for temporary sampling points only)

Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
PAgnus 5-NS-A-031124	0945	480	15.6%	9.6%	0	0	8.9	0.1	Pass
PAgnus 5-NS-DUP-031124	0945	480	15.6%	9.6%	0	0	8.9	0.1	Pass
PAgnus 5-NS-B-031124	1043	480	17.6%	8.9%	0	0	7.2	0.0	Pass
Hotel-NS-B-031124	1205	480	12.4%	4.8%	0	0	7.1	0.0	Pass
Hotel-NS-A-031124	1245	480	14.1%	7.7%	0	0	4.3	0.0	Pass
PHA Gym-NS-A-031124	1410	480	18.3%	7.6%	0	0	2.4	0.0	Pass

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
PAgnus 5-NS-A-031124	1001	1005	ISC01414	OA00373	-24	-9	ALS
PAgnus 5-NS-DUP-031124	1000	1005	ISC01108	OA00946	-25	-9	ALS
PAgnus 5-NS-B-031124	1100	1105	ISC00818	OA01404	-25	-8	ALS
Hotel-NS-B-031124	1225	1230	ISC00341	OA02209	-27	-7	ALS
Hotel-NS-A-031124	1305	1310	ISC00340	OA00523	-25	-5	ALS
PHA Gym-NS-A-031124	1420	1425	ISC01116	OA02139	-27	-8	ALS

Comments:

Can ISC00155: No pressure
Controller OA01193: faulty reading
Can ISC01353: no pressure
Can ISC00780: -12

PAgnus 5-NS-DUP-031124 duplicate of PAgnus 5-NS-A-031124

VERINA Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP

Project Number: 11235-07

Date: 4/29/24

Personnel: [redacted]

Weather: ~~20s-80s~~ CLEAR (HOT)

Canister Type: SUMMA 1L

Atmospheric Pressure (in Hg): 30.44

Air Temperature (°F): 20s-80s F

Helium Tracer Leak Test Field Data (for temporary sampling points only)

	Sample Location/ Sample ID	Time	Cumulative Volume Purged (mL)	Helium Beneath Shroud-Max (% or ppm)	Helium Beneath Shroud-Min (% or ppm)	Helium in Tedlar Bag (% or ppm)	Helium Shround-Min to Tedlar Bag Comparison (% or ppm)	PID reading from Tedlar Bag (ppm)	PID reading from sampling port (ppm)	Pass or Fail?
✓	Bldg 9-PP-A	0850	300 ml	18.5%	10.4%	0.0	0	5.7 ppm	20 ppm	PASS
✓	Bldg 9-PP-B	1005	300 ml	21.3%	11.1%	0.0	0	6.8 ppm	0.0 ppm	PASS
✓	Bldg 9-PP-C	1042	300 ml	20.4%	8.4%	0.0	0	7.5 ppm	1.6 ppm	PASS
✓	Bldg 9-PP-D	1128	300 ml	22.9%	8.8%	0.0	0	4.1 ppm	0.5 ppm	PASS
✓	Bldg 9-NS-C	1155	480 mL	15.9%	9.9%	0.0	0	13.9 ppm	83.0 ppm	PASS
	Bldg 9-NS-D	1315	480 ml	21.7%	7.1%	0.0	0	21.1 ppm	0.0 ppm	PASS
	Bldg 9-NS-E	1410	480 ml	21.9%	7.4%	0.0	0	12.1 ppm	3.0 ppm	PASS

Conversion: 1.0% = 10,000 ppm
Example: 8.9% x 10,000 = 89,000 ppm
There should be no more than 10% of the beneath shroud minimum He value within the Tedlar bag.
Example: At 20% minimum He beneath shroud, there should be no more than 2% (20,000 ppm) He in Tedlar bag.

Sample Information

	Sample Location/ Sample ID	Start Time	End Time	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Lab
✓	Building 9-PP-A-042924	0943	0948	1SS01694	OA01080	-26	-9	ALS
✓	Building 9-PP-B-042924	1018	1023	1SS01645	OA01856	-27	-9	ALS
✓	Building 9-PP-C-042924	1058	1103	1SS01593	OA02013	-29	-9	ALS
✓	Building 9-PP-D-042924	1129	1134	1SS01702	OA01558	-28	-8	ALS
	Building 9-NS-C-042924	1202	1207	1SS01701	OA01931	-29	-8	ALS
	Building 9-NS-D-042924	1339	1344	1SS01602	OA00578	-24	-7	ALS
	Building 9-NS-E-042924	1432				-28		

Comments: Bldg 9-NS-C background reading @ 2.2% before helium was introduced into shroud for leak test

FLOW # OA01134, CAN # 1SS01644 MAY HAVE COME INTO CONTACT WITH WATER IN LINE

Scanned with CamScanner

APPENDIX G
Sewer Conduit Vapor Sampling Logs

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 40's / sunny / windy

Canister Type: 1L Sample Period: 5 min

Sample ID	ACME-SCVIAA-1-021624	ACME-SCV-1-021624	ACME-SCV-2-021624			
Start Date	2/16/24	2/16/24	2/16/24			
Start Time	13:50	13:54	14:03			
Start Canister Pressure (in Hg)	-27	-22	-28			
Start Temperature (F)	43°	43°	43°			
Start Atmospheric Pressure (in Hg)	29.98	29.98	29.98			
End Date	2/16/24	2/16/24	2/16/24			
End Time	14:20	13:59	14:08			
End Canister Pressure (in Hg)	-3	-3.5	-8			
End Temperature (F)	43°	43°	43°			
End Atmospheric Pressure (in Hg)	29.98	29.98	29.98			
Min/Max Temperature (F)	43°	43°	43°			
Min/Max A. Pressure (in Hg)	29.98	29.98	29.98			
Air Speed Range (mph)	12 mph	12 mph	12 mph			
Indoor/Outdoor	outdoor	outdoor	outdoor			
Canister ID	ASC1466	[redacted] ISS01026	ISS0147G			
Flow Control ID	SFC00029	OA02221	OA02139			
Sample Height (ft)	0.0	0.0	0.0			

Comments: PID: [redacted] 0.4 0.2

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP - VI investigation Job No.: 2164.0205

Personnel: [redacted] Weather: 42°, cloudy

Canister Type: 1L - SCV / 6L SCV IAA Sample Period: 5 mins - SCV / 30-min - SCV IAA

Sample ID	Aldi - SCV IAA - 1 - 021224	Aldi - SCV - 1 - 021224	Aldi - SCV - 2 - 021224	Building 14 - SCV IAA - 1 - 021224	Building 14 - SCV - 1 - 021224	Building 14 - SCV - 2 - 021224
Start Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24
Start Time	09:30	9:35	9:47	11:11	11:10	11:55
Start Canister Pressure (in Hg)	-30	-27	-26	-27.5	-24	-27.5
Start Temperature (F)	42°	42°	42°	45°	46°	46°
Start Atmospheric Pressure (in Hg)	29.96	29.96	29.96	29.94	29.94	29.92
End Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24
End Time	9:54	9:40	9:52	11:41	11:21	12:00
End Canister Pressure (in Hg)	-1	-5	-7	-3	-4	-13
End Temperature (F)	42°	42°	42°	46°	46°	46°
End Atmospheric Pressure (in Hg)	29.96	29.96	29.96	29.94	29.94	29.92
Min/Max Temperature (F)	42°	42°	42°	46°	46°	46°
Min/Max A. Pressure (in Hg)	29.96	29.96	29.96	29.94	29.94	29.92
Air Speed Range (mph)	4 mph	4 mph	4 mph	3 mph	3 mph	3 mph
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	~~outdoor~~ indoor
Canister ID	AC02475	ISS01576	ISS01415	AC02337	ISS01526	ISS01340
Flow Control ID	SFC00263	OA00036	OA02205	SFC00333	OA00745	OA02120
Sample Height (ft)	0.0	0.0 / 0.0 PID	0.0 / 0.0 PID	3.0	0.0 / 0.1 PID	0.0 / 0.6 PID

Comments: WIND = 4 MPH ENE

Done from drain in basement of Building 14

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 39° - 50°

Canister Type: 1L - SCV / 6L - SCV1AA Sample Period: 5 mins - SCV / 30 min - SCV1AA

Sample ID	Building 9 - SCV1AA-1 - 021224	Building 9 - SCV-1 021224	Building 9 - SCV-2 - 021224	Building 9 - SCV-3 021324	Building 9 - SCV-4 021224	Building 9 - SCV1AA-2 - 021224
Start Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24
Start Time	13:50	13:53	14:01	14:10	14:22	14:20
Start Canister Pressure (in Hg)	-25	-24	-23	-27	-27	-26
Start Temperature (F)	49°	49°	50°	50°	50°	50°
Start Atmospheric Pressure (in Hg)	29.87	29.87	29.86	29.86	29.86	29.86
End Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24
End Time	14:15	13:58	14:06	14:15	14:27	14:50
End Canister Pressure (in Hg)	-5	-5	-4	-6.5	-7	-3
End Temperature (F)	50°	49°	50°	50°	50°	50°
End Atmospheric Pressure (in Hg)	29.87	29.87	29.86	29.86	29.86	29.86
Min/Max Temperature (F)	50°	49°	50°	50°	50°	50°
Min/Max A. Pressure (in Hg)	29.87	29.87	29.86	29.86	29.86	29.86
Air Speed Range (mph)	NA	NA	NA	NA	NA	NA
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	outdoor
Canister ID	A800413	1SS01672	1SS01679	1SS01638	1SS01683	AC02359
Flow Control ID	3FC00047	0A01772	0A01230	0A00120	0A01702	3FC00424
Sample Height (ft)	4.0	0.0	0.0	0.0	0.0	1.0

Comments: PID: — 0.0 0.0 0.0 0.0 —

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 39°-50°, cloudy

Canister Type: 1L - SCV / 6L - SCVIAA Sample Period: 5 mins - SCV / 30 min - SCVIAA

together

Sample ID	Building 9-SCV-5-021224	Building 9-SCV-DUP-021224	Building 9-SCV-6-021224	Building 9-SCV-7-021224	Building 9-SCV-8-021224	Building 9-SCV-9-021224
Start Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24
Start Time	14:31 24.5	14:31	14:40	14:45	15:22	15:29
Start Canister Pressure (in Hg)	- [illegible]	-29	-26.5	-25	-22	-24.5
Start Temperature (F)	50°	50°	50°	50°	50°	50°
Start Atmospheric Pressure (in Hg)	29.85	29.87	29.87	29.85	29.84	29.83
End Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24
End Time	14:3C	14:3C (00:00)	14:45	14:50	15:27	15:34
End Canister Pressure (in Hg)	-[illegible]9	-10	-4	-6	-1	-6
End Temperature (F)	50°	50°	50°	50°	50°	50°
End Atmospheric Pressure (in Hg)	29.85	29.85	29.87	29.85	29.84	29.83
Min/Max Temperature (F)	50°	50°	50°	50°	50°	50°
Min/Max A. Pressure (in Hg)	29.85	29.85	29.87	29.85	29.84	29.83
Air Speed Range (mph)	NA	NA	NA	NA	NA	NA
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	outdoor
Canister ID (1SS00932)	[illegible]	1SS00846	1SS01138	1SC00854	1SC00880	1SS01800
Flow Control ID (0A00370)	[illegible]	0A01495	0A02118	0A00825	0A01148	0A01152
Sample Height (ft)	0.0	0.0	0.0	0.0	0.0	0.0

Comments:

Building 9-SCV-5-021224 + Building 9-SCV-DUP-021224
Done together out of same manhole

VERINA
Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 39-50°, cloudy

Canister Type: 1L - SCV / 6L - SCV / AA Sample Period: 5 min - SCV / 30 min - SCV / AA

Sample ID	Building 9-SCV/AA-3-022124	Building 9-SCV-10-022124	Building 9-SCV-11-022124	Building 9-SCV-12-022124	Building 9-SCV/AA-4-022124	
Start Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	
Start Time	15:15	15:33	15:52	15:55	15:45	
Start Canister Pressure (in Hg)	-27	-26	-16.5	-24	-26	
Start Temperature (F)	50°	50°	50°	50°	50°	
Start Atmospheric Pressure (in Hg)	29.84	29.83	29.82	29.82	29.82	
End Date	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	
End Time	15:45	15:38	15:56	16:00	16:15	
End Canister Pressure (in Hg)	-6	-4	-2	-5	-5	
End Temperature (F)	50°	50°	50°	50°	50°	
End Atmospheric Pressure (in Hg)	29.84	29.83	29.82	29.82	29.82	
Min/Max Temperature (F)	50°	50°	50°	50°	50°	
Min/Max A. Pressure (in Hg)	29.84 / 29.83	29.83	29.82	29.82	29.82	
Air Speed Range (mph)	[redacted] 3	[redacted] 3	[redacted] 3	[redacted] 3	[redacted] 3	
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	
Canister ID	AS00543	ISC00485	ISS00853	ISS01608	AS00892	
Flow Control ID	SFC00661	OA00700	OA00457	OA00789	SFC00255	
Sample Height (ft)	0.0	0.0	0.0	0.0	0.0	

Comments: PID → 0.0 0.0 0.0

wind 3mph NW

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 39-58°F, sunny

Canister Type: 1L - SCV / 6L - SCV IAA Sample Period: 5 minutes - SCV
30 minute - SCV IAA

Sample ID	Building 8 - SCV IAA-1 - 020924	Building 8 - SCV-1 - 020924	Building 8 - SCV-2 - 020924	Building C - SCV IAA-1 - 020924	Building 6(A) - SCV-1 - 020924	Building 6(C) - SCV-2 - 020924
Start Date	2/9/24	2/9/24	2/9/24	2/9/24	2/9/24	2/9/24
Start Time	09:35	09:38	09:38	10:10	10:17	10:32
Start Canister Pressure (in Hg)	-27	-26	-24	-29	-26	-24
Start Temperature (F)	44°	44°	44°	47°	47°	47°
Start Atmospheric Pressure (in Hg)	30.15	30.15	30.15	30.13	30.13	30.13
End Date	2/9/24	2/9/24	2/9/24	2/9/24	2/9/24	2/9/24
End Time	10:05	09:43	09:43	10:40	10:22	10:37
End Canister Pressure (in Hg)	-4	-4	-6	-4	-8	-3
End Temperature (F)	43°	43°	43°	48°	47°	47°
End Atmospheric Pressure (in Hg)	30.15	30.15	30.15	30.13	30.13	30.13
Min/Max Temperature (F)	43°	43°	43°	43°	43°	43°
Min/Max A. Pressure (in Hg)	30.15	30.15	30.15	30.13	30.13	30.13
Air Speed Range (mph)	6 mph	6mph	6 mph	7 mph	4mph	4mph
Indoor/Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor
Canister ID	AS01833	ISC00990	ISC00834	AS00964	ISS01197	ISS01408
Flow Control ID	SFC00670	OA0[redacted]1364	OA00995	SFC0030	OA01304	OA01278
Sample Height (ft)	0.0	0.0	0.0	0.0	0.0	0.0

Comments: PID: - 0.0 0.0 - 0.0 0.0

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 39-58°F, sunny

Cansiter Type: 1L-SCV/6L-SCV/AA Sample Period: 5 min - SCV / 30 min - SCV/AA

Sample ID	Building 13 - SCV/AA-1 -020924	Building 13 -SCV-1- 020924	Building 13 -SCV-2 -020924	Building 13 -SCV-3 -020924		
Start Date	2/9/24	2/9/24	2/9/24	2/9/24		
Start Time	13:43	13:43	13:45	14:02		
Start Canister Pressure (in Hg)	-28	-26	-27	-29		
Start Temperature (F)	56°	56°	56°	56°		
Start Atmospheric Pressure (in Hg)	30.03	30.03	30.03	30.03		
End Date	2/9/24	2/9/24	2/9/24	2/9/24		
End Time	14:13	13:48	13:50	14:07		
End Canister Pressure (in Hg)	-6	-6	-5	-7		
End Temperature (F)	56°	56°	56°	56°		
End Atmospheric Pressure (in Hg)	30.03	30.03	30.03	30.03		
Min/Max Temperature (F)	56°	56°	56°	56°		
Min/Max A. Pressure (in Hg)	30.03	30.03	30.03	30.03		
Air Speed Range (mph)	6	6 mph NNE	6	6		
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor		
Canister ID	AS01159	ISS00892	ISS01281	ISS01274		
Flow Control ID	SFC00015	OA01272	OA02218	OA01187		
Sample Height (ft)	0.0	0.0	0.0	0.0		

Comments: PID: — 0.0 0.0 0.0

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCPV1 Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 40s, Partly Cloudy, Mostly Sunny

Canister Type: 1L / 6L (SCV/AA) Sample Period: SCV - 5 min / AA - 30 min

Sample ID	Building 12 -SCV/AA-1 -020724	Building 12 -SCV-1 -020724	Building 12 -SCV-2 -020724	Building 12 -SCV-3 -020724	Building 11 -SCV/AA-1 -020824	Building 11 -SCV-1 -020824
Start Date	2/7/24	2/7/24	2/7/24	2/7/24	2/8/24	2/8/24
Start Time	14:00	14:02	14:02	14:15	11:15	11:18
Start Canister Pressure (in Hg)	-25	-21	-25	-27	-30	-28
Start Temperature (F)	47°	47°	47°	47°	45°	45°
Start Atmospheric Pressure (in Hg)	30.28	30.28	30.28	30.28	30.32	30.32
End Date	2/7/24	2/7/24	2/7/24	2/7/24	2/8/24	2/8/24
End Time	14:25	14:05	14:07	14:20	11:45	11:23
End Canister Pressure (in Hg)	-3	-3	-5	-5	-3	-8
End Temperature (F)	47°	47°	47°	47°	45°	45°
End Atmospheric Pressure (in Hg)	30.28	30.28	30.28	30.28	30.32	30.32
Min/Max Temperature (F)	47°	47°	47°	47°	45°	45°
Min/Max A. Pressure (in Hg)	30.28	30.28	30.28	30.28	30.32	30.32
Air Speed Range (mph)	3	3	3	3	8 mph	8
Indoor/Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor
Canister ID	AS01480	ISS01474	ISS01257	ISS01151	AC02305	ISS01583
Flow Control ID	SFC00450	OA02048	OA01362	OA01430	SFC00531	OA00578
Sample Height (ft)	0.0	0.0	0.0	0.0	2.0	0.0
					PID: 0.1	PID: 0.1

Comments:

PID readings were not taken on 2/7/24

2/8/24 Weather = 40s/50s Partly Cloudy

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 45°F sunny

Canister Type: 1L (SCV) / 6L (SCV/AA) Sample Period: 5 minutes - SCV
30 Minutes - SCV/AA

Sample ID	Building 11 - SCV-2 - 020824	Building 13 - SCV/AA-1 - 020824	Building 15 - SCV-1 - 020824	Building 15 - SCV-2 - 020824	Building 30 - SCV/AA-1 - 020824	Building 30 - SCV-1 - 020824
Start Date	2/8/24	2/8/24	2/8/24	2/8/24	2/8/24	2/8/24
Start Time	11:30	12:02	12:05	12:18	2:30	2:30
Start Canister Pressure (in Hg)	-27	-29	-28	-26	-27	-25
Start Temperature (F)	45°	45°	45°	45°	54°	54°
Start Atmospheric Pressure (in Hg)	30.32	30.30	30.30	30.30	30.26	30.26
End Date	2/8/24	2/8/24	2/8/24	2/8/24	2/8/24	2/8/24
End Time	11:35	12:32	12:10	12:23	15:00	2:35
End Canister Pressure (in Hg)	-8	-7	-6	-6	-3	-5
End Temperature (F)	45°	45°	45°	45°	54°	54°
End Atmospheric Pressure (in Hg)	30.32	30.30	30.30	30.30	30.26	30.26
Min/Max Temperature (F)	6	6	6	6	8	8
Min/Max A. Pressure (in Hg)	30.32	30.30	30.30	30.30	30.26	30.26
Air Speed Range (mph)	45°	45°	45°	45°	54°	54°
Indoor/Outdoor	out	out	out	out	out	out
Canister ID	1SS01572	AS01525	1SS01286	1SS01484	AC01940	1SC0C199
Flow Control ID	OA00800	SFC00230	OA01777	OA01737	SFC00222	OA01992
Sample Height (ft)	0.0	2.0	0.0	0.0	0.0	0.0

Comments: PID: 0.0 PID: 0.0 0.0 0.0 0.0

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI INVESTIGATION Job No.: 2104.0205

Personnel: [redacted] Weather: 40s/50s, Mostly Sunny

Canister Type: 1L (SCV) / 6L (SCVIAA) → together ← Sample Period: 5 min - SCV / 30 min - SCVIAA

Sample ID	Building 30 - SCV-2 - 020824	~~Building 30~~ VCS-SCV - 1-020824	Building 30 - SCV-DUP - 020824			
Start Date	2/8/24	2/8/24	2/8/24			
Start Time	14[redacted]:30	14[redacted]:45	14[redacted]:30			
Start Canister Pressure (in Hg)	-20	-28	-27			
Start Temperature (F)	54°	54°	54°			
Start Atmospheric Pressure (in Hg)	30.26	30.26	30.26			
End Date	2/8/24	2/8/24	2/8/24			
End Time	14[redacted]:35	14[redacted]:50	14[redacted]:35			
End Canister Pressure (in Hg)	-3	-5	-3			
End Temperature (F)	54°	54°	54°			
End Atmospheric Pressure (in Hg)	30.26	30.26	30.26			
Min/Max Temperature (F)	54°	54°	54°			
Min/Max A. Pressure (in Hg)	30.26	30.26	30.26			
Air Speed Range (mph)	[redacted]8	8	[redacted]8			
Indoor/Outdoor	Outdoor	Outdoor	Outdoor			
Canister ID	1SS01579	1SC01190 [redacted]	1SC00828			
Flow Control ID	0A00430	0A02256 [redacted]	0A02115			
Sample Height (ft)	0.0	0.0	0.0			

Comments: PID: 0.0 0.0 0.0

Building 30 - SCV-2 - 020824 + Building 30 - SCV-DUP - 020824 were completed together out of the same manhole

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0005

Personnel: [redacted] Weather: 30s/40s, Sunny

Canister Type: 1L - SCV / 6L - SCV1AA Sample Period: 5 min - SCV / 30 min SCV1AA

F2(HF)

Sample ID	F2F3-SCV1AA-1-021924	F4 - SCV-1-021924	F3(HS)-SCV-1-021924	STEEN-SCV1AA-1-021924	STEEN-SCV-1-021924	STEEN-SCV-2-021924
Start Date	2/19/24	2/19/24	2/19/24	02/19/24	02/19/24	02/19/24
Start Time	11:22	11:26	11:36	~~14:20~~ 14:23	14:24	14:36
Start Canister Pressure (In Hg)	-28	-27	-25	~~-20~~ -26.5	-24.5	-27.0
Start Temperature (F)	39°	39°	39°	43°	43°	43°
Start Atmospheric Pressure (In Hg)	~~-28~~ 30.19	30.19	30.19	30.18	30.18	30.18
End Date	02/19/24	02/19/24	02/19/24	02/19/24	02/19/24	02/19/24
End Time	11:52	11:31	11:41	14:53	14:29	14:41
End Canister Pressure (In Hg)	-5.0	-8.0	-7.0	-5.5	-6.5	-9.0
End Temperature (F)	39	39°	39°	43°	43°	43°
End Atmospheric Pressure (In Hg)	30.19	30.19	30.19	30.18	30.18	30.18
Min/Max Temperature (F)	39	39°	39°	43°	43°	43°
Min/Max A. Pressure (In Hg)	30.19	30.19	30.19	30.18	30.18	30.18
Air Speed Range (mph)	7	7	7	7	7	7
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	outdoor
Canister ID	AS01105	ISS01652	ISS01434	AC02375 ~~AS01103~~	ISS01690	ISS01632
Flow Control ID	SFC00556	OA01080	OA00108	SFC00482 ~~SFC00556~~	OA00825	OA01304
Sample Height (ft)	0.0	0.0	0.0	4.0	0.0	0.0
Comments: PID =	~~0.0~~ NA	0.0	0.0	NA	0.0	0.0

F2(HF) - SCV - 1 - 021924 → HF = Mattress Firm

F3(HS) - SCV - 1 - 021924 → HS = Hand • Stone Massage

*STEEN - SCV1AA - 1 - 0219 - 24 paused at 13:57 ↙ was stopped pic leaky canister/FC

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: SCV-5 min / SCV1AA-30 min

Cansiter Type: SCV-1L SCV1AA-6L Sample Period: 30s/40s, Sunny

Sample ID	Building H3 - SCV-1 - 022124	Building H3 /H3-SCV1AA-1-022124	Building H1 - SCV-1 - 022124	Building H1/J1/I2/8 - SCV1AA -022124	Building H4 - SCV-1 022124	Building I1 I2 - SCV-1 -022124
Start Date	02/21/24	02/21/24	02/21/24	02/21/24	02/21/24	02/21/24
Start Time	14:01	13:56	14:15	15:02	15:03	15:09
Start Canister Pressure (in Hg)	-27.5	-28	-25.5	-30.0	-23.0	-25.0
Start Temperature (F)	44°	44°	44°	45°	45°	45°
Start Atmospheric Pressure (in Hg)	30.35	30.35	30.35	30.33	30.33	30.33
End Date	02/21/24	02/21/24	02/21/24	02/21/24	02/21/24	02/21/24
End Time	14:06	14:26	14:20	15:32	15:08	15:16
End Canister Pressure (in Hg)	-7.0	~~-3~~ -2.5	-4.0	-6.0	-4.0	-5.0
End Temperature (F)	44°	44°	44°	45°	45°	45°
End Atmospheric Pressure (in Hg)	30.35	30.35	30.35	30.33	30.33	30.33
Min/Max Temperature (F)	44°	44°	44°	45°	45°	45°
Min/Max A. Pressure (in Hg)	30.35	30.35	30.35	30.33	30.33	30.33
Air Speed Range (mph)	6	6	6	5	5	5
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	outdoor
Canister ID	1SS00986	AS00321	0A02123	AS00682	0A00372	0A00608
Flow Control ID	0A00946	SFC03463	1SS00836	SFC00541	1SC00852	1SS00899
Sample Height (ft)	0.0	0.0	0.0	0.0	0.0	0.0

Comments:

PID 0.4 ~~0.0~~ NA 0.4 ~~0.0~~ NA 0.0 0.0

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: [redacted] Weather: 30s/40s, Sunny

Cansiter Type: SCV-1L / SCV/AA-6L Sample Period: SCV-5 min / SCV/AA-30 min

Sample ID	Building E-SCV-1-022124	Building E-SCV-2L 022124				
Start Date	02/21/24	02/21/24				
Start Time	15:24	15:27				
Start Canister Pressure (in Hg)	-19.0	-27.0				
Start Temperature (F)	45°	45°				
Start Atmospheric Pressure (in Hg)	30.33	30.33				
End Date	02/21/24	02/21/24				
End Time	15:29	15:32				
End Canister Pressure (in Hg)	-4.0	~~-6.8~~				
End Temperature (F)	45°	45°				
End Atmospheric Pressure (in Hg)	30.33	30.33				
Min/Max Temperature (F)	45°	45°				
Min/Max A. Pressure (in Hg)	30.33	30.33				
Air Speed Range (mph)	5	5				
Indoor/Outdoor	outdoor	outdoor				
Canister ID	1SS01640	1SC00440				
Flow Control ID	0A02214	0A02121				
Sample Height (ft)	0.0	0.6				

Comments:

PID 0.0 0.0