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**

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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 [redacted], Delivery Order [redacted], 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. [redacted] 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 1/10th 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 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 1/10th 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 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 Mattress Firm store.

In March, one (1) PP sample was collected, Mattress 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 Mattress 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 Mattress 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 Mattress 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

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Figure 2: Indoor, Ambient Air and SSDS Results - BJs

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	

BJs-IA-1
BJs-IA-2
BJs-IA-5
BJs-AA-1
BJs-IA-4
BJs-SSDS-1
BJs-IA-3
BJs-SSDS-2

0 25 50 100 US Feet

Maxar, Microsoft

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

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

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

Figure 4: Indoor, Ambient Air and SSDS Results - PHA

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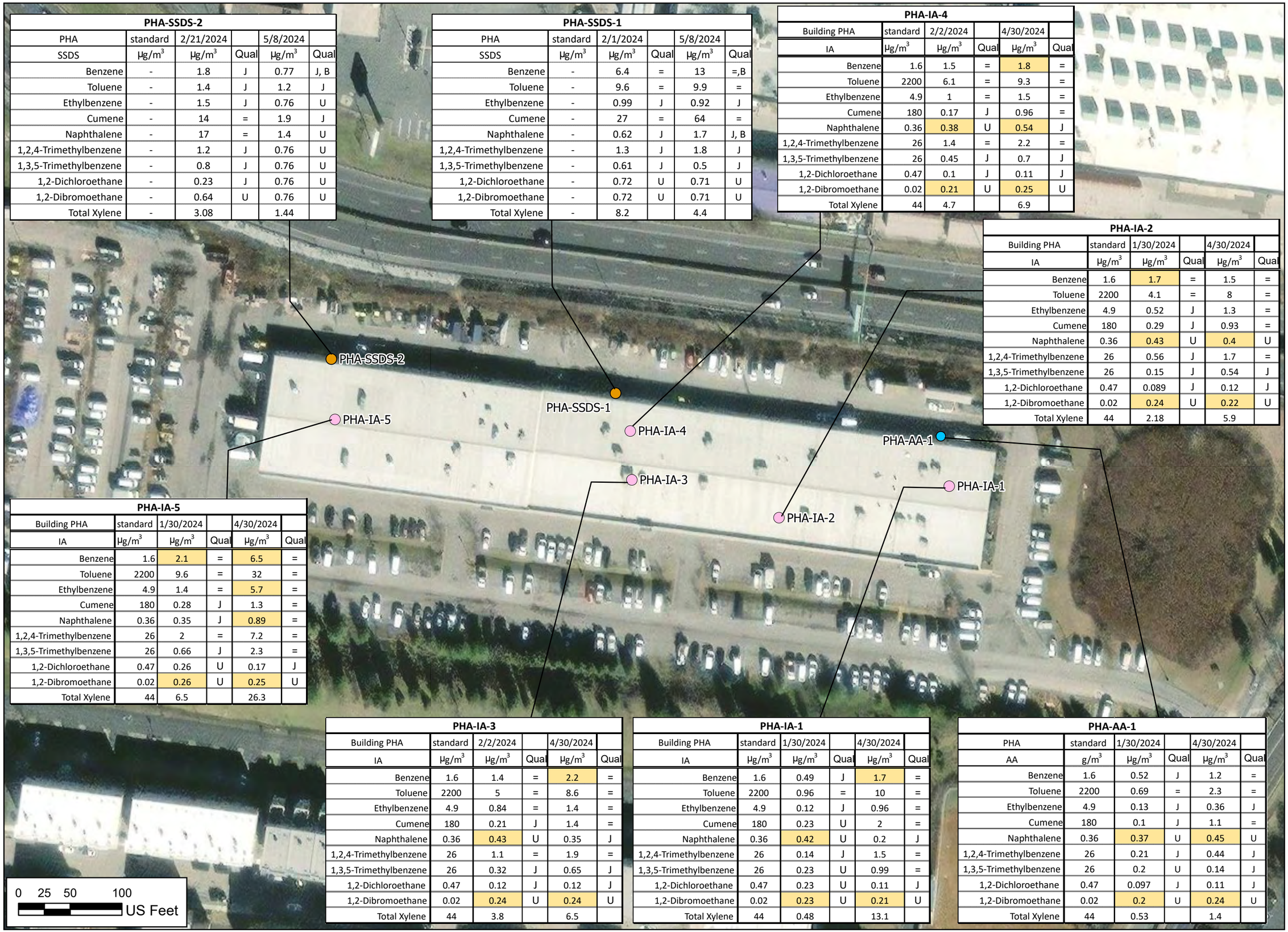


PHA-SSDS-2

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	

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

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

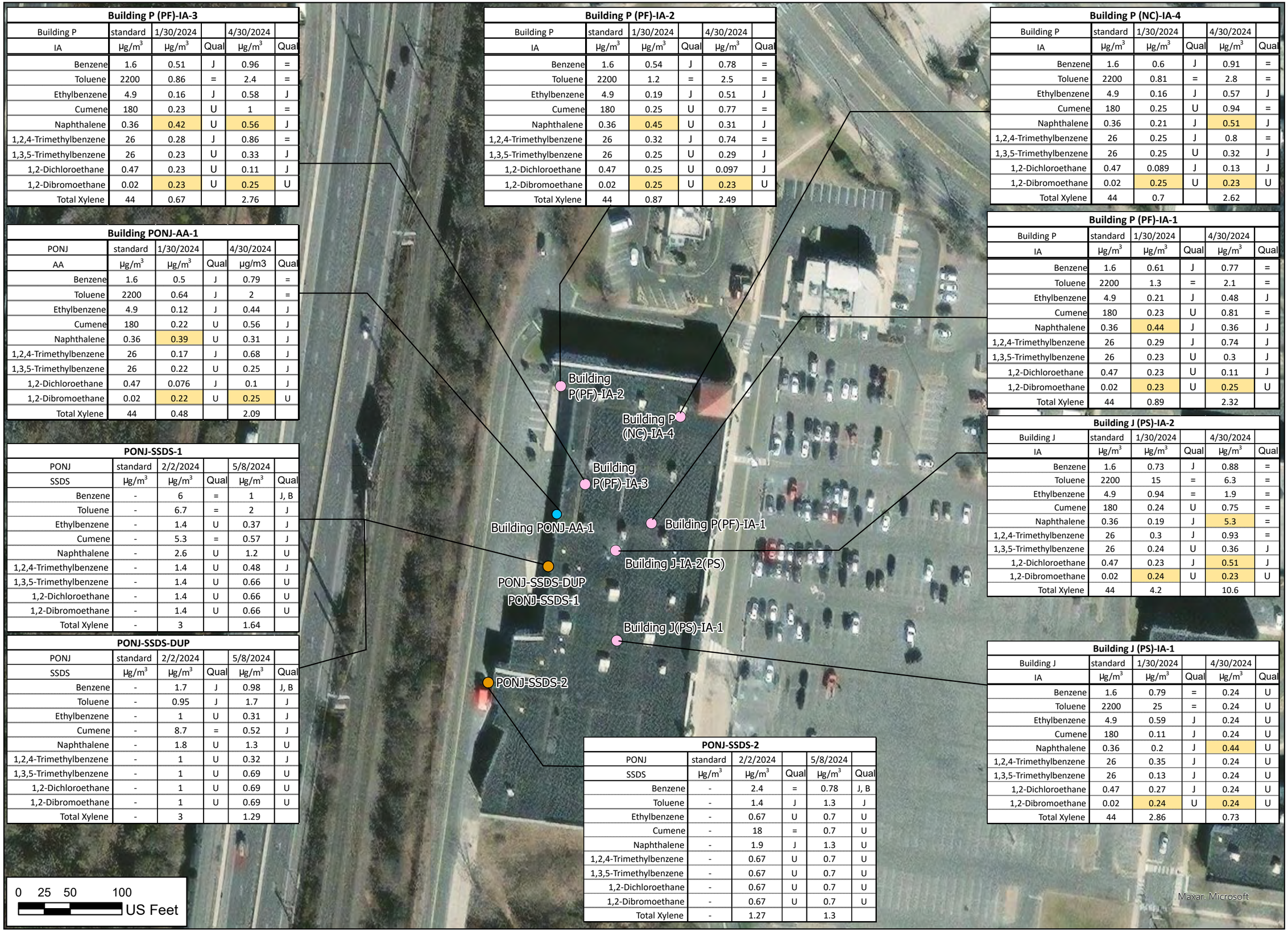
Building PHA	standard	2/2/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	µg/m³	Qual
Benzene	1.6	1.4	=	2.2	=
Toluene	2200	5	=	8.6	=
Ethylbenzene	4.9	0.84	=	1.4	=
Cumene	180	0.21	J	1.4	=
Naphthalene	0.36	0.43	U	0.35	J
1,2,4-Trimethylbenzene	26	1.1	=	1.9	=
1,3,5-Trimethylbenzene	26	0.32	J	0.65	J
1,2-Dichloroethane	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	



Building P (PF)-IA-3

Building P	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	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	standard	1/30/2024		4/30/2024	
AA	µg/m³	µg/m³	Qual	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	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	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	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	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	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	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	standard	2/2/2024		5/8/2024	
SSDS	µg/m³	µg/m³	Qual	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	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	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	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	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	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	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	standard	1/30/2024		4/30/2024	
IA	µg/m³	µg/m³	Qual	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 IA	standard µg/m³	2/2/2024 µg/m³	Qual	5/7/2024 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 Building-AA-1					
VES AA	standard µg/m³	2/2/2024 µg/m³	Qual	5/7/2024	
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 IA	standard µg/m³	2/2/2024 µg/m³	Qual	5/7/2024 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	

VES-AA-1
VES-IA-2
VES-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

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

Maxar, Microsoft

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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

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VES Building-SCV-1

VES Building	standard	2/8/2024		6/5/2024	
SCV	µg/m³	µg/m³	Qual	µg/m³	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	

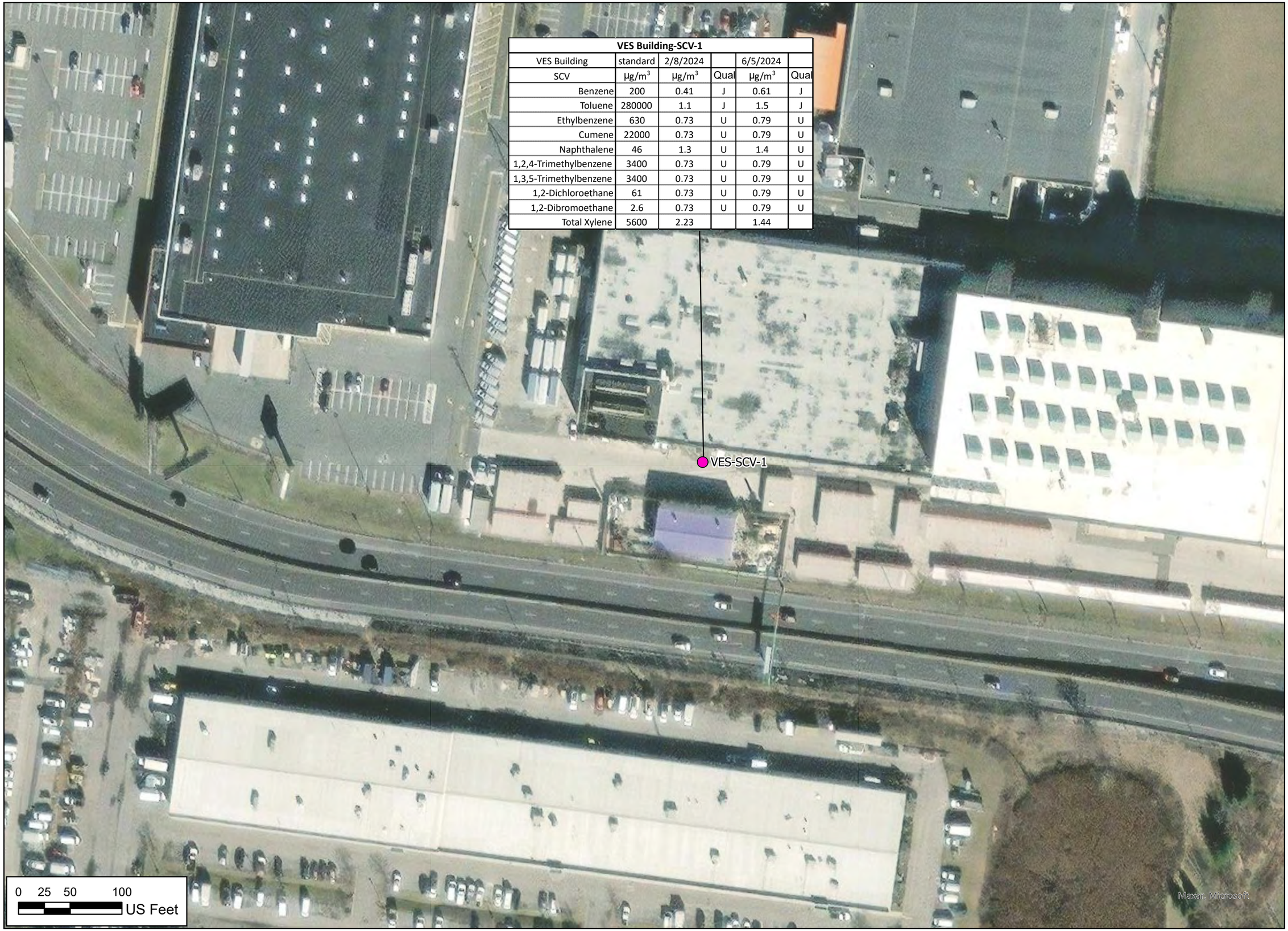


Figure 10: SCV - VES Building

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)

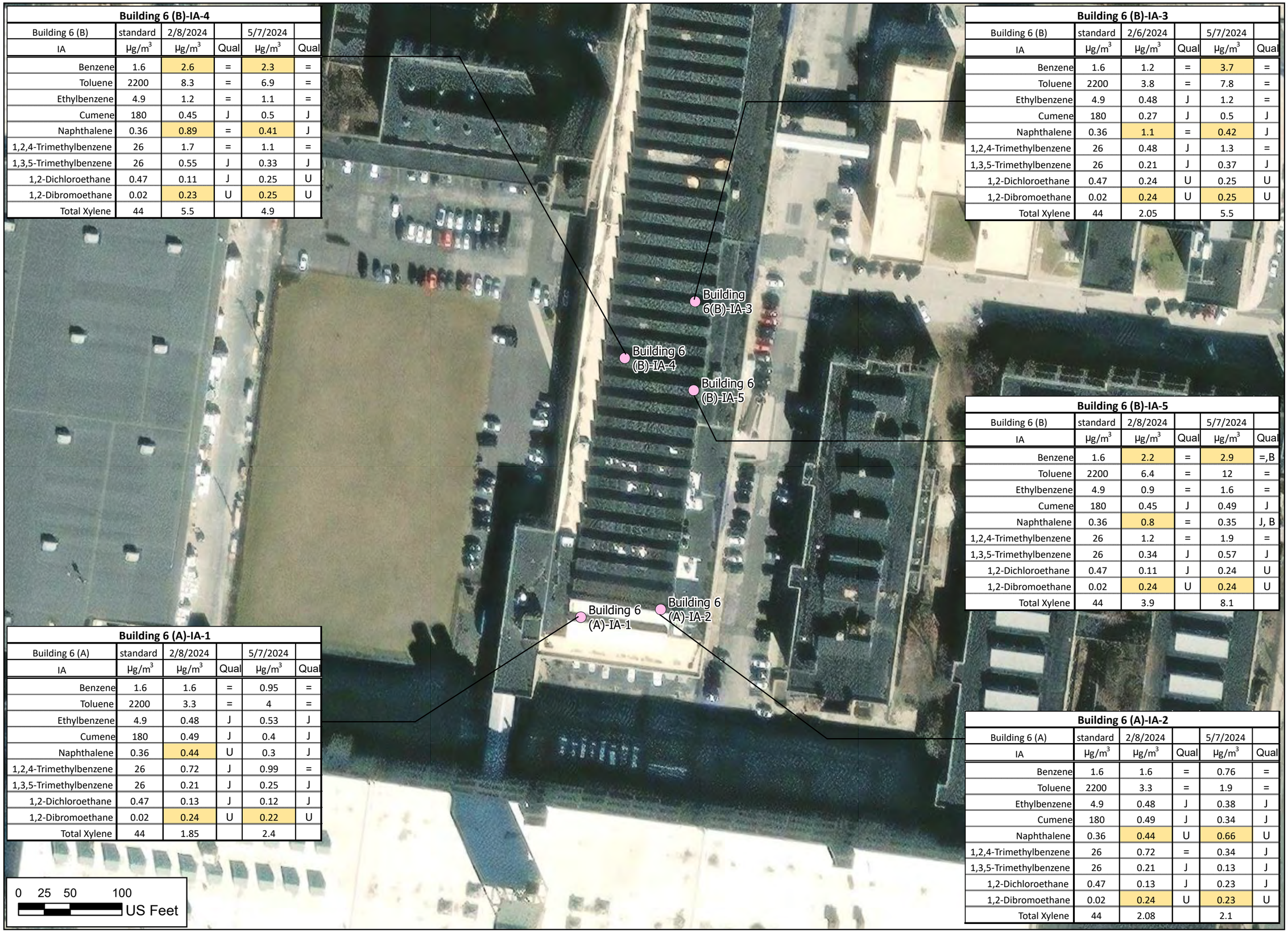
DUP = Duplicate Sample

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

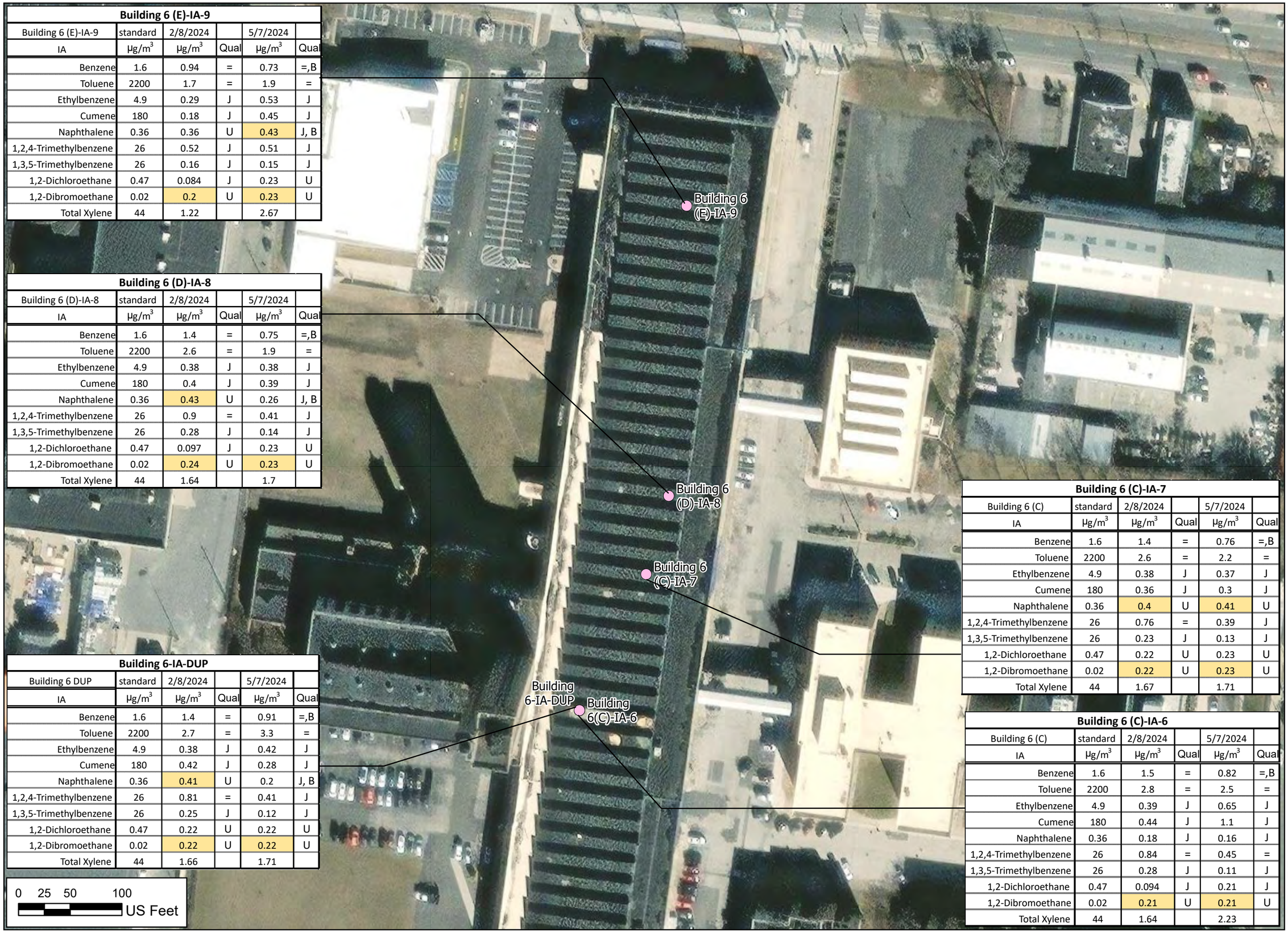
Standards shown are 1/10th of PAL (Project Action Limit)

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



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	

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Figure 11B: Indoor Air Sampling Results, Building 6 (C,D,E)

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)

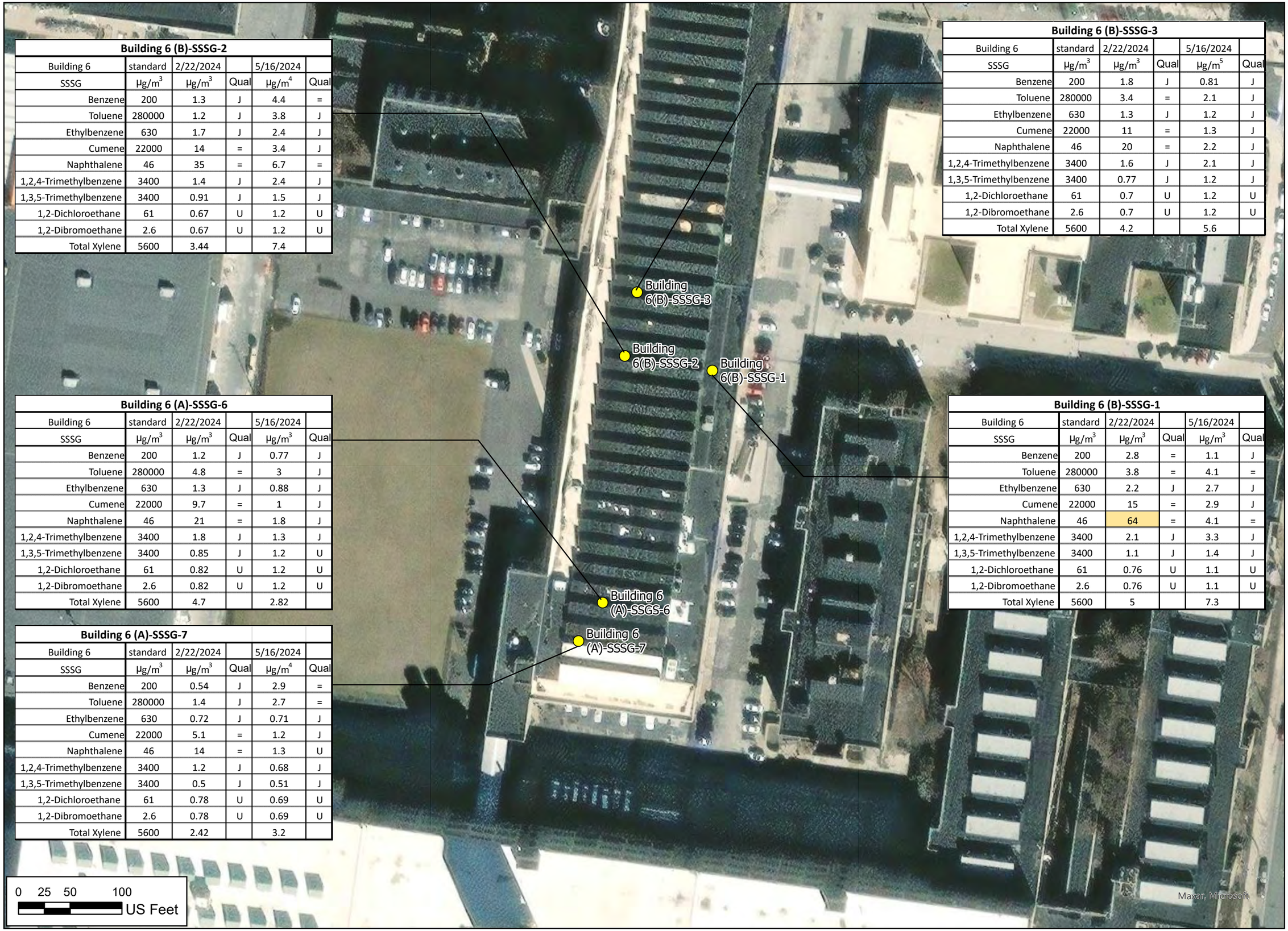
DUP = Duplicate Sample

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

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Figure 12B: SSSG Sampling Results, Building 6 (C,D,E)

Building 6-SSSG-DUP

Building 6	standard	2/22/2024		5/16/2024	
SSSG	µg/m³	µg/m³	Qual	µg/m⁴	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/m³	µg/m³	Qual	µg/m³	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/m³	µg/m³	Qual	µg/m⁵	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/m³	µg/m³	Qual	µg/m⁴	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/m³	µg/m³	Qual	µg/m³	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/m³	µg/m³	Qual	µg/m³	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/m³	µg/m³	Qual	µg/m⁴	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	

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

0 25 50 100 US Feet

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	

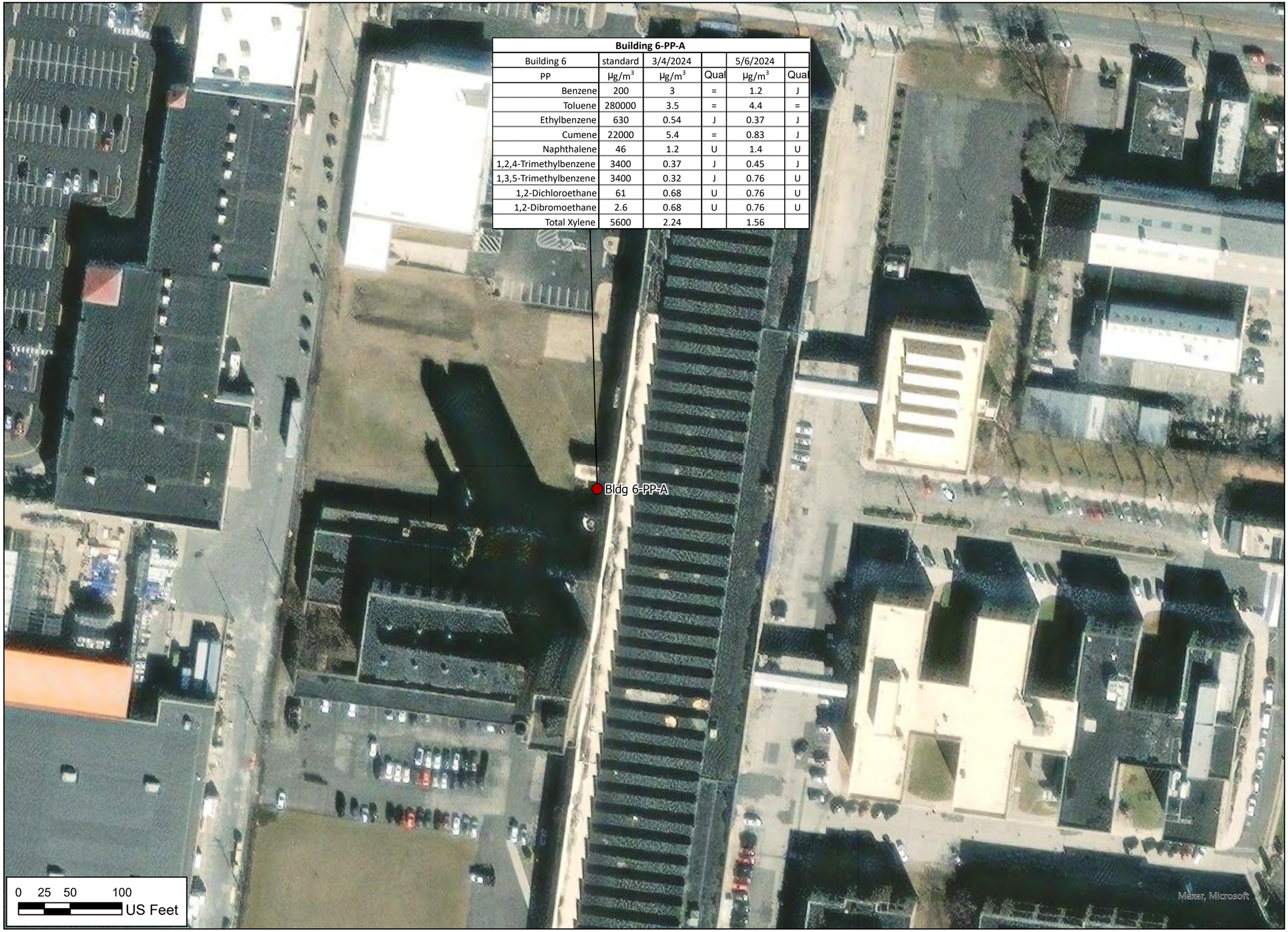

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Figure 13: PP Soil Gas Sampling Results, Building 6

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

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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

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL, a Montrose Environmental Group company

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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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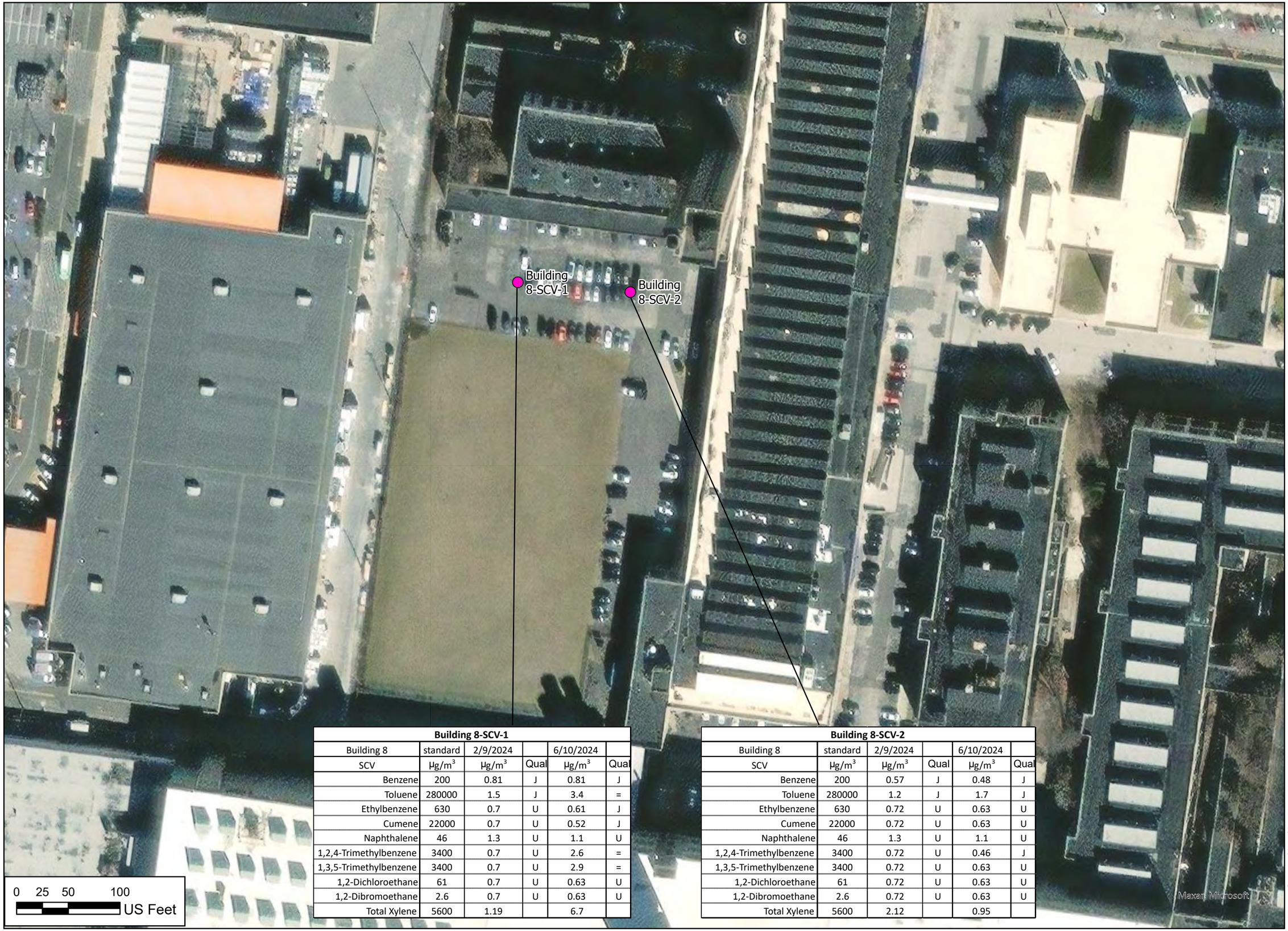
Figure 18: SCV - Building 8



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 (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 (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 (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-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(C)-IA-11
Building 9(B)-IA-3
Building 9(B)-IA-2
Building 9(C)-IA-12
Building 9-AA-1
Building 9(B)-IA-4
Building 9(A)-IA-1
Building 9(A)-IA-DUP

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

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Figure 20A: PP Soil Gas Sampling Results, Building 9

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

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)

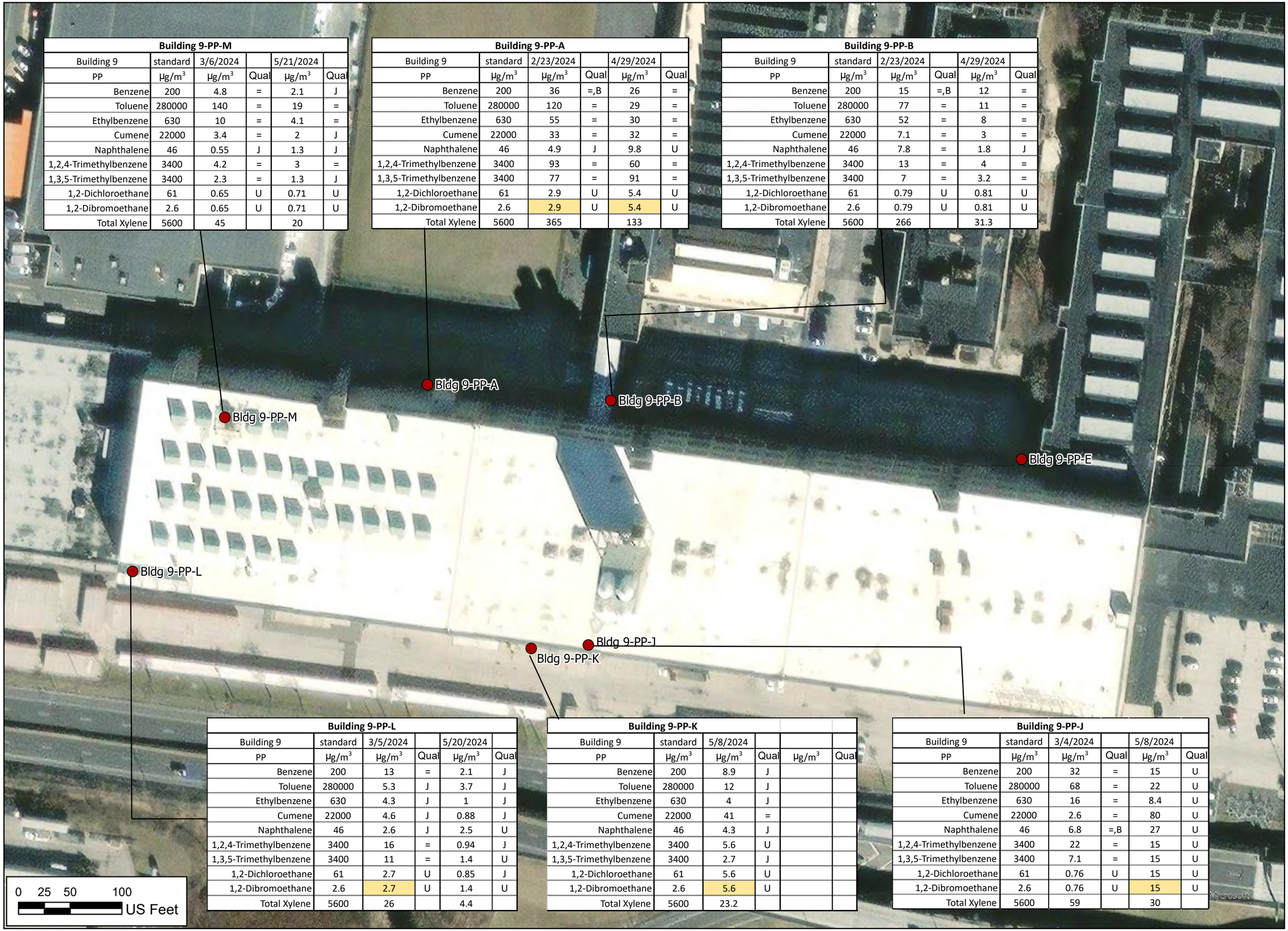
DUP = Duplicate Sample

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

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Figure 21B: Near Source (NS) Soil Gas Sampling Results, Building 9

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	

Bldg 6-NS-A
Building 9-NS-A
Building 9-NS-B
Building 9-NS-C
Building 9-NS-D
Building 9-NS-E
Building 9-NS-E

0 25 50 100
US Feet

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-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

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Figure 22A: 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

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Figure 22B: SCV - Building 9

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-12
Building 9-SCV-11
Building 9-SCV-10
Building 9-SCV-9
Building 9-SCV-8

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	

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

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

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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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

Figure 25: PP Soil Gas Sampling Results, Building 11

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 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-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	

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Figure 26: SCV - Building 11

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 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

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Figure 27: Indoor Air Sampling Results, Building 12

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)

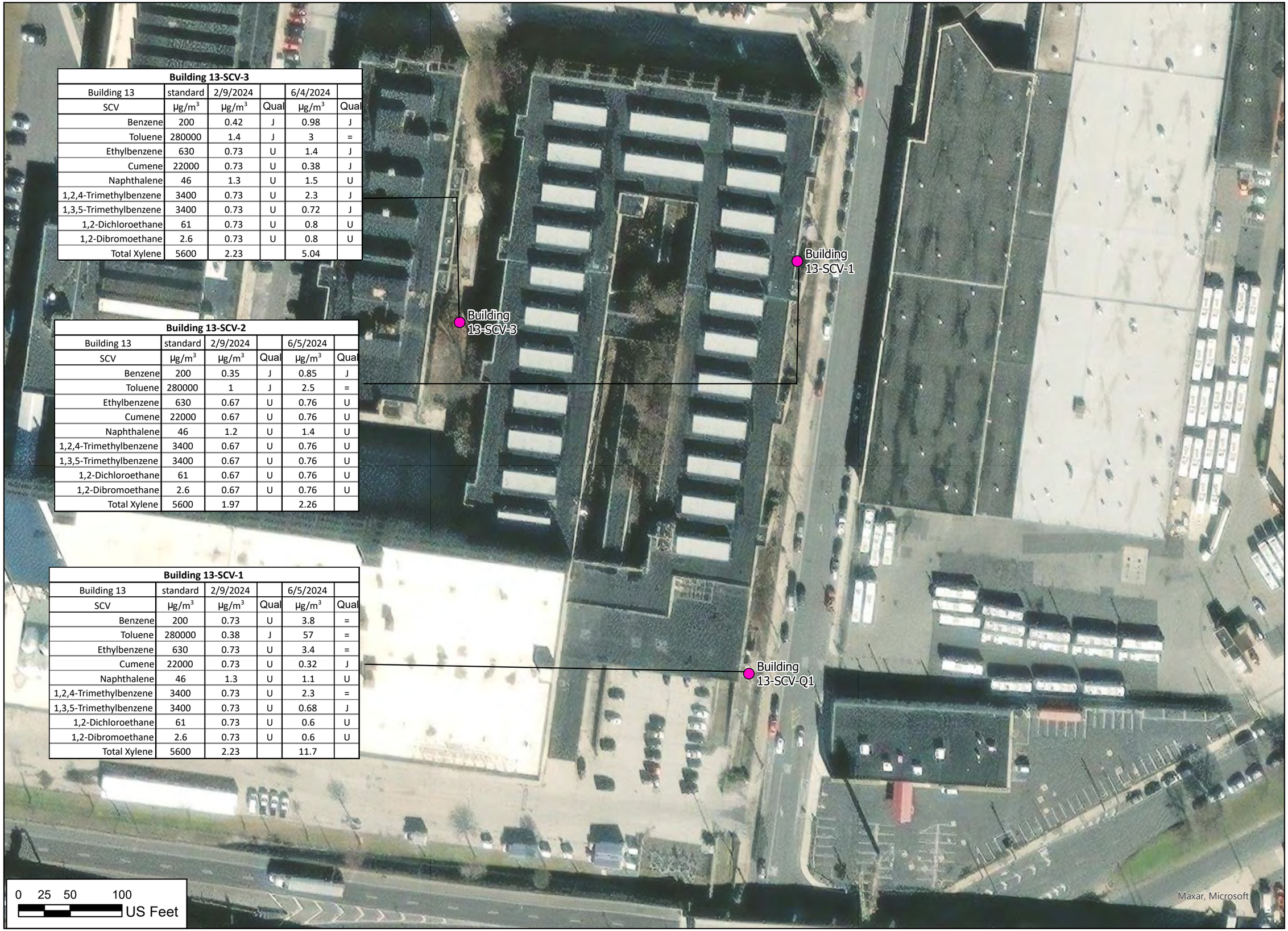
DUP = Duplicate Sample

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



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	

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Figure 33: SCV - Building 13

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

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Figure 35: SSSG Sampling Results, Building 14

Building 14-SSSG-2

Building 14	standard	2/20/2024		5/15/2024	
SSSG	µg/m^3	µg/m^3	Qual	µg/m^4	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/m^3	µg/m^3	Qual	µg/m^5	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/m^3	µg/m^3	Qual	µg/m^6	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/m^3	µg/m^3	Qual	µg/m^3	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	

Bldg 14-SSSG-2
Bldg 14-SSSG-3
Bldg 14-SSSG-4
Bldg 14-SSSG-1

0 25 50 100 US Feet

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

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

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A JOINT VENTURE

Figure 38: Indoor Air Sampling Results, Building 30

Legend

DSCP VI Air Sample Stations

Sample Type

- Indoor Air
- Ambient Air

µg/m3 = Micrograms per cubic meter
Qual = Data qualifier

DUP = Duplicate Sample

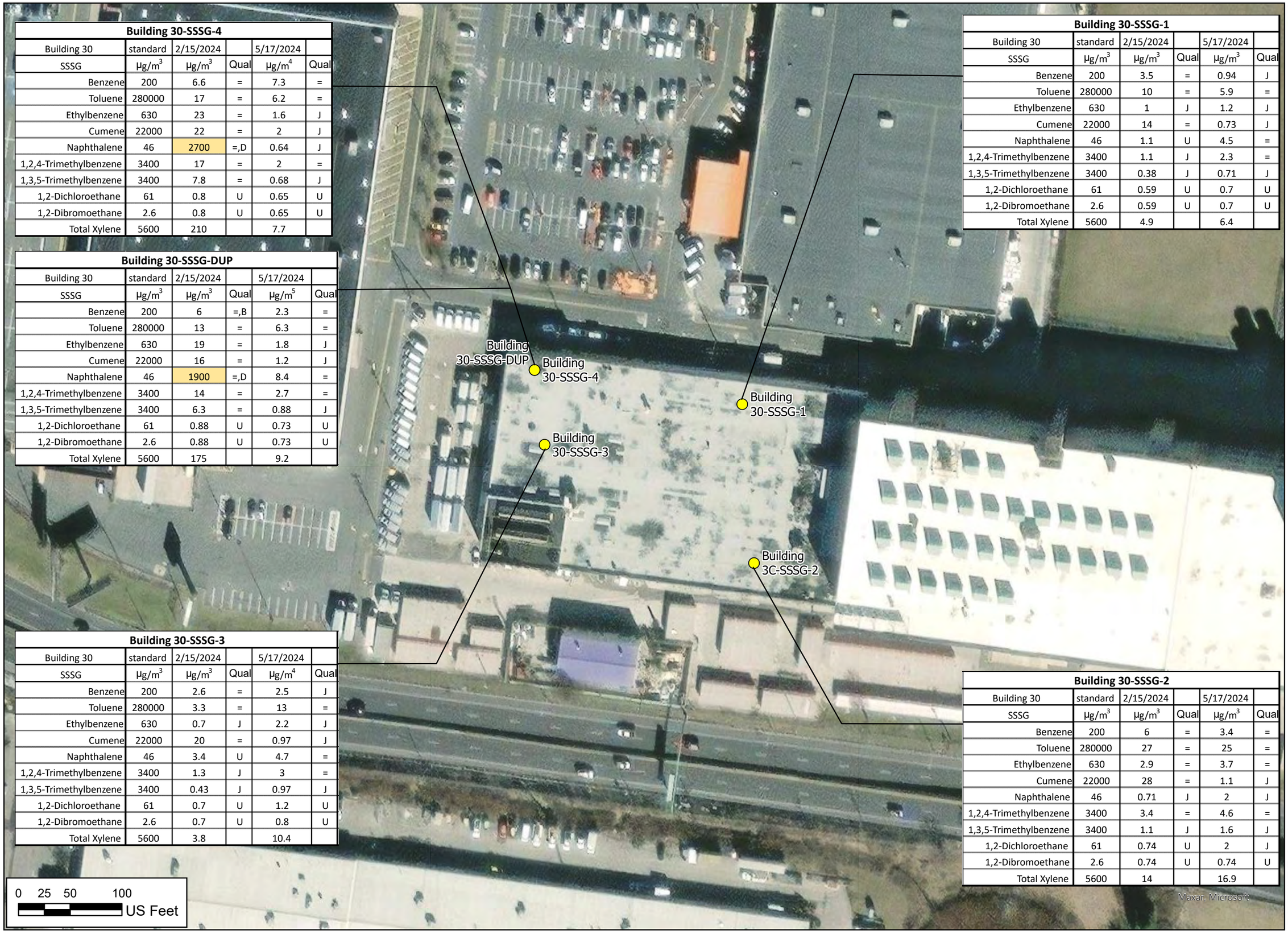
Standards shown are 1/10th of PAL (Project Action Limit)

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)

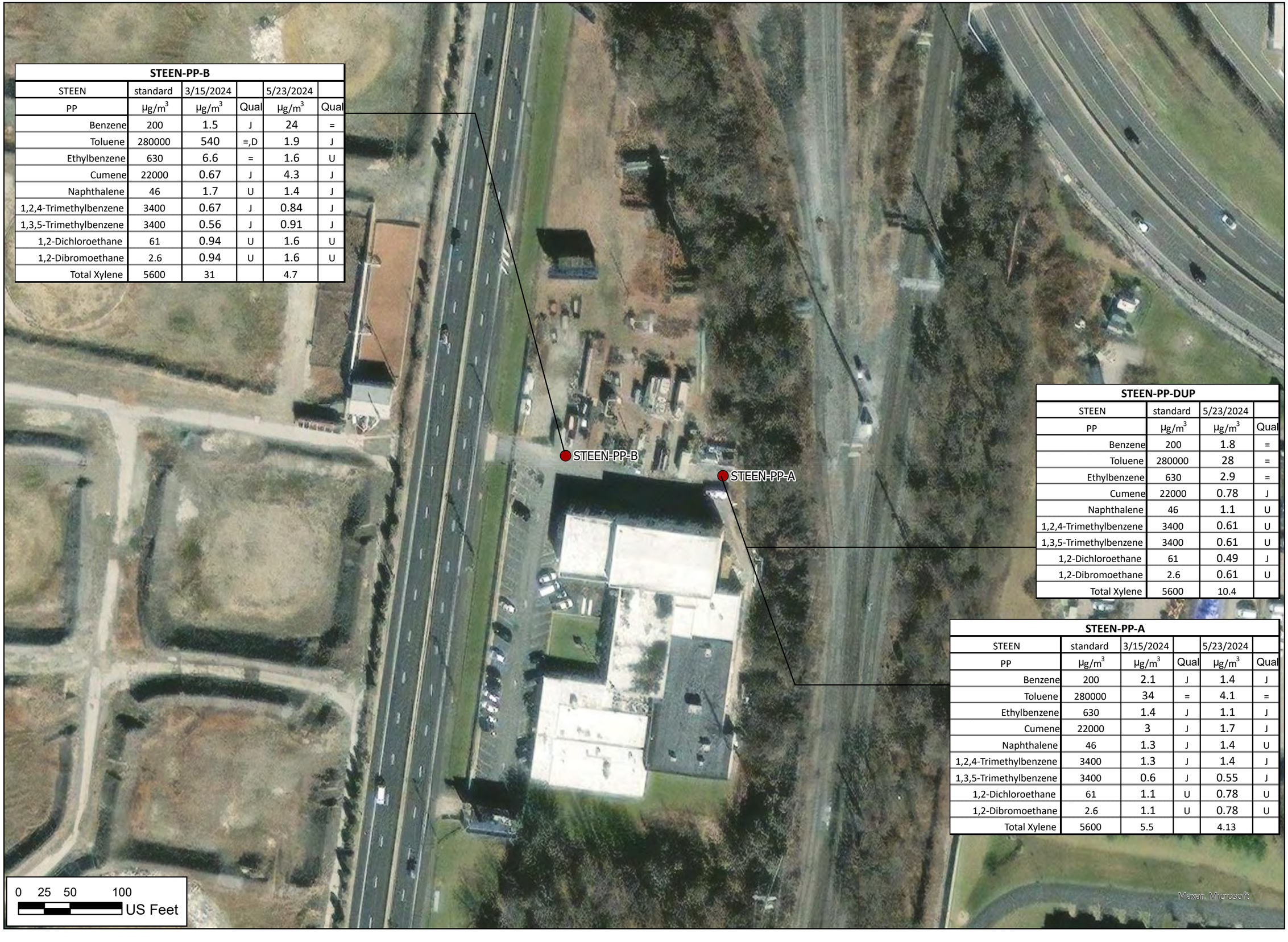
DUP = Duplicate Sample

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



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	

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Figure 43: PP Soil Gas Sampling Results, Steen Property

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

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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

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL

A JOINT VENTURE

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

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL, a Montrose Environmental Group company

A JOINT VENTURE

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	

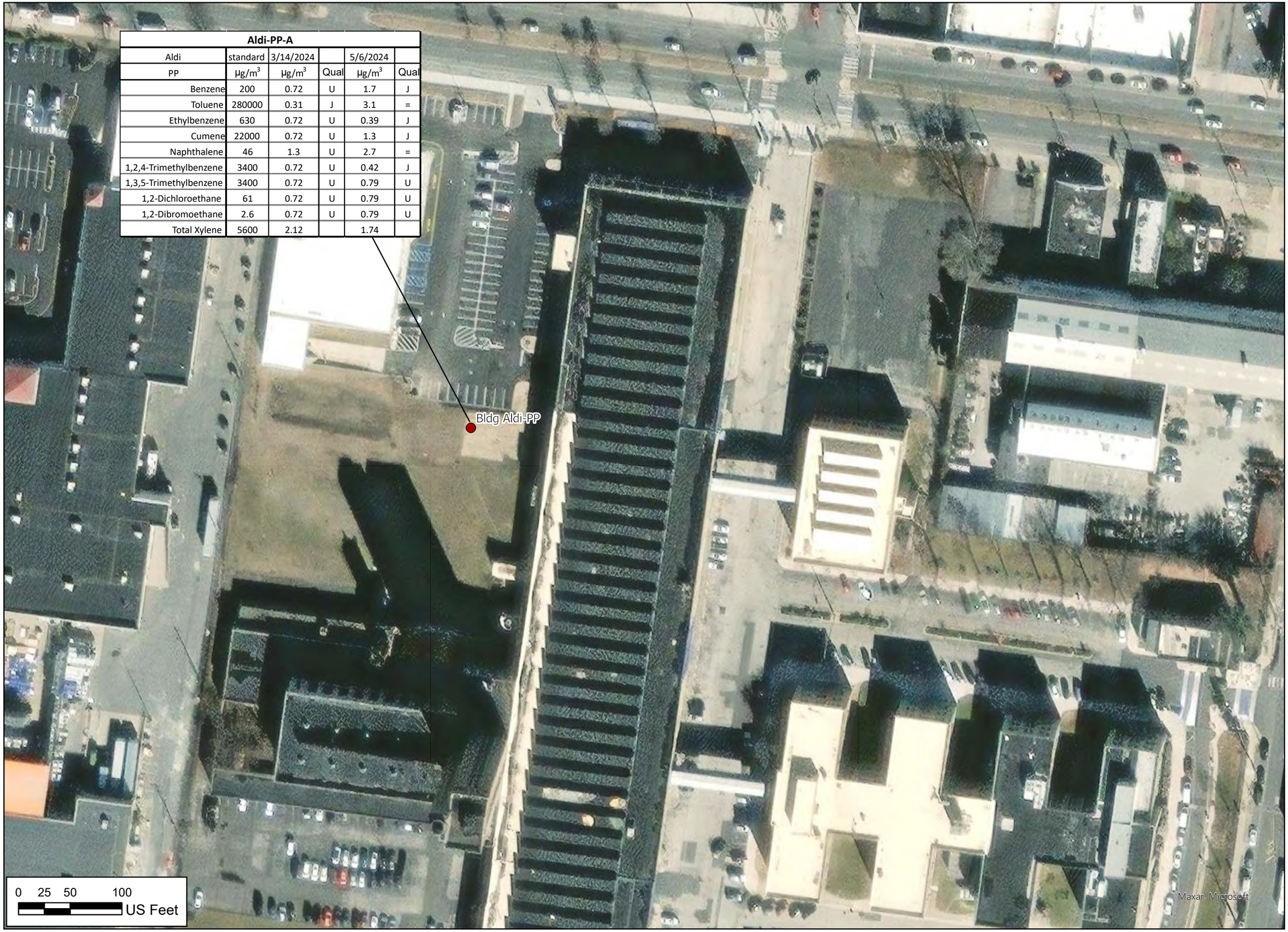

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Figure 48: PP Soil Gas Sampling Results, ALDI

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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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

Figure 49: PP Soil Gas Sampling Results, Building E/Jim's Ice

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

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL
A JOINT VENTURE

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

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

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Figure 52: Near Source (NS) Soil Gas Sampling Results, Hotel

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

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL

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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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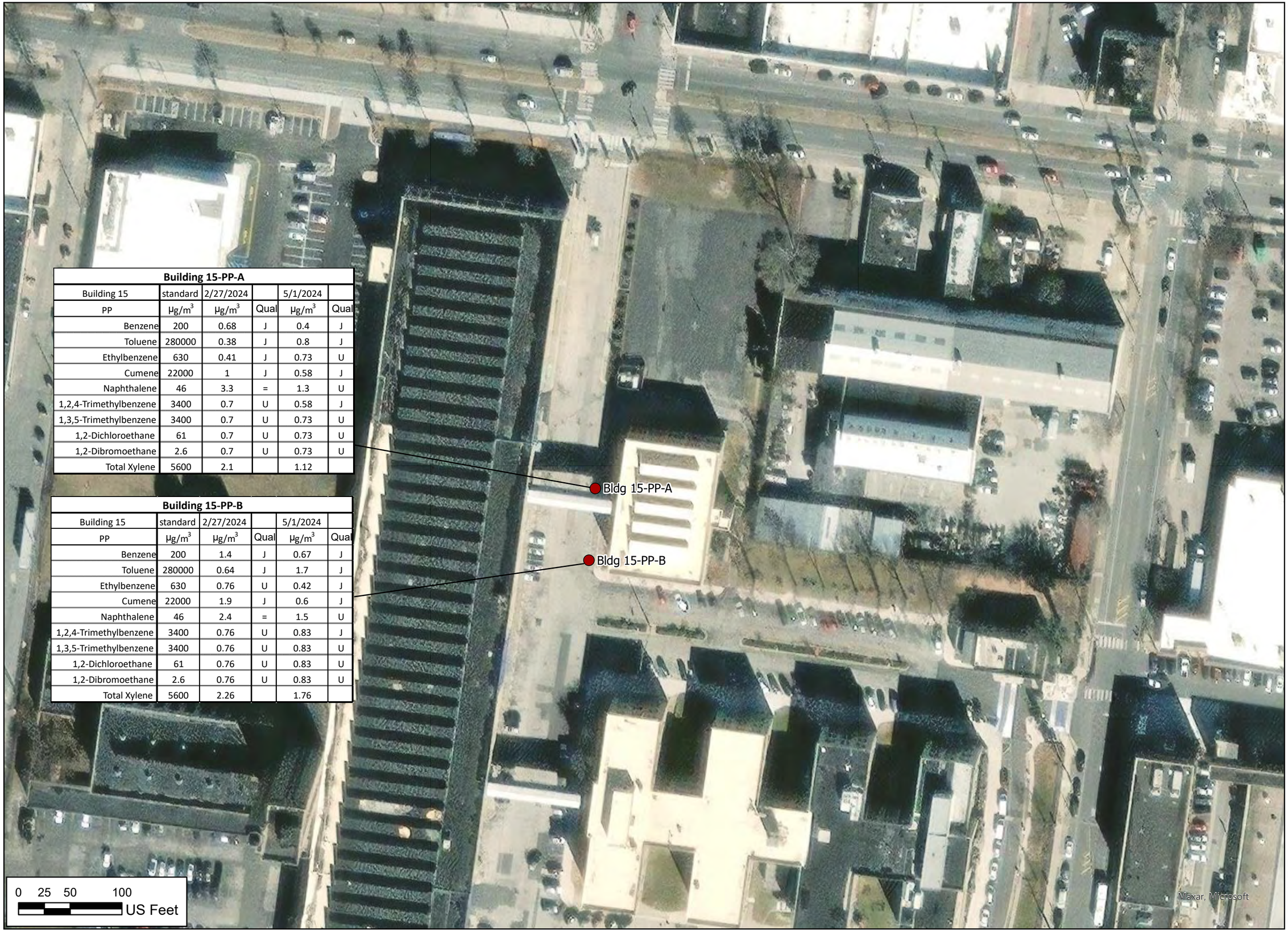
Figure 55: PP Soil Gas Sampling Results, Building 15

Building 15-PP-A

Building 15	standard	2/27/2024		5/1/2024	
PP	µg/m^3	µg/m^3	Qual	µg/m^3	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/m^3	µg/m^3	Qual	µg/m^3	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	



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

VERINA Consulting Group, LLC | PARS ENVIRONMENTAL, a Montrose Environmental Group company

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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/m³	µg/m³	Qual	µg/m³	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/m³	µg/m³	Qual	µg/m³	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)

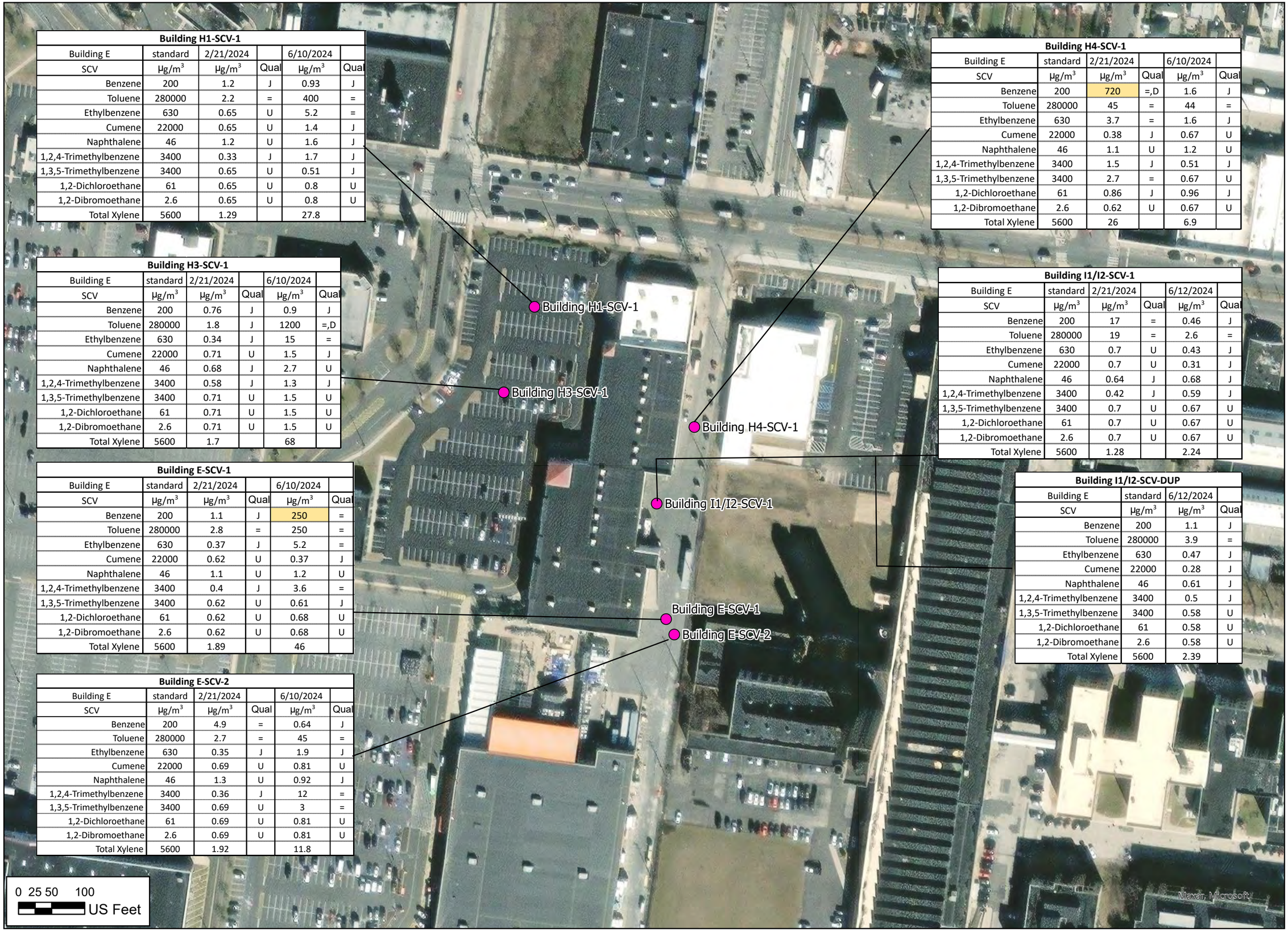
DUP = Duplicate Sample

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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MATTRESS FIRM-PP-A					
Mattress 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	

Bldg Mattress Firm-PP-A

0 25 50 100 US Feet

Maxar, Microsoft

Figure 61: PP Soil Gas Sampling Results, Mattress Firm

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

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Figure 64: PP Soil Gas Sampling Results, Siena Place

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

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

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Figure 65A: SCV - Soil Gas Sampling Results, Pollock-Packer

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	

PolPac SCV-MH-19E

PolPac SCV-MH-19W

PolPac SCV-MH-PolMoy

0 25 50 100 US Feet

Maxar, Microsoft

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/m³	µg/m³	Qual	µg/m³	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/m³	µg/m³	Qual	µg/m³	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

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Appendix B – Arcadis Technical Guidance Instructions

Appendix C – Indoor Air Building Survey Form and Indoor Air Sampling Technical Guidance Instructions

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 – Mattress 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.

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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 - Mattress 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)
Mattress Firm (F2)
Acme Markets
Planet Fitness (P)
Vacant (O) Spirit
Halloween (Temp) (N)
Pet Smart (J)
Vacant Lot S
Building 15
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
CARNET ST
ROSEBERRY ST
RITNER ST
SHUNK ST
GARNET ST
19TH ST
CLEVELAND ST
PORTER 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
MOYAMENSING RD
PACKER AVE
SCHLEY ST
CROATAN PL
UBER ST
LANVALE PL
BOISE PL
FORRESTAL ST
DENFIELD PL
DAVINCI DR
LEYTE PL
CURTIN ST
GEARY ST
HULSEMAN ST
HARTRANFT ST
CHAUCER ST
BROAD ST
PATTISON AVE
SHEAFF LN
26TH ST
TAYLOR TER
BIGLER TER
PHA Property
23RD TER
HEMBERGER TER
CROSKEY TER
CURTIN TER
24TH ST
BUCKNELL TER
BONSALL TER
PACKER AVE
23RD ST
GEARY TER
HARTRANFT ST
HULSEMAN TER
BASTIAN TER
HOYT TER
RAMBO TER
PATTISON TER
JARDEN TER
PENROSE FERRY RD
PENROSE AVE
HOMESTEAD 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: T:_ENVDLA\Active_MXD\VAP\fig1_DSCP_sitelayout.mxd 1/20/2020 2:28:15 PM Last saved by: KGPeters

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

PATH: T:_ENV\DLA\ArcMap_MXD\VIA\Fig2_Utility_Legend.mxd 12/19/2022 3:31:03 PM Last saved by: KGPeters

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) Mattress 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

SHUNK ST
BIGLER TER
TAYLOR TER
HEMBERGER TER
23RD TER
POLLOCK TER
MOYAMENSING RD
PACKER AVE
CURTIN TER
24TH ST
BUCKNELL TER
BONSALL TER
HOMESTEAD TER
GEARY TER
23RD ST
HARTRANFT ST
HULSEMAN TER
BASTIAN TER
HOYT TER
RAMBO TER
PATTISON TER
JARDEN TER
PENROSE FERRY RD
22ND ST
PENROSE AVE
26TH ST
SCHUYLKILL EXP RMP
SCHUYLKILL EXP
DAVINCI DR
JUSTINIAN CIR
BROAD ST
PATTISON AVE
OREGON AVE
JOHNSTON ST
STOCKER ST
MOYAMENSING AVE
BIGLER ST
POLLOCK ST
SCHLEY ST
CROATAN PL
FORRESTAL ST
CURTIN ST
GEARY ST
HULSEMAN ST
COLORADO ST
BOUVIER ST
CHADWICK ST
BANCROFT ST
MOLE ST
HICKS ST
SMEDLEY ST
CLEVELAND ST
18TH ST
19TH ST
20TH ST
17TH ST
16TH ST
15TH ST
SYDENHAM ST
UBER ST
OLYMPIA PL
LANVALE PL
HALSEY PL
DENFIELD PL
BOISE PL
LEYTE PL
CHAUCER ST

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**

PATH:T:_ENVDLs\Arc\Map_MXD\VI\Fig02_DSCP_sitelayout_historicalutilities.mxd 12/20/2023 2:35:39 PM Last saved by: KGPalees

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
LAMBERT ST
21ST ST
OREGON AVE
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)
Mattress 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
Building 12
Home Depot (K1)
SEPTA Property
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

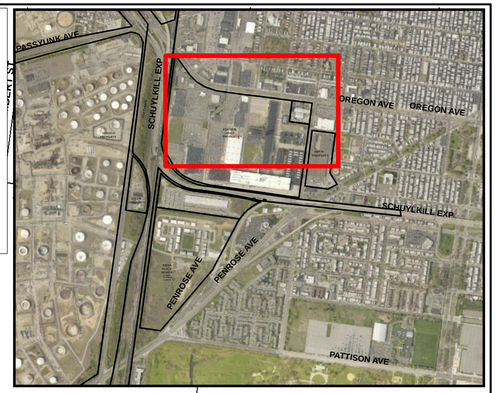
SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 3A

PATH: T:_ENV\DLA\ArcMap_MXD\VAIFig3A_DSCP_HistoricalUtility_ProposedSampling_View1.mxd 1/20/2023 2:43:36 PM Last save by: KGPeters

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)
Mattress 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

PATH: T:_ENV\DLA\ArcMap_MXD\VIA\Fig3B_DSCP_ProposedSamplingLocs_View1.mxd 1/20/2023 2:45:32 PM Last save by: KGPeters

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)
Mattress 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)

Vacant Lot 3

Building 12

Building 14

Building 13

SEPTA Property

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

TAYLOR TER

POLLOCK TER

POLLOCK ST

CROSKEY TER

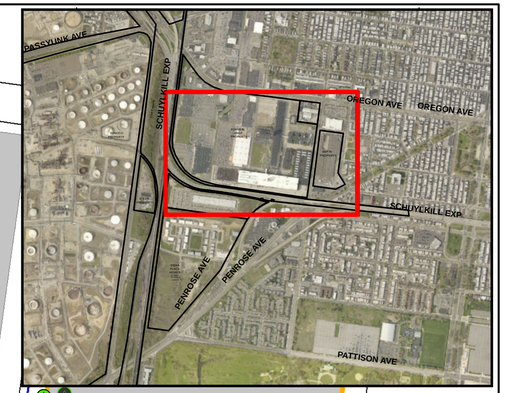
MOYAMENSING RD

PENROSE AVE

PACKER AVE

SCHUYLKILL EXP RMP

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: T:_ENV\DLA\ArcMap_MXD\VIA\Fig4A_DSCP_HistoricalUtility_ProposedsampIing_View2.mxd 1/20/2023 2:46:22 PM Last save by: KGPeters

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)
Mattress 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

BIGLER TER

TAYLOR TER

CROSKEY TER

POLLOCK TER

POLLOCK ST

MOYAMENSING AVE

MOYAMENSING RD

PENROSE AVE

PACKER AVE

SCHUYLKILL EXP RMP

PASSYUNK AVE

PENROSE 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: T:_ENV\DLA\ArcMap_MXD\VIA\Fig4B_DSCP_ProposedSamplingLocs_View2.mxd 1/20/2023 2:51:31 PM Last save by: KGPeters

Former STEEN Property

PHA Property

VES Building

Building 9
Partial Basement

P Agnes

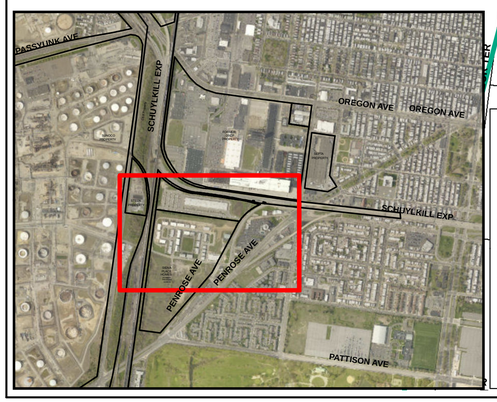
Hotel

PHA Gym

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
GEARY ST
PHA DRIVEWAY
TAYLOR TER
BUCKNELL TER
BONSALL TER
23RD TER
HEMBERGER TER
CROSKEY TER
26TH ST
24TH ST
23RD ST
22ND ST
20TH ST
SCHUYLKILL EXP
SCHUYLKILL EXP RMP
MOYAMENSING RD
PENROSE FERRY RD
PENROSE AVE
HARTRANFT ST
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

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ARCADIS a joint venture

FIGURE 5A

PATH: T:_ENV\DLA\ArcMap_MXD\VI\AFig5A_DSCP_HistoricalUtility_Proposedsampling_View3.mxd 1/20/2023 2:58:24 PM Last save by: KGPeters

Former STEEN Property

PHA Property

VES Building

Building 9
Partial Basement

P Agnes

Hotel

P Agnes

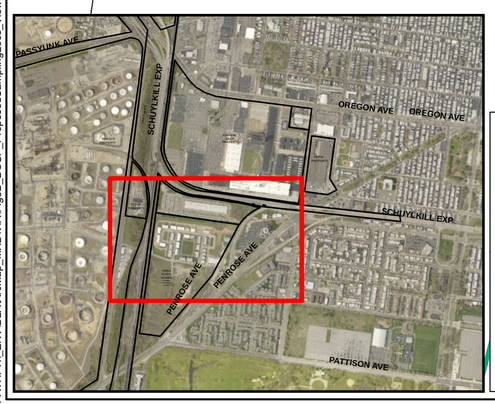
PHA Gym

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
GEARY TER
23RD ST
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: T:_ENV\DLA\ArcMap_MXD\VIAIFig5B_DSCP_ProposedSamplingLocs_View3.mxd 1/20/2023 3:01:07 PM Last save by: KGPeters

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)

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: T:_ENV\DLA\ArcMap_MXD\VIA\Figure 6 - Shallow Groundwater Benzene Iso-Concentration Contours 2019-2022 Overlay.mxd 1/20/2023 3:06:50 PM Last saved by: KGPeters

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

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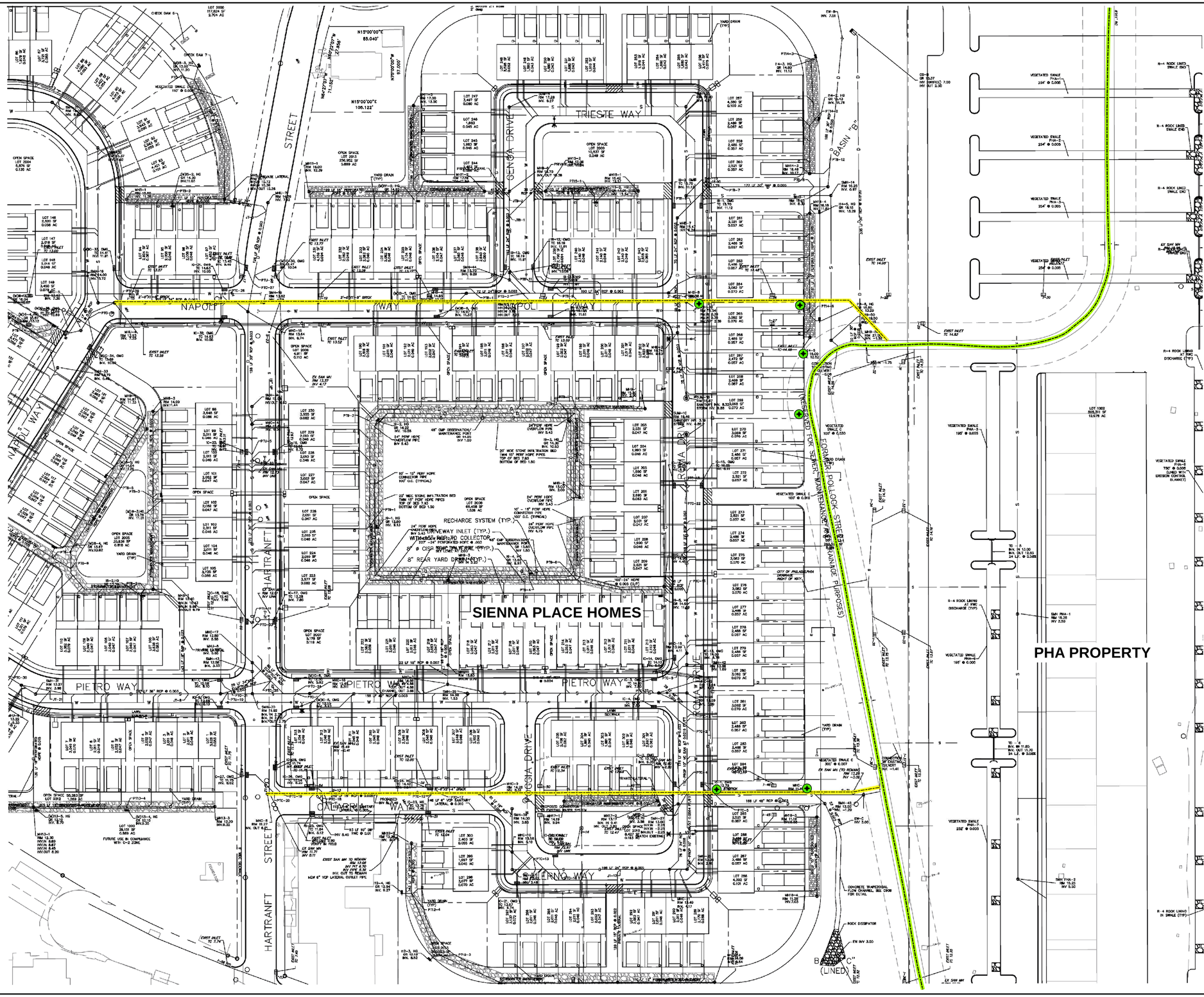
ARCADIS a joint venture

FIGURE 7

PATH: T:_ENV\DLA\ArcMap_MXD\VIA\Fig7_LNAPL_Thickness3Q2022_ContoursD-size.mxd 12/19/2022 4:18:10 PM Last saved by: KGPeters


SIENNA PLACE HOMES
PHA PROPERTY
TRIESTE WAY
NAPOLI WAY
PIETRO WAY
CATANIA WAY
SIENNA DRIVE
GENOA DRIVE
VENICE DRIVE
HARTRANFT STREET
FORMER POLLOCK-STREET (NOW MAINTENANCE AND DRAINAGE PURPOSES)
BASIN "B"
BASIN "C" (LINED)
RECHARGE SYSTEM (TYP.)
DRIVEWAY INLET (TYP.)
8" REAR YARD DRAIN (TYP.)
CONCRETE TRAPEZOIDAL FLOW CHANNEL, SEE CROSS SECTION DETAIL
ROCK DISSIPATOR
EXISTING POLLOCK-PACKER SEWER TO REMAIN IN SERVICE
EXIST SAN MH TO REMAIN
NEW 6" VCP LATERAL OUTLET PIPE
FUTURE USE IN COMPLIANCE WITH "C-2" ZONE
OPEN SPACE
VEGETATED SWALE
R-4 ROCK LINED SWALE END
R-4 ROCK LINING AT INLET DISCHARGE (TYP.)
EXIST INLET
EXIST MH
EXIST SAN MH
EXIST SAN MH TO REMAIN
EXIST SAN MH TO BE ADJUSTED TO GRADE
EX SAN MH
EX SAN MH TO REMAIN
EX SAN MH TO BE ADJUSTED TO GRADE
SAN PHA-1
SAN PHA-2
SAN PHA-3
SAN PHA-4
SAN PHA-5
SAN PHA-6
SAN PHA-7
SAN PHA-8
SAN PHA-9
SAN PHA-10
SAN PHA-11
SAN PHA-12
SAN PHA-13
SAN PHA-14
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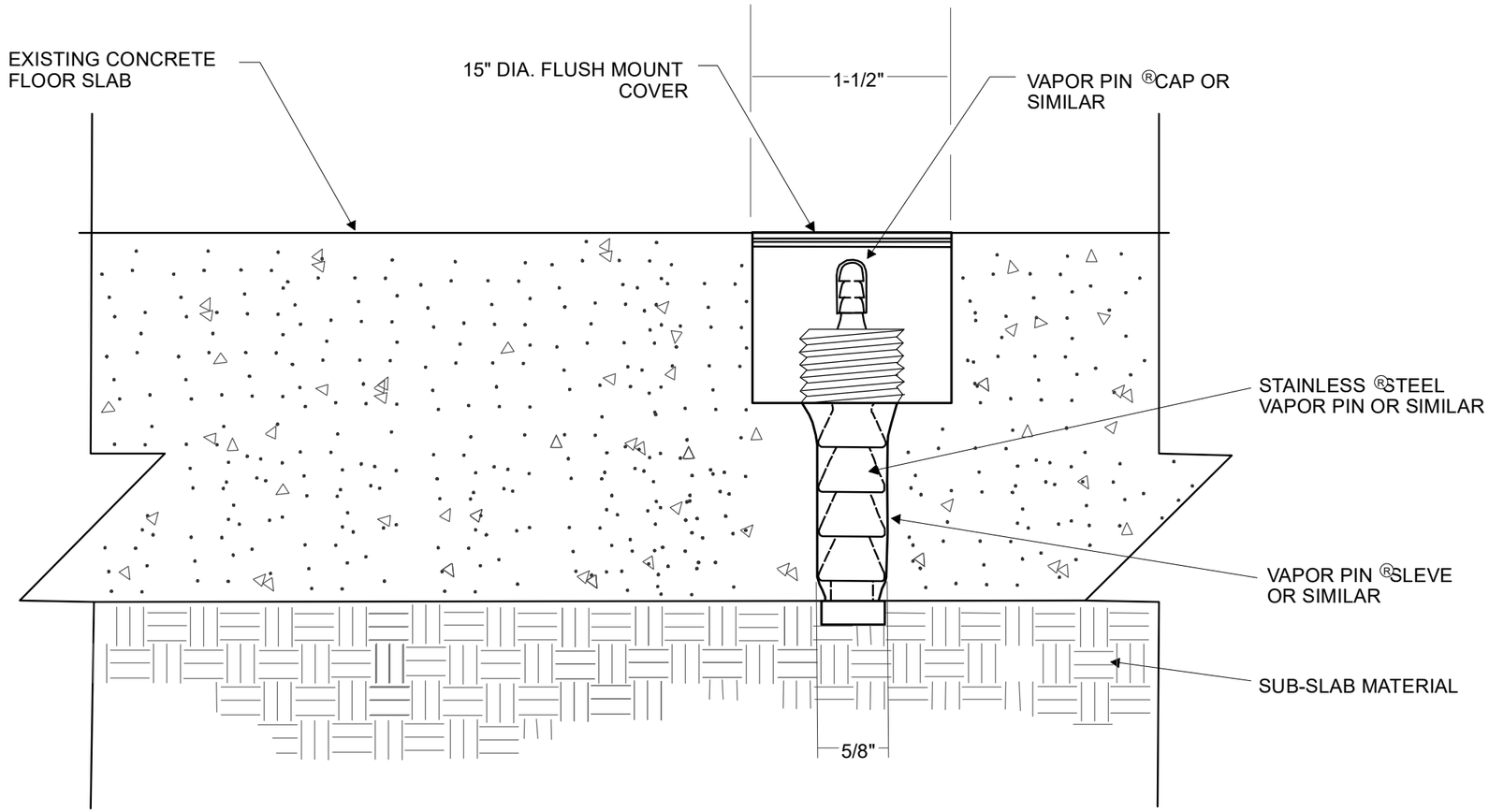
SAN PHA-20
SAN



FORMER DEFENSE SUPPLY CENTER PHILADELPHIA
VAPOR INTRUSION SAMPLING WORK PLAN

TYPICAL VAPOR PIN SUBSLAB MONITORING POINT DETAIL

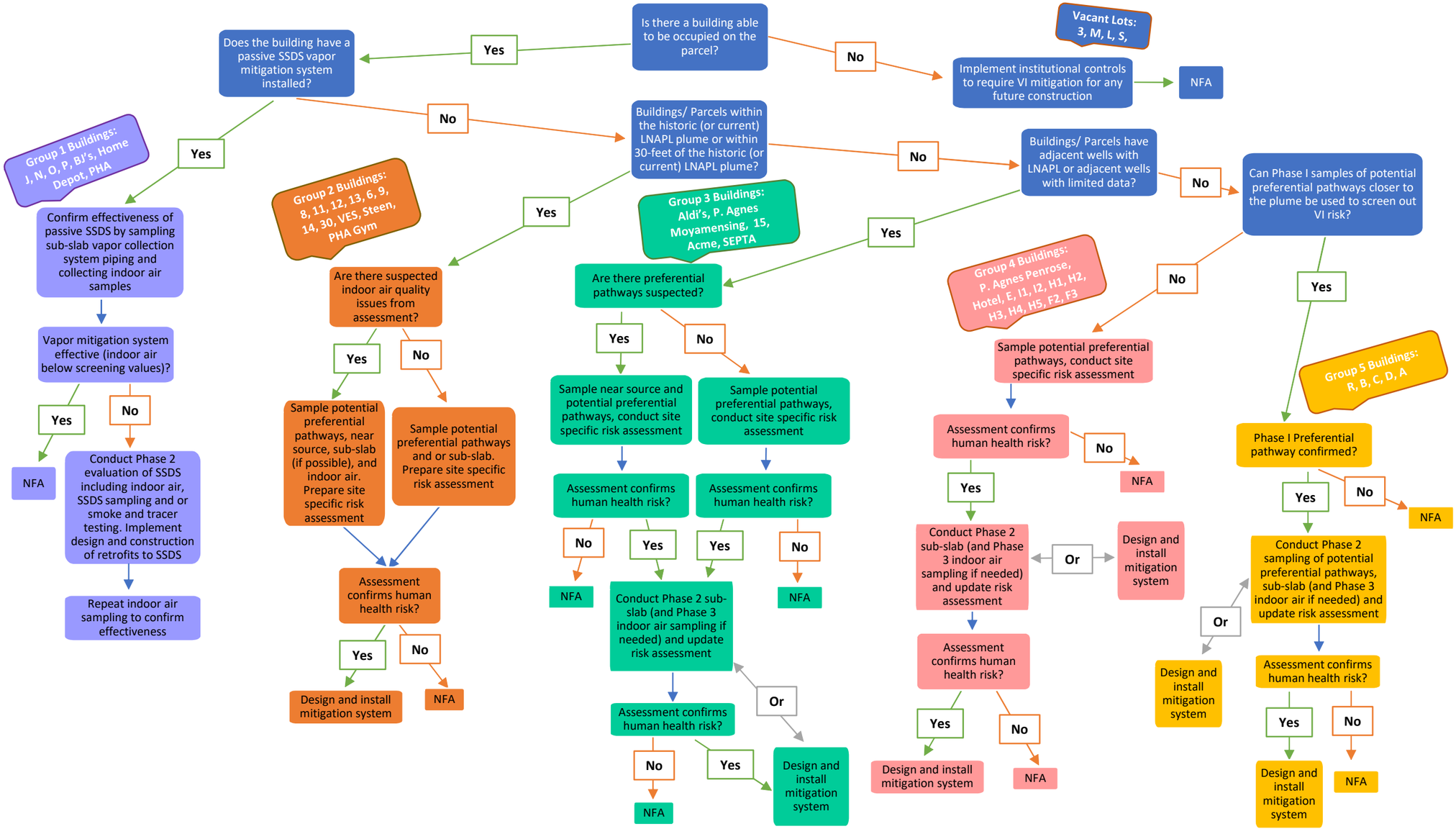
SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
9

PATH: T:_ENV\DLA\ArcMap_MXD\VIA\Fig9_Typical Vapor Pin SubSlab Monitoring Point Detail.mxd 1/20/2023 3:26:28 PM Last saved by: KGPeters

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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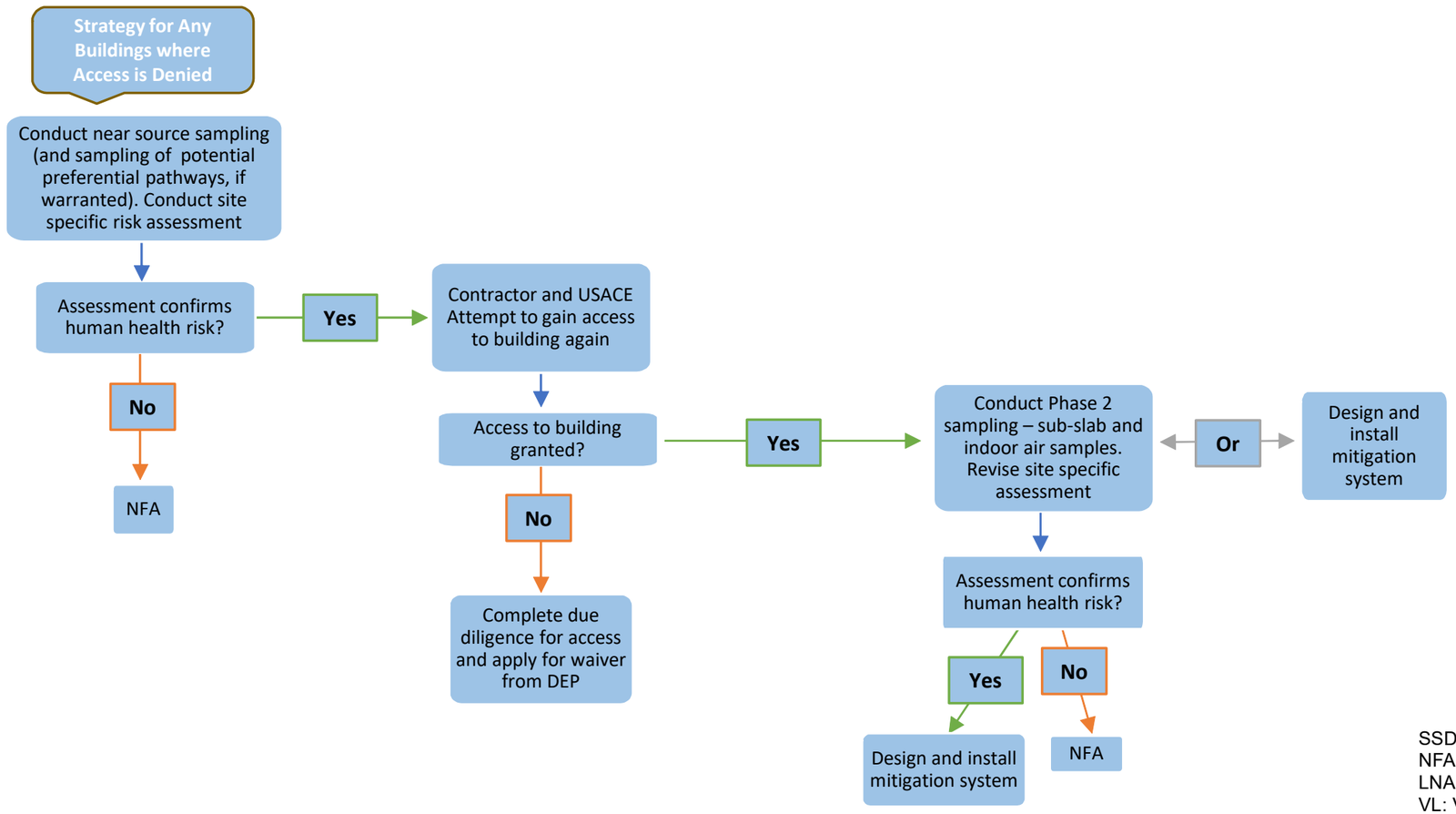

SSDS: Sub-slab Depressurization System
NFA: No Further Action
LNAPL: Light Non-aqueous Phase Liquid
VL: Vacant Lot

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

PATH: T:_ENV\DLA\ArcMap_MXD\VIA\Appendix A figure 2.mxd 12/22/2022 11:33:26 AM Last saved by: KGPeters

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	Dawn Cacia Mitch Wacksman
	2	December 30, 2021	All	Rev 2 for QMS Library / Updates	Robert Uppencamp

Approval Signatures

Prepared by: 7/20/2017

Dawn Cacia (Preparer) Date

Reviewed by: 12/30/2021

Robert Uppencamp (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 matter 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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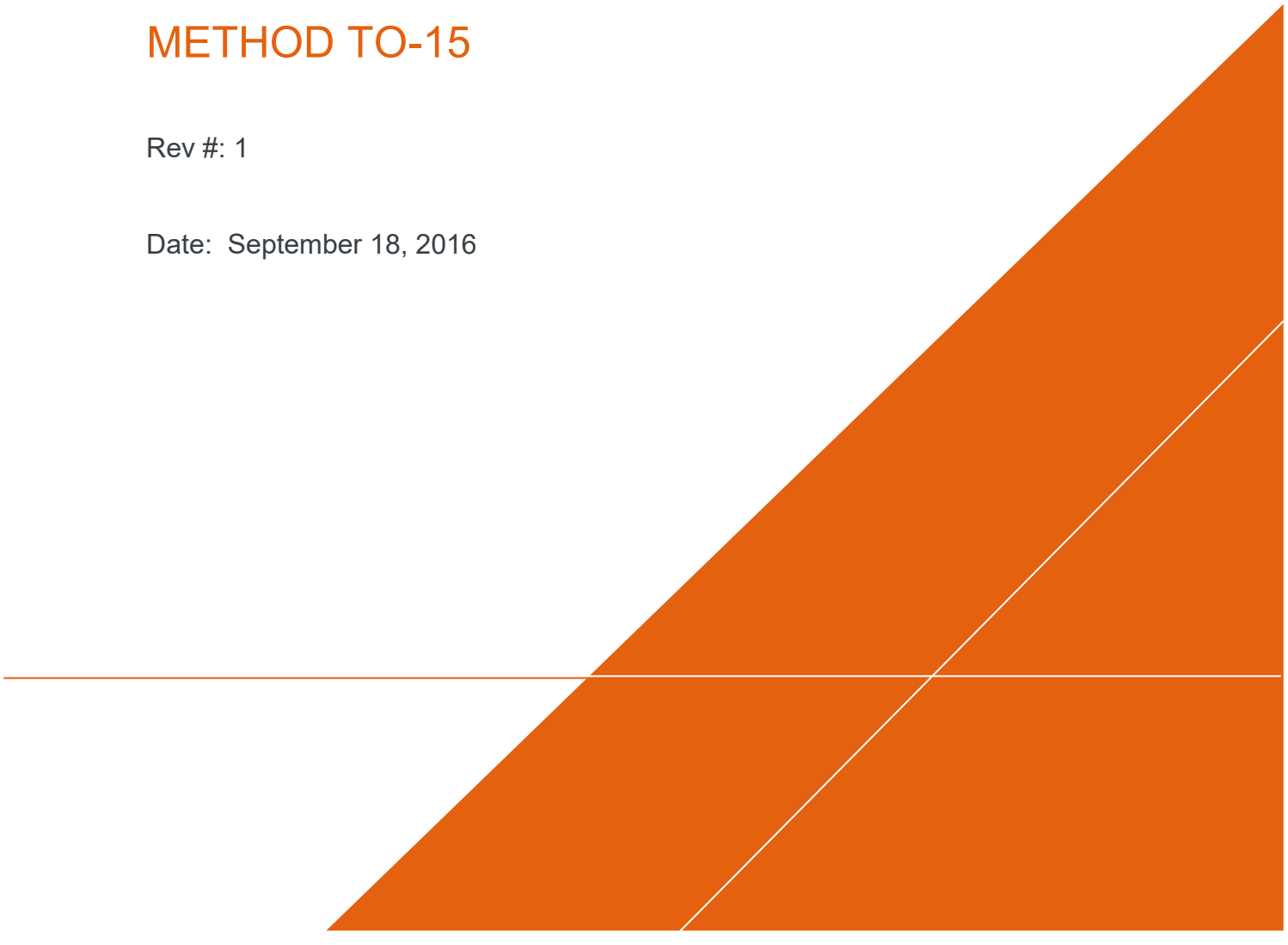
Fax: 720 344 3535
www.arcadis.com

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	Mitch Wacksman

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APPROVAL SIGNATURES

Prepared by: Date: 9/18/2016

Eric Cathcart

Reviewed by: Date: 9/18/2016

Mitch Wacksman (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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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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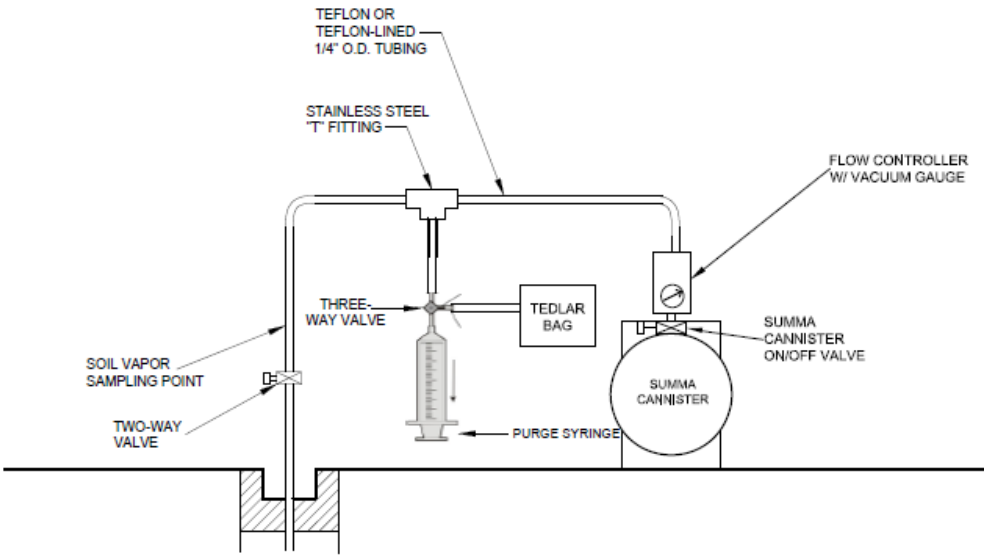

1. Assemble the sample train by removing the cap from the SUMMA canister and connecting the flow controller with in-line particulate filter and vacuum gauge. The flow controller attaches directly to the canister and dictates the sample duration. This piece will come preset from the laboratory.

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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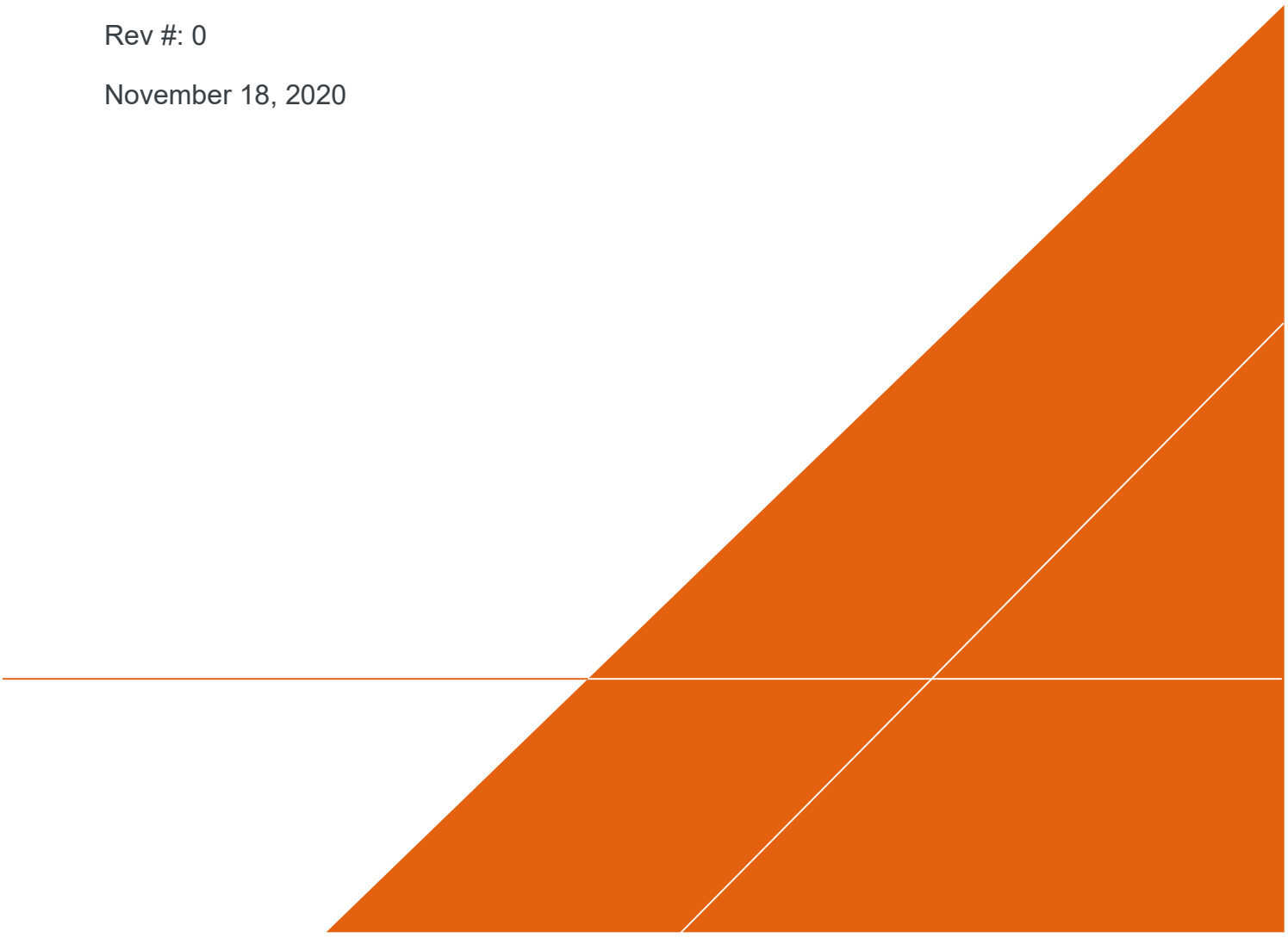
TGI – DECONTAMINATION OF COMPONENTS FOR VAPOR INTRUSION SAMPLING

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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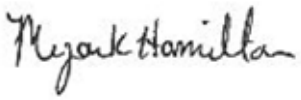
Approval Signatures

Prepared by:		11/13/2020
	Sarah Jonker	Date:
Technical Expert Reviewed by:		11/18/2020
	Megan Hamilton	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.

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.

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	Margaret Bartee Mitch Wacksman
	2	December 30, 2021	All	Updated Rev 1 and for QMS Relaunch	Sarah Jonker Robert Uppencamp

Approval Signatures

Prepared by: 12/30/2021

Sarah Jonker (Subject Matter Expert) Date

Reviewed by: 12/30/2021

Robert Uppencamp (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.

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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

Arcadis U.S., Inc.
150 W. Market St., Suite 728
Indianapolis
Indiana 46204
Phone: 317 231 6500
Fax: 317 231 6514
www.arcadis.com

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] 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 (µg/m^3)	Nonresidential (µg/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

Arcadis U.S., Inc.
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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: Mike Nixon 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: JENNIFER CHERRY Owner / Renter / other: manager

Contact's Phone: home _____ work 215 982 5440 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: Mike Nixon 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: MARISOL ORTIZ Owner / Renter / other: _____

Contact's Phone: home _____ work 215-551-1753 EXT 501 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	~~Kero~~, Receiving, In Attic	
Paints / thinners / strippers	Paint, Garden	
Cleaning solvents	Garden	
Oven cleaners	Garden	
Carpet / upholstery cleaners	Garden, Floorings	
Other house cleaning products	Garden	
Moth balls	Garden	
Polishes / waxes	Garden, Floorings	
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 floorings	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: Michael Valenzi Date: 11/22/24

Site Name: DSCP VI Investigation - PHA (Philadelphia Housing Authority)

Contact: Kathryn Randolph

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: Kathryn Randolph Owner / Renter / (other): head of environmental department

Contact's Phone: home _____ work _____ cell 484-614-3942

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: Michael Valenzi 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: Dallas Morgan Owner / Renter / (other) Store Manager

Contact's Phone: home _____ work _____ cell 215-462-2080

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 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		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: Michael Valenzi 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: Jamie Cook Owner / Renter (other) Manager

Contact's Phone: home 484-639-4113 (cell) work _____ cell 215-551-9000 (work)

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		Y
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: Michael Valenzi Date: 11/23/24

Site Name: DSCP VI Investigation - VES Building

Contact: Charles Rogers

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: Chuck Rogers Owner / Renter / other: _____

Contact's Phone: home _____ work _____ cell 267-318-2447

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

RAYNA TODD
SERGEANT

PHILA. DISTRICT OFFICE COMMANDER
2810 S. 20TH STREET, BLD #6
PHILADELPHIA, PENNSYLVANIA 19145

o 215.218.2322
rtodd@pa.gov

Would they get copies of results

Pennsylvania Department of Envi

INDOOR AIR BUILDING SURVEY FORM

Survey Completed by: Michael Valenzi Date: 1/24/24

Site Name: DSCP YI Investigation - Building 6 (1st Floor) Bay A

Contact: Rayna Todd

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: Rayna Todd Owner / Renter / (other): Sergeant

Contact's Phone: home _____ work 215.218.2322 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 bsmt, ~~one~~ first floor floors are police offices bike plaa w/ garage. rest abandone

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. —

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: Michael Valenzi 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

Nate Bowman ? 215-510-7792 Bike Bay B

Part I — Occupants

Bld 6 2nd floor (South end)

Building Address:

Property Contact: Sgt. Odell Kyler Owner / Renter / other:

Contact's Phone: home work cell 267-252-1005

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 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: Michael Valenzi 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: Main office Dawn Owner / Renter / other: _____

Contact's Phone: home _____ work 215-755-4161 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: Mike Nixon 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: Dawn Johnson Owner / Renter / other: _____

Contact's Phone: home _____ work 215-755-4161 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: Mike Nixon Date: 1/23/24

Site Name: Building 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: Dawn Johnson Owner / Renter / other: _____

Contact's Phone: home _____ work 215-755-4161 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: Mike Nixon 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: Steve Owner / Renter / other: _____

Contact's Phone: home _____ work 215-468-2014 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: Michael Valenzi 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: Steve Koplove Owner / (Renter) / other: _____

Contact's Phone: home _____ work _____ cell 267-312-4023

Building occupants: Children under age 13 ↓ 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: Mike Nixon 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: Kristina Morton Owner / Renter / other: Manager

Contact's Phone: home _____ work 217-492-0980 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: Mike Nixon 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: Dawn Johnson Owner / Renter / other: _____

Contact's Phone: home _____ work 215-755-4161 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: MAV + RG 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		COMPROMISED: NOT BEING SAMPLED	1/30/24	1/30/24
End Time	X	10:15			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	SFC00033	SFC00587	SFC00799	SFC00719
Sample Height (ft)	4.0	3.0	3.0	5.0	5.0	3.0

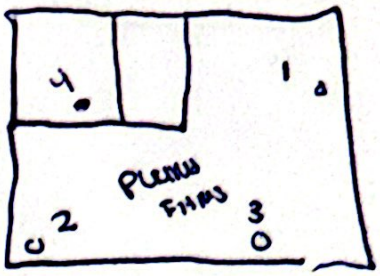
Comments:

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: MAY, RG 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: MAV, RG Weather: 30s/40s Cloudy

Canister Type: 6L Summa Sample Period: 24 hour

Building P (Nova Cave)

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: Max + RG 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 unharmed

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: Max, PG 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	ASC1096	ASC1343	ASC1861			
Flow Control ID	SFC00700	SFC00810	SFC00564			
Sample Height (ft)	5.0	6.0	3.0			

Comments: ISC 2 | ISC 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: MJ (Mike Johnson) Weather: 40's Mostly Cloudy

Cansiter 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 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: MAY 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

6 MPH = NNE WIND

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: MAY 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 CC(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: Max 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	SFC00890	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: MAY
Weather: 30/40°, Scattered Clouds
Canister Type: 6L
Sample Period: 24 Hrs

Sample ID	Building G(C) -IA-6 -020724	Building G -IA-DUP -020724	Building G(CC) -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: MAV 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: MAV + RAS Weather: 30s/40s, Snow then Sunny

Canister Type: 6L Sample Period: 24 hr

Building 9(A)-1A → 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

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Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: MAY + RAS Weather: 30s/40s, Snow then Sunny

Canister Type: 6L Sample Period: 24 hr

Sample ID	Building 9(C) - IA-6 - 021324	Building 9(E) - IA-7 - 021324	Building 9(E) - IA-8 - 021323	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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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: MAV, RAS 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: Max, RG 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° 29.82/30.01				
Air Speed Range (mph)	0 mph → 17 mph	0 mph → 17 mph				
Indoor/Outdoor	Indoor	Indoor				
Canister ID	AS00860	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 V1 investigation Job No.: 0104.0005

Personnel: MAV, AM, CB 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: aisle 11 aisle 34 → aisle 2

VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: MAY + RG Weather: 70s/80s, Sunny

Canister Type: 6 L 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:

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VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: Mav, RG 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.

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VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: MAV + RG Weather: 70s/80s, Sunny

Canister Type: 6.0L Sample Period: 24-HR

Sample ID	PONJ-AA-1-042924 (Building)	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:

Slercos (Issue 1)

S-Me Snuggle (Issue 2)

Tostitos (Issue 2a)

Hair Care (Issue 22)

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: MAV, RG Weather: 70s/80s, 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

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VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104.0205

Personnel: MAV + RG 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	ASC1850	AC02160	AC00747	AS00786		
Flow Control ID	SFC00589	SFC00251	SFC00328	SFC00274		
Sample Height (ft)	5.5	4	4	6		

Comments:

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP Y1 Investigation Job No.: 2104.0205

Personnel: MAV + RG 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
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

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Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP VI Investigation Job No.: 2104.0205

Personnel: Mav, RG 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

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VERINA Consulting Group, LLC

INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP YI Investigation Job No.: 2104 0205

Personnel: MAV + RG Weather: High 70s / Low 80s

Cansiter Type: 6.0 L Sample Period: 24-HR

Sample ID	Building 9(1)-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:

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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: MAY + RG + MJ
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)	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 #	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 scc for leak down test
↳ 16.6 in tubing = 39.37 cm
HD-SSDS-1-020224 → pressure holds for 20/30 scc
↳ 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: May, RG

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)

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SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104 0205

Date: 2/21/24

Personnel: NAV + AM

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	0A00945	-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

VERINA VERINA
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: MV + CB + MS + JR
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 6(B) -SSSG-1 -022224	10:00	300	38.5%	12.5	0 ppm SAMPLE PORT	0	59.7	0.7	Pass
Building 6(B) -SSSG-2-022224	10:48	300	14.8%	12.5	0 ppm	0	8.4	0.0	Pass
Building 6(B) -SSSG-3-022224	11:20	300	10.2% 8.8%	8.7	0	0	0.0	0	Pass
Building 6(C) -SSSG-4-022224	12:30	300	[redacted] PPM	5.8	0	0	0.0 0	0.0	Pass
Building C(C) -SSSG-5-022224	13:10	300	44.1	6.6	0	0	0.04	0.9	Pass
Building C(A) -SSSG-6-022224	13:45	300	39.4	19.5	0	0	6.8	0.0	Pass
Building 6(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 6 B- SSSG-1-022224	10:32	10:37	1SS01626	OA02256	-27.0	-8.0	ALS
Building C(B) -SSSG-2-022224	11:12	11:17	1SS01655	OA01362	-28.0	-5.5	ALS
Building C(B) -SSSG-3-022224	11:43	11:48	1SS00715	OA02253	-26.5	-6.5	ALS
Building C(C) -SSSG-4-022224	13:01	13:06	1SC00242	OA01495	-23.0	-6.0	ALS
Building 6(C) -SSSG-5-022224	13:25	13:30	1SS00881	OA02048	-26	-8	ALS
Building 6(A) -SSSG-6-022224	14:11	14:16	1SS01239	OA01177	-26.5	-9	ALS
Building 6A -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

VERINA VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/22/24

Personnel: MV + CB + MJ + JR

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 y 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: MAY + AM

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	15C00496	0A01873	-28.0	-6.0	ALS
Building 14 -SSSG-2-022024	14:09	14:14	15C00735	0A01737	-18.0	-3.0	ALS
Building 14 -SSSG-3-022024	14:24	14:29	15S01680	0A01772	-21.0	-4.0	ALS
Building 14 -SSSG-4-022024	14:40	14:45	15S01513	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: RAS + MAY

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: RAS + MAV

Weather: 30s/40s, Mostly Cloudy

Canister Type: 1L

Atmospheric Pressure (in Hg): 30.05

Air Temperature (°F): 39°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~~ sample port (% or ppm)	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-3-021624	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

Helium in sample port less than 10% min.

10% of minimum

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 OA00045

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: Mike J, Mike N, Joe R

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 ml~~ 480	25.9%	5%			6.0	0.0	
Bldg-14_PP_C	1018	360 ml	12.2%	400 ppm			7.7	0.0	J see 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%		0.8	4.1	0.0	PASS
Bldg-11-PP-A	1410	360 ml	16.9%	5.0%		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.

1018- 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	1313	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: Mike T, Joe R

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: Mike J.

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:

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SOIL GAS SAMPLING LOG

Project Name:
Project Number: 1235-
Date: 3/1/2024
Personnel: JR
Weather: Sunny 50s 40s
Canister Type:
Atmospheric Pressure (in Hg): 30.64
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~~	OA00800	-14	-4	
DUP	1228	1233	OA01278 ↔ 15500910		-29	-8	
Bldg8_PP-B	1330	1335	15501516	OA00036	-9 -29 JR	-8	
					-29 JR		

Comments:

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 2104,0205
Date: 3/4/24
Personnel: Mike J, Joe R.
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.

VERINA
Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 11235-07

Date: 3/5/2024

Personnel: JR

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: JR

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: Mike J, Joe R.
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: MN, JR

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 FIRM-PP-A	1054	360ml	18.6%	6.1%	0 PPM		62	2.3	PASS
BldgE-PP-A	1248	360ml	25.2%	10.1%	0PPM		67.4	0.8	PASS
Bldg-E-NS-A	1305	480ml	14.0%	5.3%	0PPM		56.7	0.5	PASS
Bldg-E-PP-B	1350	360ml	24.8%	9.6%	0PPM		30.8	0.3	PASS
Bldg-E-NS-B	1432	480ml	22.9%	8.8.%	0PPM		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 FIRM-PP-A	1103	1108	1SS00921	0A01931	-24	-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	-24	-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: Mike J.
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	1SS01414	OA00373	-24	-9	ALS
PAgnus 5-NS-DUP-031124	1000	1005	1SC01108	OA00946	-25	-9	ALS
PAgnus 5-NS-B-031124	1100	1105	1SS00818	OA01404	-25	-8	ALS
Hotel-NS-B-031124	1225	1230	1SC00351	OA02209	-27	-7	ALS
Hotel-NS-A-031124	1305	1310	1SC00340	OA00523	-25	-5	ALS
PHA Gym-NS-A-031124	1420	1425	1SC00116	OA02139	-27	-8	ALS

Comments:

Can 1SC00155: No pressure
Controller OA01193: faulty readings
Can 1SS01353: no pressure
Can 1SC00780: -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: MN, MT
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 of 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: Mike J, Mike N, Joe R

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 ml~~ 480	25.9%	5%			6.0	0.0	
Bldg-14_PP_C	1018	360 ml	12.2%	400 ppm			7.7	0.0	J see 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%		0.8	4.1	0.0	PASS
Bldg-11-PP-A	1410	360 ml	16.9%	5.0%		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.

1018- 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	1313	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: Mike T, Joe R

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

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SOIL GAS SAMPLING LOG

Project Name:

Project Number: 2104.0205

Date: 2/29/24

Personnel: Mike J.

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:

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SOIL GAS SAMPLING LOG

Project Name:
Project Number: 1235-
Date: 3/1/2024
Personnel: JR
Weather: Sunny 50s 40s
Canister Type:
Atmospheric Pressure (in Hg): 30.64
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~~	OA00800	-14	-4	
DUP	1228	1233	OA01278 ↔ 15500910		-29	-8	
Bldg8_PP-B	1330	1335	15501516	OA00036	-9 -29 JR	-8	
					-29 JR		

Comments:

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Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 2104,0205
Date: 3/4/24
Personnel: Mike J, Joe R.
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: JR

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: JR

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:

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SOIL GAS SAMPLING LOG

Project Name: DSCP VI Investigation
Project Number: 2104.025
Date: 3/7/24
Personnel: Mike J, Joe R.
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:

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Consulting Group, LLC

SOIL GAS SAMPLING LOG

Project Name:

Project Number: 11235-07

Date: March 8th 2024

Personnel: MN, JR

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 FIRM-PP-A	1054	360ml	18.6%	6.1%	0 PPM		62	2.3	PASS
BldgE-PP-A	1248	360ml	25.2%	10.1%	0PPM		67.4	0.8	PASS
Bldg-E-NS-A	1305	480ml	14.0%	5.3%	0PPM		56.7	0.5	PASS
Bldg-E-PP-B	1350	360ml	24.8%	9.6%	0PPM		30.8	0.3	PASS
Bldg-E-NS-B	1432	480ml	22.9%	8.8.%	0PPM		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 FIRM-PP-A	1103	1108	1SS00921	0A01931	-24	-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	-24	-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: Mike J.
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	1SS01414	OA00373	-24	-9	ALS
PAgnus 5-NS-DUP-031124	1000	1005	1SC01108	OA00946	-25	-9	ALS
PAgnus 5-NS-B-031124	1100	1105	1SS00818	OA01404	-25	-8	ALS
Hotel-NS-B-031124	1225	1230	1SC00351	OA02209	-27	-7	ALS
Hotel-NS-A-031124	1305	1310	1SC00340	OA00523	-25	-5	ALS
PHA Gym-NS-A-031124	1420	1425	1SC00116	OA02139	-27	-8	ALS

Comments:

Can 1SC00155: No pressure
Controller OA01193: faulty readings
Can 1SS01353: no pressure
Can 1SC00780: -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: MN, MT
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 of 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: RAS + HAV 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	1SS01026	1SS0147G			
Flow Control ID	SFC00029	OA02224	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: MAV + RAS Weather: 42°, cloudy

Canister Type: 1L-SCV / 6L SCV/AA Sample Period: 5 mins - SCV / 30-min - SCV/AA

Sample ID	Aldi-SCV/AA-1-021224	Aldi-SCV-1-021224	Aldi-SCV-2-021224	Building 14-SCV/AA-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

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: RAS + MAV 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	OA01772	OA01230	OA00120	OA01702	SFC00424
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 —

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: MAV + RAS Weather: 39°-50°, cloudy

Canister Type: 1L - SCV / 6L - SCVAA Sample Period: 5 mins - SCV / 30 min - SCVAA

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	14:31	14:40	14:45	15:22	15:29
Start Canister Pressure (in Hg)	-24.5	-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	14:30	14:30 (00:00)	14:45	14:50	15:27	15:34
End Canister Pressure (in Hg)	-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 (ISS00932)	[redacted]	ISS00846	ISS01138	ISC00854	ISC00880	ISS01100
Flow Control ID (000270)	[redacted]	OA01495	OA02118	OA00825	OA01148	OA01152
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

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI investigation Job No.: 2104.0205

Personnel: MAU + RAS 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-3-02/24	Building 9-SCV-10-02/24	Building 9-SCV-11-02/24	Building 9-SCV-12-02/24	Building 9-SCV/AA-4-02/24	
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)	29.64	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)	[illegible] 3	[illegible] 3	[illegible] 3	[illegible] 3	[illegible] 3	
Indoor/Outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	
Canister ID	AS00543	ISC00485	ISS00883	ISS01608	AS00892	
Flow Control ID	SFC00661	OA00700	00006457	OA00789	SFC00258	
Sample Height (ft)	0.0	0.0	0.0	0.0	0.0	

Comments: PID → 0.0 0.0 0.0

wind 3mph NW

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INDOOR/AMBIENT AIR SAMPLING LOG

Site Name: DSCP-VI Investigation Job No.: 2104.0205

Personnel: MAV + RAS Weather: 39-58°F, sunny

Canister Type: 1L - SCV / 6L - SCV/AA Sample Period: 5 minutes - SCV
30 minute - SCV/AA

Sample ID	Building 8 - SCV/AA-1 - 020924	Building 8 - SCV-1 - 020924	Building 8 - SCV-2 - 020924	Building G - SCV/AA-1 - 020924	Building 6A - SCV-1 - 020924	Building 6CC - 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	OA01364	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: MAU + RAS 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: MAV 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: MAV + RAS 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 - 020832	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 VI INVESTIGATION Job No.: 2104.0205

Personnel: MAV, RAS Weather: 40s/50s, Mostly Sunny

Canister Type: 1L (SCV) / 6L (SCVIAA) Sample Period: 5 min - SCV / 30 min - SCVIAA

→ together ←

Sample ID	Building 30 - SCV-2 - 020824	~~Building~~ 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.: 2104.0205

Personnel: MAV, AM, CB 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	~~14:16~~ 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	SFC00492 ~~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: MAY + AM 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 H1 H3 - SCV1AA - 1 - 022124	Building H1 - SCV-1 - 022124	Building H1/I1/I2/I8 - 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	ISS00986	AS00321	OA02123	AS00682	OA00372	OA00608
Flow Control ID	OA00946	SFC00463	ISS00836	SFC00541	ISC00852	ISS00899
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 YI Investigation Job No.: 2104.0205

Personnel: Max, AM 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	0.0				

Comments:

PID 0.0 0.0