TECHNICAL MEMORANDUM

To: Steve Teel, Washington Department of Ecology

From: Brad Berggren, L.G., P.E. and Paul McBeth, L.G.

Date: June 21, 2024

Subject: Vapor Intrusion Mitigation System Update
U-Lock-It Self Storage Building
Vancouver, Washington
Facility Site ID# 19779

PNG Environmental, Inc. (PNG) is providing a vapor intrusion mitigation system status update following completion of the sub-slab depressurization (SSD) system installation and eight years of operation at the former residence portion of the U-Lock-It Self Storage (U-Lock-It) customer service building in Vancouver, Washington (Figure 1). Based upon their review of the February 2015 sampling results and the associated exceedance of Model Toxics Control Act (MTCA) cleanup levels, the Washington Department of Ecology (Ecology) required design and installation of a vapor intrusion mitigation system. The Vapor Intrusion Mitigation Design and Installation Plan (PNG 2015a) for this property was submitted to Ecology in December 2015. Ecology approved the plan on January 6, 2016.

This vapor intrusion mitigation system update summarizes the most recent pressure field testing in March 2024 and indoor air, outdoor air, and soil gas monitoring results collected since SSD system construction activities were completed on March 29, 2016. During the March 2024 monitoring event, the SSD system was inspected consistent with the Ecology-approved Sub-Slab Depressurization System Operation and Maintenance Plan and Sampling and Analysis Plan (PNG 2018a). The SSD system inspection form is included in Appendix A. Results from other monitoring events post-SSD system construction (April 2016, February 2018, August 2018, July 2019, August 2020, February 2021, April 2022, and March 2023) and pre-SSD system construction (February 2015 and July 2015) are presented in Table 2 and in the U-Lock-It Self Storage Vapor Intrusion Assessment Results report (PNG 2018b).

ACTIVE SUB-SLAB DEPRESSURIZATION

Mitigation via the installation of an SSD system, or equivalent, was directed by Ecology in an April 20, 2015 letter. Installation and startup of the mitigation system was completed on March 29, 2016. Construction and performance testing of the SSD system was completed in April 2016 consistent with the Vapor Intrusion Mitigation Design and Installation Plan (PNG 2015a).

In consideration of the building manager's preference for minimal disturbance of the living space, suction pits were installed in the master bedroom closet (SP-1) and customer lobby (SP-2) of the U-Lock-It Building to facilitate simple and non-disruptive routing of risers and piping (Figure 2). From each suction pit, a four-inch diameter Schedule 40 PVC pipe provides the conduit to the AMG Eagle exhaust fan mounted on the exterior of the building's east wall. Risers are connected to the suction pits with threaded couplings and extend from the suction pits at ground level laterally along adjacent interior walls before penetrating the east wall of the building. The points where the piping network penetrates the east wall were sealed with flashing and waterproof sealant.

Risers and piping are securely supported and fastened to the walls and labeled “depressurization system pipe for indoor air protection” in three locations: adjacent to SP-1, adjacent to SP-2, and along the lower portion of the exterior piping prior to the exhaust fan. Near the piping connection to the exhaust fan, ball valves were installed to allow air flow balancing. The exhaust stack was constructed to discharge the extracted sub-slab soil gas containing volatile organic compounds (VOCs) to ambient air approximately three feet above the building roof line, consistent with the ASTM standard and local code. An as-built schematic of risers and piping features is presented on Figure 3. Final inspection of the system construction was completed by the City of Vancouver on September 22, 2016.

Monitoring points were installed on the risers at each suction pit location to measure and confirm depressurization is being applied throughout the SSD system. Each monitoring point consists of a U-tube manometer to confirm negative pressure is maintained and a tapped one quarter inch hole with a removable brass plug where gauge vacuum and flow velocity can be measured. The SSD system was inspected consistent with the Ecology-approved Sub-Slab Depressurization System Operation and Maintenance Plan and Sampling and Analysis Plan (SSD System Plans) (PNG 2018a) during the March 2024 monitoring event. The SSD system inspection form from March 25, 2024 is included in Appendix A.

Sub-Slab Depressurization System Monitoring

The existing sub-slab monitoring point network is used to measure cross-slab pressure gradients during operation of the SSD system. The existing network consists of VaporPin™ monitoring points that are installed through the concrete slab floor of the building. Monitoring points AU-01SS and AU-05SS through AU-08SS are located within the northern half (residential half) of the building. Monitoring points AU-02SS through AU-04SS are located in the southern half of the building. Consistent with the Ecology approved SSD System Plans and the previous years of monitoring, only the points AU-01SS and AU-05SS through AU-08SS are monitored for differential pressure. The sub-slab monitoring points have flush mounted stainless steel covers that can be closed while not being actively monitored. Monitoring is conducted consistent with the Ecology-approved Sub-Slab Depressurization System Operation and Maintenance Plan and Sampling and Analysis Plan (PNG 2018a). CLK-Zephyr II+ data logging micro-manometer differential pressure meters are used to measure the cross-slab gradient pressure data at the five monitoring points in the residential half of the U-Lock-It Building. As requested by Ecology, a goal of 0.005 inches of water was set for each sub-slab monitoring point.

Sub-slab depressurization monitoring was most recently conducted on March 25-26, 2024. The monitoring data was collected every minute from monitoring points AU-01SS, AU-05SS, AU-06SS, AU-07SS, and AU-08SS over a period of approximately 24 hours. Consistent with previous events, the greatest cross-slab pressure difference was recorded at AU-07SS (customer lobby). Also consistent with nearly all previous events, three of the five locations, AU-05SS, AU-07SS, and AU-08SS (guest bedroom closet, customer lobby, and kitchen, respectively) had average cross-slab differential pressure readings over the 24-hour test that exceeded the 0.005 inches of water differential pressure goal (Figure 4). A summary of pre-installation and post-installation cross floor slab pressure differences at these monitoring points is shown on Table 1.

Indoor and Outdoor Air Sampling

The most recent post-mitigation indoor and outdoor air samples were collected over an approximately 24-hour period on March 25-26, 2024 from five locations: four indoor locations and one outdoor location. Air samples were analyzed for VOCs and results are summarized on Table

2. The tetrachloroethene (PCE) concentrations in air at these sample locations are illustrated on Figure 5. All samples were collected consistent with the U-Lock-It Sampling and Analysis Plan (SAP) (PNG 2014) and the June 2015 SAP Addendum (PNG 2015b). Low levels of PCE concentrations at all indoor locations were detected at between 0.20 and 0.27 ug/m^3 during the March 2024 sampling event. At the outdoor location (AU-08), a PCE concentration was not detected above laboratory method reporting limits. Laboratory data and a review of data quality for the most recent event are included in Appendix B.

As shown on Table 2, all PCE concentrations reported in indoor air samples collected during the nine monitoring events following installation and operation of the SSD system are well below the MTCA Method B cleanup level (9.6 micrograms per cubic meter [ug/m^3] of air). March 2024 was the first time PCE was detected in indoor air since 2016. PCE was not detected above laboratory reporting limits in any of the indoor air samples collected between February 2018 and March 2023. However, PCE concentrations detected in the 2024 indoor air samples are only slightly above the method reporting limits for the 2023 monitoring event and are at or below method reporting limits for previous monitoring events. The PCE concentration in the outdoor sample collected in 2024 is below laboratory reporting limits and below the US EPA background levels presented in Table 2. The only VOC detected in the outdoor air sample was trans-1,2-dichloroethene at 1.4 ug/m^3.

Consistent with the 2022 and 2023 results, 1,2-Dichloroethane (DCA) was detected in indoor air (Table 2). In all three events, 1,2-DCA was detected in every indoor air sample. In 2022, 1,2-DCA was detected at concentrations between 0.56 and 1.4 ug/m^3. In 2023, 1,2-DCA was detected at concentrations between 0.28 and 0.38 ug/m^3. Most recently, in March 2024 1,2-DCA was detected at concentrations between 2.3 and 4.4 ug/m^3. Before 2022, 1,2-DCA was not detected in indoor air since 2016. 1,2-DCA was not recently detected in any outdoor or sub-slab soil gas air samples, has not been detected in groundwater samples, and is not a reductive dechlorination degradation product of PCE or TCE; therefore, the detected 1,2-DCA concentrations most likely are from in an indoor source such as tenant activity and not the result of vapor intrusion.

In 2023, trichloroethene (TCE) was detected at two of the four indoor air sample locations (kitchen and living room) for the first time since 2016. Most recently, TCE was detected at all four indoor air samples during the March 2024 sampling event. The detected TCE concentrations ranged from 0.15 to 0.18 ug/m^3, just above the laboratory reporting limit (0.14 ug/m^3) and are below the MTCA Method B cleanup level (0.37 ug/m^3).

Sub-slab Soil Gas Sampling

In conjunction with indoor and outdoor air sampling, post-mitigation sub-slab soil gas samples were also collected on March 27, 2024. Soil gas was collected from four sub-slab sample locations (AU-01SS, AU-02SS, AU-05SS, AU-06SS) in the U-Lock-It customer service building. Consistent with the 2022 and 2023 monitoring events, sub-slab sample location AU-04SS could not be accessed and therefore was not sampled during this 2024 event. Sub-slab soil gas sample location AU-02SS was sampled as an alternative to sample location AU-04SS. Soil gas samples were analyzed for VOCs and results are summarized on Table 2. The laboratory data and a review of data quality are included in Appendix B. The PCE concentrations in soil gas at these sample locations are illustrated on Figure 6. All samples were collected consistent with the U-Lock-It Sampling and Analysis Plan (PNG 2014) and the June 2015 SAP Addendum (PNG 2015b). Compared to data collected prior to installation and operation of the SSD system in 2016, current PCE concentrations in soil gas were reduced by at least an order of magnitude. PCE was detected in all March 2024 sub-slab soil gas samples consistent with all years of previous monitoring. PCE concentrations in soil gas during the March 2024 sampling event

ranged from 2.3 to 2.8 ug/m^3. These concentrations are slightly higher than PCE concentrations observed during the previous four sampling events, but are still well below the MTCA Method B cleanup level (321 ug/m^3). TCE was detected at low levels in soil gas (TCE concentrations in soil gas ranged from 0.41 to 0.71 ug/m^3) after not being detected for many years. According to groundwater analytical data collected by Geosyntec from nearby monitoring wells MW-4s, MW-31s and MW-36s, VOC concentrations in groundwater have not appreciably changed at these locations in recent years.

Summary and Conclusions

- In accordance with the approved work plan, construction of the SSD system was completed on March 29, 2016. Operation began immediately following completion and has continued for over eight years.
- On March 25-26, 2024, the most recent pressure field extension test was conducted to measure cross-slab pressure gradients at five existing monitoring points throughout the north half of the U-Lock-It Building. Three of the five monitoring locations achieved the cross-slab positive pressure difference (downward gradient) goal of 0.005 inches of water on an average basis over the approximately 24-hour monitoring event.
- Indoor and outdoor air samples were most recently collected on March 25-26, 2024 and analyzed for VOCs. Although the cross-slab pressure difference goal of 0.005 inches of water was not achieved at all locations on an average basis, PCE concentrations in indoor and outdoor air samples collected during March 2024 event were only slightly above laboratory method reporting limits and all were below the MTCA Method B cleanup levels. TCE was detected in indoor air samples collected in 2024 with all concentrations only slightly above laboratory method reporting limits and well below MTCA Method B cleanup levels. Analytical results from the March 2024 indoor and outdoor air samples are generally consistent with the previous analytical results.
- 1,2-DCA was detected in indoor air samples and the concentrations in 2024 exceed MTCA Method B cleanup levels. Considering the lack of 1,2-DCA in sub-slab soil gas and groundwater samples, these detected VOC concentrations are suspected to be related to an indoor source such as tenant activity and not the result of vapor intrusion.
- Post-mitigation sub-slab soil gas samples were most recently collected on March 27, 2024 and analyzed for VOCs. The PCE concentrations in soil gas ranged from 2.3 to 2.8 ug/m^3. These results are slightly higher than concentrations detected in recent years, but still at least an order of magnitude lower than pre-mitigation concentrations and well below the MTCA Method B cleanup level.
- Based on VOC concentrations reported for indoor air samples collected in 2018 through 2024, there was no risk to occupants of the U-Lock-It Building from vapor intrusion of VOCs.

ATTACHMENTS

Table 1 – Observed Maximum Cross Floor Slab Pressure Differences
Table 2 – Air Analytical Results – Target Volatile Organic Compounds

Figure 1 – Site Location Map
Figure 2 – Sub-Slab Depressurization System As-Built System Plan View Layout
Figure 3 – Sub-Slab Depressurization System As-Built System Components Schematic
Figure 4 – Differential Pressure Across Floor Slab Summary
Figure 5 – U-Lock-It Layout PCE in Indoor Air, Outdoor Air
Figure 6 – U-Lock-It Layout PCE in Soil Gas

Appendix A – SSD System Inspection Form
Appendix B – Laboratory Data and Data Quality Review

REFERENCES

PNG. 2014 (October 28). *U-Lock-It Customer Service Building Revised Sampling and Analysis Plan.* PNG Environmental, Inc.

PNG. 2015a (December 4). *Vapor Intrusion Mitigation Design and Installation Plan.* PNG Environmental, Inc.

PNG. 2015b (July 1). *U-Lock-It Customer Service Building SAP Addendum.* PNG Environmental, Inc.

PNG. 2018a (February 6). *U-Lock-It Self Storage Building Sub Slab Depressurization System Operation and Maintenance Plan and Sampling and Analysis Plan.* PNG Environmental, Inc.

PNG. 2018b (June 13). *U-Lock-It Self Storage Building Vapor Intrusion Assessment Results.* PNG Environmental, Inc.

TABLES

Table 1
Observed Maximum Cross Floor Slab Pressure Differences
U-Lock-It Building Pressure Field Extension Summary
Milton's Dry Cleaners
Vancouver, Washington

Pre-Installation Test

	AU-01SS		AU-03SS		AU-05SS		AU-06SS		AU-07SS		AU-08SS	
	Baseline Pre-Test	Maximum During Test	Baseline Pre-Test	Maximum During Test	Baseline Pre-Test	Maximum During Test	Baseline Pre-Test	Maximum During Test	Baseline Pre-Test	Maximum During Test	Baseline Pre-Test	Maximum During Test
7/8/2015	0.000	0.007	0.000	0.001	0.000	0.015	-	-	0.000	0.296	0.000	0.014
7/28/2015	0.000	0.007	-	-	0.000	0.010	0.000	0.014	0.000	0.435	0.000	0.016

Post-Installation Monitoring

	AU-01SS		AU-03SS		AU-05SS		AU-06SS		AU-07SS		AU-08SS	
	Average During Monitoring	Maximum During Monitoring	Average During Monitoring	Maximum During Monitoring	Average During Monitoring	Maximum During Monitoring	Average During Monitoring	Maximum During Monitoring	Average During Monitoring	Maximum During Monitoring	Average During Monitoring	Maximum During Monitoring
4/4/2016	0.002	0.024	-	-	0.009	0.022	0.000	0.018	0.294	0.321	0.013	0.026
2/12/2018	0.000	0.001	-	-	0.005	0.023	0.000	0.005	0.210	0.216	0.007	0.009
8/6/2018	0.002	0.010	-	-	-0.008	0.007	0.000	0.052	0.235	0.241	0.009	0.011
7/24 - 7/25/18	0.002	0.013	-	-	0.009	0.015	0.000	0.005	0.267	0.272	0.011	0.012
8/19 - 8/20/20	0.001	0.006	-	-	0.010	0.021	0.000	0.007	0.234	0.240	0.009	0.011
2/8 - 2/9/21	0.000	0.002	-	-	0.008	0.013	0.000	0.005	0.209	0.219	0.007	0.009
4/4 - 4/5/22	-0.001	0.014	-	-	0.006	0.011	0.000	0.041	0.209	0.244	-0.001	0.014
3/22 - 3/23/23	0.001	0.009	-	-	0.006	0.012	0.000	0.015	0.205	0.217	0.006	0.009
3/25 - 3/26/24	0.000	0.003	-	-	0.008	0.011	0.000	0.029	0.206	0.213	0.007	0.009

Notes:
- = not measured

Table 2

Air Analytical Results - Target Volatile Organic Compounds (ug/m^3)

U-Lock-It Self-Storage Building

Milton's Dry Cleaners

Vancouver, Washington

Sample Identification	Description	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	Chloroethane
Outdoor Air - Pre-Mitigation System											
February 17, 2015											
AU-07	Northeast of Building	0.12 J	0.020 J	0.059 U	0.12 U	0.59 U	0.038 U	0.025 J	0.12 U	0.060 J	0.20 U
AU-08	West of Building	0.11 J	0.023 J	0.063 U	0.12 U	0.63 U	0.040 U	0.029 J	0.13 U	0.090 J	0.039 J
AU-09	South of Building	0.12 J	0.020 J	0.064 U	0.13 U	0.64 U	0.041 U	0.022 J	0.13 U	0.086 J	0.024 J
AU-10	East of Building	0.14 J	0.17	0.036 J	0.11 U	0.57 U	0.036 U	0.033 J	0.0069 J	0.11 J	0.037 J
July 10, 2015											
AU-08	West of Building	0.043 J	0.16	0.033 J	0.070 U	0.070 U	0.045 U	0.096 U	0.071 U	0.044 J	0.055
Outdoor Air - Post-Mitigation System											
Aprill 28, 2016											
AU-08	West of Building	0.071 J	0.034 J	0.081 U	0.081 U	0.084 J[1]	0.052 U	0.025 J	0.082 U	0.075 J	0.033 J
February 13, 2018											
AU-07	Northeast of Building	0.17 U	0.14 U	0.050 U	0.10 U	0.50 U	0.032 U	0.14 U	0.10 U	0.10 U	0.17 U
August 7, 2018											
AU-08	West of Building	0.26 U	0.20 U	0.075 U	0.15 U	0.75 U	0.048 U	0.21 U	0.15 U	0.15 U	0.25 U
July 26, 2019											
AU-07	Northeast of Building	0.24 U	0.19 U	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
August 21, 2020											
AU-08	West of Building	0.33 U	0.26 U	0.097 U	0.19 U	0.97 U	0.062 U	0.27 U	0.20 U	0.20 U	0.32 U
February 10, 2021											
AU-07	Northeast of Building	0.21 U	0.16 U	0.061 U	0.12 U	0.61 U	0.039 U	0.17 U	0.12 U	0.12 U	0.20 U
April 6, 2022											
AU-08	West of Building	0.19 U	0.15 U	0.055 U	0.11 U	0.55 U	0.036 U	0.15 U	0.11 U	0.11 U	0.18 U
March 24, 2023											
AU-08	West of Building	0.26 U	0.21 U	0.077 U	0.15 U	0.77 U	0.050 U	0.21 U	0.16 U	0.16 U	0.26 U
March 27, 2024											
AU-08	West of Building	0.21 U	0.16 U	0.061 U	0.12 U	1.4	0.039 U	0.17 U	0.12 U	0.12 U	0.20 U
Background Outdoor Air											
Portland/Vancouver PATA[1]	Median concentration from EPA airshed study of Portland-Vancouver urban area	0.34-2.3	-	-	-	-	-	-	-	-	-
USEPA 2006[2]	Median	0.24	0.16	-	-	-	0.11	-	-	-	-
	Maximum	3.4	2.7	-	-	-	1.3	-	-	-	-

Table 2
Air Analytical Results - Target Volatile Organic Compounds (ug/m^3)
U-Lock-It Self-Storage Building
Milton's Dry Cleaners
Vancouver, Washington

Sample Identification	Description	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	Chloroethane
Indoor Air - Pre-Mitigation System											
February 17, 2015											
AU-01	Customer Lobby Closet	20	0.030 J	0.066 U	0.13 U	0.66 U	0.042 U	0.020 J	0.13 U	0.094 J	0.019 J
AU-02	Kitchen	31	0.025 J	0.036 J	0.12 U	0.63 U	0.040 U	0.036 J	0.13 U	0.25	0.044 J
AU-02D	Kitchen	31	0.025 J	0.030 J	0.14 U	0.68 U	0.044 U	0.19 U	0.14 U	0.25	0.037 J
AU-03	Master Bedroom	20	0.031 J	0.061 U	0.12 U	0.61 U	0.040 U	0.027 J	0.12 U	0.21	0.048 J
AU-04	Customer Storage Box	0.23	0.028 J	0.065 U	0.13 U	0.65 U	0.042 U	0.11 J	0.13 U	0.12 J	0.052 J
AU-05	Guest Bedroom	35	0.055 J	0.018 J	0.13 U	0.65 U	0.042 U	0.045 J	0.13 U	0.28	0.054 J
AU-06	Living Room	32	0.026 J	0.027 J	0.14 U	0.68 U	0.044 U	0.030 J	0.14 U	0.21	0.034 J
July 10, 2015											
AU-02	Kitchen	4.2	0.090	0.22	0.065 U	0.065 U	0.042 U	0.023 J	0.066 U	0.088	0.049
AU-03	Master Bedroom	1.7	0.062 J,J[1]	0.078	0.076 U	0.076 U	0.049 U	0.10 U	0.077 U	0.058 J	0.051
AU-03D	Master Bedroom	1.7	0.028 J,J[1]	0.080	0.075 U	0.075 U	0.048 U	0.10 U	0.076 U	0.056 J	0.048 J
AU-05	Guest Bedroom	2.4	0.028 J,J[1]	0.075	0.073 U	0.073 U	0.047 U	0.10 U	0.075 J	0.062 J	0.045 J
AU-06	Living Room	2.2	1.0	0.11	0.065 U	0.20	0.042 U	0.018 J	0.066 U	0.32	0.12
Indoor Air - Post-Mitigation System											
April 28, 2016											
AU-02	Kitchen	0.23	0.026 J	0.12	0.075 U	0.067 J	0.048 U	0.024 J	0.076 U	0.12	0.042 J
AU-03	Master Bedroom	0.23	0.040 J	0.10	0.070 U	0.14 J[1]	0.045 U	0.023 J	0.071 U	0.11	0.034 J
AU-05	Guest Bedroom	0.25 J	0.64 U	0.47 U	0.47 U	0.17 J	0.30 U	0.65 U	0.48 U	0.48 U	0.31 U
AU-06	Living Room	0.22	0.054 J	0.097	0.077 U	0.12 J[1]	0.049 U	0.025 J	0.050 J	0.53	0.50
AU-06D	Living Room	0.15	0.083 J	0.048 J	0.063 U	1.3 J[1]	0.041 U	0.023 J	0.065 U	0.11	0.026 J
February 13, 2018											
AU-02	Kitchen	0.40 U	0.32 U	0.12 U	0.23 U	1.2 U	0.076 U	0.32 U	0.24 U	0.24 U	0.39 U
AU-03	Master Bedroom	0.21 U	0.17 U	0.063 U	0.12 U	0.63 U	0.040 U	0.17 U	0.13 U	0.13 U	0.21 U
AU-05	Guest Bedroom	0.23 U	0.18 U	0.067 U	0.13 U	0.67 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
AU-06	Living Room	0.23 U	0.18 U	0.066 U	0.13 U	0.66 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
AU-06D	Living Room	0.23 U	0.18 U	0.067 U	0.13 U	0.67 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
August 7, 2018											
AU-02	Kitchen	0.24 U	0.19 U	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
AU-03	Master Bedroom	0.25 U	0.20 U	0.073 U	0.15 U	0.73 U	0.047 U	0.20 U	0.15 U	0.15 U	0.24 U
AU-05	Guest Bedroom	0.32 U	0.25 U	0.093 U	0.18 U	0.93 U	0.060 U	0.26 U	0.19 U	0.19 U	0.31 U
AU-06	Living Room	0.24 U	0.19 U	0.070 U	0.14 U	0.70 U	0.046 U	0.19 U	0.14 U	0.14 U	0.23 U
AU-06D	Living Room	0.22 U	0.17 U	0.063 U	0.13 U	0.63 U	0.041 U	0.17 U	0.13 U	0.13 U	0.21 U
July 26, 2019											
AU-02	Kitchen	0.25 U	0.20 U	0.072 U	0.14 U	0.72 U	0.047 U	0.20 U	0.15 U	0.15 U	0.24 U
AU-03	Master Bedroom	0.25 U	0.20 U	0.074 U	0.15 U	0.74 U	0.048 U	0.20 U	0.15 U	0.15 U	0.25 U
AU-05	Guest Bedroom	0.27 U	0.22 U	0.080 U	0.16 U	0.80 U	0.051 U	0.22 U	0.16 U	0.16 U	0.26 U
AU-06	Living Room	0.24 U	0.19 U	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
AU-06D	Living Room	0.24 U	0.19 U	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
August 21, 2020											
AU-02	Kitchen	0.24 U	0.19 U	0.069 U	0.14 U	0.69 U	0.045 U	0.19 U	0.14 U	0.14 U	0.23 U
AU-03	Master Bedroom	0.22 U	0.17 U	0.064 U	0.13 U	0.64 U	0.041 U	0.18 U	0.13 U	0.13 U	0.21 U
AU-05	Guest Bedroom	0.23 U	0.18 U	0.067 U	0.13 U	0.67 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
AU-06	Living Room	0.22 U	0.17 U	0.064 U	0.13 U	0.64 U	0.041 U	0.18 U	0.13 U	0.13 U	0.21 U
AU-06D	Living Room	0.24 U	0.19 U	0.069 U	0.14 U	0.69 U	0.045 U	0.19 U	0.14 U	0.14 U	0.23 U
February 10, 2021											
AU-02	Kitchen	0.22 U	0.17 U	0.064 U	0.13 U	0.64 U	0.041 U	0.18 U	0.13 U	0.13 U	0.21 U
AU-03	Master Bedroom	0.24 U	0.19 U	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
AU-05	Guest Bedroom	0.23 U	0.18 U	0.067 U	0.13 U	0.67 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
AU-06	Living Room	0.22 U	0.18 U	0.065 U	0.13 U	0.65 U	0.042 U	0.18 U	0.13 U	0.13 U	0.22 U
AU-06D	Living Room	0.24 U	0.19 U	0.069 U	0.14 U	0.69 U	0.045 U	0.19 U	0.14 U	0.14 U	0.23 U
April 6, 2022											
AU-02	Kitchen	0.20 U	0.16 U	0.058 U	0.12 U	0.58 U	0.038 U	0.16 U	0.12 U	0.62	0.19 U
AU-03	Master Bedroom	0.19 U	0.15 U	0.057 U	0.11 U	0.57 U	0.036 U	0.16 U	0.12 U	1.4	0.19 U
AU-05	Guest Bedroom	0.20 U	0.16 U	0.059 U	0.12 U	0.59 U	0.038 U	0.16 U	0.12 U	0.56	0.20 U
AU-06	Living Room	0.19 U	0.15 U	0.057 U	0.11 U	0.57 U	0.036 U	0.16 U	0.12 U	0.74	0.19 U
AU-06D	Living Room	0.20 U	0.16 U	0.057 U	0.11 U	0.57 U	0.037 U	0.16 U	0.12 U	0.79	0.19 U

Table 2

Air Analytical Results - Target Volatile Organic Compounds (ug/m^3)

U-Lock-It Self-Storage Building

Milton's Dry Cleaners

Vancouver, Washington

Sample Identification	Description	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	Chloroethane
Indoor Air - Post-Mitigation System											
March 24, 2023											
AU-02	Kitchen	0.18 U	0.16	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.11 U	0.28	0.17 U
AU-03	Master Bedroom	0.18 U	0.14 U	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.11 U	0.38	0.17 U
AU-05	Guest Bedroom	0.18 U	0.14 U	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.11 U	0.29	0.17 U
AU-06	Living Room	0.19 U	0.16	0.056 U	0.11 U	0.56 U	0.036 U	0.15 U	0.11 U	0.32	0.19 U
AU-06D	Living Room	0.18 U	0.15	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.11 U	0.35	0.17 U
March 27, 2024											
AU-02	Kitchen	0.25	0.16	0.055 U	0.11 U	0.55 U	0.035 U	0.15 U	0.11 U	3.4	0.18 U
AU-03	Master Bedroom	0.27	0.17	0.051 U	0.10 U	0.51 U	0.033 U	0.14 U	0.10 U	3.7	0.17 U
AU-05	Guest Bedroom	0.24	0.15	0.054 U	0.11 U	0.54 U	0.034 U	0.15 U	0.11 U	2.3	0.18 U
AU-06	Living Room	0.20	0.16	0.056 U	0.11 U	0.56 U	0.036 U	0.15 U	0.11 U	4.3	0.18 U
AU-06D	Living Room	0.19	0.18	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.10 U	4.4	0.17 U
Regulatory Standards Indoor Air											
MTCA B CUL[3]		9.6	0.37	91	-	-	0.28	2,290	1.6	0.10	-
MTCA C CUL[3]		96	6.3	200	-	-	2.8	5,000	16	0.96	-
Site-Specific MTCA B	Office Employee	51	2.7	1,752	-	526	3.0	43,800	8.2	0.51	87,688
USEPA 2012 Residential[4]	Residential	11	0.48	210	-	-	0.17	5,200	1.8	0.11	10,000
USEPA 2012 Industrial[5]	Industrial	47	3.0	880	-	-	2.8	22,000	7.7	0.47	44,000
OSHA PEL-TWA[6]		678,000	537,000	-	790,000	790,000	2,600	1,900,000	400,000	200,000	2,600,000
Background Indoor Air											
USEPA 2011[7]	Range of 50th Percentile	<RL-2.2	<RL-1.1	<RL	<RL	-	<RL	<RL-5.9	<RL	<RL	-
	Range of 95th Percentile	4.1-9.5	0.56-3.3	0.7	<RL-1.2	-	<RL-0.09	3.4-28	<RL	<RL-0.2	-
Interference from Dry Cleaned Clothing											
New York State Department of Health[8]		5.0	-	-	-	-	-	-	-	-	-
	Offices Median: 1994-1996	3.0	-	-	-	-	-	-	-	-	-
Eastern Research Group[9]	Closet Maximum	19,671	-	-	-	-	-	-	-	-	-
	Den Maximum	563	-	-	-	-	-	-	-	-	-
Thomas, et. al.[10]	Maximum Home Indoor Air Levels	300	-	-	-	-	-	-	-	-	-
World Health Organization[11]	Maximum Private Vehicle with Clothing	2,100,000	-	-	-	-	-	-	-	-	-
U.S. Department of Health[12]	Residential Closet	500-2,900	-	-	-	-	-	-	-	-	-

Table 2
Air Analytical Results - Target Volatile Organic Compounds (ug/m^3)
U-Lock-It Self-Storage Building
Milton's Dry Cleaners
Vancouver, Washington

Sample Identification	Description	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	Chloroethane
Sub-slab Vapor - Pre-Mitigation System											
December 12, 2014											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	2,180	14 U	11 U	11 U	11 U	6.8 U	15 U	11 U	11 U	7.1 U
AU-02SS	U-Lock-It Occupied Storage Room #2	33 J[1]	2.5 J	3.9 U	3.9 U	3.9 U	2.5 U	5.4 U	4.0 U	4.4	2.6 U
AU-03SS	U-Lock-It Occupied Storage Room #1	77	5.0 U	3.7 U	3.7 U	3.7 U	2.4 U	5.1 U	3.8 U	3.8 U	2.5 U
AU-04SS	Vacant Customer Storage Box	20 J[1]	10	4.8 U	4.8 U	4.8 U	3.1 U	6.6 U	4.9 U	131	3.2 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	724	4.5 U	3.4 U	3.4 U	3.4 U	2.2 U	4.6 U	3.4 U	3.4 U	2.2 U
AU-066SS (duplicate of AU-05SS)	Closet in U-Lock-It Residence Guest Bedroom	711	4.8 U	3.6 U	3.6 U	3.6 U	2.3 U	4.9 U	3.6 U	3.6 U	2.4 U
AU-06SS	U-Lock-It Customer Restroom	109 J[1]	4.5 U	3.4 U	3.4 U	3.4 U	2.2 U	4.6 U	3.4 U	3.4 U	2.2 U
February 18, 2015											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	2,000	3.7 J,J[1]	5.1 U	5.1 U	5.1 U	3.3 U	7.0 U	5.2 U	5.2 U	14 U
AU-04SS	Vacant Customer Storage Box	28	2.5 J,J[1]	5.0 U	5.0 U	5.0 U	3.2 U	6.9 U	5.1 U	5.1 U	13 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	98	2.5 J,J[1]	4.6 U	4.6 U	4.6 U	3.0 U	6.4 U	4.8 U	4.8 U	12 U
AU-05SSD	Closet in U-Lock-It Residence Guest Bedroom	22	1.7 J,J[1]	4.5 U	4.5 U	4.5 U	2.9 U	6.2 U	4.6 U	4.6 U	12 U
AU-06SS	U-Lock-It Customer Restroom	130	2.1 J,J[1]	4.7 U	4.7 U	4.7 U	3.0 U	6.5 U	4.8 U	4.8 U	12 U
Sub-slab Vapor - Post-Mitigation System											
July 26, 2019											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	2.7	0.19 U	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
AU-01SSD	Closet in U-Lock-It Customer Lobby Area	2.7	0.17 U	0.064 U	0.13 U	0.64 U	0.041 U	0.18 U	0.13 U	0.13 U	0.21 U
AU-04SS	Vacant Customer Storage Box	2.8	0.17 U	0.064 U	0.13 U	0.64 U	0.041 U	0.86	0.13 U	0.13 U	0.21 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	4.1	0.17 U	0.061 U	0.12 U	0.61 U	0.040 U	0.17 U	0.12 U	0.12 U	0.20 U
AU-06SS	U-Lock-It Customer Restroom	0.93	0.18 U	0.065 U	0.13 U	0.65 U	0.042 U	0.18 U	0.13 U	0.13 U	0.22 U
August 21, 2020											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	2.8	0.18 U	0.068 U	0.14 U	0.68 U	0.044 U	0.19 U	0.14 U	0.14 U	0.22 U
AU-01SSD	Closet in U-Lock-It Customer Lobby Area	2.9	0.18 U	0.067 U	0.13 U	0.67 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
AU-04SS	Vacant Customer Storage Box	1.6	0.17 U	0.063 U	0.12 U	0.63 U	0.040 U	0.17 U	0.13 U	0.13 U	0.21 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	3.0	0.76	0.071 U	0.14 U	0.71 U	0.046 U	0.20 U	0.14 U	0.14 U	0.24 U
AU-06SS	U-Lock-It Customer Restroom	0.49	0.18 U	0.065 U	0.13 U	0.65 U	0.042 U	0.18 U	0.13 U	0.13 U	0.22 U
February 10, 2021											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	0.84	0.18 U	0.065 U	0.13 U	0.65 U	0.042 U	0.18 U	0.13 U	0.13 U	0.22 U
AU-01SSD	Closet in U-Lock-It Customer Lobby Area	0.65	0.18 U	0.066 U	0.13 U	0.66 U	0.043 U	0.18 U	0.14 U	0.14 U	0.22 U
AU-04SS	Vacant Customer Storage Box	0.93	0.16 U	0.061 U	0.12 U	0.61 U	0.039 U	0.17 U	0.12 U	0.12 U	0.20 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	1.2	0.16 U	0.061 U	0.12 U	0.61 U	0.039 U	0.17 U	0.12 U	0.12 U	0.20 U
AU-06SS	U-Lock-It Customer Restroom	0.28	0.17 U	0.062 U	0.12 U	0.62 U	0.040 U	0.17 U	0.13 U	0.13 U	0.20 U
April 6, 2022											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	0.62	0.14 U	0.053 U	0.10 U	0.53 U	0.034 U	0.14 U	0.11 U	0.11 U	0.18 U
AU-01SSD	Closet in U-Lock-It Customer Lobby Area	0.64	0.14 U	0.051 U	0.10 U	0.51 U	0.033 U	0.14 U	0.10 U	0.10 U	0.17 U
AU-02SS	U-Lock-It Occupied Storage Room #2	1.2	0.14 U	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.11 U	0.11 U	0.17 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	1.8	0.16 U	0.058 U	0.12 U	0.58 U	0.038 U	0.16 U	0.12 U	0.12 U	0.19 U
AU-06SS	U-Lock-It Customer Restroom	0.45	0.14 U	0.051 U	0.10 U	0.51 U	0.033 U	0.14 U	0.10 U	0.10 U	0.17 U
March 24, 2023											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	0.75 J[1]	0.29 U	0.11 U	0.22 U	1.1 U	0.070 U	0.30 U	0.22 U	0.22 U	0.36 U
AU-01SSD	Closet in U-Lock-It Customer Lobby Area	2.9 J[1]	0.98	0.11 U	0.21 U	1.1 U	0.069 U	0.29 U	0.22 U	0.22 U	0.36 U
AU-02SS	U-Lock-It Occupied Storage Room #2	2.3	0.61	0.051 U	0.10 U	0.51 U	0.033 U	0.14 U	0.10 U	0.10 U	0.17 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	8.8	2.3	0.053 U	0.11 U	0.53 U	0.034 U	0.15 U	0.11 U	0.11 U	0.18 U
AU-06SS	U-Lock-It Customer Restroom	3.8	1.2	0.26 U	0.53 U	2.6 U	0.17 U	0.72 U	0.54 U	0.54 U	0.88 U
March 27, 2024											
AU-01SS	Closet in U-Lock-It Customer Lobby Area	2.5	0.71	0.056 U	0.11 U	0.56 U	0.036 U	0.15 U	0.11 U	0.11 U	0.19 U
AU-01SSD	Closet in U-Lock-It Customer Lobby Area	2.3	0.51	0.052 U	0.10 U	0.52 U	0.033 U	0.14 U	0.11 U	0.11 U	0.17 U
AU-02SS	U-Lock-It Occupied Storage Room #2	2.5	0.63	0.056 U	0.11 U	0.56 U	0.036 U	0.15 U	0.11 U	0.11 U	0.19 U
AU-05SS	Closet in U-Lock-It Residence Guest Bedroom	2.4	0.41	0.057 U	0.11 U	0.57 U	0.037 U	0.16 U	0.12 U	0.12 U	0.19 U
AU-06SS	U-Lock-It Customer Restroom	2.8	0.66	0.050 U	0.10 U	0.50 U	0.032 U	0.14 U	0.10 U	0.10 U	0.17 U
Regulatory Standards Sub-slab Vapor											
MTCA B SL[13]		321	12	3,050	-	-	9.3	76,200	52	3.2	-
MTCA C SL[13]		1,330	67	6,670	-	-	93	167,000	521	32	-
Site Specific MTCA B (VAF of 0.03)		1,700	90	58,400	-	17,520	100	1,460,000	274	17	2,922,920
USEPA Region III Residential Standard[14]		367	16	7,000	-	-	5.7	173,333	60	3.7	333,333
USEPA Region III Industrial Standard[15]		1,567	100	29,333	-	-	93	733,333	257	16	1,466,667

Table 2
Air Analytical Results - Target Volatile Organic Compounds (ug/m^3)
U-Lock-It Self-Storage Building
Milton's Dry Cleaners
Vancouver, Washington

Notes:

[1] Oregon DEQ and USEPA. Portland Air Toxics Assessment. 2006: mean values collected in 1999 and reported for five sampling locations.

[2] USEPA. National-Scale Air Toxics Assessment, Table 1. 2006.

[3] Model Toxics Control Act (MTCA) Default Method B and C cleanup levels for indoor air using current Ecology default toxicity values (April 6, 2015).

[4] USEPA Mid-Atlantic Risk Assessment Regional Screening Level (RSL): Resident Air Supporting Table (November 2013)

[5] USEPA Mid-Atlantic Risk Assessment Regional Screening Level (RSL): Industrial Air Supporting Table (November 2013)

[6] USEPA. Background Indoor Air Concentrations of Volatile Organic Compounds in North American Residences (1900-2005): A Compilation of Statistics for Assessing Vapor Intrusion, Table 2. June 2011.

[7] New York State Department of Health Tetrachloroethene (PERC) in Indoor and Outdoor Air Fact Sheet. October 2005.

[8] Eastern Research Group, Inc. Overview of Exposure Pathways. Maximum concentrations of perchloroethylene in EPA experimental test house. May 1992.

[9] Thomas KW, Pellizzari ED, Perritt RL, and Nelson WC. Effect of dry-cleaned clothes on tetrachloroethylene levels in indoor air, personal air, and breath for residents of several New Jersey homes. October 1991.

[10] World Health Organization. Air Quality Guidelines - Second Edition. 2000.

[11] U. S. Department of Health and Human Services. Toxicological Profile for Tetrachloroethylene. September 1997.

[12] MTCA Default Method B/C soil gas screening levels for sub slab air using current Ecology default toxicity values (April 6, 2015).

[13] USEPA Residential risk based screening level for subslab soil gas derived from recommended attenuation factor (USEPA April 2013)

[14] USEPA Industrial risk based screening level for subslab soil gas derived from recommended attenuation factor (USEPA April 2013)

ug/m^3 = micrograms per cubic meter

- = not reported

<RL = below laboratory reporting limits.

U = undetected above laboratory's method reporting limits (MRL) shown.

J = estimated value. The results fell between the laboratory's practical quantification limit and the MRL.

JB = Data Validation Qualifier. The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The analyte was detected in the equipment blank rinsate blank.

J[1] = Data Validation Qualifier. The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. See the corresponding data validation report for additional information.

FIGURES

APPROXIMATE SCALE IN FEET

0 1000 2000 4000

NOTE: USGS, Orchards Quadrangle
Washington - Clark Co.
7.5 Minute Series (Topographic) 1990.
Base map provided by Map Tech.

PNG ENVIRONMENTAL, INC.
1339 Commerce Avenue, Suite 313
Longview, Washington 98632
TEL (360) 414-0669
FAX (360) 414-0663

DATE: 9-10-14
FILE NAME: 987-03
DRAWN BY: JJT
APPROVED BY: MA

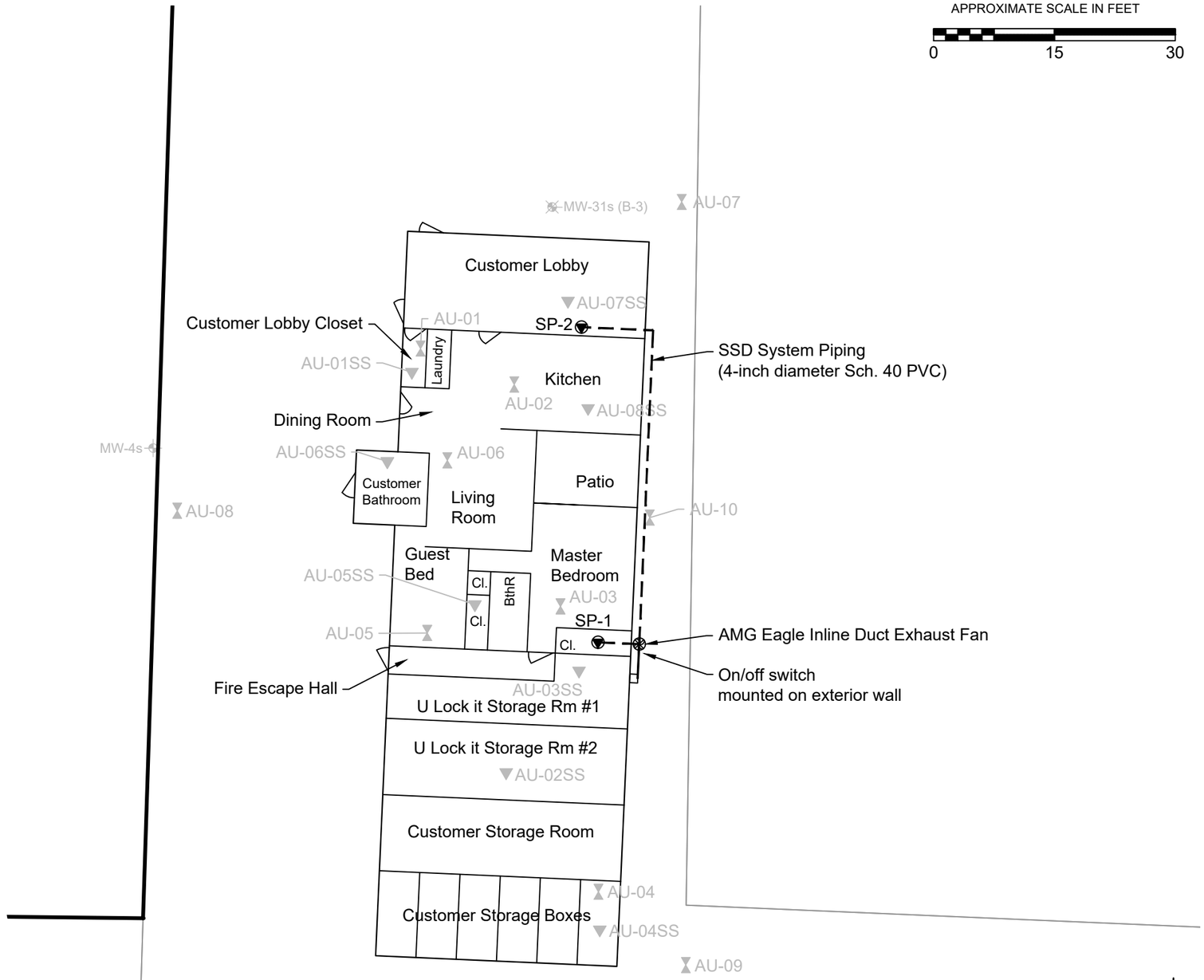
MILTON'S DRY CLEANERS
6721 E. FOURTH PLAIN BLVD.
VANCOUVER, WASHINGTON

SITE LOCATION MAP

Project No. 987-03
Figure No. 1

LEGEND

- Former Milton's Property Boundary
- AU-01SS — Sub-Slab Monitoring Point/ Soil Gas Sample Location
- AU-01 — Air Sample Location
- SSD System Piping
- SP-1 — Suction Pit
- Exhaust Fan



Notes:

1. All SSD piping is Schedule 40 PVC.
2. U-tube manometer and monitoring port installed at each suction pit location.
3. All exposed pipe is permanently labeled "DEPRESSURIZATION SYSTEM PIPE FOR INDOOR AIR PROTECTION" at each suction pit location inside and two locations along piping on exterior wall as directed by engineer.
4. On/off switch for exhaust fan on exterior wall. All electrical connections and controls were installed by licensed electrician.
5. AMG Eagle Inline Duct Exhaust Fan installed on exterior wall. Fan is mounted high on exterior wall near roof line.
6. 4-Inch diameter Schedule 40 PVC vent stack extends above roof line. Vent is located at least 10 ft. from closest side of any door, window, or other opening into building interior and to HVAC/Ventilation inlet.

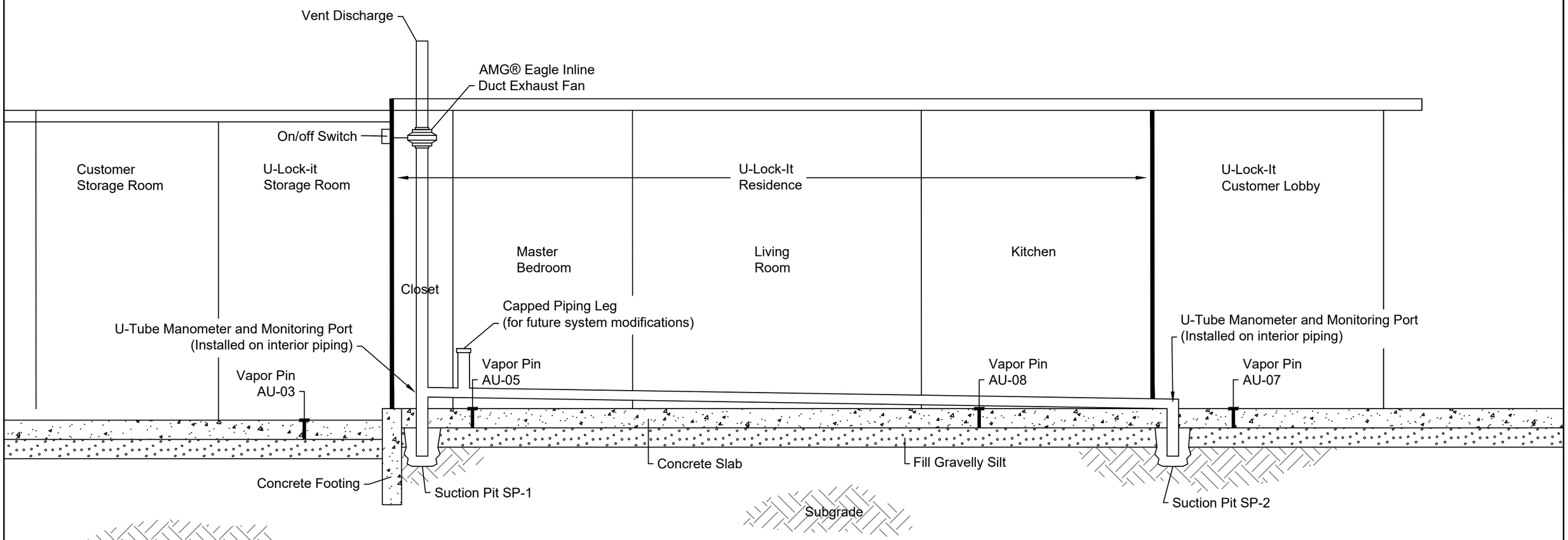
PNG ENVIRONMENTAL, INC.
6665 SW Hampton St., Ste. 101
Tigard, OR 97223
TEL (503) 620-2387
FAX (503) 620-2977

DATE:	6-5-16
FILE NAME:	987-03
DRAWN BY:	JJT
APPROVED BY:	SV

MILTONS DRY CLEANERS
6721 E. FOURTH PLAIN BLVD.
VANCOUVER, WA.

U-LOCK-IT BUILDING
SUB-SLAB DEPRESSURIZATION AS-BUILT
SYSTEM PLAN VIEW LAYOUT

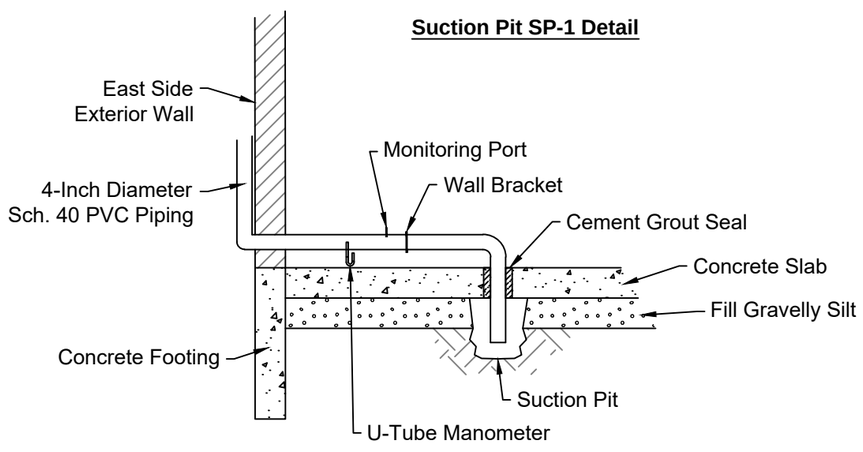
Project No. 987-03
Figure No. 2



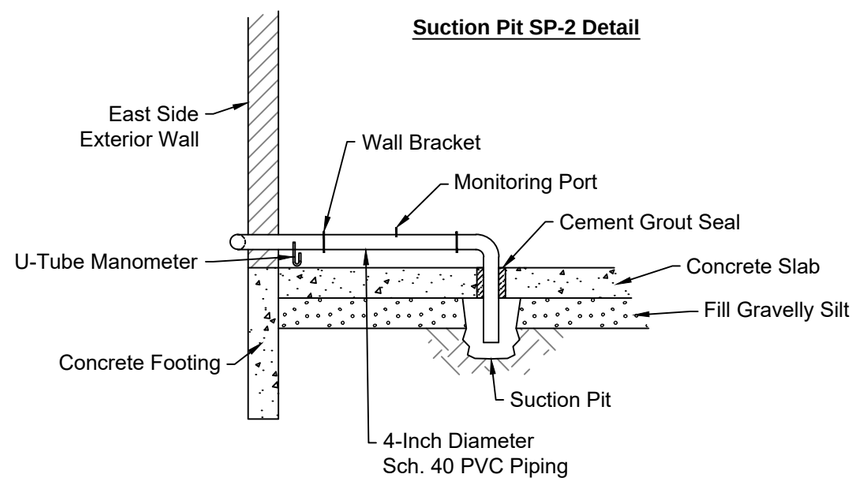
Notes:

1. All SSD piping is Schedule 40 PVC.
2. U-tube manometer and monitoring port installed at each suction pit location.
3. All exposed pipe is permanently labeled "DEPRESSURIZATION SYSTEM PIPE FOR INDOOR AIR PROTECTION" at each suction pit location inside and two locations along piping on exterior wall as directed by engineer.
4. On/off switch for exhaust fan on exterior wall. All electrical connections and controls were installed by licensed electrician.
5. AMG Eagle Inline Duct Exhaust Fan installed on exterior wall. Fan is mounted high on exterior wall near roof line.
6. 4-Inch diameter Schedule 40 PVC vent stack extends above roof line. Vent is located at least 10 ft. from closest side of any door, window, or other opening into building interior and to HVAC/Ventilation inlet.

Suction Pit SP-1 Detail



Suction Pit SP-2 Detail



NOT TO SCALE

PNG ENVIRONMENTAL, INC.
6665 SW Hampton St., Ste. 101
Tigard, OR 97223
TEL (503) 620-2387
FAX (503) 620-2977

DATE:	6-5-16
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APPROVED BY:	SV

MILTONS DRY CLEANERS
6721 E. FOURTH PLAIN BLVD.
VANCOUVER, WA.

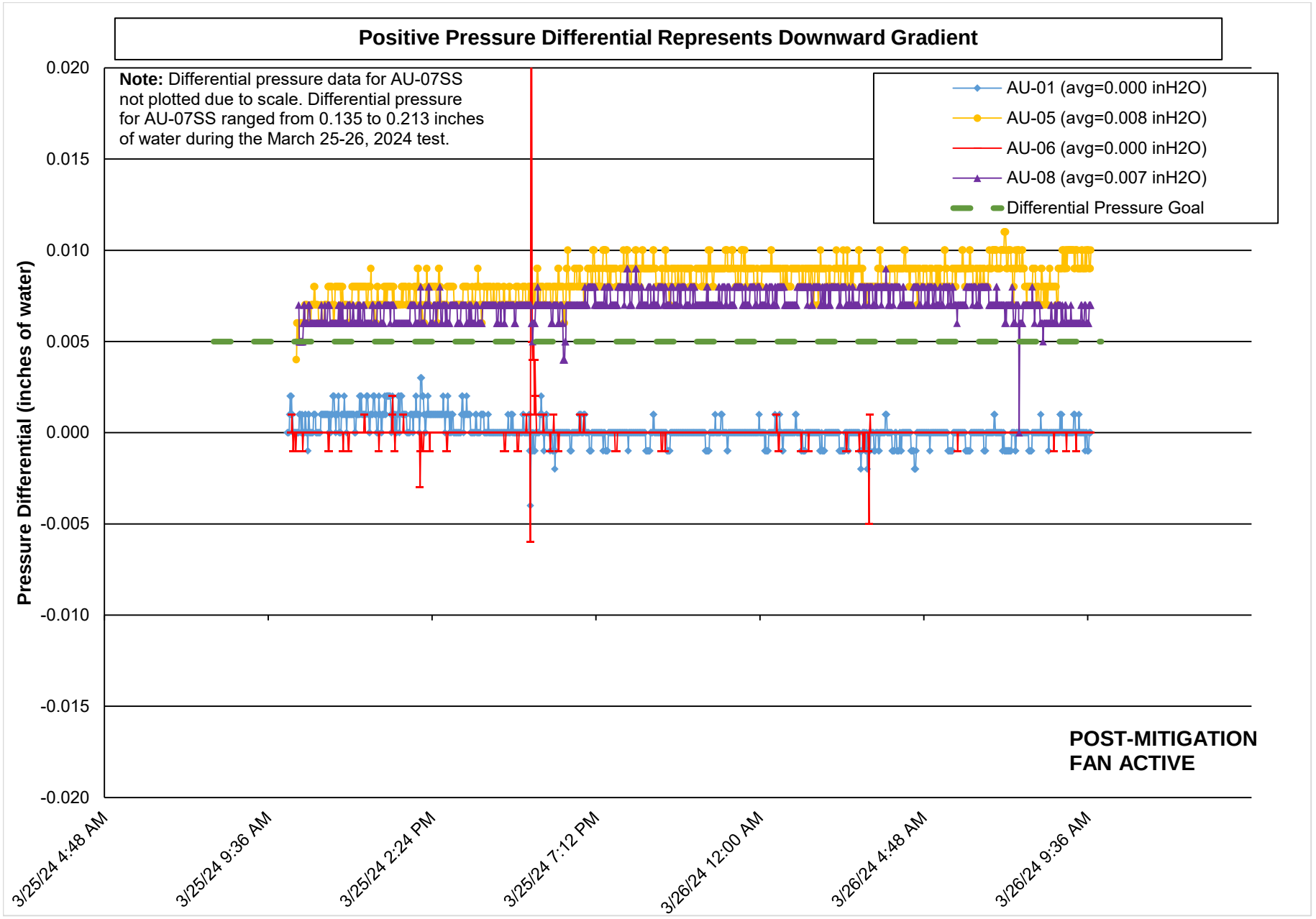
U-LOCK-IT BUILDING
SUB-SLAB DEPRESSURIZATION AS-BUILT
SYSTEM COMPONENTS SCHEMATIC

Project No. 987-03

Figure No. 3

C:\Users\Josh\Desktop\Autocad Files\PNG-Autocad\987-03 Milton's\2017\May 2017\987-03_BM-022517.dwg 2.17.2014

Figure 4
Differential Pressure Across Floor Slab Summary
March 25 - 26, 2024
U-Lock-It Miltons



LEGEND

- Former Milton's Property Boundary
- AU-01SS ▼ Sub-Slab Monitoring Point/ Soil Gas Sample Location
- AU-01 ⧗ Air Sample Location
- J = Estimated Value
- U = Not Detected Above Reporting Limit Shown
- 20 PCE Concentration (ug/m³)

Note:
Vapor Intrusion Mitigation System installed March 29, 2016 and operated since.

APPROXIMATE SCALE IN FEET

0 15 30

AU-02	
2/17/15	31
7/10/15	4.2
4/28/16	0.23
2/13/18	0.40U
8/7/18	0.24U
7/26/19	0.25U
8/21/20	0.24U
2/10/21	0.22U
4/6/22	0.20U
3/24/23	0.18U
3/27/24	0.25

AU-07	
2/17/15	0.12J
2/13/18	0.17U
7/26/19	0.24U
2/10/21	0.21U

AU-01	
2/17/15	20

AU-06	
2/17/15	32
7/10/15	2.2
4/28/16	0.22/0.15
2/13/18	0.23U
8/7/18	0.24U
7/26/19	0.24U
8/21/20	0.22U
2/10/21	0.22U
4/6/22	0.19U
3/24/23	0.18U
3/27/24	0.20

AU-08	
2/17/15	0.11J
7/10/15	0.043J
4/28/16	0.071J
8/7/18	0.26U
8/21/20	0.33U
4/6/22	0.19U
3/24/23	0.26U
3/27/24	0.21U

AU-10	
2/17/15	0.14J

AU-03	
2/17/15	20
7/10/15	1.7
4/28/16	0.23
2/13/18	0.21U
8/7/18	0.25U
7/26/19	0.25U
8/21/20	0.22U
2/10/21	0.24U
4/6/22	0.19U
3/24/23	0.18U
3/27/24	0.27

AU-05	
2/17/15	35
7/10/15	2.4
4/28/16	0.25J
2/13/18	0.23U
8/7/18	0.32U
7/26/19	0.27U
8/21/20	0.23U
2/10/21	0.23U
4/6/22	0.20U
3/24/23	0.18U
3/27/24	0.24

AU-04	
2/17/15	0.23

AU-09	
2/17/15	0.12J

MW-31s (B-3)
MW-4s
MW-7d
MW-7i
MW-1s
MW-36s

AU-07 ⧗
AU-01 ⧗
AU-01SS ▼
AU-02 ⧗
AU-08SS ▼
AU-06SS ▼
AU-06 ⧗
AU-08 ⧗
AU-10 ⧗
AU-05SS ▼
AU-03 ⧗
AU-05 ⧗
AU-03SS ▼
AU-02SS ▼
AU-04 ⧗
AU-04SS ▼
AU-09 ⧗

Customer Lobby
AU-07SS ▼
Customer Lobby Closet
Laundry
Kitchen
Dining Room
Customer Bathroom
Living Room
Patio
Guest Bed
Cl.
BthR
Master Bedroom
Fire Escape Hall
U Lock it Storage Rm #1
U Lock it Storage Rm #2
Customer Storage Room
Customer Storage Boxes
Bioswale

N

PNG ENVIRONMENTAL, INC. 6665 SW Hampton St., Ste. 101 Tigard, OR 97223 TEL (503) 620-2387 FAX (503) 620-2977	DATE: 5-1-24 FILE NAME: 987-03 DRAWN BY: JJT APPROVED BY: SV	MILTONS DRY CLEANERS 6721 E. FOURTH PLAIN BLVD. VANCOUVER, WA.	U-LOCK-IT LAYOUT PCE IN INDOOR AIR, OUTDOOR AIR	Project No. 987-03 Figure No. 5

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LEGEND

———	Former Milton's Property Boundary
AU-01SS ▼	Sub-Slab Monitoring Point/ Soil Gas Sample Location
AU-01 ⧗	Air Sample Location
J =	Estimated Value
U =	Not Detected Above Reporting Limit Shown
20	PCE Concentration (ug/m³)

Note:
Vapor Intrusion Mitigation System installed March 29, 2016 and operated since.

APPROXIMATE SCALE IN FEET

0 15 30

AU-01SS	
12/12/14	2,180
2/18/15	2,000
7/26/19	2.7
8/21/20	2.9
2/10/21	0.84
4/6/22	0.64
3/24/23	2.9J
3/27/24	2.5

AU-06SS	
12/12/14	109J
2/18/15	130
7/26/19	0.93
8/21/20	0.49
2/10/21	0.28
4/6/22	0.45
3/24/23	3.8
3/27/24	2.8

AU-05SS	
12/12/14	724
2/18/15	98
7/26/19	4.1
8/21/20	3.0
2/10/21	1.2
4/6/22	1.8
3/24/23	8.8
3/27/24	2.4

AU-03SS	
12/12/14	77

AU-02SS	
12/12/14	33J
4/6/22	1.2
3/24/23	2.3
3/27/24	2.5

AU-04SS	
12/12/14	20J
2/18/15	28
7/26/19	2.8
8/21/20	1.6
2/10/21	0.93

MW-7d
MW-7i
MW-1s
MW-4s
MW-31s (B-3)
MW-36s
AU-07
AU-08
AU-10
AU-09
Customer Lobby
AU-07SS
Customer Lobby Closet
AU-01
Laundry
AU-01SS
Kitchen
AU-02
AU-08SS
Dining Room
AU-06SS
AU-06
Customer Bathroom
Living Room
Patio
Guest Bed
Cl.
BthR
Master Bedroom
AU-05SS
AU-03
Cl.
AU-05
Cl.
Fire Escape Hall
AU-03SS
U Lock it Storage Rm #1
U Lock it Storage Rm #2
AU-02SS
Customer Storage Room
AU-04
Customer Storage Boxes
AU-04SS
Bioswale
N

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PNG ENVIRONMENTAL, INC.
6665 SW Hampton St., Ste. 101
Tigard, OR 97223
TEL (503) 620-2387
FAX (503) 620-2977

DATE: 5-1-24
FILE NAME: 987-03
DRAWN BY: JJT
APPROVED BY: SV

MILTONS DRY CLEANERS
6721 E. FOURTH PLAIN BLVD.
VANCOUVER, WA.

U-LOCK-IT LAYOUT
PCE IN SOIL GAS

Project No. 987-03
Figure No. 6

APPENDIX A
SSD SYSTEM INSPECTION FORM

PNG Environmental, Inc	SSD System Inspection Form		Job Number: 987
6665 SW Hampton St., Ste. 101 Tigard, Oregon 97223 PH (503) 620-2387 FAX (503) 620-2977	Project: U-Lock-It Storage Miltons Site		Date: 03-25-24
	Client:		Page: 1 of 1
Prepared By:	Location: 6807 NE Fourth Plain Blvd Vancouver, WA 98661	Arrival:	Permit Number:
Purpose:	Weather:	Departure:	

	Yes	No	N/A
Condition of System Components			
Exterior pipe free of cracks	✓		
Interior pipe free of cracks	✓		
Fan running appropriately (no excess noise or vibration)	✓		
Seal around floor Suction Pits in good condition	✓		
Manometer in good condition	✓		
Concrete slab in good condition	✓		
Manometer reading consistent with previous inspections	✓		
All Vapor Points effectively capped	✓		
Riser valves operating properly	✓		
Structural Changes			
Any significant changes to building's HVAC		✓	
Any new vents or openings in the roof/walls		✓	
Any changes to the use of chimneys		✓	
Any new buildings near the mitigated building		✓	
Has the attic been remodeled into a living space		✓	
Have there been any significant earthquake events		✓	

Manometer/Pressure Gauge Readings	Date	Time	In. of H2O
Suction Point #1 (Bedroom)	032524	1020	2.8
Suction Point #2 (Office Lobby)	1	1000	1.7

Other Observations/Comments

APPENDIX B
LABORATORY DATA AND DATA QUALITY REVIEW

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4/15/2024
Mr. Brad Berggren
PNG Environmental
6665 SW Hampton St
Suite 101
Tigard OR 97223

Project Name: Miltons U-Lock
Project #:
Workorder #: 2403808R2

Dear Mr. Brad Berggren

The following report includes the data for the above referenced project for sample(s) received on 3/28/2024 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Monica Tran

Project Manager

eurofins | Air Toxics

WORK ORDER #: 2403808R2

Work Order Summary

CLIENT:	Mr. Brad Berggren PNG Environmental 6665 SW Hampton St Suite 101 Tigard, OR 97223	**BILL TO:**	Mr. Jay Greifer PNG Environmental 6665 SW Hampton St Suite 101 Tigard, OR 97223
PHONE:	503-620-2387	**P.O. #**	987-05
FAX:	503-620-2977	**PROJECT #**	Miltons U-Lock
DATE RECEIVED:	03/28/2024	**CONTACT:**	Monica Tran
DATE COMPLETED:	04/12/2024		
DATE REISSUED:	04/15/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	AU-02	Modified TO-15 SIM	5.5 "Hg	1.9 psi
02A	AU-03	Modified TO-15 SIM	3.5 "Hg	1.9 psi
03A	AU-05	Modified TO-15 SIM	4.9 "Hg	1.9 psi
04A	AU-06	Modified TO-15 SIM	5.9 "Hg	1.9 psi
05A	AU-06 D	Modified TO-15 SIM	3.9 "Hg	1.9 psi
06A	AU-08	Modified TO-15 SIM	8 "Hg	1.9 psi
07A	AU-01 SS	Modified TO-15 SIM	6.0 "Hg	2 psi
08A	AU-01 SSD	Modified TO-15 SIM	4.0 "Hg	2 psi
09A	AU-02 SS	Modified TO-15 SIM	6.0 "Hg	2 psi
10A	AU-05 SS	Modified TO-15 SIM	6.5 "Hg	2 psi
11A	AU-06 SS	Modified TO-15 SIM	3.0 "Hg	2 psi
12A	Lab Blank	Modified TO-15 SIM	NA	NA
13A	CCV	Modified TO-15 SIM	NA	NA
14A	LCS	Modified TO-15 SIM	NA	NA
14AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 04/15/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

LABORATORY NARRATIVE
Modified TO-15 SIM
PNG Environmental
Workorder# 2403808R2

Six 6 Liter Summa Canister (100% SIM Ambient) and five 6 Liter Summa Canister (SIM Certified) samples were received on March 28, 2024. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

The work order was reissued on 04/15/2024 to correct the project name due to laboratory transcription error.

The work order was reissued on 04/15/2024 to correct identification of samples AU-02, AU-03, AU-05, AU-06, AU-06 D, AU-08, AU-01 SS, AU-01 SSD, AU-02 SS, AU-05 SS and AU-06 SS due to laboratory transcription error.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

The following qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN- See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: AU-02

Lab ID#: 2403808R2-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.028	0.83	0.11	3.4
Trichloroethene	0.028	0.029	0.15	0.16
Tetrachloroethene	0.028	0.037	0.19	0.25

Client Sample ID: AU-03

Lab ID#: 2403808R2-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.026	0.92	0.10	3.7
Trichloroethene	0.026	0.032	0.14	0.17
Tetrachloroethene	0.026	0.040	0.17	0.27

Client Sample ID: AU-05

Lab ID#: 2403808R2-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.027	0.57	0.11	2.3
Trichloroethene	0.027	0.029	0.14	0.15
Tetrachloroethene	0.027	0.035	0.18	0.24

Client Sample ID: AU-06

Lab ID#: 2403808R2-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.028	1.1	0.11	4.3
Trichloroethene	0.028	0.029	0.15	0.16
Tetrachloroethene	0.028	0.030	0.19	0.20

Client Sample ID: AU-06 D

Lab ID#: 2403808R2-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: AU-06 D

Lab ID#: 2403808R2-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.026	1.1	0.10	4.4
Trichloroethene	0.026	0.033	0.14	0.18
Tetrachloroethene	0.026	0.028	0.18	0.19

Client Sample ID: AU-08

Lab ID#: 2403808R2-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
trans-1,2-Dichloroethene	0.15	0.34	0.61	1.4

Client Sample ID: AU-01 SS

Lab ID#: 2403808R2-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.028	0.13	0.15	0.71
Tetrachloroethene	0.028	0.37	0.19	2.5

Client Sample ID: AU-01 SSD

Lab ID#: 2403808R2-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.026	0.095	0.14	0.51
Tetrachloroethene	0.026	0.34	0.18	2.3

Client Sample ID: AU-02 SS

Lab ID#: 2403808R2-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.028	0.12	0.15	0.63
Tetrachloroethene	0.028	0.37	0.19	2.5

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: AU-05 SS

Lab ID#: 2403808R2-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.029	0.077	0.16	0.41
Tetrachloroethene	0.029	0.36	0.20	2.4

Client Sample ID: AU-06 SS

Lab ID#: 2403808R2-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.025	0.12	0.14	0.66
Tetrachloroethene	0.025	0.41	0.17	2.8

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Client Sample ID: AU-02

Lab ID#: 2403808R2-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041119sim**	**Date of Collection: 3/27/24 9:38:00 AM**	
Dil. Factor:	**1.38**	**Date of Analysis: 4/12/24 12:27 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
Chloroethane	0.069	Not Detected	0.18	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.055	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.55	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
1,2-Dichloroethane	0.028	0.83	0.11	3.4
Trichloroethene	0.028	0.029	0.15	0.16
Tetrachloroethene	0.028	0.037	0.19	0.25

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: AU-03

Lab ID#: 2403808R2-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041120sim**	**Date of Collection: 3/27/24 9:43:00 AM**	
Dil. Factor:	**1.28**	**Date of Analysis: 4/12/24 12:59 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.033	Not Detected
Chloroethane	0.064	Not Detected	0.17	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.051	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.51	Not Detected
1,1-Dichloroethane	0.026	Not Detected	0.10	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected
1,1,1-Trichloroethane	0.026	Not Detected	0.14	Not Detected
1,2-Dichloroethane	0.026	0.92	0.10	3.7
Trichloroethene	0.026	0.032	0.14	0.17
Tetrachloroethene	0.026	0.040	0.17	0.27

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: AU-05

Lab ID#: 2403808R2-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041121sim**	**Date of Collection: 3/27/24 9:42:00 AM**	
Dil. Factor:	**1.35**	**Date of Analysis: 4/12/24 01:32 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.034	Not Detected
Chloroethane	0.068	Not Detected	0.18	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.054	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
1,2-Dichloroethane	0.027	0.57	0.11	2.3
Trichloroethene	0.027	0.029	0.14	0.15
Tetrachloroethene	0.027	0.035	0.18	0.24

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: AU-06

Lab ID#: 2403808R2-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041125sim**	**Date of Collection: 3/27/24 9:39:00 AM**	
Dil. Factor:	**1.40**	**Date of Analysis: 4/12/24 03:57 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
Chloroethane	0.070	Not Detected	0.18	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
1,2-Dichloroethane	0.028	1.1	0.11	4.3
Trichloroethene	0.028	0.029	0.15	0.16
Tetrachloroethene	0.028	0.030	0.19	0.20

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	127	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: AU-06 D

Lab ID#: 2403808R2-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041126sim**	**Date of Collection: 3/27/24 9:39:00 AM**	
Dil. Factor:	**1.30**	**Date of Analysis: 4/12/24 04:46 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.033	Not Detected
Chloroethane	0.065	Not Detected	0.17	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.052	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.52	Not Detected
1,1-Dichloroethane	0.026	Not Detected	0.10	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected
1,1,1-Trichloroethane	0.026	Not Detected	0.14	Not Detected
1,2-Dichloroethane	0.026	1.1	0.10	4.4
Trichloroethene	0.026	0.033	0.14	0.18
Tetrachloroethene	0.026	0.028	0.18	0.19

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: AU-08

Lab ID#: 2403808R2-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041127sim**	**Date of Collection: 3/27/24 9:15:00 AM**	
Dil. Factor:	**1.54**	**Date of Analysis: 4/12/24 05:18 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
Chloroethane	0.077	Not Detected	0.20	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.061	Not Detected
trans-1,2-Dichloroethene	0.15	0.34	0.61	1.4
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.16	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: AU-01 SS

Lab ID#: 2403808R2-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041131sim**	**Date of Collection: 3/27/24 10:54:00 AM**	
Dil. Factor:	**1.42**	**Date of Analysis: 4/12/24 10:37 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
Chloroethane	0.071	Not Detected	0.19	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
1,2-Dichloroethane	0.028	Not Detected	0.11	Not Detected
Trichloroethene	0.028	0.13	0.15	0.71
Tetrachloroethene	0.028	0.37	0.19	2.5

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: AU-01 SSD

Lab ID#: 2403808R2-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041132sim**	**Date of Collection: 3/27/24 11:06:00 AM**	
Dil. Factor:	**1.31**	**Date of Analysis: 4/12/24 11:09 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.033	Not Detected
Chloroethane	0.066	Not Detected	0.17	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.052	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.52	Not Detected
1,1-Dichloroethane	0.026	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected
1,1,1-Trichloroethane	0.026	Not Detected	0.14	Not Detected
1,2-Dichloroethane	0.026	Not Detected	0.11	Not Detected
Trichloroethene	0.026	0.095	0.14	0.51
Tetrachloroethene	0.026	0.34	0.18	2.3

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: AU-02 SS

Lab ID#: 2403808R2-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041129sim**	**Date of Collection: 3/27/24 1:07:00 PM**	
Dil. Factor:	**1.42**	**Date of Analysis: 4/12/24 09:32 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
Chloroethane	0.071	Not Detected	0.19	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
1,2-Dichloroethane	0.028	Not Detected	0.11	Not Detected
Trichloroethene	0.028	0.12	0.15	0.63
Tetrachloroethene	0.028	0.37	0.19	2.5

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: AU-05 SS

Lab ID#: 2403808R2-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041130sim**	**Date of Collection: 3/27/24 2:02:00 PM**	
Dil. Factor:	**1.45**	**Date of Analysis: 4/12/24 10:04 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.037	Not Detected
Chloroethane	0.072	Not Detected	0.19	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.057	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
1,1-Dichloroethane	0.029	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.029	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.029	Not Detected	0.12	Not Detected
Trichloroethene	0.029	0.077	0.16	0.41
Tetrachloroethene	0.029	0.36	0.20	2.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: AU-06 SS

Lab ID#: 2403808R2-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041133sim**	**Date of Collection: 3/27/24 12:15:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 4/12/24 11:41 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.032	Not Detected
Chloroethane	0.063	Not Detected	0.17	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.050	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.50	Not Detected
1,1-Dichloroethane	0.025	Not Detected	0.10	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.10	Not Detected
1,1,1-Trichloroethane	0.025	Not Detected	0.14	Not Detected
1,2-Dichloroethane	0.025	Not Detected	0.10	Not Detected
Trichloroethene	0.025	0.12	0.14	0.66
Tetrachloroethene	0.025	0.41	0.17	2.8

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2403808R2-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041112simc**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/24 07:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: CCV

Lab ID#: 2403808R2-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041107sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/24 04:21 PM**	

Compound	%Recovery
Vinyl Chloride	99
Chloroethane	97
1,1-Dichloroethene	90
trans-1,2-Dichloroethene	93
1,1-Dichloroethane	97
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	110
1,2-Dichloroethane	125
Trichloroethene	100
Tetrachloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCS

Lab ID#: 2403808R2-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041108sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/24 04:53 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	93	70-130
Chloroethane	92	70-130
1,1-Dichloroethene	86	70-130
trans-1,2-Dichloroethene	89	70-130
1,1-Dichloroethane	96	70-130
cis-1,2-Dichloroethene	91	70-130
1,1,1-Trichloroethane	109	70-130
1,2-Dichloroethane	124	70-130
Trichloroethene	99	70-130
Tetrachloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCSD

Lab ID#: 2403808R2-14AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**21041109sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/24 05:25 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	95	70-130
Chloroethane	94	70-130
1,1-Dichloroethene	87	70-130
trans-1,2-Dichloroethene	90	70-130
1,1-Dichloroethane	98	70-130
cis-1,2-Dichloroethene	92	70-130
1,1,1-Trichloroethane	110	70-130
1,2-Dichloroethane	125	70-130
Trichloroethene	99	70-130
Tetrachloroethene	107	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	114	70-130

PNG ENVIRONMENTAL, INC.

MEMORANDUM

To: Milton's Dry Cleaners (987)

From: Crystal Jones

Date: April 15, 2024

Subject: Data Quality Review (SDG Number 2403808)

INTRODUCTION

The following is a summary of a data quality review for vapor samples collected March 27th, 2024. Samples were collected as part of an investigation of the Milton's Dry Cleaner site by PNG Environmental, Inc. (PNG). Laboratory analyses were performed by Eurofins-Air Toxics (Folsom, California) in accordance with U.S. Environmental Protection Agency (USEPA) methods. A total of eleven vapor samples, including two field duplicates, were submitted for analysis as one sample delivery group (SDG 2403808). The samples were analyzed for volatile organic compounds (VOCs) by EPA Method TO-15 SIM. Analytical results reviewed were consistent with procedures presented in National Functional Guidelines for Organic Superfund Methods Data Review (USEPA 2020), in addition to appropriate laboratory and method quality control criteria.

VOLATILE ORGANIC COMPOUNDS IN VAPOR BY TO-15 SIM

Completeness

All samples were analyzed as requested.

Holding Times

All samples were analyzed within the method-specified holding time criteria (30 days).

Method Blanks

Method blank analyses were conducted at the required frequency for all analyses. No target analytes were detected in the method blanks above the method reporting limit (MRL).

Surrogate Compounds

Surrogate recoveries for all samples were within laboratory control limits (70-130 percent).

Laboratory Control Samples/Laboratory Control Sample Duplicates

Percent recoveries for all laboratory control samples were within control limits (70-130 percent).

6665 SW Hampton Street, Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

Continuing Calibration Verification Samples

Percent recoveries for all continuing calibration verification samples were within control limits.

Field Duplicates

Two field duplicates were submitted with this SDG. Relative percent difference (RPD) results for all detected compounds were within control limits (50 percent).

Summary

No results were qualified.

REFERENCES

USEPA, 2020, *National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, United States Environmental Protection Agency, EPA 540-R-22-005, November.