MEMORANDUM

Project No. 220264

October 17, 2022

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October 17, 2022

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Re: **On-Property Groundwater Investigation**
Estelita's Library Proposed Redevelopment, 2901 17th Ave S, Seattle, WA

Aspect Consulting, LLC (Aspect) prepared this report on behalf of Estelita's Library in support of the potential acquisition and redevelopment of the property at 2901 17th Ave S, Seattle, WA (Subject Property). The Subject Property is located in the Beacon Hill neighborhood -- a commercial and residential area – in Seattle (Figure 1).

The Subject Property has been in use as an auto refueling and service station or repair facility for at least 80 years. Those businesses are now closed and the property is vacant. Petroleum-contaminated soil and groundwater has been identified by earlier studies at the Subject Property. Those studies indicate that petroleum contamination has likely migrated off-property to the north, west, and east (Appendix A).

The purpose of the current on-property soil and groundwater investigation (summarized in this memo) is to evaluate the environmental condition of the property for Estelita's Library prior to their purchase and to better understand cleanup cost and regulatory and logistical implications prior to redevelopment. This 2022 investigation evaluates the groundwater flow direction and the soil and groundwater conditions at the southern property boundary (which has not been investigated previously), and confirms the magnitude and extent of petroleum contamination to soil and groundwater at the west and northeast property boundaries. The scope of the investigation was developed based on the data gaps identified by Aspect and summarized in the *Environmental Review and Overall Project Approach* letter prepared by Aspect in May 2022.[1]

On-Property Soil and Groundwater Investigation

The scope of work for the field investigation consisted of drilling and soil sampling from three soil borings to further evaluate the source and extent of contaminated soil. The scope also included installation of 3 groundwater monitoring wells at the Subject Property in order to evaluate groundwater flow direction and quality beneath the Subject Property. The implemented scope of the investigation components is described in this section. Exploration and sample locations are shown on Figure 2.

Field Program

Holt Services of Edgewood, Washington, drilled 3 borings (AMW-1, AMW-2, and AMW-3) to 45 feet below ground surface (bgs) using hollow stem auger drilling methods between June 6, 7, and 8, 2022. Groundwater monitoring wells were installed in each boring as further described in the Sections below.

The soil types were classified by an Aspect field geologist or engineer according to the Unified Soil Classification System (USCS) and field screened using a photoionization detector (PID) to measure volatile organic vapors. Field screening of the soil samples also included observation of soil for visible staining, odors, and water sheen testing. Boring logs documenting the soil types, fill thicknesses, and results of the field screening are included as Appendix B.

Two or three soil samples were obtained from each boring (8 total samples) and selected for chemical analysis based on field screening results, proximity to known contaminated soil and groundwater areas, and depth relative to perched groundwater, and key lithologic changes. Samples were submitted to Friedman and Bruya, Inc. of Seattle, Washington, for one or more of the following contaminants of potential concern (COPCs):

- Gasoline-, diesel-, and oil-range total petroleum hydrocarbons (TPH using Northwest Methods NWTPH-Gx and NWTPH-Dx
- Benzene, toluene, ethylbenzene, and xylenes (collectively BTEX) by U.S. Environmental Protection Agency (EPA) Method 8020
- Volatile organic compounds (VOCs), including those associated with petroleum products and chlorinated solvents by EPA Method 8260C

In all three borings (AMW-1 to AMW-3), groundwater monitoring wells were constructed with 2-inch-diameter Schedule 40 PVC casings and 10 to 15 feet of 0.010-inch (10-slot) screens set across

[1] Aspect Consulting, Environmental Review and Overall Project Approach Letter, May 4, 2022,

the shallowest occurrence of groundwater. Well development consisted of surging and purging each well using a five-stage pump with a flow controller until approximately 10 casing volumes were removed and water was visibly clear. The groundwater monitoring well locations were surveyed by True North Land Surveying on June 21, 2022.

Groundwater samples were collected from newly installed wells AMW-1 to AMW-3 on June 13, 2022, using low-flow sampling methodology[2] following stabilization of field parameters (temperature, specific conductivity, dissolved oxygen, pH, oxidation reduction potential, and turbidity). Sample intake tubing was placed at the midpoint of the submerged portion of each well screen. On the sampling date, depth to groundwater measurements were collected from the newly installed wells. Each water level measurement was recorded to the nearest hundredth of a foot, relative to the top of the north side of the well casing.

Groundwater samples were submitted to Friedman and Bruya, Inc., of Seattle, Washington, for the following COPCs:

- Gasoline-, diesel-, and oil-range TPH using Northwest Methods NWTPH-Gx and NWTPH-Dx
- BTEX by EPA Method 8020
- VOCs using EPA Method 8260C

All soil cuttings, temporary well purge water and decontamination water generated by the investigation were placed into a labeled U.S. Department of Transportation-approved drums and temporarily stored at the Subject Properties as investigation-derived waste (IDW).

Investigation Results

Geology and Hydrogeology

Soils observed in the three borings at the Subject Property consisted of fill overlying till-like glacial deposits to the maximum depths explored (45 feet bgs). Fill soil generally consisted of brown to gray silty sand with occasional gravel from the ground surface to approximately 10 to 12 feet bgs. Glacial deposits consisted of dense to vary dense gray sand with varying amounts of silt and gravel to 35 feet bgs, and very hard dark gray silt with low to medium plasticity to the maximum depth drilled of 45 feet bgs.

Saturated or wet soils were observed in layers with higher sand content as shallow as 15 feet bgs, alternating with dry to moist layers with higher silt content. Soils were generally saturated at depths below 25 feet bgs. Petroleum-like odors in soil were identified during the field screening in borings AMW-01 from 10 to 20 feet bgs and from 10.5 to 15.5 ft bgs and from 20 to 34.5 feet bgs in AMW-02. The boring logs summarizing the field screening results and observed soil types are provided in Appendix B.

Groundwater was observed in monitoring well AMW-01 at 20.28 feet bgs (274.5 feet above mean sea level [amsl]), at 25.77 feet bgs (268.9 feet amsl) in AMW-02, and at 14.62 feet bgs (280.7 feet amsl) in AMW-03. The groundwater flow direction is to the northeast, with a gradient of

[2] https://www.epa.gov/remedytech/low-flow-minimal-drawdown-ground-water-sampling-procedures

approximately 0.12 based on the monitoring event completed on June 13, 2022. The groundwater flow direction is represented in Figure 3.

Analytical Results – Soil

The soil laboratory results are provided in Appendix C and summarized in Table 1 and shown on Figure 4. The data is compared to the Washington State Model Toxics Control Act (MTCA) Method A cleanup levels for unrestricted land use or, for COPCs without established Method A cleanup levels, MTCA Method B (collectively referred to as "cleanup levels").

COPCs were detected above the cleanup levels in AMW-01 and AMW-02, as follows:

- **Benzene** was detected in soil samples at concentrations above the MTCA Method A cleanup level of 0.03 milligrams per kilogram (mg/kg) in boring AMW-01 (0.066 mg/kg at 40 feet bgs) and in boring AMW-02 (1.2 mg/kg at 41.5 feet bgs) (Table 1).

- **Ethylbenzene** was detected at concentrations above the MTCA Method A cleanup level of 6 mg/kg in boring AMW-02 (8.9 mg/kg at 21 feet bgs).

- **Naphthalene** was detected in soil in AMW-01 at 20 feet bgs at a concentration of 13 mg/kg, which is above the MTCA Method A cleanup level of 5 mg/kg (Table 1).

- **Gasoline-range TPH** was detected in soil samples at concentrations of 320 mg/kg and 570 mg/kg in borings AMW-01 at 20 feet bgs and AMW-02 at 21 feet bgs, respectively, which are above the MTCA Method A cleanup level of 100 mg/kg (Table 1).

Analytical Results – Groundwater

The groundwater laboratory results are provided in Appendix C and summarized in Table 2 and shown on Figure 5. The data is compared to the MTCA Method A cleanup levels for unrestricted land use or, for COPCs without established Method A cleanup levels, MTCA Method B (collectively referred to as "cleanup levels").

COPCs were detected above the cleanup levels in AMW-01 and AMW-02, as follows:

- **Benzene** was detected in groundwater samples at concentrations above the MTCA Method A cleanup level of 5 micrograms per liter (ug/L) in AMW-01 and AMW-02 (2600 ug/L and 330 ug/L, respectively) (Table 2).

- **Ethylbenzene** was detected in AMW-02 at a concentration of 2000 ug/L, which also exceeds the MTCA Method A cleanup level of 700 ug/L (Table 2).

- **Total xylenes** were detected at concentrations above the MTCA Method A cleanup level of 1000 ug/L in AMW-01 and AMW-02 (1960 ug/L and 5900 ug/L, respectively) (Table 2).

- **Naphthalene** was detected in groundwater samples in AMW-02 at a concentration of 460 ug/L which exceeds the MTCA Method A cleanup level of 160 ug/L (Table 2).

- **Gasoline-range TPH** was detected in AMW-01 at a concentration of 27,000 ug/L and in AMW-02 at a concentration of 34,000 ug/L, both of which exceed the MTCA Method A cleanup level of 800 ug/L (Table 2).

- **Diesel-range TPH** was detected in AMW-01 at a concentration of 2,200 ug/L and in AMW-02 at a concentration of 2,600 ug/L, both of which exceed the MTCA Method A cleanup level of 500 ug/L (Table 2). The laboratory indicates that the sample chromatograph pattern does not resemble the fuel standard for that analysis.

- **1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene** were detected in AMW-01 and AMW-02 at concentrations ranging from 200 ug/L to 1,100 ug/L, greater than the MTCA Method B cleanup level of 80 ug/L (Table 2).

Findings and Evaluation

This investigation included the drilling of three soil borings and installing groundwater monitoring wells in each boring to supplement earlier soil sampling and testing data and to identify the groundwater flow direction, confirm the contaminant concentrations in groundwater, and identify the extent of petroleum-contaminated groundwater. The results indicate the following:

1. Petroleum-contaminated soil exceeding MTCA cleanup levels was identified near the refueling and petroleum USTs area extending to depths of 40 feet bgs near the west property boundary and 41.5 feet bgs near the northeast property corner, approximately 5 feet deeper than the maximum exploration depths of previous studies by others (see Appendix A for prior studies). The vertical bounds of the petroleum-contaminated soil at these areas have not been identified. Horizontally, petroleum-contaminated soil appears to extend beyond the Subject Property boundaries to the west, north, and east; however, petroleum-contaminated soil was not identified near the southern property boundary at AMW-3, indicating that the southern horizontal extent is located on property.

2. Groundwater is situated in on-property wells between 15 and 25 feet bgs (equivalent to elevations 269 to 280 feet NAVD88), shallower than the depths reported in previous studies by others. At the time of the sampling in June 2022, groundwater flow direction was toward the north-northeast.

3. Petroleum-contaminated groundwater appears to extend beyond the Subject Property boundaries to unknown extents to the west, north, and east, consistent with data collected in previous studies by others. Aspect's current study did not identify petroleum-contaminated groundwater in well AMW-3, near the southern property boundary, indicating that the southern (and upgradient) extent of petroleum-contaminated groundwater is situated on property, between AMW-3 and B-6.

Based on these findings, additional groundwater well installation and soil and groundwater sampling are needed in off-property locations (in City-owned rights-of-way or adjacent properties) to the north, east, and west, to fully characterize the environmental conditions of the Site and design a cleanup action that is in accordance with the MTCA regulation.

Limitations

Work for this project was performed for Estelita's Library (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix D titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

Attachments:
Table 1 – Soil Data Summary
Table 2 – Groundwater Data Summary
Figure 1 – Site Vicinity Map
Figure 2 – Site Plan
Figure 3 – Groundwater Elevation Map
Figure 4 – Analytical Soil Data
Figure 5 – Analytical Groundwater Data
Appendix A – Historical Investigation Data
Appendix B – Boring Logs
Appendix C – Laboratory Report
Appendix D – Report Limitations and Guidelines for Use

TABLES

Table 1. Soil Data Summary

Project No. 220264, Estelita's Library Proposed Redevelopment, Seattle, Washington

				Location	AMW-01	AMW-01	AMW-01	AMW-02	AMW-02	AMW-03	AMW-03	AMW-03
				Date	06/06/2022	06/06/2022	06/06/2022	06/07/2022	06/07/2022	06/08/2022	06/08/2022	06/08/2022
				Sample	AMW-01-10	AMW-01-20	AMW-01-40	AMW-02-21	AMW-02-41.5	AMW-03-05	AMW-03-20	AMW-03-35
				Depth	10 ft	20 ft	40 ft	21 ft	41.5 ft	5 ft	20 ft	35 ft
Analyte	Unit	MTCA Method A	MTCA Method B									
BTEX												
Benzene	mg/kg	0.03	18	< 0.03 U	< 0.03 U	**0.066**	< 0.03 U	**1.2**	< 0.03 U	< 0.03 U	< 0.03 U
Toluene	mg/kg	7	6400	< 0.05 U	**0.56**	< 0.05 U	**0.085**	**0.18**	< 0.05 U	< 0.05 U	< 0.05 U
Ethylbenzene	mg/kg	6	8000	< 0.05 U	**0.65**	< 0.05 U	**8.9**	**0.36**	< 0.05 U	< 0.05 U	< 0.05 U
Total Xylenes	mg/kg	9	16000	< 0.1 U	**4.9**	**0.37**	**7.23**	**1.16**	< 0.1 U	< 0.1 U	< 0.1 U
Other SVOCs												
Hexachlorobutadiene	mg/kg		13	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
PAHs												
Naphthalene	mg/kg	5	1600	< 0.05 U	**13**	**0.15**	**3.6**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
TPHs												
Gasoline Range Organics	mg/kg	30		< 5 U	**320**	< 5 U	**570**	**13**	< 5 U	< 5 U	< 5 U
Diesel Range Organics	mg/kg	2000		< 50 U	**160 X**	< 50 U	**69 X**	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil Range Organics	mg/kg	2000		< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
VOCs												
1,1,1,2-Tetrachloroethane	mg/kg		38	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	mg/kg	2	160000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2,2-Tetrachloroethane	mg/kg		5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	mg/kg		18	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	mg/kg		180	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethene	mg/kg		4000	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloropropene	mg/kg			< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	mg/kg			< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	mg/kg		0.0063	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	mg/kg		34	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	mg/kg		800	< 0.05 U	**17**	**0.27**	**11**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	mg/kg		1.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	mg/kg	0.005	0.5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichlorobenzene	mg/kg		7200	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	mg/kg		11	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloropropane	mg/kg		27	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	mg/kg		800	< 0.05 U	**4.8**	< 0.05 U	**1.4**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	mg/kg			< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichloropropane	mg/kg			< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	mg/kg		190	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2,2-Dichloropropane	mg/kg			< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Butanone	mg/kg		48000	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Chlorotoluene	mg/kg		1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Hexanone	mg/kg		400	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
4-Chlorotoluene	mg/kg			< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	mg/kg		6400	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Acetone	mg/kg		72000	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 U	< 5 U	< 5 U
Bromobenzene	mg/kg		640	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

Table 1. Soil Data Summary

Project No. 220264, Estelita's Library Proposed Redevelopment, Seattle, Washington

				Location	AMW-01	AMW-01	AMW-01	AMW-02	AMW-02	AMW-03	AMW-03	AMW-03
				Date	06/06/2022	06/06/2022	06/06/2022	06/07/2022	06/07/2022	06/08/2022	06/08/2022	06/08/2022
				Sample	AMW-01-10	AMW-01-20	AMW-01-40	AMW-02-21	AMW-02-41.5	AMW-03-05	AMW-03-20	AMW-03-35
				Depth	10 ft	20 ft	40 ft	21 ft	41.5 ft	5 ft	20 ft	35 ft
Analyte	Unit	MTCA Method A	MTCA Method B									
Bromodichloromethane	mg/kg		16		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromoform	mg/kg		130		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromomethane	mg/kg		110		< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 U	< 0.5 U	< 0.5 U
Carbon Tetrachloride	mg/kg		14		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chlorobenzene	mg/kg		1600		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane	mg/kg				< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Chloroform	mg/kg		32		< 0.05 U	< 0.05 U	< 0.05 U	**0.2**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloromethane	mg/kg				< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene (cDCE	mg/kg		160		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
cis-1,3-Dichloropropene	mg/kg				< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromochloromethane	mg/kg		12		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromomethane	mg/kg		800		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	mg/kg		16000		< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Isopropylbenzene	mg/kg		8000		< 0.05 U	**0.26**	< 0.05 U	**1.6**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
m,p-Xylenes	mg/kg		16000		< 0.1 U	**3.2**	**0.37**	**6.9**	**0.84**	< 0.1 U	< 0.1 U	< 0.1 U
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	560		< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 U	< 0.05 U	< 0.05 U
Methylene Chloride	mg/kg	0.02	94		< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
n-Hexane	mg/kg		4800		< 0.25 U	< 0.25 U	< 0.25 U	**14 E**	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
n-Propylbenzene	mg/kg		8000		< 0.05 U	**1.6**	**0.094**	**4.9**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
o-Xylene	mg/kg		16000		< 0.05 U	**1.7**	< 0.05 U	**0.33**	**0.32**	< 0.05 U	< 0.05 U	< 0.05 U
p-Isopropyltoluene	mg/kg				< 0.05 U	**0.36**	< 0.05 U	**1.4**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
sec-Butylbenzene	mg/kg		8000		< 0.05 U	**0.55**	< 0.05 U	**1.1**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Styrene	mg/kg		16000		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
tert-Butylbenzene	mg/kg		8000		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Tetrachloroethene (PCE)	mg/kg	0.05	480		< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U
trans-1,2-Dichloroethene	mg/kg		1600		< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 UJ	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	mg/kg				< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Trichloroethene (TCE)	mg/kg	0.03	12		< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
Trichlorofluoromethane	mg/kg		24000		< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vinyl Chloride	mg/kg		0.67		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

Notes

U - Analyte not detected at or above Reporting Limit (RL) shown

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation

Bolded results indicate analyte detected above the Reporting Limit

Blue Shaded - Detected result exceeded MTCA Method A screening level

Table 2. Groundwater Data Summary

Project No. 220264, Estelia's Library Proposed Redevelopment, Seattle, Washington

			Location	**AMW-01**	**AMW-02**	**AMW-03**
			Date	**06/13/2022**	**06/13/2022**	**06/13/2022**
			Sample	**AMW-01-061322**	**AMW-02-061322**	**AMW-03-061322**
			Depth to Water (feet below ground surface)	**20.28**	**25.77**	**14.62**
			Elevation (feet above mean sea level)	**295**	**295**	**296**
Analyte	Unit	MTCA Method A	MTCA Method B			
BTEX						
Benzene	ug/L	5	0.8	**2600**	**330**	< 0.35 U
Toluene	ug/L	1000	640	**960**	**970**	< 1 U
Ethylbenzene	ug/L	700	800	**520**	**2000**	< 1 U
Total Xylenes	ug/L	1000	1600	**1960**	**5900**	< 2 U
Other SVOCs						
Hexachlorobutadiene	ug/L		0.56	< 50 U	< 50 U	< 0.5 U
PAHs						
Naphthalene	ug/L	160	160	**140**	**460**	< 1 U
TPHs						
Gasoline Range Organics	ug/L	800		**27000**	**34000**	< 100 U
Diesel Range Organics	ug/L	500		**2200 X**	**2600 X**	**69 X**
Motor Oil Range Organics	ug/L	500		< 250 U	< 250 U	< 250 U
VOCs						
1,1,1,2-Tetrachloroethane	ug/L		1.7	< 100 U	< 100 U	< 1 U
1,1,1-Trichloroethane	ug/L	200	16000	< 100 U	< 100 U	< 1 U
1,1,2,2-Tetrachloroethane	ug/L		0.22	< 20 U	< 20 U	< 0.2 U
1,1,2-Trichloroethane	ug/L		0.77	< 50 U	< 50 U	< 0.5 U
1,1-Dichloroethane	ug/L		7.7	< 100 U	< 100 U	< 1 U
1,1-Dichloroethene	ug/L		400	< 100 U	< 100 U	< 1 U
1,1-Dichloropropene	ug/L			< 100 U	< 100 U	< 1 U
1,2,3-Trichlorobenzene	ug/L			< 100 U	< 100 U	< 1 U
1,2,3-Trichloropropane	ug/L		0.00038	< 100 U	< 100 U	< 1 U
1,2,4-Trichlorobenzene	ug/L		1.5	< 100 U	< 100 U	< 1 U
1,2,4-Trimethylbenzene	ug/L		80	**1100**	**1100**	< 1 U
1,2-Dibromo-3-chloropropane	ug/L		0.055	< 1000 U	< 1000 U	< 10 U
1,2-Dibromoethane (EDB)	ug/L	0.01	0.022	< 100 U	< 100 U	< 1 U
1,2-Dichlorobenzene	ug/L		720	< 100 U	< 100 U	< 1 U
1,2-Dichloroethane (EDC)	ug/L	5	0.48	< 20 U	< 20 U	< 0.2 U
1,2-Dichloropropane	ug/L		1.2	< 100 U	< 100 U	< 1 U
1,3,5-Trimethylbenzene	ug/L		80	**330**	**200**	< 1 U
1,3-Dichlorobenzene	ug/L			< 100 U	< 100 U	< 1 U
1,3-Dichloropropane	ug/L			< 100 U	< 100 U	< 1 U
1,4-Dichlorobenzene	ug/L		8.1	< 100 U	< 100 U	< 1 U
2,2-Dichloropropane	ug/L			< 100 U	< 100 U	< 1 U
2-Butanone	ug/L		4800	< 2000 U	< 2000 U	< 20 U
2-Chlorotoluene	ug/L		160	< 100 U	< 100 U	< 1 U
2-Hexanone	ug/L		40	< 1000 U	< 1000 U	< 10 U
4-Chlorotoluene	ug/L			< 100 U	< 100 U	< 1 U
4-Methyl-2-pentanone	ug/L		640	< 1000 U	< 1000 U	< 10 U
Acetone	ug/L		7200	< 5000 U	< 5000 U	< 50 U
Bromobenzene	ug/L		64	< 100 U	< 100 U	< 1 U
Bromodichloromethane	ug/L		0.71	< 50 U	< 50 U	< 0.5 U
Bromoform	ug/L		5.5	< 500 U	< 500 U	< 5 U
Bromomethane	ug/L		11	< 500 U	< 500 U	< 5 U
Carbon Tetrachloride	ug/L		0.63	< 50 U	< 50 U	< 0.5 U
Chlorobenzene	ug/L		160	< 100 U	< 100 U	< 1 U
Chloroethane	ug/L			< 100 U	< 100 U	< 1 U
Chloroform	ug/L		1.4	< 100 U	< 100 U	< 1 U
Chloromethane	ug/L			< 1000 U	< 1000 U	< 10 U
cis-1,2-Dichloroethene (cDCE)	ug/L		16	< 100 U	< 100 U	< 1 U
cis-1,3-Dichloropropene	ug/L			< 40 U	< 40 U	< 0.4 U
Dibromochloromethane	ug/L		0.52	< 50 U	< 50 U	< 0.5 U
Dibromomethane	ug/L		80	< 100 U	< 100 U	< 1 U
Dichlorodifluoromethane	ug/L		1600	< 100 U	< 100 U	< 1 U
Isopropylbenzene	ug/L		800	< 100 U	< 100 U	< 1 U
m,p-Xylenes	ug/L		1600	**1800**	**4800**	< 2 U
Methyl tert-butyl ether (MTBE)	ug/L	20	24	< 100 U	< 100 U	< 1 U
Methylene Chloride	ug/L	5	5.8	< 500 U	< 500 U	< 5 U
n-Hexane	ug/L		480	< 500 U	< 500 U	< 5 U
n-Propylbenzene	ug/L		800	**260**	**220**	< 1 U
o-Xylene	ug/L		1600	**160**	**1100**	< 1 U
p-Isopropyltoluene	ug/L			< 100 U	< 100 U	< 1 U
sec-Butylbenzene	ug/L		800	< 100 U	< 100 U	< 1 U
Styrene	ug/L		1600	< 100 U	< 100 U	< 1 U
tert-Butylbenzene	ug/L		800	< 100 U	< 100 U	< 1 U
Tetrachloroethene (PCE)	ug/L	5	21	< 100 U	< 100 U	< 1 U
trans-1,2-Dichloroethene	ug/L		160	< 100 U	< 100 U	< 1 U
trans-1,3-Dichloropropene	ug/L			< 40 U	< 40 U	< 0.4 U
Trichloroethene (TCE)	ug/L	5	0.54	< 50 U	< 50 U	< 0.5 U
Trichlorofluoromethane	ug/L		2400	< 100 U	< 100 U	< 1 U
Vinyl Chloride	ug/L	0.2	0.029	< 2 U	< 2 U	< 0.02 U

Notes:

U - Analyte not detected at or above Reporting Limit (RL) shown

X - Chromatographic pattern does not match fuel standard used for quantitation

Bolded results indicate analyte detected above the Reporting Limit

Blue Shaded - Detected result exceeded MTCA Method A screening level

Red Text - Detected result exceeded MTCA Method B screening level

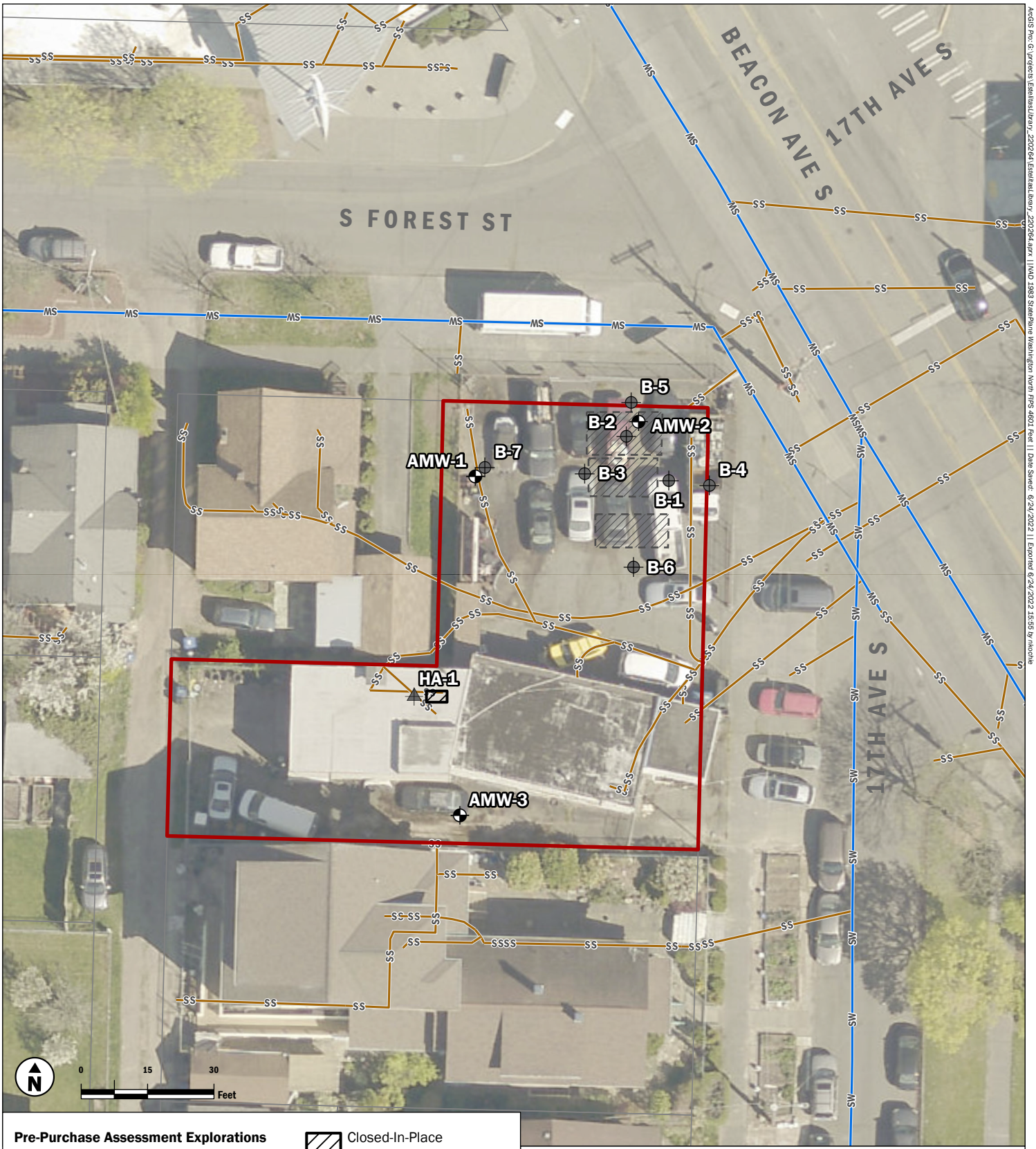
FIGURES

Site Vicinity Map

On-Property Groundwater Investigation Memorandum
Estelita's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect CONSULTING	JUN-2022	BY: ALC / NLK	FIGURE NO. 1
	PROJECT NO. 220264	REVISED BY: HRC	

Data source credits: None || Basemap Service Layer Credits: City of Seattle, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, EPA, USDA, Esri, HERE, Garmin, USGS, EPA, NPS



Pre-Purchase Assessment Explorations

Historical Explorations

- Soil Boring
- Hand Auger
- Subject Property
- Closed-In-Place Waste Oil UST
- Removed Former Refueling UST
- Stormwater
- Sanitary Sewer
- King County Tax Parcel

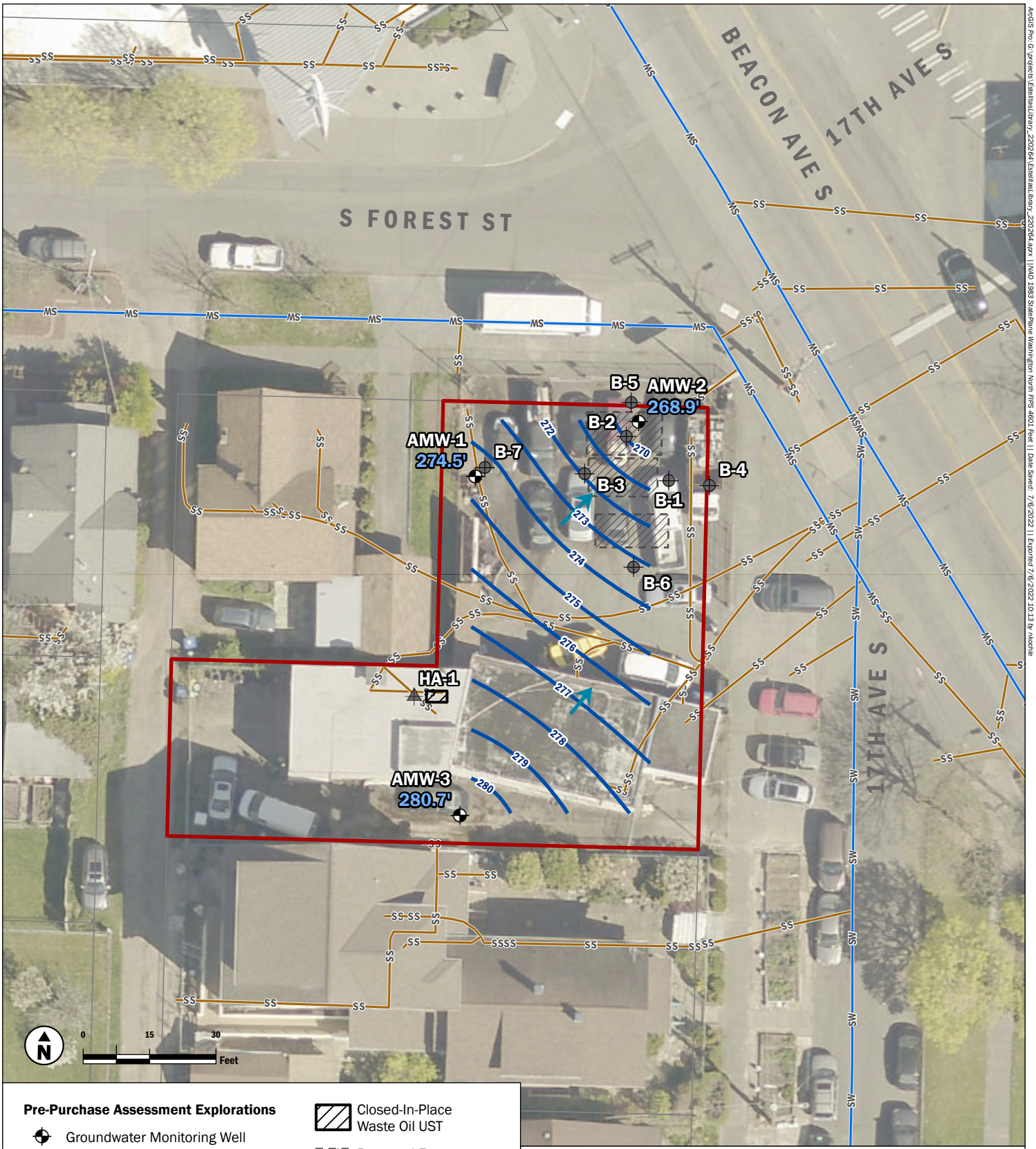
Note: UST = Underground Storage Tank

Site Plan

On-Property Groundwater Investigation Memorandum
Estelita's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect Consulting	JUN-2022	BY: ALC / NLK	FIGURE NO. 2
	PROJECT NO. 220264	REVISED BY: HRC	

Data source credits: None | | Basemap Service Layer Credits: EagleView Technologies, Inc.



Pre-Purchase Assessment Explorations

- Groundwater Monitoring Well

Historical Explorations

- Soil Boring
- Hand Auger
- Groundwater Contour
- Groundwater Flow Direction
- Closed-In-Place Waste Oil UST
- Removed Former Refueling UST
- SW Stormwater
- SS Sanitary Sewer
- Subject Property
- King County Tax Parcel

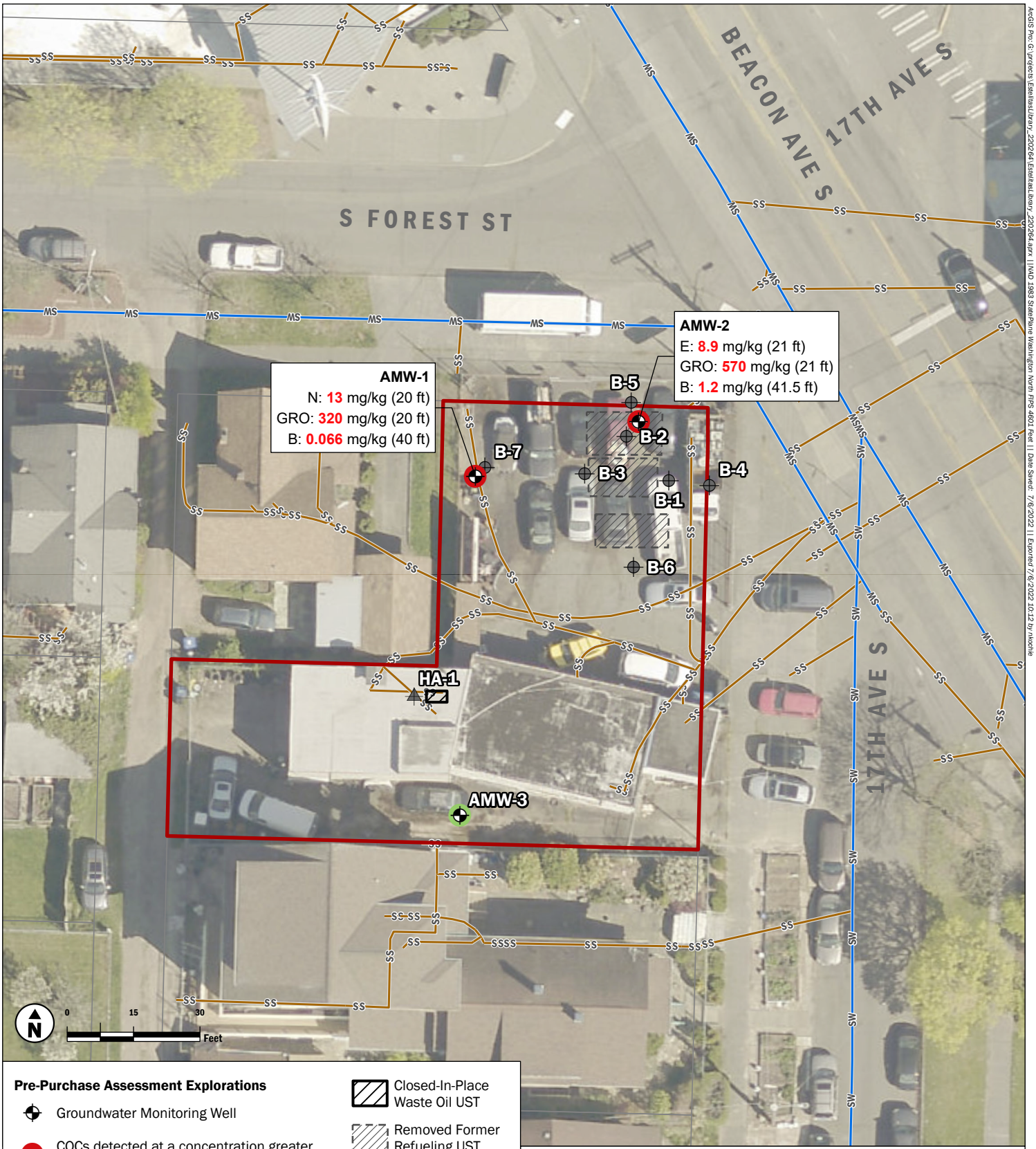
Note: UST = Underground Storage Tank

Groundwater Elevation Map

On-Property Groundwater Investigation Memorandum
Estelita's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect Consulting	JUL-2022	BY: ALC / NLK	FIGURE NO. 3
	PROJECT NO. 220264	REVISED BY: HRC	

Data source credits: None | | Basemap Service Layer Credits: EagleView Technologies, Inc.



Pre-Purchase Assessment Explorations

- Groundwater Monitoring Well
- COCs detected at a concentration greater than the MTCA Method A cleanup level
- COCs not detected

Historical Explorations

- Soil Boring
- Hand Auger

- Closed-In-Place Waste Oil UST
- Removed Former Refueling UST
- Stormwater
- Sanitary Sewer
- Subject Property
- King County Tax Parcel

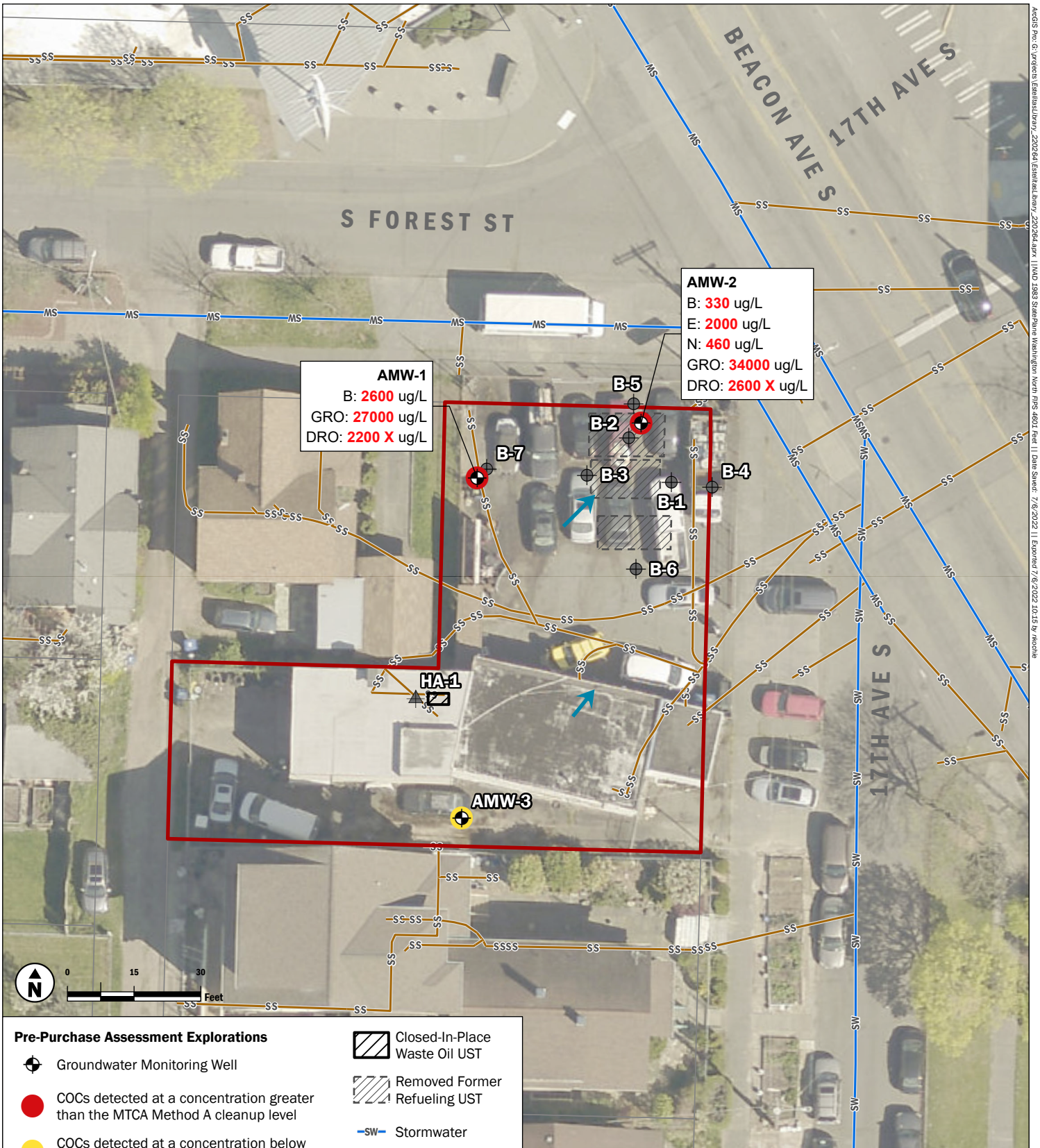
Notes:
COC = Chemical of Concern
B = Benzene
E = Ethylbenzene
N = Naphthalene
GRO = Gasoline Range Organics
UST = Underground Storage Tank

Analytical Soil Data

On-Property Groundwater Investigation Memorandum
Estelita's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect Consulting	JUL-2022	BY: ALC / NLK	FIGURE NO. 4
	PROJECT NO. 220264	REVISED BY: HRC	

Data source credits: None | | Basemap Service Layer Credits: EagleView Technologies, Inc.



Pre-Purchase Assessment Explorations

- Groundwater Monitoring Well
- COCs detected at a concentration greater than the MTCA Method A cleanup level
- COCs detected at a concentration below than the MTCA Method A cleanup level

Historical Explorations

- Soil Boring
- Hand Auger
- Groundwater Flow Direction

- Closed-In-Place Waste Oil UST
- Removed Former Refueling UST
- Stormwater
- Sanitary Sewer
- Subject Property
- King County Tax Parcel

Notes:
COC = Chemical of Concern
B = Benzene
E = Ethylbenzene
N = Naphthalene
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
UST = Underground Storage Tank

Analytical Groundwater Data

On-Property Groundwater Investigation Memorandum
Estelita's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect Consulting	JUL-2022	BY: ALC / NLK	FIGURE NO. 5
	PROJECT NO. 220264	REVISED BY: HRC	

Data source credits: None | | Basemap Service Layer Credits: EagleView Technologies, Inc.

APPENDIX A

Historical Data

Adapt Consulting
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October 2, 2020

Adapt Project No. WA20-18238-PH2

Frank Chin
2901 17th Avenue South
Seattle, Washington 98144

Attention: Mr. Frank Chin

Subject: Additional Phase II Screen
Former Gas Station
2901 17th Avenue South
Seattle, Washington 98144

Dear Mr. Chin,

Adapt Consulting (Adapt) is pleased to provide you with the results of our Additional Phase II Screen for the above-referenced site. This report is provided for Frank Chin and his agents. If this report is to be reproduced and/or transmitted to a third party, it must be reproduced and/or transmitted in its entirety. Any exceptions will be made only with the written permission of Adapt. This work was authorized by Frank Chin in the form of a signed proposal (Adapt Proposal Number P-5368), dated August 5, 2020.

Adapt appreciates the opportunity to be of service to you on this project. Should you have any questions concerning this report, or if we can assist you in any way, please feel free to contact us at (206) 654-7045.

Respectfully Submitted,

Adapt Consulting

John T. Bhend, L.G.
Senior Project Manager

JTB/jtb

TABLE OF CONTENTS

Attachments:

Appendix A – Figures and Tables
Appendix B – Subsurface Exploration Procedures and Boring Logs
Appendix B – Laboratory Certification

1.0 INTRODUCTION

1.1 Site Description

The subject site (Site) is located at 2901 17th Avenue South in Seattle, King County, Washington (see Figure 1). According to the tax assessor's information, the Site is located on one tax parcel (parcel number 308600-3356) that encompasses approximately 0.19 acres (see Figure 2). The Site is located within an area of mixed commercial and residential development.

The Site is currently developed with one structure which was reportedly built in 1900. The Site building is a one story structure with an area of approximately 2,254 square feet which is occupied by Dragon Auto Repair and Transmission. The remainder of the Site is covered by asphalt and concrete paved parking lots and landscaping. Access to the Site is from 17th Avenue South to the east and from South Forest Street to the north.

1.2 Project Background

Phase I Environmental Site Assessment

Adapt previously completed a Phase I Environmental Site Assessment (ESA) report, dated March 14, 2013, for the Site (Adapt project number WA13-18238-PH1). The Phase I ESA documented that the Site had supported two historic gasoline stations (see Figure 2). Review of records held by the State of Washington Department of Ecology (Ecology) indicated that two 6,000-gallon and one 8,000-gallon gasoline underground storage tanks (USTs) were reportedly removed from the Site in 1990.

Limited Phase II ESA

Adapt previously completed a Limited Phase II ESA report, dated April 15, 2013, for the Site (Adapt project number WA13-18238-PH2). The Limited Phase II ESA was completed to assess for potential petroleum hydrocarbon impacts to soil and groundwater attendant to the historic operation of two gasoline stations at the Site. The findings of the Limited Phase II ESA documented petroleum hydrocarbon impacts to soil and groundwater from gasoline range TPH and BTEX in the vicinity of the former gasoline USTs and dispenser islands.

1.3 Scope of Work and Authorization

The purpose of the Additional Phase II Screen is to further assess the lateral extent of petroleum hydrocarbon impacts to soil and groundwater to the east, north, west, and south of the inferred location of the former gasoline USTs and dispenser islands associated with the two historic gasoline stations.

It should be understood that the scope of work for this Additional Phase II Screen may not include the work scope required to fully delineate the exact lateral and vertical extent in groundwater of possible contamination at the Site. In the event significant contamination is observed, additional subsurface assessment work may be needed to fully delineate the exact lateral and vertical extent of contamination.

2.0 ACTIVITIES

2.1 Hollow Stem Auger Borings and Soil Sampling

On August 19 & 20, 2020, four borings (B-4 through B-7) were completed through the use of hollow stem auger drilling methods to depths explored varying from approximately 35.5 feet to 36.5 feet bgs. Borings B-4, B-5, and B-7 were located as close as physically possible to the property line chain-link fence to the areas east, north, and west of the inferred location of the former USTs and fuel dispensers. The completed location of boring B-6 had to be moved further north than originally proposed to minimize the potential for damaging underground sanitary sewer lines that reportedly service the onsite buildings and the residence on the west-adjoining property. The boring locations are depicted on Figure 3.

The explorations were completed using a track-mounted limited access drill rig that was owned and operated by Holocene Drilling under subcontract to our firm. The borings were supervised, sampled, and logged by an Adapt licensed geologist. Soil samples were collected at 5-foot intervals from the site explorations through the use of a 2.5-inch outside diameter split-spoon sampler. All sampling equipment was thoroughly cleaned prior to and after each sampling episode. Subsurface exploration logs and soil sampling procedures are described in Appendix B.

Recovered discrete soil samples were collected from each exploration for description, screening, observation for field indications (visual and olfactory) of impact and quantitative laboratory analyses. Discrete soil samples for volatile compounds were collected in compliance with EPA Method 5035A. Samples were collected using a graduated soil core sampler syringe to collect an approximately 5-gram soil sample. The soil samples was then placed in an empty 40mL VOA vial with a polyethylene lid with septum. Discrete soil samples for non-volatile compounds were collected using a gloved hand and transferred to a clean 4-ounce glass jar with a Teflon® lined lid. The jars were filled minimizing headspace. A field split was then allowed to sit in a warm environment for approximately 5 to 10 minutes. The resulting headspace was screened by inserting a Photoionization detector (PID) probe into the sample container. The PID screen provided a qualitative assessment of total volatile organic constituent concentration in the sample headspace and provided a basis for selection of samples to be submitted for quantitative laboratory analyses. The samples were then stored at approximately 4 degrees C and transported as soon as possible to Friedman and Bruya's laboratory in Seattle, Washington for analytical testing under Adapt's chain-of-custody procedures.

2.2 Groundwater Sampling

A temporary monitoring well consisting of a 10-foot section of 2-inch diameter 0.010 slotted PVC well screen was placed in borings B-4 through B-7 at depths which intersected the observed perched groundwater level. Groundwater samples were collected from the temporary well screens installed in borings B-4 through B-7 using disposable polyethylene bailers.

Samples were collected in laboratory prepared glass containers with Teflon® lined lids. Then, as with the soil samples, the groundwater samples were stored at 4 degrees C, and transported as soon as possible to Friedman & Bruya's laboratory in Seattle, Washington for analytical testing under Adapt's chain-of-custody procedures.

2.3 Analytical Testing

The samples collected from the completed borings were analyzed for the following analyses:

- Gasoline range total petroleum hydrocarbons (TPH) by Ecology Method NW-TPH-Gx with benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B (soil and groundwater samples).
- Lead by EPA Method 200.8 (soil samples).

Analytical test results are summarized in Table 1 and the laboratory analytical data report is included in Appendix C.

3.0 RESULTS

3.1 Subsurface Conditions - Soil

The ground surface was observed to be covered by asphalt in the area where borings B-4 through B-7 were completed. Borings B-4, B-5, and B-7 generally disclosed dry to moist, gray silt/clay with trace to little sand and gravel from directly beneath the surface cover to a depth of approximately 8 to 15 feet bgs. Boring B-6 generally disclosed moist, light brown silty sand and gravelly sand from directly beneath the surface cover to a depth of approximately 10 feet bgs. The underlying soils at borings B-4 through B-7 were observed to generally consist of moist, brown to gray silty sand with variable amounts of small gravel to depths varying from approximately 28 to 35 feet bgs. Compact, moist, gray silt to silt/clay was generally observed at depths ranging from 35 to 36.5 feet bgs in boring B-4; 33 to 35.5 feet bgs in boring B-5; 28 to 34 feet bgs in boring B-6; and 35 to 35.5 feet bgs in boring B-7. Wet soils were generally observed starting at approximately 25 feet bgs in borings B-4 through B-7. Cross section diagrams depicting the observed subsurface conditions are presented on Figures 4a and 4b. Complete boring logs can be found in Appendix B.

All recovered soil samples were field screened using a MiniRae Photoionization Detector (PID). Samples collected from borings B-4 through B-7 exhibited signs of contaminant impacts such as petroleum hydrocarbon odors and elevated PID readings.

3.2 Subsurface Conditions - Groundwater

Saturated or wet soils were observed at a depth of approximately 25 feet bgs in borings B-4 through B-7. The saturated conditions are thought to be associated with a perched groundwater zone overlying the observed compact silt and silt/clay soils. Petroleum hydrocarbon odors were observed to the groundwater samples collected from borings B-4 throughB-7.

3.3 Quantitative Analyses - Soil

Selected soil samples collected from borings B-4 through B-7 were analyzed for gasoline range TPH, BTEX, and lead.

Petroleum Hydrocarbons

Gasoline range TPH was detected in soil samples B-4:20' [64 parts-per-million (ppm)], B-5:15' (980 ppm), and B-7:15' (1,300 ppm), all of which are above the State of Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Soil Cleanup Level (CUL) of 30 ppm[1].

Gasoline range TPH was detected in soil samples B-4:36' (19 ppm), B-5:25' (14 ppm), and B-6:20' (15 ppm), but the detected concentrations were below the MTCA Method A Soil CUL of 30 ppm. Gasoline range TPH was not detected at a concentration above the laboratory reporting limits in the remaining soil samples submitted for analytical testing from borings B-4 through B-7.

BTEX

Benzene was detected in soil samples B-4:25' (0.04 ppm), B-4:36' (0.31 ppm), B-5:35' (0.062 ppm), and B-6:20' (0.34 ppm), all of which are above the MTCA Method A Soil CUL of 0.03 ppm. Benzene was not detected at concentrations above the laboratory reporting limits in the remaining submitted soil samples collected from borings SP-4 through SP-7.

Toluene (36 ppm), ethylbenzene (20 ppm), and xylenes (120 ppm) were detected in soil sample B-7:15' at concentrations above their respective MTCA Method A Soil CULs. Xylenes (71 ppm) was detected in soil sample B-5:15' at a concentration above the MTCA Method A Soil CUL of 9 ppm. Toluene, ethylbenzene, and xylenes were generally detected in soil samples B-4:25', B-4:36', B-6:20', B-6:36', and B07:30', but the detected concentrations were below their respective MTCA Method A Soil CULs. Toluene, ethylbenzene, and xylenes were not detected at concentrations above the laboratory reporting limits in the remaining submitted soil samples collected from borings SP-4 through SP-7.

Lead

Lead was detected in samples B-5:17' (1.17 ppm) and B-7:5' (1.12 ppm), but the detected concentrations were below MTCA Method A Soil CUL of 250 ppm. Lead was not detected at concentrations above the laboratory reporting limits in soil samples B-4:15' and B-6:20'.

Soil analytical test results are summarized in Table 1. The analytical laboratory reports are included in Appendix B.

3.4 Quantitative Analyses - Groundwater

Groundwater samples collected from borings B-4 through B-7 were analyzed for gasoline range TPH and BTEX.

Petroleum Hydrocarbons

Gasoline range TPH was detected in groundwater samples B-4:GW [99,000 parts-per-billion (ppb)], B-5:GW (130,000 ppb), B-6:GW (140,000 ppb), and B-7:GW (69,000 ppb), all of which are above the MTCA Method A Groundwater CUL of 800 ppb[2].

[1] Value is 100 ppm for gasoline mixtures without benzene and a total of ethylbenzene, toluene, xylenes are less than 1% of the gasoline mixture; 30 ppm for all other gasoline mixtures

2 Value is 1,000 ppb when benzene is not detected; 800 ppb when benzene is detected

BTEX
Benzene was detected in groundwater samples B-4:GW (3,500 ppb), B-5:GW (1,200 ppb), B-6:GW (4,500 ppb), and B-7:GW (1,300 ppb), all of which are above the MTCA Method A Groundwater CUL of 5 ppb.

Toluene was detected in groundwater samples B-4:GW (4,200 ppb), B-5:GW (2,000 ppb), B-6:GW (5,000 ppb), and B-7:GW (7,100 ppb), all of which are above the MTCA Method A Groundwater CUL of 1,000 ppb.

Ethylbenzene was detected in groundwater samples B-4:GW (4,200 ppb), B-5:GW (4,000 ppb), B-6:GW (3,500 ppb), and B-7:GW (1,800 ppb), all of which are above the MTCA Method A Groundwater CUL of 700 ppb.

Xylenes were detected in groundwater samples B-4:GW (18,000 ppb), B-5:GW (16,000 ppb), B-6:GW (18,000 ppb), and B-7:GW (9,200 ppb), all of which are above the MTCA Method A Groundwater CUL of 1,000 ppb.

Groundwater analytical test results are summarized in Table 2 and analytical laboratory report is included in Appendix C.

4.0 CONCLUSIONS

4.1 Source Areas

A Phase I ESA previously completed by Adapt in 2013 documented that the Site had supported two historic gasoline stations; a Gilmore-branded facility from approximately 1939 to the mid-1950s and a Mobilgas-branded facility from approximately the mid-1950s to the 1980s. While Adapt was not able to find any records indicating the location of USTs associated with the Gilmore-branded gasoline station, the approximate location of the station building and canopy structure have been inferred based on review of historic aerial photographs. The location of the USTs and fuel dispensers for the Mobilgas-branded gasoline station were inferred based on review of archived construction plans sourced from the City of Seattle.

Review of the inferred locations of the historic gasoline station fuel storage and dispensing equipment (i.e., canopy structures, USTs, and fuel dispensers) and review of the available soil and groundwater sampling data, it appears that the source area of the gasoline associated contamination is located near the north-central portion of the Site as depicted on Figure 2.

In addition to the gasoline associated contamination, review of archived construction plans and available soil sampling data indicates a second smaller area of waste oil associated contamination is centered around a closed-in-place UST located beneath the western section of the onsite building as depicted on Figure 2.

4.2 Extent of Contamination in Soil

Gasoline Station Source Area
The available soil sampling data does not fully assess the lateral extent of gasoline associated contamination to soil at the Site as it appears that contaminant impacts likely extend beyond the property boundaries to the north, east, and west of the historic gasoline station source area. The soil sampling data at the location of boring B-6 suggests that the lateral extent of deeper

contaminant impacts to soil (i.e., contamination at depths 20 feet bgs and greater) has not been fully assessed to the area south of the gasoline station source area.

The available soil sampling data indicates the vertical extent of gasoline associated contamination to soil generally appears to be limited to a maximum depth of approximately 35 to 36 feet bgs, which corresponds to the approximately depth at which a relatively impermeable silt and silt/clay soil zone was documented during the drilling activities.

Waste Oil UST Source Area

Limited soil sampling has been completed in the area immediately surrounding the closed-in-place waste oil UST as access to this area for drilling operations is significantly limited by the existing building. However, based on Adapt's professional experience working on other sites with waste oil USTs, it has been our experience that contaminant impacts are usually fairly limited, as compared to gasoline station UST facilities. Adapt estimates that the contaminant impacts to soil are likely limited to an area measuring approximately 15 feet wide by 15 feet long by 15 feet deep at the location of the closed-in-place waste oil UST.

4.3 Extent of Contamination in Groundwater

Gasoline Station Source Area

The available soil sampling data does not fully assess the lateral extent of gasoline associated contamination to groundwater at the Site as it appears that contaminant impacts likely extend beyond the property boundaries to the north, east, and west of the historic gasoline station source area. The groundwater sampling data at the location of boring B-6 suggests that the lateral extent of contaminant impacts to groundwater has not been fully assessed to the area south of the gasoline station source area.

A review of the observed subsurface soil conditions and available field screening results made during the drilling activities suggests that the vertical extent of the observed gasoline associated contamination to the perched groundwater zone is likely limited to a maximum depth of approximately 35 to 36 feet bgs, which corresponds to the approximately depth at which a relatively impermeable silt and silt/clay soil zone was documented during the drilling activities.

Also, while these sampling results appear to indicate relatively high contaminant concentrations in the groundwater samples collected from borings B-1 and B-4 through B-7, it should be noted that the groundwater samples collected from the temporary well screens placed within open borings should only be considered to be a preliminary screening of contaminant levels as groundwater samples collected from open borings generally have higher reported contaminant concentrations due to increased turbidity levels of the sample[3]. It should also be noted that Ecology considers groundwater sampling results from open borings to be preliminary and will generally only use groundwater data for samples collected from monitoring wells to assess compliance with groundwater cleanup levels.

[3] Higher turbidity results from additional suspended sediment present in samples collected from open borings tends to increase the detected contaminant levels as the laboratory instruments detect the contaminants that are adsorbed to the soil particles in addition to the contaminants dissolved in the groundwater.

Waste Oil UST Source Area

No groundwater sampling has been completed in the area immediately surrounding the closed-in-place waste oil UST as access to this area for drilling operations is significantly limited by the existing building. However, based on Adapt's professional experience working on other sites with waste oil USTs, it has been our experience that contaminant impacts are usually fairly limited, as compared to gasoline station UST facilities. Adapt estimates that the contaminant impacts to soil are likely limited to a maximum depth of approximately 15 feet bgs in this area.

4.4 Potential Exposure Pathway and Receptor Assessment

An exposure pathway assessment is necessary for chemicals identified at the Site to pose a risk to potential receptors. A given exposure pathway is considered complete if each of the following criteria is met:

- A source of contamination is present;
- A mechanism for contaminant release and migration from the source exists;
- An exposure point where contact can occur exists; and
- A route by which chemical intake can occur exists.

Gasoline associated contaminant impacts to soil and groundwater have been documented in the northern portion of the Site and waste oil associated contaminant impacts to soil have been documented beneath the western section of the onsite building.

Potential human exposure pathways and receptors for the Site include the following:

Dermal Contact and Ingestion (Direct Contact) of Contaminated Soil

As stated in Section 9.1 of *Ecology's Guidance for Remediation of Petroleum Contaminated Sites*, Publication No. 10-09-057, revised June 2016, Ecology states the following: *for soil cleanup levels based on direct contact, the point of compliance is defined as throughout the site from the ground surface to 15 feet below the ground surface*. Currently the Site is completely paved by the asphalt surfaced parking lot and the concrete slab for the existing onsite building, both of which are currently preventing direct contact with any underlying contaminated soil that is present within 15 feet of the ground surface. If the Site is redeveloped in the future, source removal and engineering controls will likely be needed to eliminate the dermal contact pathway.

Exposure to Groundwater

There appear to be no public drinking water wells located within a 1-mile radius of the Site. Based on the observed depth to groundwater being at least 25 feet bgs and the lack of any drinking water wells in the area immediately surrounding the Site, there appears to be no significant exposure to groundwater.

Exposure to Surface Water

The nearest body of surface water is the western shore of Lake Washington is located approximately 1.3 miles east of the Site. Also, a shipping channel connected to Elliott Bay is located approximately1.5 miles west of the Site. Based on the separation distances to the nearest bodies of surface water, there appears to be no significant exposure to surface water.

5.0 RECOMMENDATIONS

The findings of the subsurface environmental assessment completed at the Site to date have documented gasoline associated contaminant impacts to soil and groundwater in the northern portion of the Site and waste oil associated contaminant impacts to soil beneath the western section of the onsite building. While the lateral extent of contaminant impacts has not been fully assessed, there appear to be no significant exposure risks to either human health or the environment at this time based on the existing development conditions (e.g., asphalt paved parking lot, concrete slab for the existing building, depth to contaminated groundwater).

If the Site is redeveloped in the future, contaminated soils will likely be encountered and need to be segregated and transported offsite for disposal at a properly licensed and permitted facility. Based on review of the current zoning status of the Site and surrounding properties, it is unlikely that potential future redevelopment of the Site would include excavation work that would extend to depths that would encounter the contaminated perched groundwater zone that has been documented beneath the northern portion of the Site, negating the requirement for excavation dewatering and disposal of contaminated groundwater.

Based on Adapt's professional experience, it is unlikely that Ecology would require the property owner or otherwise legally appointed potentially liable party (PLP) to actively clean up the documented contaminant impacts to soil and groundwater. It may be prudent to obtain the advice of a qualified environmental attorney regarding question of law pertaining to determination of PLPs for the documented contamination and whether or not it would be feasible to assign cleanup responsibility to the prior oil companies associated with the documented former onsite gasoline stations.

It is also Adapt's opinion that it would be prudent to obtain the advice of a qualified environmental attorney regarding questions of law pertaining to Washington State reporting requirements for the soil and groundwater revealed by the present Limited Phase II assessment. Establishing a responsible party for the contamination above MTCA Method A cleanup levels is a question of law that is beyond Adapt's expertise and best addressed by a qualified environmental attorney.

6.0 LIMITATIONS

Given that our assessment was limited and peripheral to the potential source areas, it is possible that a release may have occurred that was not discovered during our assessment. If future subsurface work encounters stained, odorous, or otherwise contaminated soil or groundwater, such soil or groundwater should be managed as contaminated material, which may include additional analytical testing and off-site treatment or disposal.

Information contained in this report is based upon site characterization, field observations, and the laboratory analyses completed for this study. Conclusions presented are professional opinions based upon our interpretation of the analytical laboratory test results, as well as our experience and observations during the field activities. The location and depth of the explorations, as well as the analytical scope were completed within the site and proposal constraints. Adapt's observations and the analytical data are limited to the vicinity of each test probe and do not necessarily reflect conditions across the site. No other warranty, express or implied is made. In the event that additional information regarding either the site or surrounding properties becomes known, or changes to existing conditions occurs, the conclusions in this

report should be reviewed, and if necessary, revised to reflect the updated information. Project specific limitations are presented in the appropriate sections of this report.

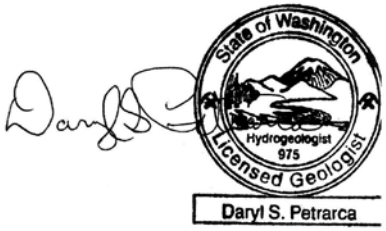
This report has been prepared for the exclusive use of Frank Chin and his agents for specific application to the project site. Use or reliance upon this report by a third is at their own risk. Adapt does not make any representation or warranty, express or implied, to such other parties as to the accuracy or completeness of this report or the suitability of its use by such other parties for any purpose whatever, known or unknown, to Adapt.

Adapt appreciates the opportunity to be of service to you on this project. Should you have any questions concerning this report, or if we can assist you in any way, please contact us at (206) 654-7045.

Respectfully Submitted,

Adapt Consulting

John T. Bhend, L. G.
Senior Project Manager



Daryl S. Petrarca, L.H.G.
Senior Reviewer

JTB/jtb

APPENDIX A

FIGURES AND TABLES

Adapt Consulting
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Seattle, Washington 98104
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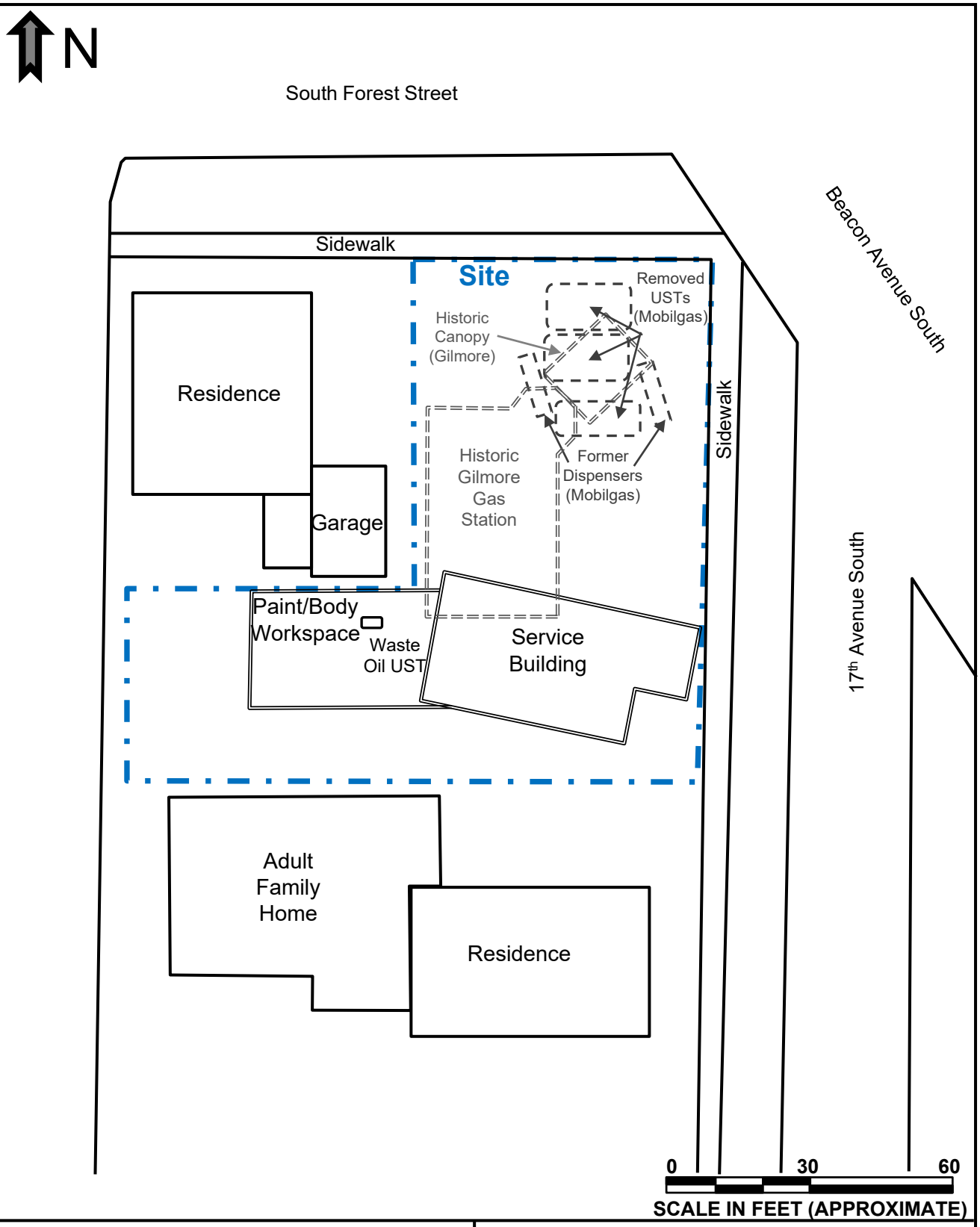
FIGURE 1 - Location/Topographic Map
Location: Former Gas Station
2901 – 17th Avenue South
Seattle, WA 98144
Client: Frank Chin
Date: 10/02/20 **Job #:** WA20-18238-PH2



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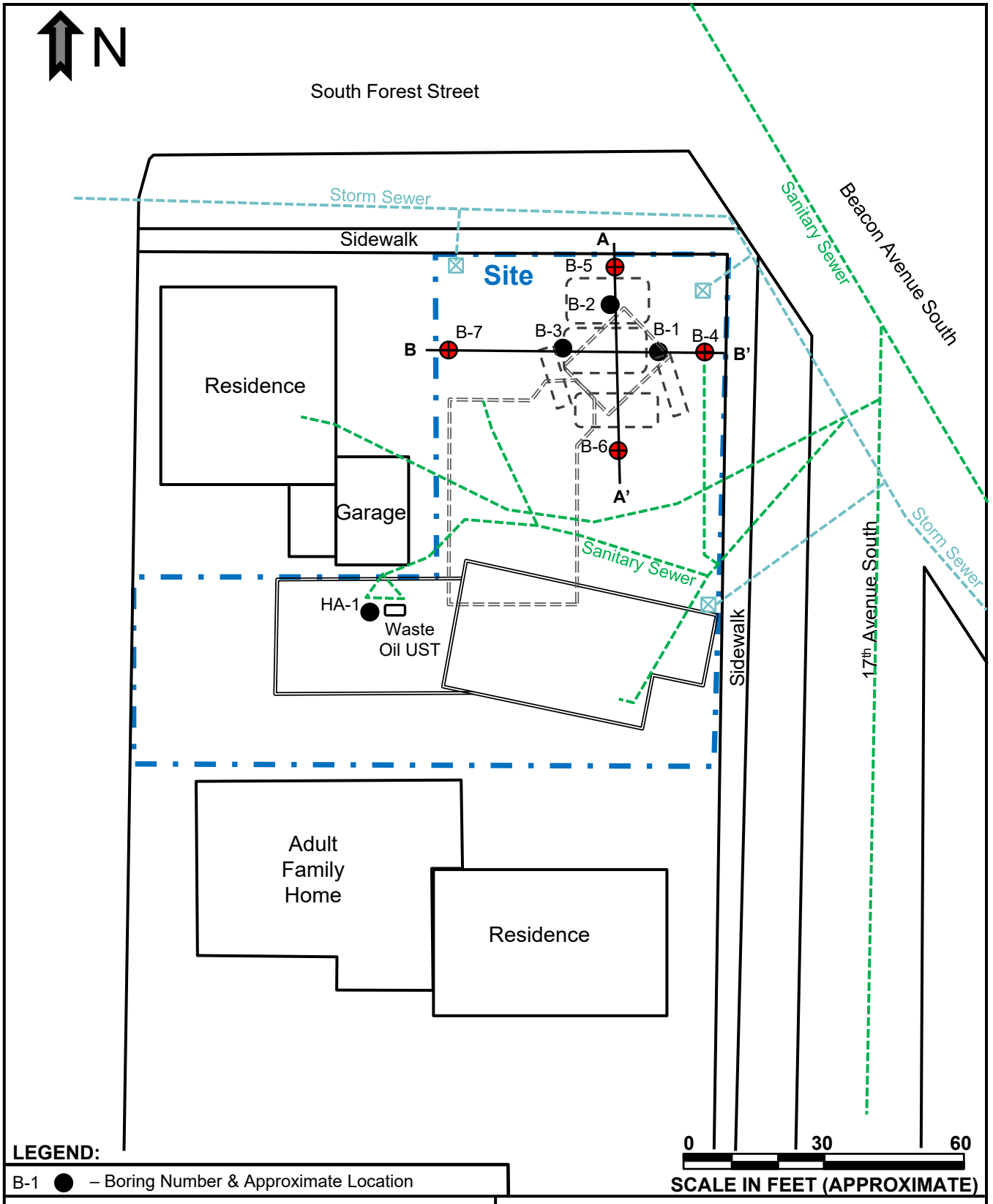
615 8th Avenue South
Seattle, Washington 98104
Tel: (206) 654-7045 Fax: (206) 654-7048

FIGURE 2 – Site Plan
Location: Former Gas Station
2901 – 17th Avenue South
Seattle, WA 98144
Client: Frank Chin
Date: 10/02/20 **Job #:** WA20-18238-PH2



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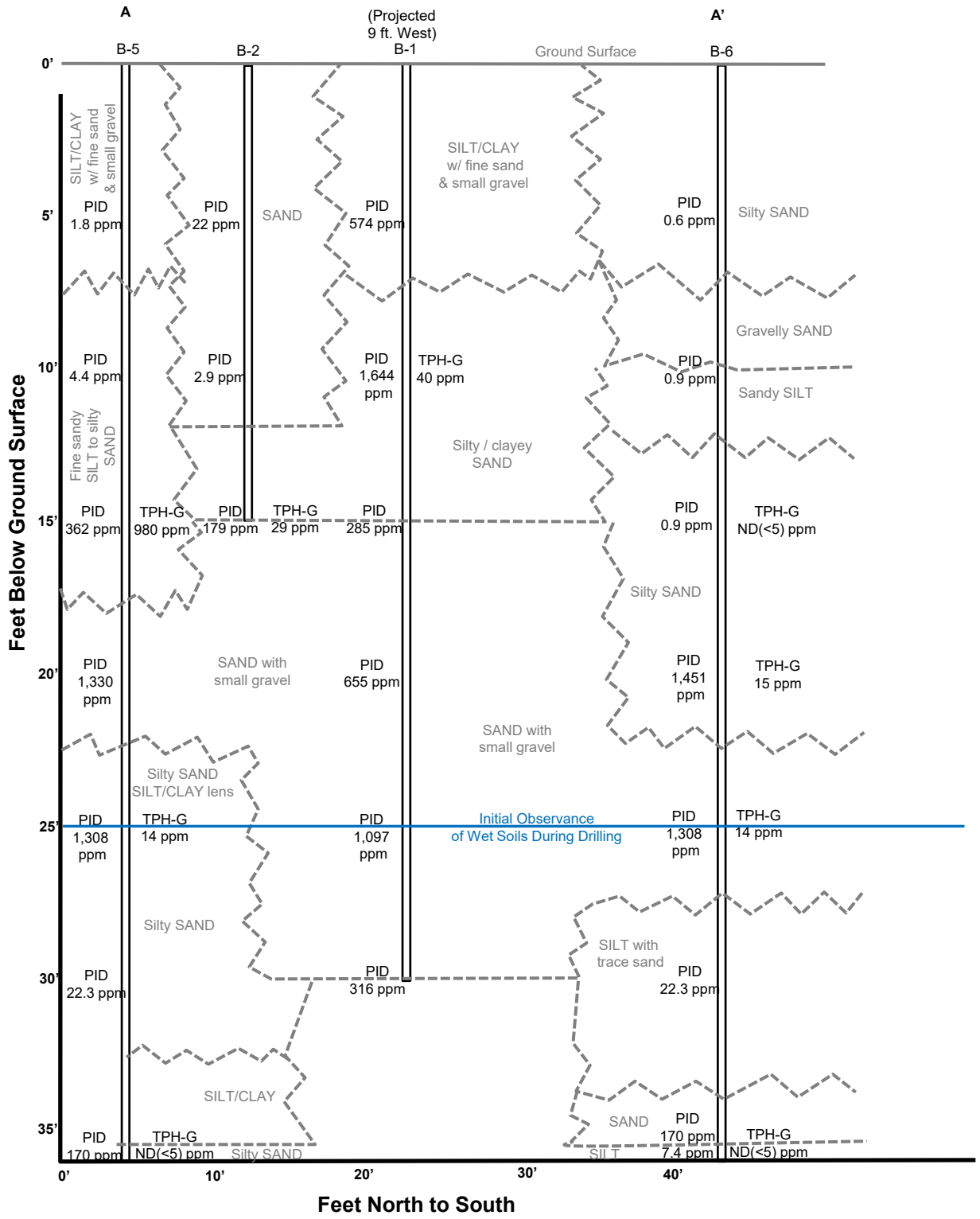
Seattle, Washington 98104
Tel: (206) 654-7045 Fax: (206) 654-7048

FIGURE 3 – Exploration Plan
Location: Former Gas Station
2901 – 17th Avenue South
Seattle, WA 98144
Client: Frank Chin
Date: 10/02/20 **Job #:** WA20-18238-PH2



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Seattle, Washington 98104
Tel: (206) 654-7045 Fax: (206) 654-7048

FIGURE 4a – Cross Section – North to South
Location: Former Gas Station
2901 – 17th Avenue South
Seattle, WA 98144
Client: Frank Chin
Date: 10/02/20 **Job #:** WA20-18238-PH2

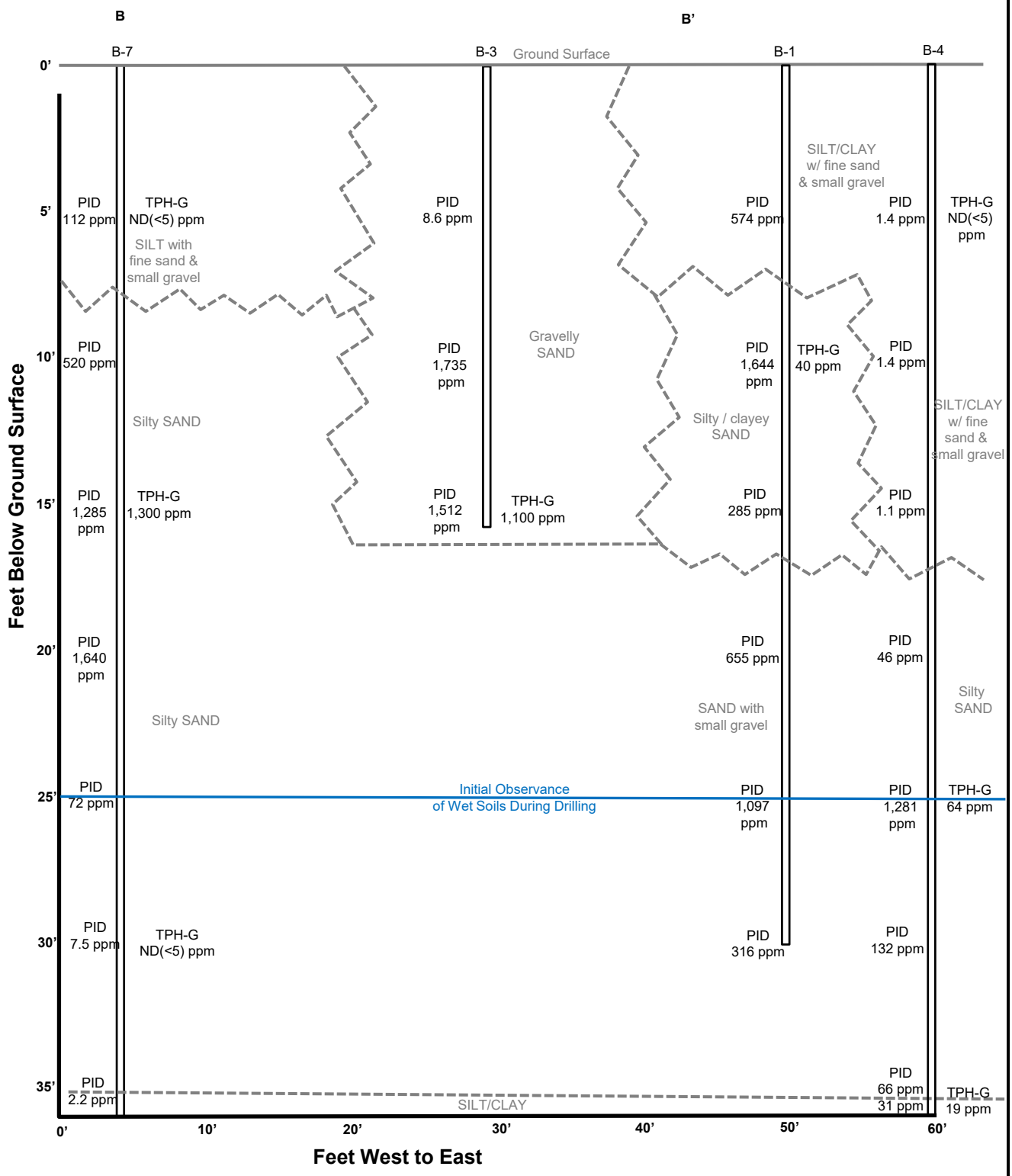

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FIGURE 4b – Cross Section – West to East
Location: Former Gas Station
2901 – 17th Avenue South
Seattle, WA 98144
Client: Frank Chin
Date: 10/02/20 **Job #:** WA20-18238-PH2

Table 1: Summary of Soil Analytical Results

Sample No.	Depth	Date	PID	TPH-D	TPH-MO	TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead
B-1	10	3/27/2013	1,644	-	-	**40**	ND(<0.2)	**0.065**	**0.41**	**0.18**	-
B-2	15		179	-	-	**29**	ND(<0.2)	**0.084**	**0.41**	**1.2**	-
B-3	15		1,512	-	-	**1,100**	ND(<0.2)	**2.1**	**14**	**65**	-
HA-1	2		388	**3,300**	**15,000**	**400**	**0.35**	**4.9**	**3.2**	**23**	**1020**
B-4	5	8/19/2020	1.1	-	-	-	-	-	-	-	-
	10		1.4	-	-	-	-	-	-	-	-
	15		1.1	-	-	ND(<5)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.06)	ND(<1)
	20		46	-	-	-	-	-	-	-	-
	25		1,281	-	-	**64**	**0.04**	**0.73**	**0.88**	**5.1**	-
	30		132	-	-	-	-	-	-	-	-
	36		31	-	-	**19**	**0.31**	**0.25**	**0.58**	**3.1**	-
B-5	5		1.8	-	-	-	-	-	-	-	-
	10		4.4	-	-	-	-	-	-	-	-
	15		362	-	-	**980**	ND(<0.4)	**1.4**	**20**	**71**	**1.17**
	20		1,330	-	-	-	-	-	-	-	-
	25		1,308	-	-	**14**	ND(<0.02)	**0.042**	**0.057**	**0.15**	-
	30		22.3	-	-	-	-	-	-	-	-
	35		170	-	-	ND(<5)	**0.062**	ND(<0.02)	**0.093**	**0.34**	-
B-6	5	8/20/2020	0.6	-	-	-	-	-	-	-	-
	10		0.9	-	-	-	-	-	-	-	-
	15		0.9	-	-	ND(<5)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.06)	ND(<1)
	20		1,451	-	-	**15**	**0.34**	**1.4**	**0.22**	**1.3**	-
	25		495	-	-	-	-	-	-	-	-
	30		95	-	-	-	-	-	-	-	-
	36		7.4	-	-	ND(<5)	ND(<0.02)	**0.055**	**0.039**	**0.21**	-
B-7	5		112	-	-	ND(<5)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.06)	**1.12**
	10		520	-	-	-	-	-	-	-	-
	15		1,283	-	-	**1,300**	ND(<0.4)	**36**	**20**	**120**	-
	20		1,640	-	-	-	-	-	-	-	-
	25		72	-	-	-	-	-	-	-	-
	30		7.5	-	-	ND(<5)	ND(<0.02)	**0.074**	ND(<0.02)	**0.12**	-
	35		2.2	-	-	-	-	-	-	-	-
MTCA Method A Soil CUL				2,000	2,000	30 / 100 (a)	0.03	7	6	9	250

Shaded values indicates exceedance of the MTCA Method A Cleanup Level
All concentrations given in parts per million (ppm), which is equivalent to milligrams per kilogram
MTCA = Model Toxics Control Act (MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses shown)

(a) = Value is 100 ppm for gasoline mixtures without benzene and total of ethylbenzene, toluene and xylenes are less than 1% of the gasoline mixture; 30 ppm for all other gasoline mixtures

- = Not tested
TPH-G, D, MO = Total petroleum hydrocarbons – gasoline, diesel, motor oil

Table 2: Summary of Groundwater Analytical Results

Sample No.	Date	TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes
B-1:GW	3/27/2013	**100,000**	**6,500**	**19,000**	**2,000**	**12,000**
B-4:GW	8/19/2020	**99,000**	**3,500**	**4,200**	**4,200**	**18,000**
B-5:GW		**130,000**	**1,200**	**2,000**	**4,000**	**16,000**
B-6:GW	8/20/2020	**140,000**	**4,500**	**5,000**	**3,500**	**18,000**
B-7:GW		**69,000**	**1,300**	**7,100**	**1,800**	**9,200**
MTCA Method A Groundwater CUL		800 / 1,000 (a)	5	1,000	700	1,000

All samples are grab sample collected from an open borehole and the associated analytical testing result are only preliminary and for screening purposes

Shade values indicates exceedance of either the MTCA Method A Cleanup Level

All concentrations given in parts per billion (ppb), which is equivalent to micrograms per liter

MTCA = Model Toxics Control Act (MTCA Method A Cleanup Levels for Groundwater

(a) = Value is 1,000 ppb when benzene is not detected in groundwater; 800 ppb when benzene is detected in groundwater

TPH-G = Total petroleum hydrocarbons – gasoline

APPENDIX B

SUBSURFACE EXPLORATION PROCEDURES AND BORING LOGS

APPENDIX B

SUBSURFACE EXPLORATION PROCEDURES AND BORING LOGS

Hollow Stem Auger Borings

The field exploration work conducted for this limited subsurface environmental assessment consisted of the advancement of four hollow stem auger borings. The approximate locations for the completed borings are illustrated on Figure 3. This location was obtained through taping from known reference points (i.e., buildings and roads).

The hollow stem auger borings were advanced on August 19 & 20, 2020 by Holocene Drilling, a local exploration drilling company under subcontract to our firm. Each hollow stem auger boring consisted of advancing a 4-inch inside diameter hollow stem auger with a track-mounted drill rig. During the hollow stem auger drilling process, soil samples were collected at 5-foot intervals. The boring was observed and logged in the field by a geologist form our firm.

Prior to the start of drilling and between each boring location, the hollow stem auger flights were pressure-washed with hot water and sampling tools were scrubbed with a stiff brush and a solution of Liquinox (a phosphate free detergent) and water, and then rinsed with potable water and deionized water.

Characterization of Soil

Discrete soil samples were collected at 5-foot intervals by using the Standard Penetration Test Procedure, as described in ASTM: D-1586. This test and sampling method consists of driving a standard 2.5-inch outside diameter split-spoon sampler a distance of 18 inches in the soil with a 140-pound hammer free falling a distance of 30 inches. The number of blows for each 6-inch interval is recorded. The number of blows required to drive the sampler the final 12 inches is considered the Standard Penetration Resistance “N” or blow count. The blow counts are presented in the boring logs in this appendix. If a total of 50 blows are recorded within one 6-inch interval, the blow count is recorded as 50 blows for the actual number of inches of penetration. The blow count or “N” value, provides a measure of the relative density of granular soils or the relative consistency of cohesive soils.

All soil samples were field screened using a MiniRae 10.6eV Photoionization detector (PID). Field screen samples were collected from the remaining soil in the sampled interval. A representative soil sample was placed in a re-sealable plastic bag. The sample was allowed to volatilize for approximately 5 to 10 minutes prior to obtaining a reading. The PID tip was inserted in a small hole poked in the bag just prior to obtaining a reading. The highest PID reading observed was recorded on the boring log sheet, as were a subjective olfactory impression of the sample by the on-site geologist.

Borehole Abandonment

All four completed borings were backfilled with bentonite chips from a depth of approximately 1 foot bgs to the maximum depth explored and with concrete from the ground surface to a depth of approximately 1 foot bgs.

BORING LOG

Adapt Consulting
615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-4**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER		OBSERVATIONS	TESTING
0	Asphalt								
5	Dry to slightly moist, hard, light brown to gray SILT/CLAY with trace fine sand & small gravel			16 34 39	1.1 ppm				
10				50/5"	1.4 ppm				
15				50/3"	1.4 ppm			B-4:15'	
20	Moist, brown, silty SAND (slight to moderate petroleum odor)			50/4"	46 ppm				
25	Becomes wet, gray, silty fine SAND (strong petroleum odor)			36 50/6"	1281 ppm			B-4:25'	

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▽ DATE — Static Water Level at Drilling / Static Water Level / Perched Groundwater
- Grab Sample
- WTPH-D Ext 8010 — Type of Analytical Testing Used
- NR ATD — No Recovery At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/19/20
Drilling Completion Date: 08/19/20

Logged By: JTB

BORING LOG

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615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

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· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-4**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER		OBSERVATIONS	TESTING
30	Wet, gray, silty SAND (moderate petroleum odor)			50/4"	132 ppm	ATD			
35	Dry, gray, hard SILT			16 16 28	31 ppm			B-4: GW B-4:36'	
	Boring terminated at an approximate depth of 36.5-feet bgs. Static groundwater level measured at 30.5 feet bgs at time of drilling. Temporary well screened from 25 to 35 feet bgs and removed after groundwater sampling. Boring was backfilled with bentonite chips.								
40									
45									
50									
55									

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▼ Static Water Level at Drilling
- DATE ▽ Static Water Level
- Perched Groundwater
- Grab Sample
- WTPH-D Ext 8010 — Type of Analytical Testing Used
- NR — No Recovery
- ATD — At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/19/20
Drilling Completion Date: 08/19/20

Logged By: JTB

BORING LOG

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615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-5**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER		OBSERVATIONS	TESTING
0	Asphalt								
5	Dry to slightly moist, hard, light brown to gray SILT/CLAY with trace fine sand & small gravel			7 18 29	1.8 ppm				
10	Dry to slightly moist, hard, fine sandy SILT to silty SAND			50/6"	4.4 ppm				
15	Moist, gray, silty SAND with trace gravel (moderate to strong petroleum odor)			50/2"	362 ppm			B-5:15'	
20	Moist, gray SAND with little silt and small gravel (strong petroleum odor)			50/6"	1330 ppm				
25	Becomes moist to wet, gray, silty SAND with moist SILT/CLAY lens at 26-26.5' bgs (strong petroleum odor)			28 43 50/6"	1308 ppm	ATD		B-5:25'	

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE — Static Water Level at Drilling
- DATE — Static Water Level
- Perched Groundwater
- Grab Sample
- Type of Analytical Testing Used (NWTPH-D Ext 8010)
- NR — No Recovery
- ATD — At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/19/20
Drilling Completion Date: 08/19/20

Logged By: JTB

BORING LOG

Adapt Consulting
615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-5**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER		OBSERVATIONS	TESTING
30	Moist, gray, silty SAND (slight to moderate petroleum odor)			50/3"	22.3 ppm				
35	Moist, gray SILT/CLAY Wet, gray, silty SAND			36 50/6"	170 ppm			B-5: GW B-5:35'	
	Boring terminated at an approximate depth of 36.0-feet bgs. Static groundwater level measured at 27 feet bgs at time of drilling. Temporary well screened from 25 to 35 feet bgs and removed after groundwater sampling. Boring was backfilled with bentonite chips.								
40									
45									
50									
55									

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▽ DATE — Static Water Level at Drilling / Static Water Level / Perched Groundwater
- WTPH-D Ext 8010 — Grab Sample / Type of Analytical Testing Used
- NR — No Recovery
- ATD — At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/19/20
Drilling Completion Date: 08/19/20

Logged By: JTB

BORING LOG

Adapt Consulting
615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-6**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER	OBSERVATIONS	TESTING
0	Asphalt							
5	Moist, light brown, silty SAND with fine small gravel			0 4 9	0.6 ppm			
10	Wet gravelly SAND (fill material) Moist, gray, sandy SILT			2 1 28	0.9 ppm			
15	Moist, gray, silty SAND with small gravel			50/6"	0.9 ppm		B-6:15'	
20	(Strong petroleum odor)			50/6"	1451 ppm		B-6:20'	
25	Becomes wet (strong petroleum odor)			42 50/5"	495 ppm			

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▽ DATE — Static Water Level at Drilling / Static Water Level / Perched Groundwater
- Grab Sample
- WTPH-D Ext 8010 — Type of Analytical Testing Used
- NR — No Recovery
- ATD — At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/20/20
Drilling Completion Date: 08/20/20

Logged By: JTB

BORING LOG

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615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-6**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER		OBSERVATIONS	TESTING
30	Dry to moist SILT with trace fine sand and small gravel			42 50/4"	95 ppm	ATD			
								B-6: GW	
35	Wet, gray, fine SAND with trace silt			27 50/6"	7.4 ppm			B-6:35.5'	
	Moist, gray SILT								
	Boring terminated at an approximate depth of 36.0-feet bgs.								
	Static groundwater level measured at 30.5 feet bgs at time of drilling.								
40	Temporary well screened from 25 to 35 feet bgs and removed after groundwater sampling.								
	Boring was backfilled with bentonite chips.								
45									
50									
55									

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▽ DATE — Static Water Level at Drilling; Static Water Level; Perched Groundwater
- WTPH-D Ext 8010 — Grab Sample; Type of Analytical Testing Used
- NR — No Recovery
- ATD — At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/20/20
Drilling Completion Date: 08/20/20

Logged By: JTB

BORING LOG

Adapt Consulting
615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-7**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER		OBSERVATIONS	TESTING
0	Asphalt								
5	Dry to moist, light brown to gray SILT with fine sand and trace gravel (slight petroleum odor)			12 19 31	112 ppm			B-7:5'	
10	Dry to moist, gray, silty SAND (moderate petroleum odor)			50/4"	520 ppm				
15	Becomes moist to slightly wet (strong petroleum odor)			50/6"	1283 ppm			B-7:15'	
20				50/6"	1640 ppm				
25	Becomes wet (slight petroleum odor)			50/4"	72 ppm	ATD			

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▽ DATE — Static Water Level at Drilling / Static Water Level / Perched Groundwater
- WTPH-D Ext 8010 — Grab Sample; Type of Analytical Testing Used
- NR — No Recovery At Time of Drilling
- ATD

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/20/20
Drilling Completion Date: 08/20/20

Logged By: JTB

BORING LOG

Adapt Consulting
615 8th Avenue South
Seattle, Washington 98104
TEL:206.654.7045 FAX: 206.654.7048

PROJECT · Former Gas Station
· 2901 - 17th Avenue South
Seattle, Washington 98144

Job Number: WA20-18238-PH2 Boring No.: **B-7**

Elevation Reference :
Ground Surface Elevation :

Well Completed : N.A.
Casing Elevation : N.A.

DEPTH (feet)		SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNT	PID Reading	GROUND WATER	OBSERVATIONS	TESTING
30	Wet, gray, silty SAND (no petroleum odor)			32 50/6"	7.5 ppm		B-7:30'	
35	Moist, gray SILT/CLAY			50/6"	2.2 ppm		B-7: GW	
	Boring terminated at an approximate depth of 35.5-feet bgs.							
40	Static groundwater level measured at 27.5 feet bgs at time of drilling.							
	Temporary well screened from 25 to 35 feet bgs and removed after groundwater sampling.							
	Boring was backfilled with bentonite chips.							
45								
50								
55								

LEGEND:

- 2-inch O.D. Split-Spoon Sample
- 2-inch O.D. Geoprobe
- Sample not Recovered
- DATE ▽ DATE — Static Water Level at Drilling; Static Water Level; Perched Groundwater
- Grab Sample
- WTPH-D Ext 8010 — Type of Analytical Testing Used
- NR — No Recovery
- ATD — At Time of Drilling

Drilling Company: Holocene Drilling
Drilling Method: Auger

Drilling Start Date: 08/20/20
Drilling Completion Date: 08/20/20

Logged By: JTB

APPENDIX C

LABORATORY CERTIFICATION

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 31, 2020

John Bhend, Project Manager
Adapt Engineering
615 8th Avenue South
Seattle, WA 98104

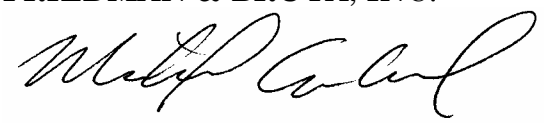
Dear Mr Bhend:

Included are the results from the testing of material submitted on August 20, 2020 from the Former Gas Station PO WA20-18238-PH2, F&BI 008325 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
ADP0831R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 20, 2020 by Friedman & Bruya, Inc. from the Adapt Engineering Former Gas Station PO WA20-18238-PH2, F&BI 008325 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Adapt Engineering
008325 -01	B-4:15'
008325 -02	B-4:25'
008325 -03	B-4:36'
008325 -04	B-4:GW
008325 -05	B-5:15'
008325 -06	B-5:25'
008325 -07	B-5:35'
008325 -08	B-5:GW
008325 -09	B-6:15'
008325 -10	B-6:20'
008325 -11	B-6:35.5'
008325 -12	B-6:GW
008325 -13	B-7:5'
008325 -14	B-7:15'
008325 -15	B-7:30'
008325 -16	B-7:GW

All quality control requirements were acceptable.

Date of Report: 08/31/20
Date Received: 08/20/20
Project: Former Gas Station PO WA20-18238-PH2, F&BI 008325
Date Extracted: 08/24/20
Date Analyzed: 08/25/20, 08/26/20, and 08/27/20

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B-4:15' 008325-01	<0.02	<0.02	<0.02	<0.06	<5	90
B-4:25' 008325-02	0.04	0.73	0.88	5.1	64	96
B-4:36' 008325-03	0.31	0.25	0.58	3.1	19	92
B-5:15' 008325-05 1/20	<0.4	1.4	20	71	980	97
B-5:25' 008325-06	<0.02	0.042	0.057	0.15	14	93
B-5:35' 008325-07	0.062	<0.02	0.093	0.34	<5	91
B-6:15' 008325-09	<0.02	<0.02	<0.02	<0.06	<5	77
B-6:20' 008325-10	0.34	1.4	0.22	1.3	15	90
B-6:35.5' 008325-11	<0.02	0.055	0.039	0.21	<5	89
B-7:5' 008325-13	<0.02	<0.02	<0.02	<0.06	<5	90

Date of Report: 08/31/20
Date Received: 08/20/20
Project: Former Gas Station PO WA20-18238-PH2, F&BI 008325
Date Extracted: 08/24/20
Date Analyzed: 08/25/20, 08/26/20, and 08/27/20

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B-7:15' 008325-14 1/20	<0.4	36	20	120	1,300	96
B-7:30' 008325-15	<0.02	0.074	<0.02	0.12	<5	76
Method Blank 00-1802 MB	<0.02	<0.02	<0.02	<0.06	<5	93

Date of Report: 08/31/20
Date Received: 08/20/20
Project: Former Gas Station PO WA20-18238-PH2, F&BI 008325
Date Extracted: 08/27/20
Date Analyzed: 08/27/20

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
B-4:GW 008325-04 1/80	3,500	4,200	4,200	18,000	99,000	85
B-5:GW 008325-08 1/400	1,200	2,000	4,000	16,000	130,000	79
B-6:GW 008325-12 1/400	4,500	5,000	3,500	18,000	140,000	80
B-7:GW 008325-16 1/80	1,300	7,100	1,800	9,200	69,000	83
Method Blank 00-1807 MB	<1	<1	<1	<3	<100	76

Analysis For Total Metals By EPA Method 6020B

Client ID:	B-4:15'	Client:	Adapt Engineering
Date Received:	08/20/20	Project:	Former Gas Station
Date Extracted:	08/21/20	Lab ID:	008325-01
Date Analyzed:	08/21/20	Data File:	008325-01.079
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B-5:15'	Client:	Adapt Engineering
Date Received:	08/20/20	Project:	Former Gas Station
Date Extracted:	08/21/20	Lab ID:	008325-05
Date Analyzed:	08/21/20	Data File:	008325-05.082
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1.17

Analysis For Total Metals By EPA Method 6020B

Client ID:	B-6:15'	Client:	Adapt Engineering
Date Received:	08/20/20	Project:	Former Gas Station
Date Extracted:	08/21/20	Lab ID:	008325-09
Date Analyzed:	08/21/20	Data File:	008325-09.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B-7:15'	Client:	Adapt Engineering
Date Received:	08/20/20	Project:	Former Gas Station
Date Extracted:	08/21/20	Lab ID:	008325-14
Date Analyzed:	08/21/20	Data File:	008325-14.084
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1.12

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Adapt Engineering
Date Received:	NA	Project:	Former Gas Station
Date Extracted:	08/21/20	Lab ID:	I0-486 mb2
Date Analyzed:	08/21/20	Data File:	I0-486 mb2.069
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Date of Report: 08/31/20
Date Received: 08/20/20
Project: Former Gas Station PO WA20-18238-PH2, F&BI 008325

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING METHOD 8021B AND NWTPH-Gx

Laboratory Code: 008345-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	84	69-120
Toluene	mg/kg (ppm)	0.5	84	70-117
Ethylbenzene	mg/kg (ppm)	0.5	86	65-123
Xylenes	mg/kg (ppm)	1.5	87	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 08/31/20
Date Received: 08/20/20
Project: Former Gas Station PO WA20-18238-PH2, F&BI 008325

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 008415-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	107	65-118
Toluene	ug/L (ppb)	50	112	72-122
Ethylbenzene	ug/L (ppb)	50	111	73-126
Xylenes	ug/L (ppb)	150	109	74-118
Gasoline	ug/L (ppb)	1,000	109	69-134

Date of Report: 08/31/20
Date Received: 08/20/20
Project: Former Gas Station PO WA20-18238-PH2, F&BI 008325

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 008266-100 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	1.19	94	95	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	95	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

008325

SAMPLE CHAIN OF CUSTODY ME 08-20-20

VSS / BI / VW2

Report To John Bhend

Company Adapt

Address 615 8th Ave South

City, State, ZIP Seattle, WA 98104

Phone 206-654-7045 Email johnbhendeadaptengr.com

SAMPLERS (*signature*) John Bhend

PROJECT NAME	PO #
Former Gas Station	WA20-18238-PH2

REMARKS	INVOICE TO
Project specific RLs? - Yes / No (circled: No)	

Page # 1 of 2

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
(circled: Default:) Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Lead				Notes
B-4: 15'	01 A-E	8-19-20	1000	soil	5		X	X					X				
B-4: 25'	02 A-D	↓	1040	↓	4		↓	↓									
B-4: 36'	03	↓	1100	↓	4		↓	↓									
B-4: GW	04 A-C	↓	1130	water	3		↓	↓									
B-5: 15'	05 A-E	↓	1325	soil	5		↓	↓					X				
B-5: 25'	06 A-D	↓	1340	↓	4		↓	↓									
B-5: 35'	07	↓	1410	↓	4		↓	↓									
B-5: GW	08 A-C	↓	1420	water	3		↓	↓									
B-6: 15'	09 A-E	8-20-20	0950	soil	5		↓	↓					X				
B-6: 20'	10 A-D	↓	0955	↓	4		↓	↓									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: John Bhend	John Bhend	Adapt	8-20-20	1411
Received by: Ann Webber Bruya	Ann Webber Bruya	F&B	|	|
Relinquished by:				
Received by:				

Samples received at 4 °C

008325

SAMPLE CHAIN OF CUSTODY

MC

08-20-20 VSS / BI / VWZ

Page # 2 of 2

Report To John Bhend

Company Adapt

Address 615 8th Ave South

City, State, ZIP Seattle, WA 98104

Phone 206-654-7045 Email johnbhend@adaptengr.com

SAMPLERS (*signature*)

PROJECT NAME: Former Gas Station

PO #: WA20-18238-PH2

REMARKS: Project specific RLs? - Yes (No)

INVOICE TO

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Lead				Notes
B-6: 35.5'	11 A-D	8-20-20	1020	soil	4		X	X									
B-6: GW	12 A-C	↓	1045	water	3		↓	↓									
B-7: 5'	13 A-D		1120	soil	4												
B-7: 15'	14 A-E		1130	↓	5								X				
B-7: 30'	15 A-D		1155	↓	4												
B-7: GW	16 A-C	↓	1245	water	3		↓	↓									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	John Bhend	Adapt	8-20-20	1411
Received by:	Ann Webber Bruya	F&B		
Relinquished by:				
Received by:				

Samples received at 4 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

APPENDIX B

Aspect Boring Logs

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines	GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
			GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
		≥15% Fines	GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines	SW	Well-graded SAND Well-graded SAND WITH GRAVEL
			SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
		≥15% Fines	SM	SILTY SAND SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50%		ML	SILT SANDY or GRAVELLY SILT SILT WITH SAND SILT WITH GRAVEL
			CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL
			OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL
	Silts and Clays Liquid Limit 50% or More		MH	ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL
			CH	FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL
			OH	ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL
Highly Organic Soils			PT	PEAT and other mostly organic soils

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

GEOTECHNICAL LAB TESTS

MC	=	Natural Moisture Content
PS	=	Particle Size Distribution
FC	=	Fines Content (% < 0.075 mm)
GH	=	Hydrometer Test
AL	=	Atterberg Limits
C	=	Consolidation Test
Str	=	Strength Test
OC	=	Organic Content (% Loss by Ignition)
Comp	=	Proctor Test
K	=	Hydraulic Conductivity Test
SG	=	Specific Gravity Test

CHEMICAL LAB TESTS

Organic Chemicals

BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons
VOCs	=	Volatile Organic Compounds
SVOCs	=	Semi-Volatile Organic Compounds
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds
PCBs	=	Polychlorinated Biphenyls

Metals

RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)

FIELD TESTS

PID	=	Photoionization Detector
Sheen	=	Oil Sheen Test
SPT[2]	=	Standard Penetration Test
NSPT	=	Non-Standard Penetration Test
DCPT	=	Dynamic Cone Penetration Test

COMPONENT DEFINITIONS

Descriptive Term		*Size Range and Sieve Number*
Boulders	=	Larger than 12 inches
Cobbles	=	3 inches to 12 inches
Coarse Gravel	=	3 inches to 3/4 inches
Fine Gravel	=	3/4 inches to No. 4 (4.75 mm)
Coarse Sand	=	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	=	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	=	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	=	Smaller than No. 200 (0.075 mm)

ESTIMATED[1] PERCENTAGE

% by Weight		*Modifier*	*% by Weight*		*Modifier*
<1	=	Subtrace	15 to 25	=	Little
1 to <5	=	Trace	30 to 45	=	Some
5 to 10	=	Few	>50	=	Mostly

MOISTURE CONTENT

Dry	=	Absence of moisture, dusty, dry to the touch
Slightly Moist	=	Perceptible moisture
Moist	=	Damp but no visible water
Very Moist	=	Water visible but not free draining
Wet	=	Visible free water, usually from below water table

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

Density[3]		*SPT*[2] *Blows/Foot*	*Penetration with 1/2" Diameter Rod*
Very Loose	=	0 to 4	≥ 2'
Loose	=	5 to 10	1' to 2'
Medium Dense	=	11 to 30	3" to 1'
Dense	=	31 to 50	1" to 3"
Very Dense	=	> 50	< 1"

CONSISTENCY

Cohesive or Fine-Grained Soils

Consistency[3]		*SPT*[2] *Blows/Foot*	*Manual Test*
Very Soft	=	0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.
Soft	=	2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.
Medium Stiff	=	5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.
Stiff	=	9 to 15	Indented ~1/4" with effort by thumb.
Very Stiff	=	16 to 30	Indented easily by thumbnail.
Hard	=	> 30	Indented with difficulty by thumbnail.

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Aspect CONSULTING

Exploration Log Key

Aspect CONSULTING	Estelita's Library - 220264		Monitoring Well Log	
	Project Address & Site Specific Location 2901 17th Ave S, Seattle, NW Corner of Parking Lot		*Coordinates (SPN NAD83 ft)* E:1275700 N:214190	*Exploration Number* **AMW-01**
Contractor Holt Services	*Equipment* Mobile B57	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 295'	Ecology Well Tag No. BPK-557
Operator Mitch McCarley	*Exploration Method(s)* 8.5" OD X 4.25" ID Hollow-Stem Auger	*Work Start/Completion Dates* 6/6/2022	*Top of Casing Elev. (NAVD88)* 294.767'	*Depth to Water (Below GS)* 20.28' (Static) 38' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush Monument in Concrete					ASPHALT; with base course gravel	
							FILL SILTY SAND (SM); slightly moist, brown; fine sand; trace fine to coarse gravel; no hydrocarbon-like odor.	
							Excavated by vacuum and air knife to 4.5 feet and hand auger from 4.5 to 5 feet.	
5	290	Hydrated 3/8" bentonite chips			Sheen=NS PID=0.0		**VASHON GLACIAL TILL** SILTY SAND (SM); slightly moist, gray; fine to medium sand; trace fine gravel; no hydrocarbon-like odor.	5
		2" Sch 40 PVC casing						
10	285			AMW-01-10 Gx, BTEX, Dx, VOCs	SPT=30, 150/5 Sheen=NS PID=83.0		Becomes very dense; slight hydrocarbon-like odor	10
15	280				SPT=11, 33, 50/5 Sheen=MS PID=607.0		SAND WITH SILT (SP-SM); very dense, very moist, dark gray; medium to coarse sand; strong hydrocarbon-like odor.	15
20	275	▼ 6/13/2022		AMW-01-20 Gx, BTEX, Dx, VOCs	SPT=40, 50/4 Sheen=SS PID=810		SILTY SAND (SM); very dense, dry, light gray; fine sand; no hydrocarbon-like odor.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◪ Split Barrel 2" X 1.375" (SPT)

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: Baxter Call
Approved by: MvA 10/17/2022

Exploration Log AMW-01

Aspect CONSULTING	Estelita's Library - 220264		Monitoring Well Log	
	Project Address & Site Specific Location 2901 17th Ave S, Seattle, NW Corner of Parking Lot		*Coordinates (SPN NAD83 ft)* E:1275700 N:214190	*Exploration Number* **AMW-01**
Contractor Holt Services	*Equipment* Mobile B57	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 295'	Ecology Well Tag No. BPK-557
Operator Mitch McCarley	*Exploration Method(s)* 8.5" OD X 4.25" ID Hollow-Stem Auger	*Work Start/Completion Dates* 6/6/2022	*Top of Casing Elev. (NAVD88)* 294.767'	*Depth to Water (Below GS)* 20.28' (Static) 38' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							SILTY SAND (SM); very dense, dry, light gray; fine sand; no hydrocarbon-like odor. (continued)	
25	270				SPT=50/5 Sheen=NS PID=22		SILTY SAND WITH GRAVEL (SM); very dense, wet, gray; fine to medium sand; fine to coarse gravel; no hydrocarbon-like odor.	25
		12/20 Silica sand filter pack						
30	265	2" Sch 40 PVC slotted screen 0.010" slot			SPT=24, 50/6 Sheen=NS PID=3.2		Becomes with medium to coarse sand; coarse gravel; thin interbeds of light gray medium-plasticity silt.	30
35	260				SPT=22, 35, 50/6 Sheen=NS PID=0.2		SILT WITH SAND (ML); very dense, very moist, dark gray; non-plastic; fine sand; thin beds of non-plastic silt; no hydrocarbon-like odor.	35
		▽ 6/6/2022						
40	255			AMW-01-40 Gx, BTEX, Dx, VOCs	SPT=8, 30, 23 Sheen=NS PID=2.8		Slickensides.	40
		End Cap						
							Bottom of exploration at 43 ft. bgs.	
45	250							45

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◩ Split Barrel 2" X 1.375" (SPT)

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: Baxter Call
Approved by: MvA 10/17/2022

Exploration Log AMW-01
Sheet 2 of 2

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\ESTELITA'S LIBRARY - 220264.GPJ October 17, 2022

Aspect CONSULTING	Estelita's Library - 220264		Monitoring Well Log	
	Project Address & Site Specific Location 2901 17th Ave S, Seattle, NE Corner of Parking Lot		*Coordinates (SPN NAD83 ft)* E:1275700 N:214200	*Exploration Number* **AMW-02**
Contractor Holt Services	*Equipment* Mobile B57	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 295'	Ecology Well Tag No. BPK-558
Operator Mitch McCarley	*Exploration Method(s)* 8.5" OD X 4.25" ID Hollow-Stem Auger	*Work Start/Completion Dates* 6/7/2022	*Top of Casing Elev. (NAVD88)* 294.687'	*Depth to Water (Below GS)* 25.77' (Static) 28.2' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush Monument in Concrete					ASPHALT; with base course gravel.	
							FILL SILTY SAND WITH GRAVEL (SM); slightly moist, gray; fine sand; trace fine gravel; no hydrocarbon-like odor.	
							Excavated by vacuum and air knife to 4.5 feet bgs.	
5	290	Hydrated 3/8" bentonite chips			SPT=14, 30, 30 Sheen=None PID=78		**VASHON GLACIAL TILL** SILTY SAND (SM); very dense, slightly moist, brown; fine to medium sand; trace fine to coarse sub-rounded gravel; hydrocarbon-like odor.	5
10	285	2" Sch 40 PVC casing			SPT=23, 20, 50/5 Sheen=None PID=83		SILTY SAND WITH GRAVEL (SM); very dense, moist, gray; fine to medium sand; fine to coarse sub-rounded gravel; hydrocarbon-like odor.	10
15	280				SPT=16, 50/5 Sheen=None PID=96		Becomes slightly moist, brown; fine sand; fine gravel.	15
20	275			AMW-02-21 Gx, BTEX. Dx, VOCs	SPT=37, 45, 50/5 Sheen=None PID=140		SILTY SAND (SM); very dense, moist, gray; fine to medium sand; trace fine sub-rounded gravel; hydrocarbon-like odor.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◩ Split Barrel 2" X 1.375" (SPT)

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: Daniel Babcock
Approved by: MvA 10/17/2022

Exploration Log AMW-02
Sheet 1 of 2

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\ESTELITA'S LIBRARY - 220264.GPJ October 17, 2022

Aspect CONSULTING	Estelita's Library - 220264		Monitoring Well Log	
	Project Address & Site Specific Location 2901 17th Ave S, Seattle, NE Corner of Parking Lot		*Coordinates (SPN NAD83 ft)* E:1275700 N:214200	*Exploration Number* **AMW-02**
Contractor Holt Services	*Equipment* Mobile B57	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 295'	Ecology Well Tag No. BPK-558
Operator Mitch McCarley	*Exploration Method(s)* 8.5" OD X 4.25" ID Hollow-Stem Auger	*Work Start/Completion Dates* 6/7/2022	*Top of Casing Elev. (NAVD88)* 294.687'	*Depth to Water (Below GS)* 25.77' (Static) 28.2' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							SILTY SAND (SM); very dense, moist, gray; fine to medium sand; trace fine sub-rounded gravel; hydrocarbon-like odor. (continued)	
25	270	12/20 Silica sand filter pack 6/13/2022			SPT=27, 50/6 Sheen=None PID=201		Becomes very moist.	25
		6/7/2022						
30	265	2" Sch 40 PVC slotted screen 0.010" slot			SPT=14, 50/6 Sheen=None PID=84		Becomes wet.	30
35	260				SPT=9, 19, 31 Sheen=None PID=55		SAND WITH SILT (SP-SM); dense, wet, gray; fine sand; no hydrocarbon-like odor.	35
40	255	End Cap Slough		AMW-02-41.5 Gx, BTEX. Dx, VOCs	SPT=13, 22, 28 Sheen=None PID=28		SILT (ML); hard, slightly moist, gray; medium plasticity.	40
45	250				SPT=50/6 Sheen=None PID=51		Trace fine to medium sand; no hydrocarbon-like odor. Bottom of exploration at 45.5 ft. bgs.	45

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◪ Split Barrel 2" X 1.375" (SPT)

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: Daniel Babcock
Approved by: MvA 10/17/2022

Exploration Log AMW-02
Sheet 2 of 2

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\ESTELITA'S LIBRARY - 220264.GPJ October 17, 2022

Aspect CONSULTING	Estelita's Library - 220264		Monitoring Well Log	
	Project Address & Site Specific Location 2901 17th Ave S, Seattle, Alley behind building		*Coordinates (SPN NAD83 ft)* E:1275700 N:214110	*Exploration Number* **AMW-03**
Contractor Holt Services	*Equipment* Mobile B57	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 296'	Ecology Well Tag No. BPK-559
Operator Mitch McCarley	*Exploration Method(s)* 8.5" OD X 4.25" ID Hollow-Stem Auger	*Work Start/Completion Dates* 6/8/2022	*Top of Casing Elev. (NAVD88)* 295.358'	*Depth to Water (Below GS)* 14.62' (Static) 23.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	296	8" Flush Monument in Concrete					ASPHALT; with base course gravel.	0
							FILL SILTY SAND (SM); dense, slightly moist, brown; fine to medium sand; no hydrocarbon-like odor.	
5	290	Hydrated 3/8" bentonite chips		AMW-03-05 Gx, BTEX, Dx, VOCs	SPT=5, 19, 30 Sheen=None PID=0.0			5
		2" Sch 40 PVC casing						
10	285				SPT=8, 36, 50/5 Sheen=None PID=0.0		**VASHON GLACIAL TILL** SANDY SILT (ML); very dense, slightly moist, brown; non-plastic; fine to medium sand; trace fine gravel; no hydrocarbon-like odor.	10
		▼ 6/13/2022						
15	280				SPT=37, 32, 50/5 Sheen=None PID=0.1		SILTY SAND (SM); very dense, wet, brown; fine to medium sand; trace fine subangular gravel; no hydrocarbon-like odor.	15
		12/20 Silica sand filter pack						
20	275			AMW-03-20 Gx, BTEX, Dx, VOCs	SPT=16, 50/4 Sheen=None PID=0.0		Becomes slightly moist.	20

Legend

Sample Type: ◪ Split Barrel 2" X 1.375" (SPT)

Water Level: ▼ Static Water Level; ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: Daniel Babcock
Approved by: MvA 10/17/2022

Exploration Log AMW-03

Sheet 1 of 2

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\ESTELITA'S LIBRARY - 220264.GPJ October 17, 2022

Aspect CONSULTING	Estelita's Library - 220264		Monitoring Well Log	
	Project Address & Site Specific Location 2901 17th Ave S, Seattle, Alley behind building		*Coordinates (SPN NAD83 ft)* E:1275700 N:214110	*Exploration Number* **AMW-03**
Contractor Holt Services	*Equipment* Mobile B57	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 296'	Ecology Well Tag No. BPK-559
Operator Mitch McCarley	*Exploration Method(s)* 8.5" OD X 4.25" ID Hollow-Stem Auger	*Work Start/Completion Dates* 6/8/2022	*Top of Casing Elev. (NAVD88)* 295.358'	*Depth to Water (Below GS)* 14.62' (Static) 23.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		▽ 6/8/2022					SILTY SAND (SM); very dense, wet, brown; fine to medium sand; trace fine subangular gravel; no hydrocarbon-like odor. (continued)	
25	270				SPT=18, 23, 29 Sheen=None PID=0.2		Becomes wet.	25
30	265	End Cap			SPT=5, 50/5 Sheen=None PID=0.0		SILT WITH SAND (ML); very dense, slightly moist, grey-brown; low plasticity; fine sand; no hydrocarbon-like odor.	30
35	260	Slough		AMW-03-35 Gx, BTEX, Dx, VOCs	SPT=26, 10, 30 Sheen=None PID=0.0			35
40	255				SPT=2, 20, 16 Sheen=None PID=0.0		Bottom of exploration at 41.5 ft. bgs.	40
45								45

Legend

Sample Type: ◩ Split Barrel 2" X 1.375" (SPT)

Water Level: ▼ Static Water Level; ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: Daniel Babcock
Approved by: MvA 10/17/2022

Exploration Log AMW-03

Sheet 2 of 2

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\ESTELITA'S LIBRARY - 220264.GPJ October 17, 2022

APPENDIX C

Laboratory Report

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 20, 2022

Hannah Cohen, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Ms Cohen:

Included are the results from the testing of material submitted on June 8, 2022 from the Estelita's Library 220267, F&BI 206121 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Aspect Data, Ali Cochrane
ASP0620R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 8, 2022 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Estelita's Library 220267, F&BI 206121 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
206121 -01	AMW-02-03
206121 -02	AMW-01-05
206121 -03	AMW-01-10
206121 -04	AMW-01-15
206121 -05	AMW-01-20
206121 -06	AMW-01-25
206121 -07	AMW-01-30
206121 -08	AMW-01-35
206121 -09	AMW-01-40
206121 -10	AMW-02-5.5
206121 -11	AMW-02-10.5
206121 -12	AMW-02-15
206121 -13	AMW-02-21
206121 -14	AMW-02-25.5
206121 -15	AMW-02-30
206121 -16	AMW-02-35
206121 -17	AMW-02-41.5
206121 -18	AMW-02-45

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for several compounds. The affected compounds were flagged accordingly.

The 8260D laboratory control sample was outside of control limits for several compounds. The data were qualified accordingly.

All other quality control requirements were acceptable.

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220267, F&BI 206121
Date Extracted: 06/13/22
Date Analyzed: 06/13/22

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AMW-01-10 206121-03	<5	64
AMW-01-20 206121-05 1/20	320	84
AMW-01-40 206121-09	<5	82
AMW-02-21 206121-13 1/50	570	81
AMW-02-41.5 206121-17	13	75
Method Blank 02-1153 MB	<5	84

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220267, F&BI 206121
Date Extracted: 06/10/22
Date Analyzed: 06/10/22

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
AMW-01-10 206121-03	<50	<250	105
AMW-01-20 206121-05	160 x	<250	107
AMW-01-40 206121-09	<50	<250	105
AMW-02-21 206121-13	69 x	<250	106
AMW-02-41.5 206121-17	<50	<250	104
Method Blank 02-1397 MB	<50	<250	105

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-01-10	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/10/22	Lab ID:	206121-03
Date Analyzed:	06/10/22	Data File:	061033.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	79	128
Toluene-d8	91	84	121
4-Bromofluorobenzene	96	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5 jl	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5 jl	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5 jl	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 jl	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05 jl	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05 jl	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-01-20	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/10/22	Lab ID:	206121-05
Date Analyzed:	06/10/22	Data File:	061034.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	79	128
Toluene-d8	97	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5 jl	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5 jl	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.65
Acetone	<5 jl	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 jl	m,p-Xylene	3.2
Hexane	<0.25	o-Xylene	1.7
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05 jl	Isopropylbenzene	0.26
trans-1,2-Dichloroethene	<0.05 jl	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	1.6
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	4.8
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	19 ve
Benzene	<0.03	sec-Butylbenzene	0.55
Trichloroethene	<0.02	p-Isopropyltoluene	0.36
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.56	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	13
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	AMW-01-20	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/10/22	Lab ID:	206121-05 1/10
Date Analyzed:	06/16/22	Data File:	061606.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	90	109
Toluene-d8	102	89	112
4-Bromofluorobenzene	100	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<0.5
Chloromethane	<5 jl	Tetrachloroethene	<0.25
Vinyl chloride	<0.5	Dibromochloromethane	<0.5
Bromomethane	<5 jl	1,2-Dibromoethane (EDB)	<0.5
Chloroethane	<5	Chlorobenzene	<0.5
Trichlorofluoromethane	<5	Ethylbenzene	0.98
Acetone	<50 jl	1,1,1,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5 jl	m,p-Xylene	4.5
Hexane	<2.5	o-Xylene	2.2
Methylene chloride	<5	Styrene	<0.5
Methyl t-butyl ether (MTBE)	<0.5 jl	Isopropylbenzene	<0.5
trans-1,2-Dichloroethene	<0.5 jl	Bromoform	<0.5
1,1-Dichloroethane	<0.5	n-Propylbenzene	1.7
2,2-Dichloropropane	<0.5	Bromobenzene	<0.5
cis-1,2-Dichloroethene	<0.5	1,3,5-Trimethylbenzene	4.3
Chloroform	<0.5	1,1,2,2-Tetrachloroethane	<0.5
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<0.5
1,2-Dichloroethane (EDC)	<0.5	2-Chlorotoluene	<0.5
1,1,1-Trichloroethane	<0.5	4-Chlorotoluene	<0.5
1,1-Dichloropropene	<0.5	tert-Butylbenzene	<0.5
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	17
Benzene	<0.3	sec-Butylbenzene	0.58
Trichloroethene	<0.2	p-Isopropyltoluene	<0.5
1,2-Dichloropropane	<0.5	1,3-Dichlorobenzene	<0.5
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<0.5
Dibromomethane	<0.5	1,2-Dichlorobenzene	<0.5
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<5
cis-1,3-Dichloropropene	<0.5	1,2,4-Trichlorobenzene	<2.5
Toluene	1.0	Hexachlorobutadiene	<2.5
trans-1,3-Dichloropropene	<0.5	Naphthalene	12
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<2.5
2-Hexanone	<5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	AMW-01-40	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/10/22	Lab ID:	206121-09
Date Analyzed:	06/16/22	Data File:	061607.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	90	109
Toluene-d8	99	89	112
4-Bromofluorobenzene	97	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5 jl	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5 jl	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5 jl	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 jl	m,p-Xylene	0.37
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05 jl	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05 jl	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	0.094
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.27
Benzene	0.066	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.15
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-02-21	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/10/22	Lab ID:	206121-13
Date Analyzed:	06/10/22	Data File:	061036.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	99	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5 jl	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5 jl	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	8.9
Acetone	<5 jl	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 jl	m,p-Xylene	6.9
Hexane	14 ve	o-Xylene	0.33
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05 jl	Isopropylbenzene	1.6
trans-1,2-Dichloroethene	<0.05 jl	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	4.9
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	1.4
Chloroform	0.20	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	11
Benzene	<0.03	sec-Butylbenzene	1.1
Trichloroethene	<0.02	p-Isopropyltoluene	1.4
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.085	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	3.6
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-02-41.5	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/10/22	Lab ID:	206121-17
Date Analyzed:	06/10/22	Data File:	061037.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	79	128
Toluene-d8	97	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5 jl	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5 jl	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.36
Acetone	<5 jl	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 jl	m,p-Xylene	0.84
Hexane	<0.25	o-Xylene	0.32
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05 jl	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05 jl	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	1.2	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.18	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Estelita's Library 220267, F&BI 206121
Date Extracted:	06/09/22	Lab ID:	02-1359 mb
Date Analyzed:	06/10/22	Data File:	061013.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	100	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5 jl	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5 jl	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5 jl	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 jl	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05 jl	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05 jl	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220267, F&BI 206121

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205405-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	105	71-131

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220267, F&BI 206121

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 206181-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	98	73-135	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	74-139

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220267, F&BI 206121

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 206168-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	1	<0.5	24	13	10-142	59 vo
Chloromethane	mg/kg (ppm)	1	<0.5	28	19	10-126	38 vo
Vinyl chloride	mg/kg (ppm)	1	<0.05	36	23	10-138	44 vo
Bromomethane	mg/kg (ppm)	1	<0.5	59	35	10-163	51 vo
Chloroethane	mg/kg (ppm)	1	<0.5	44	31	10-176	35 vo
Trichlorofluoromethane	mg/kg (ppm)	1	<0.5	55	35	10-176	44 vo
Acetone	mg/kg (ppm)	5	<5	70	46	10-163	41 vo
1,1-Dichloroethene	mg/kg (ppm)	1	<0.05	63	42	10-160	40 vo
Hexane	mg/kg (ppm)	1	<0.25	59	42	10-137	34 vo
Methylene chloride	mg/kg (ppm)	1	<0.5	90	57	10-156	45 vo
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	<0.05	97	67	21-145	37 vo
trans-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	90	62	14-137	37 vo
1,1-Dichloroethane	mg/kg (ppm)	1	<0.05	89	65	19-140	31 vo
2,2-Dichloropropane	mg/kg (ppm)	1	<0.05	140	156	10-158	11
cis-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	102	123	25-135	19
Chloroform	mg/kg (ppm)	1	<0.05	102	120	21-145	16
2-Butanone (MEK)	mg/kg (ppm)	5	<1	84	120	19-147	35 vo
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	<0.05	116	123	12-160	6
1,1,1-Trichloroethane	mg/kg (ppm)	1	<0.05	119	127	10-156	7
1,1-Dichloropropene	mg/kg (ppm)	1	<0.05	102	120	17-140	16
Carbon tetrachloride	mg/kg (ppm)	1	<0.05	115	124	9-164	8
Benzene	mg/kg (ppm)	1	<0.03	101	120	29-129	17
Trichloroethene	mg/kg (ppm)	1	<0.02	172 vo	118	21-139	37 vo
1,2-Dichloropropane	mg/kg (ppm)	1	<0.05	189 vo	121	30-135	44 vo
Bromodichloromethane	mg/kg (ppm)	1	<0.05	189 vo	121	23-155	44 vo
Dibromomethane	mg/kg (ppm)	1	<0.05	197 vo	125	23-145	45 vo
4-Methyl-2-pentanone	mg/kg (ppm)	5	<1	197 vo	127	24-155	43 vo
cis-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	194 vo	127	28-144	42 vo
Toluene	mg/kg (ppm)	1	<0.05	111	126	35-130	13
trans-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	116	129	26-149	11
1,1,2-Trichloroethane	mg/kg (ppm)	1	<0.05	109	120	10-205	10
2-Hexanone	mg/kg (ppm)	5	<0.5	104	116	15-166	11
1,3-Dichloropropane	mg/kg (ppm)	1	<0.05	107	119	31-137	11
Tetrachloroethene	mg/kg (ppm)	1	27	0 b	0 b	20-133	nm b
Dibromochloromethane	mg/kg (ppm)	1	<0.05	122	137	28-150	12
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	<0.05	109	124	28-142	13
Chlorobenzene	mg/kg (ppm)	1	<0.05	109	120	32-129	10
Ethylbenzene	mg/kg (ppm)	1	<0.05	111	122	32-137	9
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	111	126	31-143	13
m,p-Xylene	mg/kg (ppm)	2	<0.1	111	123	34-136	10
o-Xylene	mg/kg (ppm)	1	<0.05	113	126	33-134	11
Styrene	mg/kg (ppm)	1	<0.05	109	121	35-137	10
Isopropylbenzene	mg/kg (ppm)	1	<0.05	112	121	31-142	8
Bromoform	mg/kg (ppm)	1	<0.05	116	130	21-156	11
n-Propylbenzene	mg/kg (ppm)	1	<0.05	108	116	23-146	7
Bromobenzene	mg/kg (ppm)	1	<0.05	106	115	34-130	8
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	<0.05	112	120	18-149	7
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	110	119	28-140	8
1,2,3-Trichloropropane	mg/kg (ppm)	1	<0.05	104	112	25-144	7
2-Chlorotoluene	mg/kg (ppm)	1	<0.05	110	117	31-134	6
4-Chlorotoluene	mg/kg (ppm)	1	<0.05	108	117	31-136	8
tert-Butylbenzene	mg/kg (ppm)	1	<0.05	113	119	30-137	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	<0.05	114	122	10-182	7
sec-Butylbenzene	mg/kg (ppm)	1	<0.05	113	120	23-145	6
p-Isopropyltoluene	mg/kg (ppm)	1	<0.05	117	125	21-149	7
1,3-Dichlorobenzene	mg/kg (ppm)	1	<0.05	113	120	30-131	6
1,4-Dichlorobenzene	mg/kg (ppm)	1	<0.05	112	121	29-129	8
1,2-Dichlorobenzene	mg/kg (ppm)	1	0.051	115	120	31-132	4
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	<0.5	109	120	11-161	10
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	<0.25	117	127	22-142	8
Hexachlorobutadiene	mg/kg (ppm)	1	<0.25	125	132	10-142	5
Naphthalene	mg/kg (ppm)	1	<0.05	116	122	14-157	5
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	<0.25	116	122	20-144	5

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220267, F&BI 206121

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	1	23	10-146
Chloromethane	mg/kg (ppm)	1	21 vo	27-133
Vinyl chloride	mg/kg (ppm)	1	27	22-139
Bromomethane	mg/kg (ppm)	1	36 vo	38-114
Chloroethane	mg/kg (ppm)	1	27	9-163
Trichlorofluoromethane	mg/kg (ppm)	1	38	10-196
Acetone	mg/kg (ppm)	5	36 vo	52-141
1,1-Dichloroethene	mg/kg (ppm)	1	38 vo	47-128
Hexane	mg/kg (ppm)	1	82	43-142
Methylene chloride	mg/kg (ppm)	1	33	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	59 vo	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	1	57 vo	67-129
1,1-Dichloroethane	mg/kg (ppm)	1	97	68-115
2,2-Dichloropropane	mg/kg (ppm)	1	135	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	1	105	72-127
Chloroform	mg/kg (ppm)	1	102	66-120
2-Butanone (MEK)	mg/kg (ppm)	5	101	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	101	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	1	109	62-131
1,1-Dichloropropene	mg/kg (ppm)	1	103	69-128
Carbon tetrachloride	mg/kg (ppm)	1	105	60-139
Benzene	mg/kg (ppm)	1	102	71-118
Trichloroethene	mg/kg (ppm)	1	99	63-121
1,2-Dichloropropane	mg/kg (ppm)	1	102	72-127
Bromodichloromethane	mg/kg (ppm)	1	101	57-126
Dibromomethane	mg/kg (ppm)	1	102	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	5	104	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	1	107	67-122
Toluene	mg/kg (ppm)	1	106	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	1	110	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	1	103	64-115
2-Hexanone	mg/kg (ppm)	5	98	33-152
1,3-Dichloropropane	mg/kg (ppm)	1	101	72-130
Tetrachloroethene	mg/kg (ppm)	1	111	72-114
Dibromochloromethane	mg/kg (ppm)	1	115	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	103	74-132
Chlorobenzene	mg/kg (ppm)	1	102	76-111
Ethylbenzene	mg/kg (ppm)	1	105	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	105	64-121
m,p-Xylene	mg/kg (ppm)	2	105	78-122
o-Xylene	mg/kg (ppm)	1	109	77-124
Styrene	mg/kg (ppm)	1	101	74-126
Isopropylbenzene	mg/kg (ppm)	1	106	76-127
Bromoform	mg/kg (ppm)	1	108	56-132
n-Propylbenzene	mg/kg (ppm)	1	98	74-124
Bromobenzene	mg/kg (ppm)	1	98	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	102	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	100	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	1	92	61-137
2-Chlorotoluene	mg/kg (ppm)	1	99	74-121
4-Chlorotoluene	mg/kg (ppm)	1	97	75-122
tert-Butylbenzene	mg/kg (ppm)	1	103	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	105	76-125
sec-Butylbenzene	mg/kg (ppm)	1	103	71-130
p-Isopropyltoluene	mg/kg (ppm)	1	105	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	1	102	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	1	102	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	1	103	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	103	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	108	64-135
Hexachlorobutadiene	mg/kg (ppm)	1	111	50-153
Naphthalene	mg/kg (ppm)	1	103	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	104	63-138

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

206121

SAMPLE CHAIN OF CUSTODY 06-08-22

Page # 1 of 2 BOA/VSBA

Report To Hannah Cohen, Al: Cochrane

Company Aspect Consulting

Address 710 2nd Ave, Ste 550

City, State, ZIP Seattle, WA, 98104

Phone _____ Email _____

SAMPLERS (signature)

PROJECT NAME: Eslelita's Library

PO #: 220267

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: AP

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082				Notes
						ANALYSES REQUESTED										● - analyze per AC ME 6/10/22 hold the rest
AMW-02-03	01A-E	6/6/22	0955	Soil	5	X	X			X						HOLD
AMW-01-05	02		0930			●	●			●						
AMW-01-10	03		0910			●	●			●						
AMW-01-15	04		1225			●	●			●						
AMW-01-20	05		1245			●	●			●						
AMW-01-25	06		1330													
AMW-01-30	07		1340													
AMW-01-35	08		1400													
AMW-01-40	09	↓	1415			●	●			●						
AMW-02-5.5	10	6/7/22	1230	↓	↓	↓	↓			↓						↓

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Lillian Graham	Aspect	6/8/22	0755
Received by:	Nhan Phan	FedEx	6/8/22	0755
Relinquished by:				
Received by:		Samples received at 2 °C		

Friedman & Bruya, Inc.
Ph. (206) 285-8282

206121

SAMPLE CHAIN OF CUSTODY 06-08-22

Page # 2 of 2 BO4/VSBY

Report To Hannah Cohen, Al. Cochrane

Company Aspect Consulting

Address 710 2nd Ave, Ste 550

City, State, ZIP Seattle, WA, 98104

Phone _____ Email _____

SAMPLER8 (*signature*)

PROJECT NAME	PO #
Estelita's Library	220264
REMARKS Project specific RLs? - Yes / No	INVOICE TO AP

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH _____
Rush charges authorized by: _____

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other _____
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082				Notes
AMW-02-10.5	11 A-E	6/7/22	1251250	Soil	5	X	X			X						HOLD
AMW-02-15	12		1320													
AMW-02-21	13		1335			●	●			●						
AMW-02-25.5	14		1345													
AMW-02-30	15		1355													
AMW-02-35	16		1410													
AMW-02-41.5	17		1430			●	●			●						
AMW-02-45	18		1450													

6/8/22

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Lillian Graham	Aspect	6/8/22	0755
Received by:	Nhan Phan	FBI	6/8/22	0755
Relinquished by:				
Received by:		Samples received at 2 °C		

Friedman & Bruya, Inc.
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 20, 2022

Hannah Cohen, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

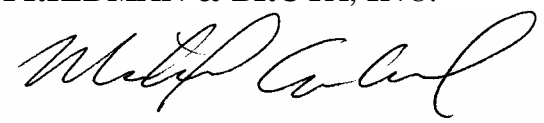
Dear Ms Cohen:

Included are the results from the testing of material submitted on June 8, 2022 from the Estelita's Library 220264, F&BI 206140 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data, Ali Cochrane
ASP0620R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 8, 2022 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Estelita's Library 220264, F&BI 206140 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
206140 -01	AMW-03-05
206140 -02	AMW-03-10
206140 -03	AMW-03-15
206140 -04	AMW-03-20
206140 -05	AMW-03-25
206140 -06	AMW-03-30
206140 -07	AMW-03-35
206140 -08	AMW-03-40

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for several compounds. The analytes were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220264, F&BI 206140
Date Extracted: 06/15/22
Date Analyzed: 06/15/22

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AMW-03-05 206140-01	<5	71
AMW-03-20 206140-04	<5	106
AMW-03-35 206140-07	<5	82
Method Blank 02-1158 MB	<5	91

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220264, F&BI 206140
Date Extracted: 06/10/22
Date Analyzed: 06/10/22

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
AMW-03-05 206140-01	<50	<250	119
AMW-03-20 206140-04	<50	<250	106
AMW-03-35 206140-07	<50	<250	107
Method Blank 02-1398 MB	<50	<250	103

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-03-05	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220264, F&BI 206140
Date Extracted:	06/13/22	Lab ID:	206140-01
Date Analyzed:	06/16/22	Data File:	061550.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	79	128
Toluene-d8	95	84	121
4-Bromofluorobenzene	99	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-03-20	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220264, F&BI 206140
Date Extracted:	06/13/22	Lab ID:	206140-04
Date Analyzed:	06/16/22	Data File:	061551.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	79	128
Toluene-d8	104	84	121
4-Bromofluorobenzene	95	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-03-35	Client:	Aspect Consulting, LLC
Date Received:	06/08/22	Project:	Estelita's Library 220264, F&BI 206140
Date Extracted:	06/13/22	Lab ID:	206140-07
Date Analyzed:	06/16/22	Data File:	061552.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	95	84	121
4-Bromofluorobenzene	94	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Estelita's Library 220264, F&BI 206140
Date Extracted:	06/13/22	Lab ID:	02-1378 mb
Date Analyzed:	06/13/22	Data File:	061310.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	90	109
Toluene-d8	97	89	112
4-Bromofluorobenzene	97	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220264, F&BI 206140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 206140-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	105	71-131

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220264, F&BI 206140

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 206132-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	100	106	73-135	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	100	74-139

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220264, F&BI 206140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 206221-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	1	<0.5	17	19	10-142	11
Chloromethane	mg/kg (ppm)	1	<0.5	41	36	10-126	13
Vinyl chloride	mg/kg (ppm)	1	<0.05	47	37	10-138	24 vo
Bromomethane	mg/kg (ppm)	1	<0.5	53	63	10-163	17
Chloroethane	mg/kg (ppm)	1	<0.5	112	74	10-176	41 vo
Trichlorofluoromethane	mg/kg (ppm)	1	<0.5	70	52	10-176	30 vo
Acetone	mg/kg (ppm)	5	<5	87	77	10-163	12
1,1-Dichloroethene	mg/kg (ppm)	1	<0.05	59	63	10-160	7
Hexane	mg/kg (ppm)	1	<0.25	42	48	10-137	13
Methylene chloride	mg/kg (ppm)	1	<0.5	75	77	10-156	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	<0.05	79	87	21-145	10
trans-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	71	74	14-137	4
1,1-Dichloroethane	mg/kg (ppm)	1	<0.05	78	82	19-140	5
2,2-Dichloropropane	mg/kg (ppm)	1	<0.05	75	79	10-158	5
cis-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	75	80	25-135	6
Chloroform	mg/kg (ppm)	1	<0.05	75	78	21-145	4
2-Butanone (MEK)	mg/kg (ppm)	5	<1	83	83	19-147	0
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	<0.05	77	86	12-160	11
1,1,1-Trichloroethane	mg/kg (ppm)	1	<0.05	77	82	10-156	6
1,1-Dichloropropene	mg/kg (ppm)	1	<0.05	73	78	17-140	7
Carbon tetrachloride	mg/kg (ppm)	1	<0.05	73	76	9-164	4
Benzene	mg/kg (ppm)	1	<0.03	81	82	29-129	1
Trichloroethene	mg/kg (ppm)	1	<0.02	78	84	21-139	7
1,2-Dichloropropane	mg/kg (ppm)	1	<0.05	79	86	30-135	8
Bromodichloromethane	mg/kg (ppm)	1	<0.05	82	85	23-155	4
Dibromomethane	mg/kg (ppm)	1	<0.05	81	87	23-145	7
4-Methyl-2-pentanone	mg/kg (ppm)	5	<1	82	90	24-155	9
cis-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	84	88	28-144	5
Toluene	mg/kg (ppm)	1	<0.05	80	87	35-130	8
trans-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	80	91	26-149	13
1,1,2-Trichloroethane	mg/kg (ppm)	1	<0.05	77	86	10-205	11
2-Hexanone	mg/kg (ppm)	5	<0.5	82	89	15-166	8
1,3-Dichloropropane	mg/kg (ppm)	1	<0.05	81	92	31-137	13
Tetrachloroethene	mg/kg (ppm)	1	<0.025	79	83	20-133	5
Dibromochloromethane	mg/kg (ppm)	1	<0.05	78	81	28-150	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	<0.05	79	84	28-142	6
Chlorobenzene	mg/kg (ppm)	1	<0.05	82	91	32-129	10
Ethylbenzene	mg/kg (ppm)	1	<0.05	80	86	32-137	7
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	83	90	31-143	8
m,p-Xylene	mg/kg (ppm)	2	<0.1	81	90	34-136	11
o-Xylene	mg/kg (ppm)	1	<0.05	79	88	33-134	11
Styrene	mg/kg (ppm)	1	<0.05	83	91	35-137	9
Isopropylbenzene	mg/kg (ppm)	1	<0.05	80	90	31-142	12
Bromoform	mg/kg (ppm)	1	<0.05	74	79	21-156	7
n-Propylbenzene	mg/kg (ppm)	1	<0.05	78	84	23-146	7
Bromobenzene	mg/kg (ppm)	1	<0.05	78	82	34-130	5
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	<0.05	77	81	18-149	5
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	82	89	28-140	8
1,2,3-Trichloropropane	mg/kg (ppm)	1	<0.05	75	83	25-144	10
2-Chlorotoluene	mg/kg (ppm)	1	<0.05	78	85	31-134	9
4-Chlorotoluene	mg/kg (ppm)	1	<0.05	77	84	31-136	9
tert-Butylbenzene	mg/kg (ppm)	1	<0.05	77	81	30-137	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	<0.05	78	85	10-182	9
sec-Butylbenzene	mg/kg (ppm)	1	<0.05	80	84	23-145	5
p-Isopropyltoluene	mg/kg (ppm)	1	<0.05	79	83	21-149	5
1,3-Dichlorobenzene	mg/kg (ppm)	1	<0.05	76	82	30-131	8
1,4-Dichlorobenzene	mg/kg (ppm)	1	<0.05	78	83	29-129	6
1,2-Dichlorobenzene	mg/kg (ppm)	1	<0.05	77	83	31-132	7
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	<0.5	81	81	11-161	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	<0.25	77	81	22-142	5
Hexachlorobutadiene	mg/kg (ppm)	1	<0.25	78	79	10-142	1
Naphthalene	mg/kg (ppm)	1	<0.05	79	83	14-157	5
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	<0.25	75	84	20-144	11

Date of Report: 06/20/22
Date Received: 06/08/22
Project: Estelita's Library 220264, F&BI 206140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	1	94	10-146
Chloromethane	mg/kg (ppm)	1	83	27-133
Vinyl chloride	mg/kg (ppm)	1	85	22-139
Bromomethane	mg/kg (ppm)	1	105	38-114
Chloroethane	mg/kg (ppm)	1	97	9-163
Trichlorofluoromethane	mg/kg (ppm)	1	101	10-196
Acetone	mg/kg (ppm)	5	61	52-141
1,1-Dichloroethene	mg/kg (ppm)	1	108	47-128
Hexane	mg/kg (ppm)	1	113	43-142
Methylene chloride	mg/kg (ppm)	1	96	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	101	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	1	103	67-129
1,1-Dichloroethane	mg/kg (ppm)	1	103	68-115
2,2-Dichloropropane	mg/kg (ppm)	1	152	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	1	100	72-127
Chloroform	mg/kg (ppm)	1	100	66-120
2-Butanone (MEK)	mg/kg (ppm)	5	97	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	95	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	1	103	62-131
1,1-Dichloropropene	mg/kg (ppm)	1	100	69-128
Carbon tetrachloride	mg/kg (ppm)	1	114	60-139
Benzene	mg/kg (ppm)	1	94	71-118
Trichloroethene	mg/kg (ppm)	1	92	63-121
1,2-Dichloropropane	mg/kg (ppm)	1	93	72-127
Bromodichloromethane	mg/kg (ppm)	1	101	57-126
Dibromomethane	mg/kg (ppm)	1	97	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	5	98	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	1	98	67-122
Toluene	mg/kg (ppm)	1	98	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	1	101	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	1	98	64-115
2-Hexanone	mg/kg (ppm)	5	98	33-152
1,3-Dichloropropane	mg/kg (ppm)	1	95	72-130
Tetrachloroethene	mg/kg (ppm)	1	97	72-114
Dibromochloromethane	mg/kg (ppm)	1	112	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	98	74-132
Chlorobenzene	mg/kg (ppm)	1	97	76-111
Ethylbenzene	mg/kg (ppm)	1	98	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	105	64-121
m,p-Xylene	mg/kg (ppm)	2	99	78-122
o-Xylene	mg/kg (ppm)	1	101	77-124
Styrene	mg/kg (ppm)	1	99	74-126
Isopropylbenzene	mg/kg (ppm)	1	101	76-127
Bromoform	mg/kg (ppm)	1	116	56-132
n-Propylbenzene	mg/kg (ppm)	1	96	74-124
Bromobenzene	mg/kg (ppm)	1	92	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	97	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	103	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	1	95	61-137
2-Chlorotoluene	mg/kg (ppm)	1	95	74-121
4-Chlorotoluene	mg/kg (ppm)	1	95	75-122
tert-Butylbenzene	mg/kg (ppm)	1	97	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	97	76-125
sec-Butylbenzene	mg/kg (ppm)	1	97	71-130
p-Isopropyltoluene	mg/kg (ppm)	1	97	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	1	99	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	1	95	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	1	97	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	104	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	101	64-135
Hexachlorobutadiene	mg/kg (ppm)	1	108	50-153
Naphthalene	mg/kg (ppm)	1	95	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	96	63-138

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

206140

SAMPLE CHAIN OF CUSTODY 6/8/22

BD3/VSBM

Page # 1 of

Report To Hannah Cohen, Ali Cochrane

Company Aspect Consulting

Address 710 2nd Ave, Ste 550

City, State, ZIP Seattle, WA, 98104

Phone 316.617.0449 Email

SAMPLERS (signature)

PROJECT NAME: Estelita's Library

PO #: 220264

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: AP

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					● analyze per ac 6/10/22 Notes MC Hold the rest
AMW-03-05	01 A-E	6/8/22	1000	Soil	5	●	●			●							HOLD
AMW-03-10	02		1015														
AMW-03-15	03		1025														
AMW-03-20	04		1040			●	●			●							
AMW-03-25	05		1050														
AMW-03-30	06		1100														
AMW-03-35	07		1115			●	●			●							
AMW-03-40	08		1130														
				6/8/22													

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Lillian Graham	Aspect	6/8/22	1600
Received by: Windy Madden	Windy Madden	F+BI	6/8/22	1602
Relinquished by:		Samples received at 0 °C		
Received by:				

Friedman & Bruya, Inc.
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
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Vineta Mills, M.S.
Eric Young, B.S.

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www.friedmanandbruya.com

June 22, 2022

Hannah Cohen, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

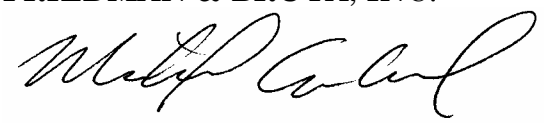
Dear Ms Cohen:

Included are the results from the testing of material submitted on June 13, 2022 from the Estelita's Library 220264, F&BI 206236 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data, Ali Cochrane
ASP0622R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 13, 2022 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Estelita's Library 220264, F&BI 206236 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
206236 -01	AMW-01-061322
206236 -02	AMW-02-061322
206236 -03	AMW-03-061322
206236 -04	Trip Blank

All quality control requirements were acceptable.

Date of Report: 06/22/22
Date Received: 06/13/22
Project: Estelita's Library 220264, F&BI 206236
Date Extracted: 06/16/22
Date Analyzed: 06/16/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
AMW-01-061322 206236-01 1/5	27,000	86
AMW-02-061322 206236-02 1/5	34,000	104
AMW-03-061322 206236-03	<100	60
Method Blank 02-1159 MB	<100	95

Date of Report: 06/22/22
Date Received: 06/13/22
Project: Estelita's Library 220264, F&BI 206236
Date Extracted: 06/14/22
Date Analyzed: 06/14/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
AMW-01-061322 206236-01	2,200 x	<250	130
AMW-02-061322 206236-02	2,600 x	<250	114
AMW-03-061322 206236-03	69 x	<250	121
Method Blank 02-1410 MB	<50	<250	141

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-01-061322	Client:	Aspect Consulting, LLC
Date Received:	06/13/22	Project:	Estelita's Library 220264, F&BI 206236
Date Extracted:	06/16/22	Lab ID:	206236-01 1/100
Date Analyzed:	06/16/22	Data File:	061618.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	<100
Vinyl chloride	<2	Dibromochloromethane	<50
Bromomethane	<500	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	520
Acetone	<5,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	1,800
Hexane	<500	o-Xylene	160
Methylene chloride	<500	Styrene	<100
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100
trans-1,2-Dichloroethene	<100	Bromoform	<500
1,1-Dichloroethane	<100	n-Propylbenzene	260
2,2-Dichloropropane	<100	Bromobenzene	<100
cis-1,2-Dichloroethene	<100	1,3,5-Trimethylbenzene	330
Chloroform	<100	1,1,2,2-Tetrachloroethane	<20
2-Butanone (MEK)	<2,000	1,2,3-Trichloropropane	<100
1,2-Dichloroethane (EDC)	<20	2-Chlorotoluene	<100
1,1,1-Trichloroethane	<100	4-Chlorotoluene	<100
1,1-Dichloropropene	<100	tert-Butylbenzene	<100
Carbon tetrachloride	<50	1,2,4-Trimethylbenzene	1,100
Benzene	2,600	sec-Butylbenzene	<100
Trichloroethene	<50	p-Isopropyltoluene	<100
1,2-Dichloropropane	<100	1,3-Dichlorobenzene	<100
Bromodichloromethane	<50	1,4-Dichlorobenzene	<100
Dibromomethane	<100	1,2-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dibromo-3-chloropropane	<1,000
cis-1,3-Dichloropropene	<40	1,2,4-Trichlorobenzene	<100
Toluene	960	Hexachlorobutadiene	<50
trans-1,3-Dichloropropene	<40	Naphthalene	140
1,1,2-Trichloroethane	<50	1,2,3-Trichlorobenzene	<100
2-Hexanone	<1,000		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-02-061322	Client:	Aspect Consulting, LLC
Date Received:	06/13/22	Project:	Estelita's Library 220264, F&BI 206236
Date Extracted:	06/16/22	Lab ID:	206236-02 1/100
Date Analyzed:	06/16/22	Data File:	061619.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	<100
Vinyl chloride	<2	Dibromochloromethane	<50
Bromomethane	<500	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	2,000
Acetone	<5,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	4,800
Hexane	<500	o-Xylene	1,100
Methylene chloride	<500	Styrene	<100
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100
trans-1,2-Dichloroethene	<100	Bromoform	<500
1,1-Dichloroethane	<100	n-Propylbenzene	220
2,2-Dichloropropane	<100	Bromobenzene	<100
cis-1,2-Dichloroethene	<100	1,3,5-Trimethylbenzene	200
Chloroform	<100	1,1,2,2-Tetrachloroethane	<20
2-Butanone (MEK)	<2,000	1,2,3-Trichloropropane	<100
1,2-Dichloroethane (EDC)	<20	2-Chlorotoluene	<100
1,1,1-Trichloroethane	<100	4-Chlorotoluene	<100
1,1-Dichloropropene	<100	tert-Butylbenzene	<100
Carbon tetrachloride	<50	1,2,4-Trimethylbenzene	1,100
Benzene	330	sec-Butylbenzene	<100
Trichloroethene	<50	p-Isopropyltoluene	<100
1,2-Dichloropropane	<100	1,3-Dichlorobenzene	<100
Bromodichloromethane	<50	1,4-Dichlorobenzene	<100
Dibromomethane	<100	1,2-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dibromo-3-chloropropane	<1,000
cis-1,3-Dichloropropene	<40	1,2,4-Trichlorobenzene	<100
Toluene	970	Hexachlorobutadiene	<50
trans-1,3-Dichloropropene	<40	Naphthalene	460
1,1,2-Trichloroethane	<50	1,2,3-Trichlorobenzene	<100
2-Hexanone	<1,000		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-03-061322	Client:	Aspect Consulting, LLC
Date Received:	06/13/22	Project:	Estelita's Library 220264, F&BI 206236
Date Extracted:	06/16/22	Lab ID:	206236-03
Date Analyzed:	06/16/22	Data File:	061617.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	06/13/22	Project:	Estelita's Library 220264, F&BI 206236
Date Extracted:	06/16/22	Lab ID:	206236-04
Date Analyzed:	06/16/22	Data File:	061616.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	102	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Estelita's Library 220264, F&BI 206236
Date Extracted:	06/16/22	Lab ID:	02-1391 mb
Date Analyzed:	06/16/22	Data File:	061607.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	110	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Date of Report: 06/22/22
Date Received: 06/13/22
Project: Estelita's Library 220264, F&BI 206236

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 206264-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	69-134

Date of Report: 06/22/22
Date Received: 06/13/22
Project: Estelita's Library 220264, F&BI 206236

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	63-142	7

Date of Report: 06/22/22
Date Received: 06/13/22
Project: Estelita's Library 220264, F&BI 206236

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 206216-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	95	50-150
Chloromethane	ug/L (ppb)	10	<10	86	50-150
Vinyl chloride	ug/L (ppb)	10	0.038	103	16-176
Bromomethane	ug/L (ppb)	10	<5	91	10-193
Chloroethane	ug/L (ppb)	10	<1	91	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	87	50-150
Acetone	ug/L (ppb)	50	<50	100	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
Hexane	ug/L (ppb)	10	<5	93	49-161
Methylene chloride	ug/L (ppb)	10	5.7	68 b	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	94	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	96	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	95	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	104	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	50-150
Chloroform	ug/L (ppb)	10	<1	95	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	88	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	97	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	96	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	96	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	98	50-150
Benzene	ug/L (ppb)	10	<0.35	95	50-150
Trichloroethene	ug/L (ppb)	10	3.5	90 b	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	96	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	100	50-150
Dibromomethane	ug/L (ppb)	10	<1	90	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	95	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	48-145
Toluene	ug/L (ppb)	10	<1	96	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	96	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	98	50-150
2-Hexanone	ug/L (ppb)	50	<10	97	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	96	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	100	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	94	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	96	50-150
Chlorobenzene	ug/L (ppb)	10	<1	97	50-150
Ethylbenzene	ug/L (ppb)	10	<1	97	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	95	50-150
m,p-Xylene	ug/L (ppb)	20	<2	98	50-150
o-Xylene	ug/L (ppb)	10	<1	98	50-150
Styrene	ug/L (ppb)	10	<1	93	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	92	50-150
Bromoform	ug/L (ppb)	10	<5	91	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	93	50-150
Bromobenzene	ug/L (ppb)	10	<1	98	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	92	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	99	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	96	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	94	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	87	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	95	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	93	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	93	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	94	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	111	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	88	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	80	42-150
Naphthalene	ug/L (ppb)	10	<1	86	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	91	44-155

Date of Report: 06/22/22
Date Received: 06/13/22
Project: Estelita's Library 220264, F&BI 206236

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	87	91	70-130	4
Chloromethane	ug/L (ppb)	10	88	90	70-130	2
Vinyl chloride	ug/L (ppb)	10	97	98	70-130	1
Bromomethane	ug/L (ppb)	10	90	89	28-182	1
Chloroethane	ug/L (ppb)	10	90	91	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	97	90	70-130	7
Acetone	ug/L (ppb)	50	99	104	42-155	5
1,1-Dichloroethene	ug/L (ppb)	10	95	96	70-130	1
Hexane	ug/L (ppb)	10	91	98	50-161	7
Methylene chloride	ug/L (ppb)	10	106	105	29-192	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	94	94	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	95	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	93	93	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	115	118	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	96	92	70-130	4
Chloroform	ug/L (ppb)	10	90	104	70-130	14
2-Butanone (MEK)	ug/L (ppb)	50	93	93	50-157	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	98	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	95	96	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	89	92	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	95	95	70-130	0
Benzene	ug/L (ppb)	10	94	93	70-130	1
Trichloroethene	ug/L (ppb)	10	92	92	70-130	0
1,2-Dichloropropane	ug/L (ppb)	10	97	93	70-130	4
Bromodichloromethane	ug/L (ppb)	10	98	94	70-130	4
Dibromomethane	ug/L (ppb)	10	96	92	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	93	87	70-130	7
cis-1,3-Dichloropropene	ug/L (ppb)	10	88	98	70-130	11
Toluene	ug/L (ppb)	10	98	99	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	91	93	70-130	2
1,1,2-Trichloroethane	ug/L (ppb)	10	98	99	70-130	1
2-Hexanone	ug/L (ppb)	50	93	93	69-130	0
1,3-Dichloropropane	ug/L (ppb)	10	93	91	70-130	2
Tetrachloroethene	ug/L (ppb)	10	97	100	70-130	3
Dibromochloromethane	ug/L (ppb)	10	83	85	63-142	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	95	97	70-130	2
Chlorobenzene	ug/L (ppb)	10	93	93	70-130	0
Ethylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	95	93	70-130	2
m,p-Xylene	ug/L (ppb)	20	96	96	70-130	0
o-Xylene	ug/L (ppb)	10	94	95	70-130	1
Styrene	ug/L (ppb)	10	90	92	70-130	2
Isopropylbenzene	ug/L (ppb)	10	90	92	70-130	2
Bromoform	ug/L (ppb)	10	96	90	50-157	6
n-Propylbenzene	ug/L (ppb)	10	91	93	70-130	2
Bromobenzene	ug/L (ppb)	10	95	96	70-130	1
1,3,5-Trimethylbenzene	ug/L (ppb)	10	91	89	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	100	101	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	92	95	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	99	96	70-130	3
4-Chlorotoluene	ug/L (ppb)	10	94	90	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	91	92	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	92	89	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	96	95	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	94	93	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	100	99	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	100	98	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	100	94	70-130	6
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	101	108	70-130	7
1,2,4-Trichlorobenzene	ug/L (ppb)	10	89	90	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	94	97	70-130	3
Naphthalene	ug/L (ppb)	10	82	80	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	87	92	69-143	6

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

206236

SAMPLE CHAIN OF CUSTODY

06-13-22

EDB/MW2

Page # 1 of 1

Report To Hannah Cohen, Ali Cochrane

Company Aspect Consulting

Address 710 2nd Ave, Ste 550

City, State, ZIP Seattle, WA, 98104

Phone 316-617-0499 Email acochrane@aspectconsulting.com

SAMPLERS (*signature*)

PROJECT NAME: Estelita's Library

PO #: 220264

REMARKS: Project specific RLs? - Yes / No

INVOICE TO: AP

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082				Notes
AMW-01-061322	01A-H	06/13/22	1030	GW	8	X	X			X						
AMW-02-061322	02	06/13/22	1300	GW	8	X	X			X						
AMW-03-061322	03	06/13/22	1435	GW	8	X	X			X						
Trip Blank	04	06/13/22	1500	-	1					X						

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Lillian Graham	Aspect	6/13/22	17:15
Received by:	HONG NGUYEN	FBI	✓	17:15
Relinquished by:				
Received by:		Samples received at 4°C		

Friedman & Bruya, Inc.
Ph. (206) 285-8282

APPENDIX D

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.