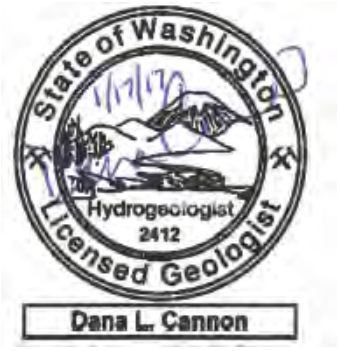
MEMORANDUM

Project No.: 160092

January 17, 2017

To: Dale Myers, Washington State Department of Ecology

cc: Eran Fields, FH Brooklyn LLC
Mark Horne, Chevron Environmental Management Company
Eric Hetrick, Chevron Environmental Management Company
Ruth Otteman, Leidos



From: Adam Griffin, PE
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Re: **On-Property Remedial Investigation Data Report**
4700 Brooklyn Avenue NE, Seattle, Washington

FH Brooklyn, LLC (FH Brooklyn) and Chevron Environmental Management Company (Chevron) are signatories to an Agreed Order (No. DE 13815, effective January 11, 2016) with the Washington State Department of Ecology (Ecology). The Agreed Order requires FH Brooklyn and Chevron to complete a Remedial Investigation (RI) and Feasibility Study (FS) along with associated reporting requirements, and to draft a cleanup action plan (DCAP) for the site generally located at 4700 Brooklyn Avenue NE in Seattle, Washington (Site) The Site is depicted on Figure 1.

The first deliverable due under the AO is the (Site wide) Remedial Investigation Work Plan (RIWP). The RIWP is due no later than 90 days after the AO effective date. The RIWP will be submitted to Ecology for review and approval prior to any other actions.

An Interim Action excavation is planned in conjunction with property redevelopment. This excavation will be completed as an interim removal action with the objective of removing all soil exceeding Model Toxic Control Act (MTCA) Method A cleanup levels for off-Site disposal. This Interim Action will be designed to address all on-property contamination and is intended to

comprise the remedial action for the on-property portion of the Site. The Interim Action design will be presented in an Interim Action Work Plan (IAWP), an Agreed Order deliverable. Prior to the Interim Action, the underground storage tanks (USTs), associated piping, and dispenser islands will be removed and the permanently closed in accordance with Ecology's UST regulations per 173-360-200 Washington Administrative Code (WAC) and 173-360-385 WAC.

Aspect Consulting, LLC (Aspect) submitted a Preliminary Draft Remedial Investigation Work Plan (Preliminary Draft RIWP) to Ecology on November 4, 2016 that described planned on-property remedial investigation activities necessary to design the Interim Action to be performed in Spring, 2017 (Aspect, 2016). The activities described in the Preliminary Draft RIWP were completed in November 2016 (with the exceptions described in this memorandum), and the objective of this memorandum is to transmit investigation results which include geologic logs of soil borings, soil analytical results, ground water analytical results, and ground water elevations. These data are the basis of design for the Interim Action.

Investigation Results

As discussed in the Preliminary Draft RIWP (Aspect, 2016), the specific objectives of the on-property remedial investigation were to address the following data gaps:

- Vertical and horizontal extent of soil contamination.
- Identification and Testing of Additional contaminants of potential concern (COPCs).
    - Gasoline additives Ethylene dibromide (EDB) and Ethylene Dichloride (EDC); and
    - Naphthalenes.
    - Potential waste-oil contaminants:
        - Carcinogenic polycyclic aromatic hydrocarbons (cPAHs);
        - Polychlorinated biphenyls (PCBs); and
        - Cadmium, chromium, nickel, and zinc (per Table 7.2 of Ecology 2016).
- Horizontal extent of the hard silt layer encountered in previous soil borings (MW-1, MW-16, R-1, SB-1) at a depth of approximately 30 feet.
- Soil chemistry data for waste characterization and disposal purposes necessary for the Interim Action.
- On-property ground water characterization using existing on-property wells.
- Ground water flow direction, including the survey of existing monitoring wells.

This memorandum is focused on presenting the on-property remedial investigation results necessary for design of an Interim Action. The Remedial Investigation Report as described in the Agreed Order will be submitted under separate cover incorporating these results and additional remedial investigation results (primarily from off-property activities). On-property remedial investigation results are described in the following sections.

Soil Sampling

Aspect advanced nine soil borings using sonic drilling methods operated by Holt Services Inc. of Puyallup, Washington. Final boring locations are illustrated on Figure 2. Boring locations AB-1, AB-7, AB-4 were field-adjusted (relative to the locations shown in the Preliminary Draft RIWP) to avoid property structures and utilities. Soil boring logs are provided in Attachment A. Soil boring locations were surveyed by Professional Land Surveyors, Inc., and surveyed latitude, longitude are reported in Attachment B.

Soil borings were installed and samples collected in accordance with the scope and methods described in the Preliminary Draft RIWP. Due to an oversight, a QA/QC field duplicate was not collected. Aspect requested the laboratory prepare a second aliquot of soil sample from select locations in the laboratory and conduct duplicate analysis. A summary of all laboratory QA/QC is included in Attachment C and Aspect's data validation is summarized in Attachment D.

An objective of the soil drilling was to assess the horizontal extent of the hard silt layer previously encountered at approximately 30 feet. Hard silt was encountered in all borings installed during this investigation and observed of to 5 feet thick at some locations (Attachment A). The depths to the silt unit ranged from 27 feet along the eastern property boundary and 31 to 33 feet in other borings. This observation confirms the horizontal continuity and competence of this impermeable unit and therefore concluded to be a vertical barrier to contaminant migration in ground water.

Ground Water Sampling

Water levels and product thickness measurements were collected on November 21st. Measurable product thickness was encountered in wells MW-10 (0.98 feet) and MW-13 (0.11 feet); the interface probe detected product at MW-09, -11, and -12 however the thickness was less than the lowest increment of the interface probe, or less than (<) 0.01 feet. Ground water elevations, product thicknesses, and the interpreted ground water elevation contours are illustrated on Figure 3. Monitoring well horizontal locations and casing elevations were surveyed by Professional Land Surveyors, Inc. (Attachment B).

Ground water samples were collected November 21 and 22, 2016, in accordance with the Preliminary Draft RIWP with the following exceptions:

- Well MW-1 was not sampled due to an obstruction in the well at approximately 1 foot below the surface.
- Well MW-8 was dry.
- As described in the Preliminary Draft RIWP, ground water samples from wells MW-10 and -13 were not submitted for analysis of TPH, MTBE, and lead due to measurable free product presence. A sample was collected from below the free product (using the method described in the RIWP, SAP Appendix) at MW-10 for VOC analysis to provide chlorinated VOC results.

Analytical Results

Soil and ground water analytical results have been compared to the proposed cleanup levels provided in Table 2. Soil analytical results are summarized in Table 3, and ground water results in Table 4. Laboratory certificates of analysis and data validation report are provided in Attachment C.

Note that some method reporting limits deviated from those reported in Appendix B of the Preliminary Draft RIWP (Aspect, 2016) but are below the proposed cleanup levels for all analytes (Table 2).

Soil Results

Soil samples were analyzed for gasoline-, diesel-, and oil-range TPH and benzene, toluene, ethylbenzene, and xylenes (BTEX). Gasoline and BTEX data are illustrated in Figure 4 while diesel- and oil-range results are on Figure 5. To illustrate the discrete soil samples and vertical and horizontal extent of contamination, data are presented in 5-foot depth intervals.

Four soil samples analyzed for MTBE, EDB, EDC, naphthalene, and total lead as a follow-on analysis where gasoline was detected at borings AB-5, AB-6, and AB-8. Only naphthalene was detected above cleanup levels. The exceedance was at a depth of 17 feet in boring AB-6 (6.4 mg/kg), above the MTCA cleanup level (5 mg/kg).

Four soil samples were analyzed for PCBs, cPAHs, cadmium, chromium, nickel, and zinc as a follow-on analysis in those samples with detectable oil-range TPH. PCBs were not detected. Cadmium, chromium, nickel and zinc were detected below cleanup levels and within the natural background levels reported for the Puget Sound (Ecology, 1994). For cPAHs, only one sample (AB-7, 6 feet below ground surface) had a toxicity equivalence quotient above the cleanup level (0.1 mg/kg), at a calculated concentration of 0.15 mg/kg.

Eighteen soil samples from borings AB-3, AB-4, and AB-5 were submitted for analysis of CVOCs. All samples were non-detect except one detection of cis-dichloroethene at 0.066 mg/kg, which is below the proposed cleanup level of 160 mg/kg.

Ground Water Results

Ground water samples were analyzed for gasoline-, diesel-, and oil-range TPH and benzene, toluene, ethylbenzene, and xylenes (BTEX). Gasoline and BTEX data are illustrated in Figure 6, while diesel- and oil-range data are on Figure 7.

A sheen of free product (<0.01 feet thickness) was observed at wells MW-9, MW-11, and MW-12. Concentrations of gasoline-range TPH and BTEX are above cleanup levels at these locations. Wells MW-10 and MW-13 both had measurable free product. Well MW-16, located downgradient of well MW-10, also had concentrations of gasoline-range TPH and benzene above cleanup levels. Diesel- and oil-range TPH was detected above cleanup levels at the same locations (MW-12, MW-09, MW-11, and MW-16) where gasoline- and BTEX exceeded cleanup levels.

Ground water samples from MW-09, MW-11 and MW-13 were also analyzed for chlorinated volatile organic compounds (CVOCs). The MW-13 sample was collected below the free product using the method described in the RIWP (Aspect, 2016). Cis 1,2 DCE was detected at all three locations below the proposed cleanup level of 16 micrograms per liter (ug/L). At MW-13, Vinyl Chloride was detected at 0.22 ug/L above the proposed cleanup level.

Summary and Next Steps

The on-property remedial investigation was implemented in accordance with the Preliminary Draft RIWP (Aspect, 2016) with the exceptions described in this memorandum. All investigation results

are presented herein and will serve to complete the Interim Action design to be described in the Agreed Order deliverable, the Interim Action Work Plan, to be submitted to Ecology in February 2017. Additionally, these data will be used to compile the Agreed Order -deliverable, the Site Remedial Investigation Report, to be submitted after completion of the Interim Action.

Limitations

Work for this project was performed for FH Brooklyn, 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.

References

Aspect Consulting, LLC (Aspect), 2016, Preliminary Draft Remedial Investigation Work Plan, 4700 Brooklyn Ave., Seattle, Washington. November 4, 2016.

Washington State Department of Ecology (Ecology), 1994, Natural Background Soil Metals Concentrations in Washington State, Publication No. 94-115, dated October 1994.

Washington State Department of Ecology (Ecology), 2016, Guidance for Remediation of Petroleum Contaminated Sites, Ecology Publication No. 10-09-057, Revised June 2016.

Attachments

Table 1 –Water Level and Product Thickness Measurements
Table 2 – Proposed Cleanup Levels and Method Detection Limits
Table 3 – Soil Analytical Results
Table 4 – Ground Water Analytical Results

Figure 1 – Vicinity Map
Figure 2 – Exploration Locations
Figure 3 – Ground Water Elevation Contour Map, November 21, 2016
Figure 4a/b – Occurrences of Gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes in Soil
Figure 5a/b – Occurrences of Diesel and Oil in Soil
Figure 6 – Occurrence of Gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes in Ground Water
Figure 7 – Occurrences of Diesel and Oil in Ground Water

Attachment A Boring Logs
Attachment B Survey Report from Professional Land Surveyors, Inc.
Attachment C Laboratory Certificates of Analysis
Attachment D Data Validation Report
Attachment E Field Documentation

TABLES

Table 1 - Water Level and Product Thickness Measurements

Project #160092 - 4700 Brooklyn Avenue NE
Seattle, WA

Well ID	Top of Casing Elevation	Depth to Water	Depth to Product (if present)	Product Thickenss	Ground Water Elevation[c]
MW-1[a]	216.79	-	--	--	--
MW-2	216.70	16.28	--	--	200.42
MW-3	217.52	16.33	--	--	201.19
MW-4	216.46	16.46	--	--	200.00
MW-5	217.20	15.83	--	--	201.37
MW-6	217.28	15.67	--	--	201.61
MW-7	215.42	17.23	--	--	198.19
MW-8[b]	215.37	dry	--	--	dry
MW-9	216.46	16.43	--	--	200.03
MW-10	215.63	16.61	15.63	0.98	199.80
MW-11	214.86	15.31	--	<0.01	199.55
MW-12	216.97	16.6	--	<0.01	200.37
MW-13	215.45	15.53	15.42	0.11	200.01
MW-14	216.04	17.69	--	--	198.35
MW-15	215.34	15.78	--	--	199.56
MW-16	214.34	15.37	--	--	198.97

Notes

All measurements in feet. Data collected 11/21/2016.

a - MW-1 piping bends to the east. Measurement and ground water sampling not possible.

b - MW-8 was dry. Sediment at 10.6 feet below ground surface was observed.

c - Corrected Groundwater Elevation = Measured Groundwater Elevation + (Product Thickness * Product Specific Gravity)

Product Specific Gravity assumed to be 0.8.

Table 2 - Proposed Cleanup Levels and Laboratory Reporting Limits

Project No. 160092, 4700 Brooklyn Avenue
Seattle, WA

Analyte	Proposed Cleanup Levels		Laboratory Reporting Limits	
	Soil in mg/kg	Groundwater in µg/L	Soil in mg/kg	Groundwater in µg/L
Total Petroleum Hydrocarbons				
Gasoline-Range Organics	30/100 [a]	800/1,000 [a]	2	100
Diesel-Range Organics	2,000	500	50	50
Heavy Oil-Range Organics	2,000	500	250	250
Volatile Organic Compounds				
Benzene	0.03	5	0.02	0.35
Cis-1,2-Dichloroethene [b]	160	16	0.05	1
Ethylbenzene	6	700	0.02	1
Ethylene Dibromide	0.005	0.01	0.005	--
Ethylene Dichloride	480 [c]	5	0.05	--
MTBE	0.1	20	0.05	1
Naphthalene	5	160	0.05	--
Tetrachloroethene	0.05	5	0.025	1
Toluene	7	1,000	0.02	1
Trans-1,2 Dichloroethene	1600 [b]	160 [b]	0.05	1
Trichloroethene	0.03	5	0.02	1
Vinyl Chloride	0.67 [c]	0.2	0.05	0.2
Total Xylenes	9	1,000	0.06	2
Carcinogenic Polycyclic Aromatic Hydrocarbons				
benzo[a]pyrene	0.1 [d]	0.1 [d]	0.01	--
benzo[a]anthracene	d	d	0.01	--
benzo[b]fluoranthene	d	d	0.01	--
benzo[k]fluoranthene	d	d	0.01	--
chrysene	d	d	0.01	--
dibenz[a,h]anthracene	d	d	0.01	--
indeno[1,2,3-cd]pyrene	d	d	0.01	--
Metals				
Cadmium	2	5	1	--
Chromium	19/2000 [e]	50	1	--
Lead	250	15	1	1
Nickel	1,600 [c]	320 [c]	1	--
Zinc	24,000 [c]	4,800 [c]	5	--
Polychlorinated Biphenyls				
PCB Mixtures	1	0.1	0.2	--

Notes:

Soil cleanup levels are primarily based on the protection of ground water for drinking water with these exceptions: diesel and oil are based on preventing accumulation of free product; cis-1,2 DCE, vinyl chloride and lead are based on protection of human direct contact.

Groundwater cleanup levels are based on protection of groundwater for drinking water.

-- indicates ground water analyte was not proposed for laboratory analysis; therefore, no reporting limit is provided.

a Benzene present/no detectable benzene

b No Method A soil or ground water cleanup level. The value listed is Method B - noncarcinogenic.

c Method A does not have a soil cleanup level for vinyl chloride. The value listed is Method B - Soil Direct Contact.

d As per MTCA Method A, if other carcinogenic PAHs are detected, we will use this value as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(8).

e Method A soil cleanup levels for Chromium VI/Chromium III

Table 3 - Soil Analytical Results

Project #160092 - 4700 Brooklyn Avenue NE
Seattle, WA

Sample Location	Proposed Cleanup	AB-1						AB-2						AB-3				
Sample ID	Levels	AB-1-8	AB-1-14	AB-1-19	AB-1-24	AB-1-29	AB-1-35	AB-2-6	AB-2-10	AB-2-14	AB-2-17.5	AB-2-24	AB-2-28	AB-3-4	AB-3-8	AB-3-14	AB-3-19	AB-3-24
Sample Depth in Feet Below Ground Surfac	in mg/kg	8 ft	14 ft	19 ft	24 ft	29 ft	35 ft	6 ft	10 ft	14 ft	17.5 ft	24 ft	28 ft	4 ft	8 ft	14 ft	19 ft	24 ft
Total Petroleum Hydrocarbons in mg/kg																		
Gasoline Range Organics	30	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**6.6**	< 2 U	< 2 U	< 2 U	**3**	< 2 U	< 2 U
Diesel Range Organics	2,000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil Range Organics	2,000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Volatile Organic Compounds in mg/kg																		
Benzene	0.03	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	**0.053**	< 0.02 U	< 0.02 U	< 0.02 U	**0.05**	< 0.02 U	< 0.02 U
Ethylbenzene	6	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	**0.33**	< 0.02 U	< 0.02 U	< 0.02 U	**0.067**	< 0.02 U	< 0.02 U
Toluene	7	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	**0.05**	< 0.02 U	< 0.02 U	< 0.02 U	**0.26**	< 0.02 U	< 0.02 U
Total Xylenes	9	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	**1**	< 0.06 U	< 0.06 U	**0.068**	**0.17**	< 0.06 U	< 0.06 U
Methyl tert-butyl ether (MTBE)	0.1																	
Naphthalene	5																	
1,2-Dibromoethane (EDB)	0.005																	
1,2-Dichloroethane (EDC)	480													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Tetrachloroethene (PCE)	0.05													< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U
Trichloroethene (TCE)	0.03													< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
1,1-Dichloroethene	4,000													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
cis-1,2-Dichloroethene (DCE)	160													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,2-Dichloroethene	1,600													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Vinyl Chloride	0.67													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Methylene Chloride	0.02													< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1,1-Trichloroethane	2													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	175													< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane														< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Total Metals in mg/kg																		
Cadmium	2																	
Chromium	2,000																	
Lead	250																	
Nickel	1,600																	
Zinc	24,000																	
Polychlorinated Biphenyls in mg/kg																		
Aroclor 1016																		
Aroclor 1221																		
Aroclor 1232																		
Aroclor 1242																		
Aroclor 1248																		
Aroclor 1254																		
Aroclor 1260																		
Aroclor 1262																		
Aroclor 1268																		
Total PCBs (Sum of Aroclors)	1																	
Polycyclic Aromatic Hydrocarbons (Carcinogenic)																		
Benz(a)anthracene																		
Benzo(a)pyrene																		
Benzo(b)fluoranthene																		
Benzo(k)fluoranthene																		
Chrysene																		
Dibenzo(a,h)anthracene																		
Indeno(1,2,3-cd)pyrene																		
Total cPAHs TEQ (ND = 1/2 RDL)	0.1																	

Notes
Bold indicates detected analyte.
Shading indicates detection above proposed cleanup level.
J - Analyte was positively identified. The reported result is an estimate.
U - Analyte was not detected at or above the reported result.
UJ - Analyte was not detected at or above the reported estimate

X - The sample chromatographic pattern does not resemble the fuel standard used for quantitation by the laboratory.

Table 3 - Soil Analytical Results

Project #160092 - 4700 Brooklyn Avenue NE
Seattle, WA

Sample Location	Proposed Cleanup	AB-4						AB-5							AB-6					
Sample ID	Levels	AB-4-6	AB-4-10	AB-4-16.5	AB-4-19	AB-4-24	AB-4-29	AB-5-5	AB-5-10	AB-5-14	AB-5-19	AB-5-24	AB-5-29	AB-5-32	AB-6-8	AB-6-13	AB-6-17	AB-6-24	AB-6-29	AB-6-33
Sample Depth in Feet Below Ground Surfac	in mg/kg	6 ft	10 ft	16.5 ft	19 ft	24 ft	29 ft	5 ft	10 ft	14 ft	19 ft	24 ft	29 ft	32 ft	8 ft	13 ft	17 ft	24 ft	29 ft	33 ft
Total Petroleum Hydrocarbons in mg/kg																				
Gasoline Range Organics	30	< 2 U	< 2 U	**16**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**4**	**5.3**	< 2 U	< 2 U	**11**	< 2 U	**920**	**3.9**	< 2 U	< 2 U
Diesel Range Organics	2,000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	**840**	< 50 U	< 50 U	< 50 U
Motor Oil Range Organics	2,000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	**400**	< 250 U	< 250 U	< 250 U	< 250 U
Volatile Organic Compounds in mg/kg																				
Benzene	0.03	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 UJ	**0.12**	< 0.02 U	< 0.02 U
Ethylbenzene	6	< 0.02 U	< 0.02 U	**0.068**	< 0.02 U	**0.068**	**0.041**	< 0.02 U	< 0.02 U	< 0.02 U	**0.056**	**0.14**	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.1 U	**0.39**	**0.087**	< 0.02 U
Toluene	7	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.1 U	< 0.02 U	< 0.02 U	< 0.02 U
Total Xylenes	9	< 0.06 U	< 0.06 U	**0.15**	< 0.06 U	**0.09**	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	**1.5**	**0.073**	< 0.06 U	< 0.06 U
Methyl tert-butyl ether (MTBE)	0.1											< 0.05 U					< 0.05 U	< 0.05 U		
Naphthalene	5											< 0.05 U					**6.4**	**0.084**		
1,2-Dibromoethane (EDB)	0.005											< 0.005 U					< 0.005 UJ	< 0.005 U		
1,2-Dichloroethane (EDC)	480	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 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)	0.05	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U						
Trichloroethene (TCE)	0.03	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U						
1,1-Dichloroethene	4,000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 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-1,2-Dichloroethene (DCE)	160	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.066**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U						
trans-1,2-Dichloroethene	1,600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U						
Vinyl Chloride	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	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U						
Methylene Chloride	0.02	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U						
1,1,1-Trichloroethane	2	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 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	175	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 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		< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U						
Total Metals in mg/kg																				
Cadmium	2															< 1 U				
Chromium	2,000															**23.3 J**				
Lead	250											**1.7**					**5.14**	**2**		
Nickel	1,600															**32.5 J**				
Zinc	24,000															**21.8**				
Polychlorinated Biphenyls in mg/kg																				
Aroclor 1016																< 0.2 U				
Aroclor 1221																< 0.2 U				
Aroclor 1232																< 0.2 U				
Aroclor 1242																< 0.2 U				
Aroclor 1248																< 0.2 U				
Aroclor 1254																< 0.2 U				
Aroclor 1260																< 0.2 U				
Aroclor 1262																< 0.2 U				
Aroclor 1268																< 0.2 U				
Total PCBs (Sum of Aroclors)	1															< 0.2 U				
Polycyclic Aromatic Hydrocarbons (Carcinogenic)																				
Benz(a)anthracene																< 0.01 UJ				
Benzo(a)pyrene																< 0.01 UJ				
Benzo(b)fluoranthene																< 0.01 UJ				
Benzo(k)fluoranthene																< 0.01 UJ				
Chrysene																< 0.01 UJ				
Dibenzo(a,h)anthracene																< 0.01 UJ				
Indeno(1,2,3-cd)pyrene																**0.011 J**				
Total cPAHs TEQ (ND = 1/2 RDL)	0.1															**0.008 J**				

Notes
Bold indicates detected analyte.
Shading indicates detection above proposed cleanup level.
J - Analyte was positively identified. The reported result is an estimate.
U - Analyte was not detected at or above the reported result.
UJ - Analyte was not detected at or above the reported estimate

X - The sample chromatographic pattern does not resemble the fuel standard used for quantitation by the laboratory.

Table 3 - Soil Analytical Results

Project #160092 - 4700 Brooklyn Avenue NE
Seattle, WA

Sample Location	Proposed Cleanup	AB-7							AB-8							AB-9					
Sample ID	**Levels**	**AB-7-6**	**AB-7-10**	**AB-7-14**	**AB-7-19**	**AB-7-24**	**AB-7-29**	**AB-7-33**	**AB-8-6**	**AB-8-10**	**AB-8-14**	**AB-8-18**	**AB-8-24**	**AB-8-29**	**AB-8-33**	**AB-9-5**	**AB-9-8**	**AB-9-14**	**AB-9-19**	**AB-9-24**	**AB-9-27**
Sample Depth in Feet Below Ground Surfac	**in mg/kg**	**6 ft**	**10 ft**	**14 ft**	**19 ft**	**24 ft**	**29 ft**	**33 ft**	**6 ft**	**10 ft**	**14 ft**	**18 ft**	**24 ft**	**29 ft**	**33 ft**	**5 ft**	**8 ft**	**14 ft**	**19 ft**	**24 ft**	**27 ft**
Total Petroleum Hydrocarbons in mg/kg																					
Gasoline Range Organics	30	< 2 U	< 2 U	< 2 U	**1,100**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**2.5**	< 2 U	< 2 U	**2.8**	< 2 U	< 2 U
Diesel Range Organics	2,000	**110 X**	< 50 U	< 50 U	**480 X**	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil Range Organics	2,000	**1900**	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	**780**	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	**520**	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Volatile Organic Compounds in mg/kg																					
Benzene	0.03	< 0.02 U	< 0.02 U	< 0.02 U	**0.15 J**	**0.024**	< 0.02 U	**0.09**	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	**0.06**
Ethylbenzene	6	< 0.02 U	< 0.02 U	< 0.02 U	**8.2**	**0.16**	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	**0.039**	< 0.02 U	< 0.02 U
Toluene	7	< 0.02 U	< 0.02 U	< 0.02 U	**4.3**	< 0.02 U	< 0.02 U	**0.074**	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
Total Xylenes	9	< 0.06 U	< 0.06 U	< 0.06 U	**7.5**	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U
Methyl tert-butyl ether (MTBE)	0.1				< 0.05 U																
Naphthalene	5				**3.5**																
1,2-Dibromoethane (EDB)	0.005				< 0.005 UJ																
1,2-Dichloroethane (EDC)	480				< 0.05 U																
Tetrachloroethene (PCE)	0.05																				
Trichloroethene (TCE)	0.03																				
1,1-Dichloroethene	4,000																				
cis-1,2-Dichloroethene (DCE)	160																				
trans-1,2-Dichloroethene	1,600																				
Vinyl Chloride	0.67																				
Methylene Chloride	0.02																				
1,1,1-Trichloroethane	2																				
1,1-Dichloroethane	175																				
Chloroethane																					
Total Metals in mg/kg																					
Cadmium	2	< 1 U							< 1 U							< 1 U					
Chromium	2,000	**17.5 J**							**15.5 J**							**21.6 J**					
Lead	250				**5.73**																
Nickel	1,600	**19.2 J**							**23 J**							**25.2 J**					
Zinc	24,000	**32.4**							**42.2**							**49.7**					
Polychlorinated Biphenyls in mg/kg																					
Aroclor 1016		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1221		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1232		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1242		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1248		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1254		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1260		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1262		< 0.2 U							< 0.2 U							< 0.2 U					
Aroclor 1268		< 0.2 U							< 0.2 U							< 0.2 U					
Total PCBs (Sum of Aroclors)	1	< 0.2 U							< 0.2 U							< 0.2 U					
Polycyclic Aromatic Hydrocarbons (Carcinogenic)																					
Benz(a)anthracene		< 0.1 UJ							**0.052 J**							< 0.01 UJ					
Benzo(a)pyrene		**0.11 J**							**0.052 J**							< 0.01 UJ					
Benzo(b)fluoranthene		**0.18 J**							**0.074 J**							**0.011 J**					
Benzo(k)fluoranthene		< 0.1 UJ							**0.025 J**							< 0.01 UJ					
Chrysene		**0.21 J**							**0.11 J**							**0.019 J**					
Dibenzo(a,h)anthracene		< 0.1 UJ							**0.011 J**							< 0.01 UJ					
Indeno(1,2,3-cd)pyrene		< 0.1 UJ							**0.025 J**							< 0.01 UJ					
Total cPAHs TEQ (ND = 1/2 RDL)	0.1	**0.15 J**							**0.072 J**							**0.008 J**					

Notes
Bold indicates detected analyte.
Shading indicates detection above proposed cleanup level.
J - Analyte was positively identified. The reported result is an estimate.
U - Analyte was not detected at or above the reported result.
UJ - Analyte was not detected at or above the reported estimate

X - The sample chromatographic pattern does not resemble the fuel standard used for quantitation by the laboratory.

Table 4 - Ground Water Analytical Results

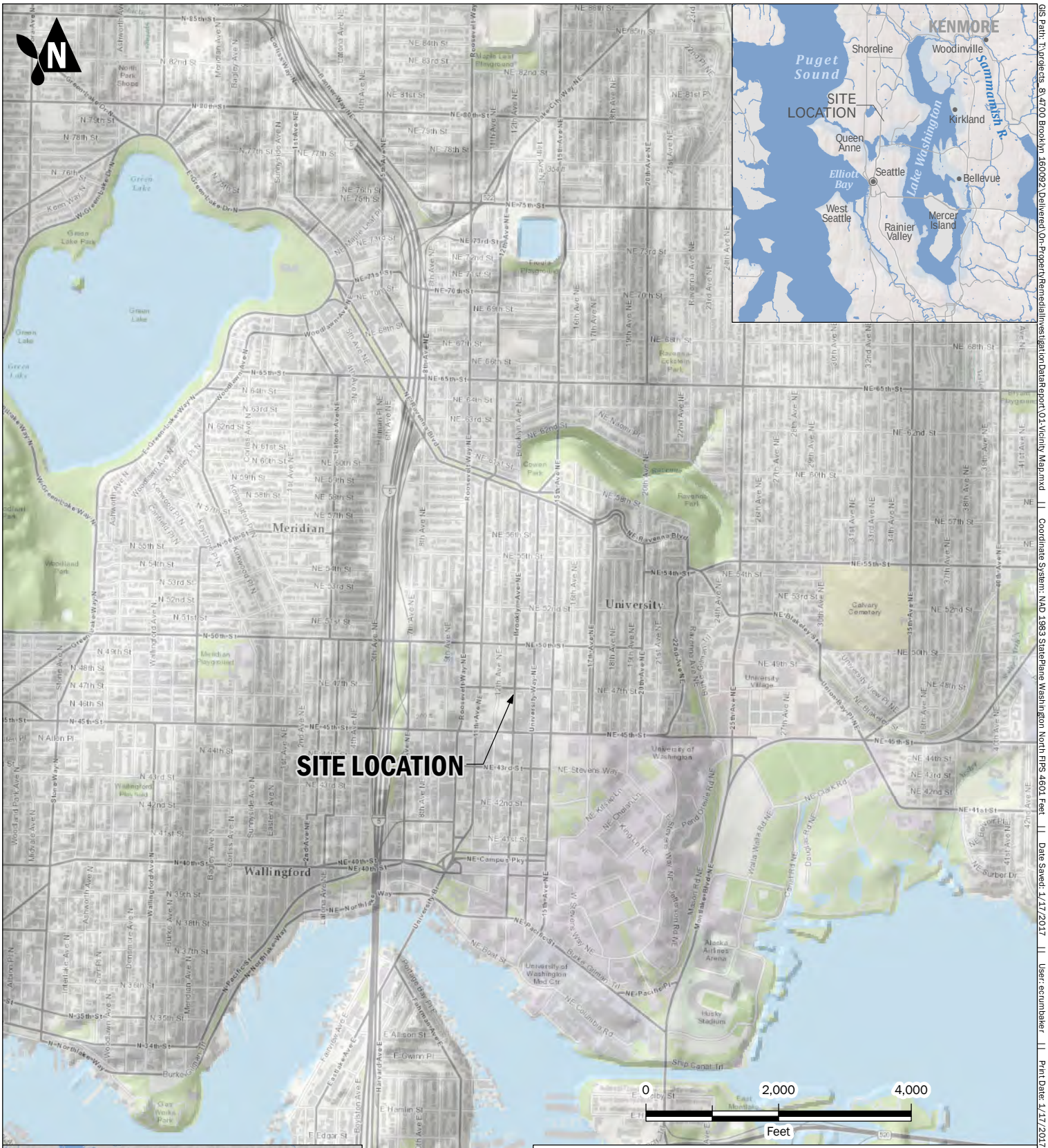
Project #160092 - 4700 Brooklyn Avenue NE
Seattle, WA

	Proposed Cleanup Levels	MW-02 11/21/2016	MW-03 11/21/2016	MW-3D 11/21/2016	MW-04 11/21/2016	MW-05 11/21/2016	MW-06 11/21/2016	MW-07 11/22/2016	MW-09 11/22/2016	MW-11 11/22/2016	MW-12 11/22/2016	MW-13 11/22/2016	MW-14 11/21/2016	MW-15 11/22/2016	MW-16 11/22/2016
Total Petroleum Hydrocarbons in ug/L															
Gasoline Range Organics	800	< 100 U	**110**	**120**	**780**	< 100 U	< 100 U	< 100 U	**23,000**	**55,000**	**120,000**		< 100 U	< 100 U	**2,300**
Diesel Range Organics	500	**58 X**	**170 X**	**120 X**	**810**	< 50 U	< 50 U	**200 X**	**3,500 X**	**4,500 X**	**8,800 X**		**110 X**	< 60 U	**660 X**
Motor Oil Range Organics	500	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U		< 250 U	< 300 U	< 250 U
Metals in ug/L															
Lead (Dissolved)	15	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ	**17.2 J**	**2.89 J**		< 1 UJ	< 1 UJ	< 1 UJ
Volatile Organic Compounds in ug/L															
Benzene	5	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	**940**	**90**	**5,500**		< 0.35 U	< 0.35 U	**77**
Toluene	1,000	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	**740**	**530**	**6,300**		< 1 U	< 1 U	**2.6**
Ethylbenzene	700	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	**420**	**1,500**	**2,300**		< 1 U	< 1 U	**100**
m,p-Xylenes		< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**660**	**5,800**	**10,000**		< 2 U	< 2 U	**5.3**
o-Xylene		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	**110**	**1,300**	**4,100**		< 1 U	< 1 U	**1.1**
Total Xylenes	1,000	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**770**	**7,100**	**14,100**		< 2 U	< 2 U	**6.4**
Methyl tert-butyl ether (MTBE)	20	< 1 U	< 1 U	< 1 U	**1.8**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U		< 1 U	< 1 U	< 1 U
Tetrachloroethene (PCE)	5								< 1 U	< 1 U		< 1 U			
Trichloroethene (TCE)	5								< 1 U	< 1 U		< 1 U			
1,1-Dichloroethene	400								< 1 U	< 1 U		< 1 U			
cis-1,2-Dichloroethene (DCE)	16								**15**	**9.7**		**15**			
trans-1,2-Dichloroethene	160								< 1 U	< 1 U		**1**			
Vinyl Chloride	0.2								< 0.2 U	< 0.2 U		**0.22**			
1,1,1-Trichloroethane	200								< 1 U	< 1 U		< 1 U			
1,1-Dichloroethane	7.68								< 1 U	< 1 U		< 1 U			
1,2-Dichloroethane (EDC)	5								**21**	< 1 U		< 1 U			
Chloroethane									< 1 U	< 1 U		< 1 U			
Methylene Chloride	5								< 5 U	< 5 U		< 5 U			

Notes

Groundwater samples were not collected from MW-1, MW-8, and MW-10. MW-1 casing bends to the east. MW-8 was dry. MW-10 had measureable product
MW-13 was only samples for chlorinated VOCs due to the presence of measureable product.
Bold indicates detected analyte.
Shading indicates detection above proposed cleanup level.
J - Analyte was positively identified. The reported result is an estimate.
U - Analyte was not detected at or above the reported result.
UJ - Analyte was not detected at or above the reported estimate
X - The sample chromatographic pattern does not resemble the fueld standard used for quantitation by the laboratory.

FIGURES



Vicinity Map

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect CONSULTING	JAN-2017	BY: DLC / EAC	FIGURE NO. 1
	PROJECT NO. 160092	REVISED BY: SCC	

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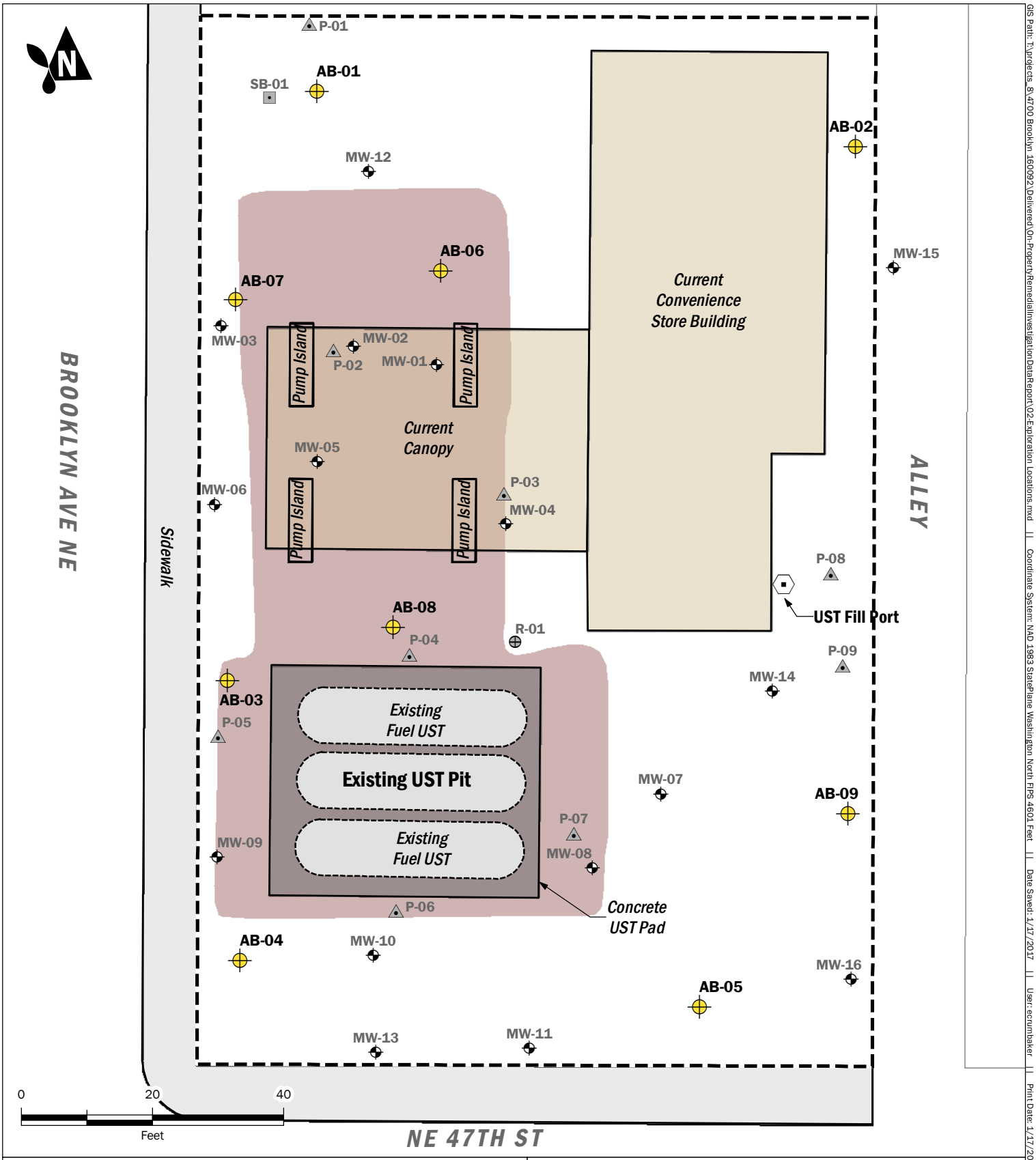
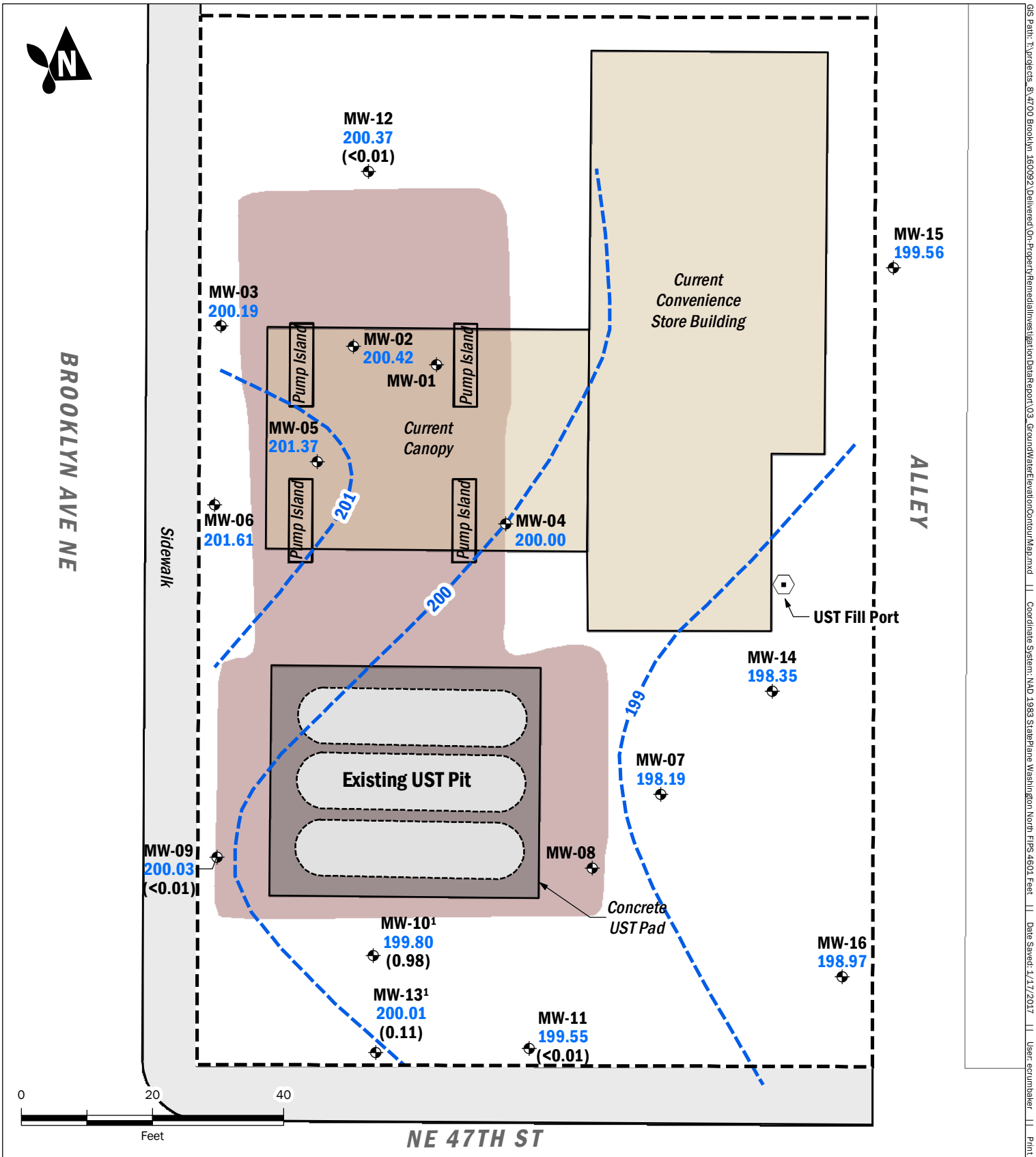


Soil Boring (Aspect, 2016)
Monitoring Well
Product Recovery Well
Soil Boring
Test Probe
Property Boundary
1989 Soil Excavation Boundary

Exploration Locations

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect Consulting	JAN-2017	BY: DLC / EAC	FIGURE NO. 2
	PROJECT NO. 160092	REVISED BY: --	



Well Name
Ground Water Elevation (feet)
Free Product Thickness in Feet
MW-10
198.30
(0.98)

Monitoring Well

Ground Water Elevation in feet (NAVD 88)

Property Boundary

1989 Soil Excavation Boundary

[1] Ground water elevation corrected for product thickness

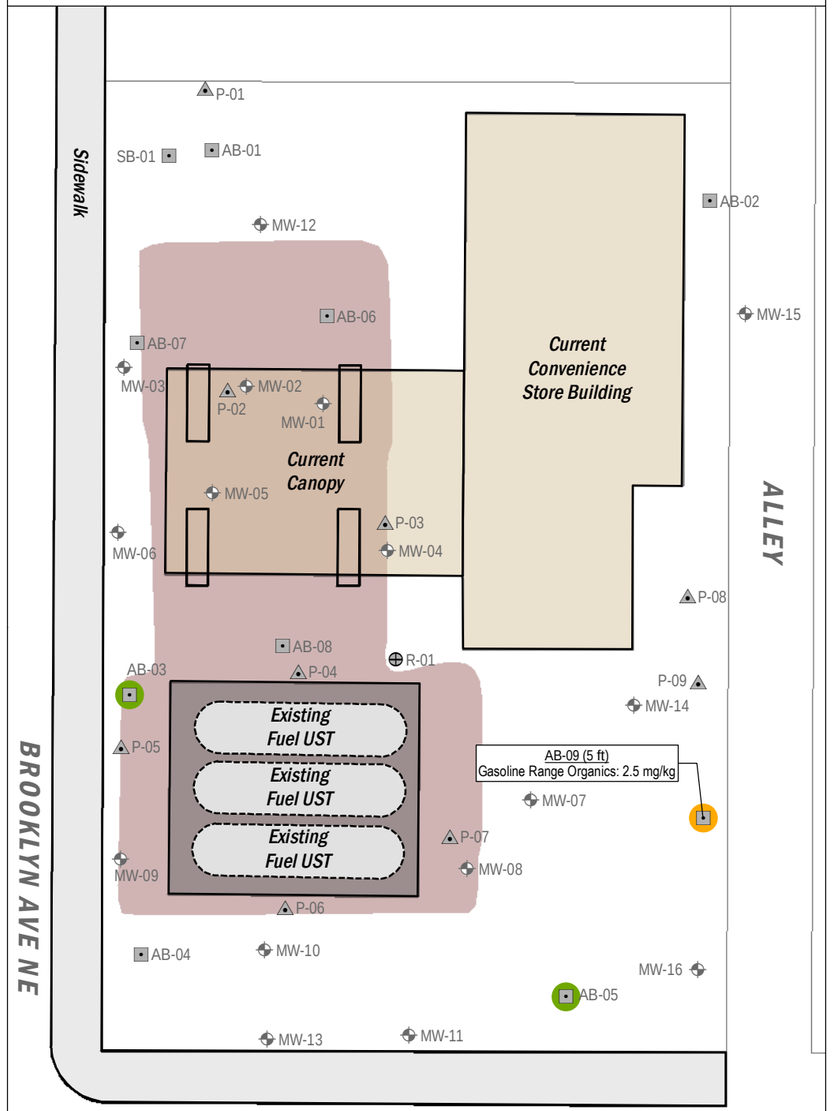
Ground Water Elevation Contour Map
November 21, 2016

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

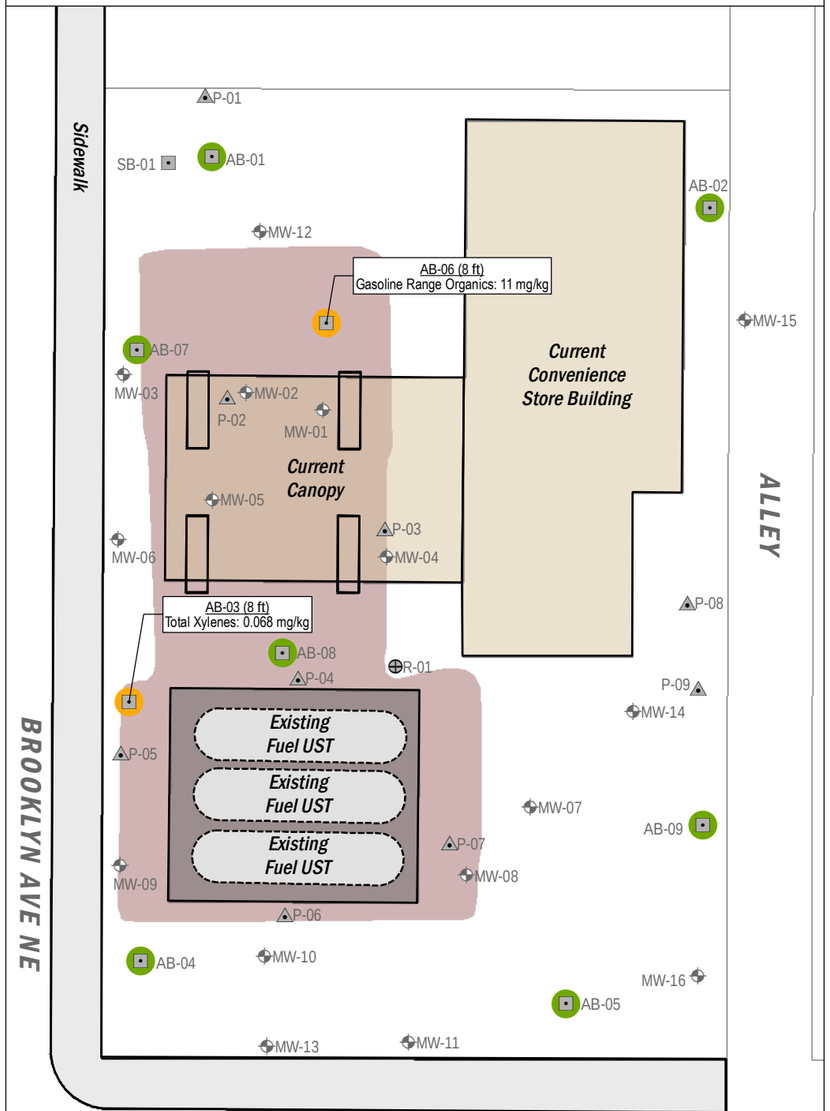
Aspect CONSULTING	JAN-2017	BY: DLC / EAC	FIGURE NO. 3
	PROJECT NO. 160092	REVISED BY: --	

GIS Path: T:\projects_8\4700 Brooklyn 160092\Delivered\On-PropertyRemedialInvestigationDataReport\03_GroundWaterElevationContourMap.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 1/17/2017 || User: egrumbaker || Print Date: 1/17/2017

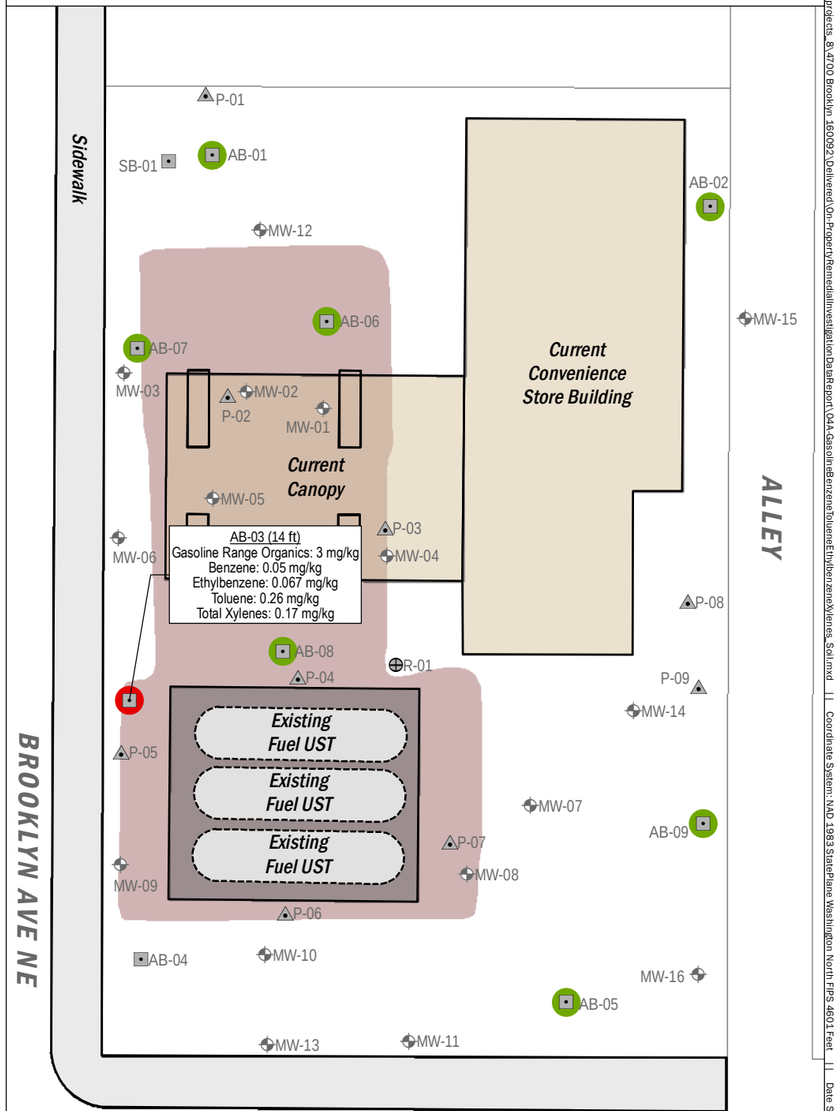
0- to 5-foot Depth



6- to 10-foot Depth



11- to 15-foot Depth



Explorations

- Monitoring Well
- Product Recovery Well
- Soil Boring
- Test Probe

Proposed Cleanup Level (CL) Screening

- No Detections, all Lab Detection Limits are Below CL.
- One or More Detected, All Below CL.
- One or More Detected Above CL.

- Tax Parcel
- 1989 Soil Excavation Boundary

Notes:
- Only sample results with detections are shown.
- Results in bold exceed proposed cleanup level.

Proposed Cleanup Levels in mg/kg	
Gasoline Range Organics	30
Benzene	0.03
Ethylbenzene	6
Toluene	7
Total Xylenes	9

N

0 25 50

Feet

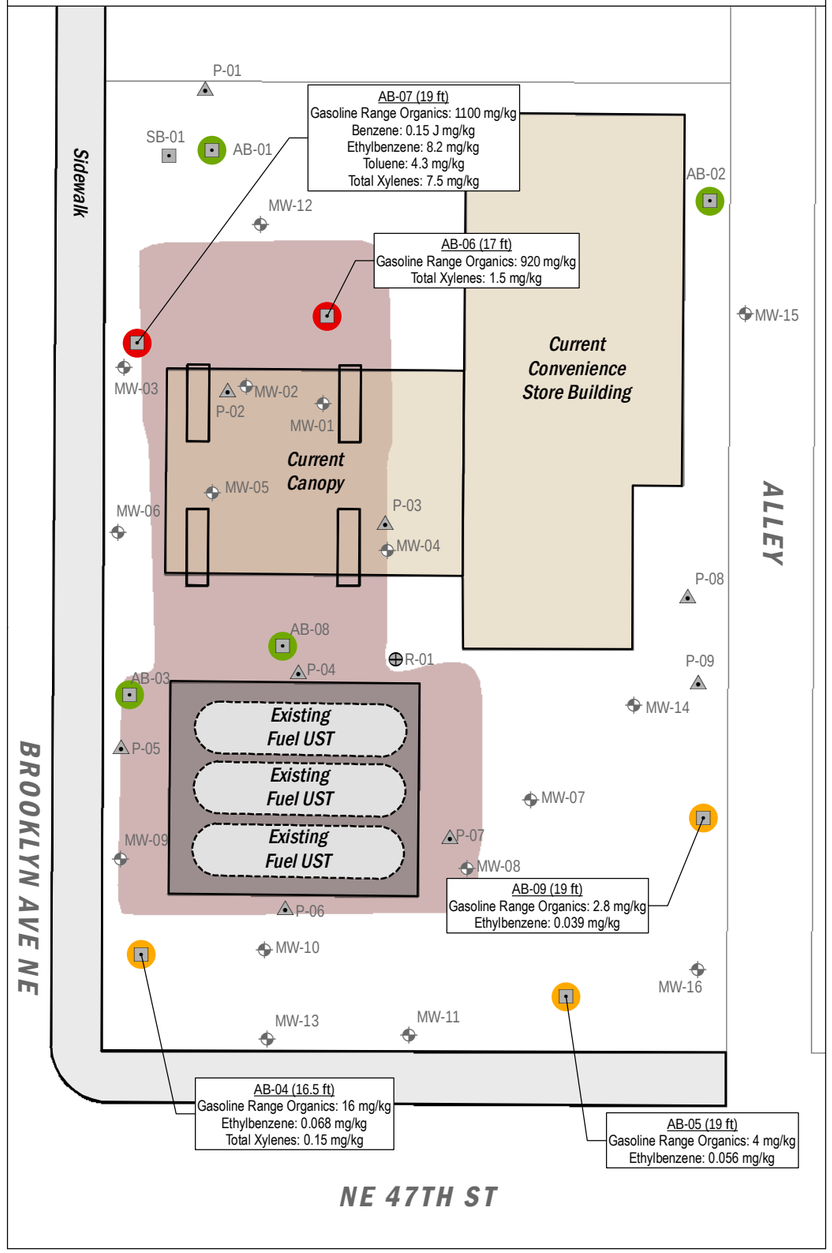
Occurrences of Gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes in Soil

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

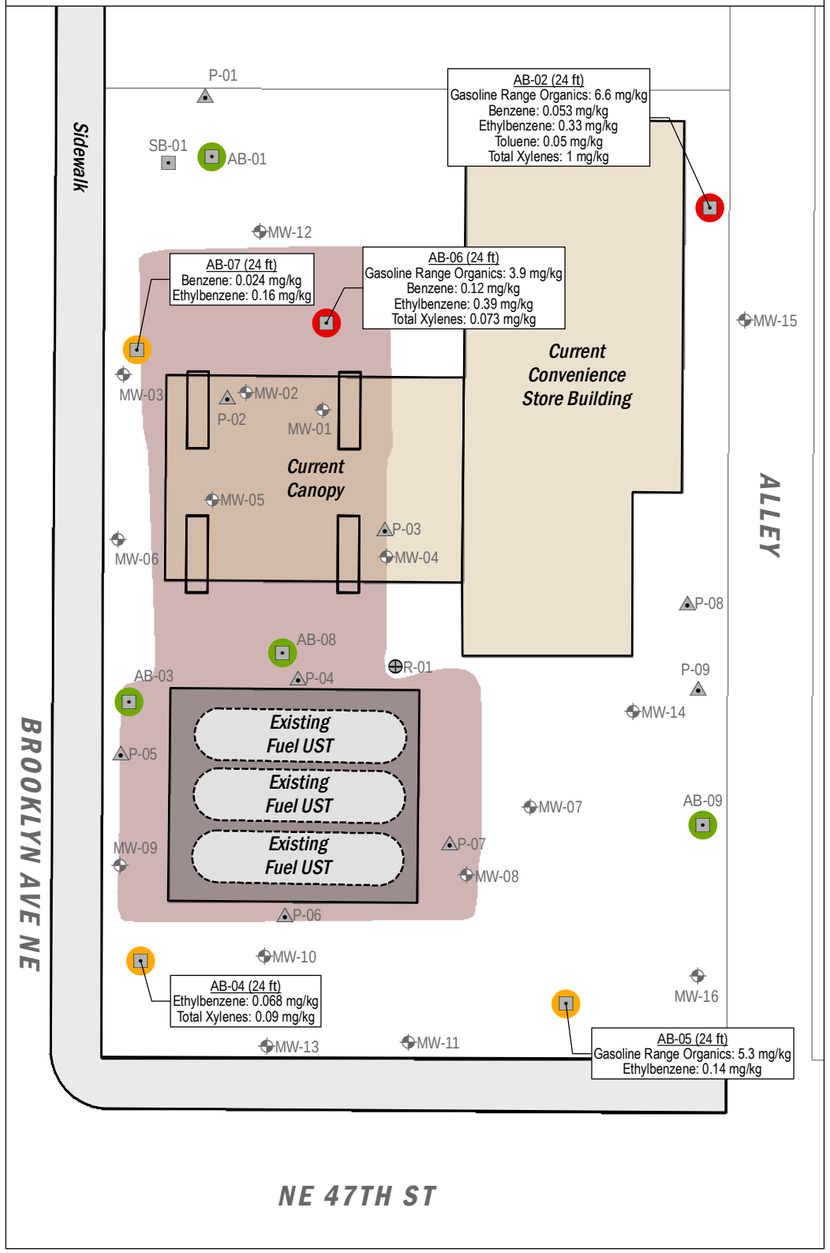
Aspect CONSULTING

JAN-2017	BY: DLC / EAC	FIGURE NO. 4A
PROJECT NO. 160092	REVISED BY: ---	

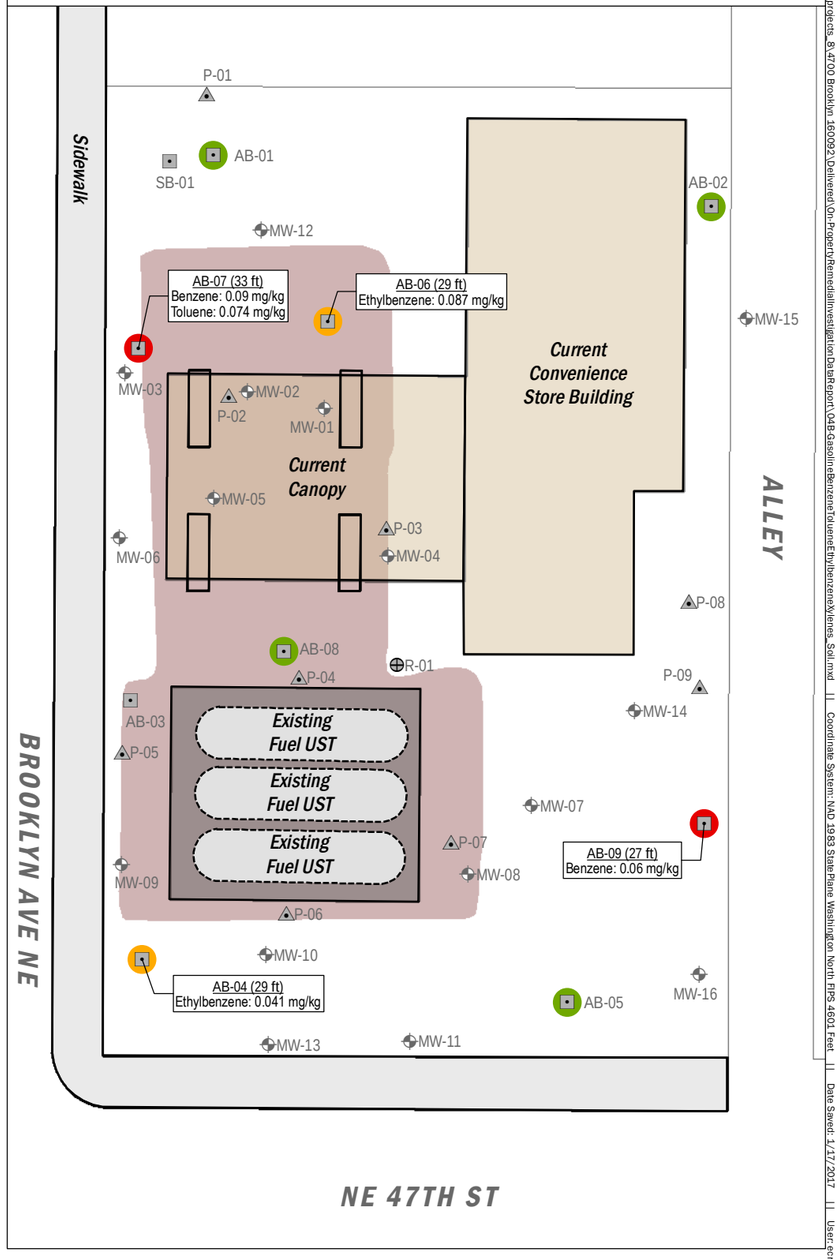
16- to 20-foot Depth



21- to 25-foot Depth



26- to 33-foot Depth



Explorations

- Monitoring Well
- Product Recovery Well
- Soil Boring
- Test Probe

Proposed Cleanup Level (CL) Screening

- No Detections, all Lab Detection Limits are Below CL.
- One or More Detected, All Below CL.
- One or More Detected Above CL.

- Tax Parcel
- 1989 Soil Excavation Boundary

Notes:
- Only sample results with detections are shown.
- Results in bold exceed proposed cleanup level.

Proposed Cleanup Levels in mg/kg	
Gasoline Range Organics	30
Benzene	0.03
Ethylbenzene	6
Toluene	7
Total Xylenes	9

N

0 25 50

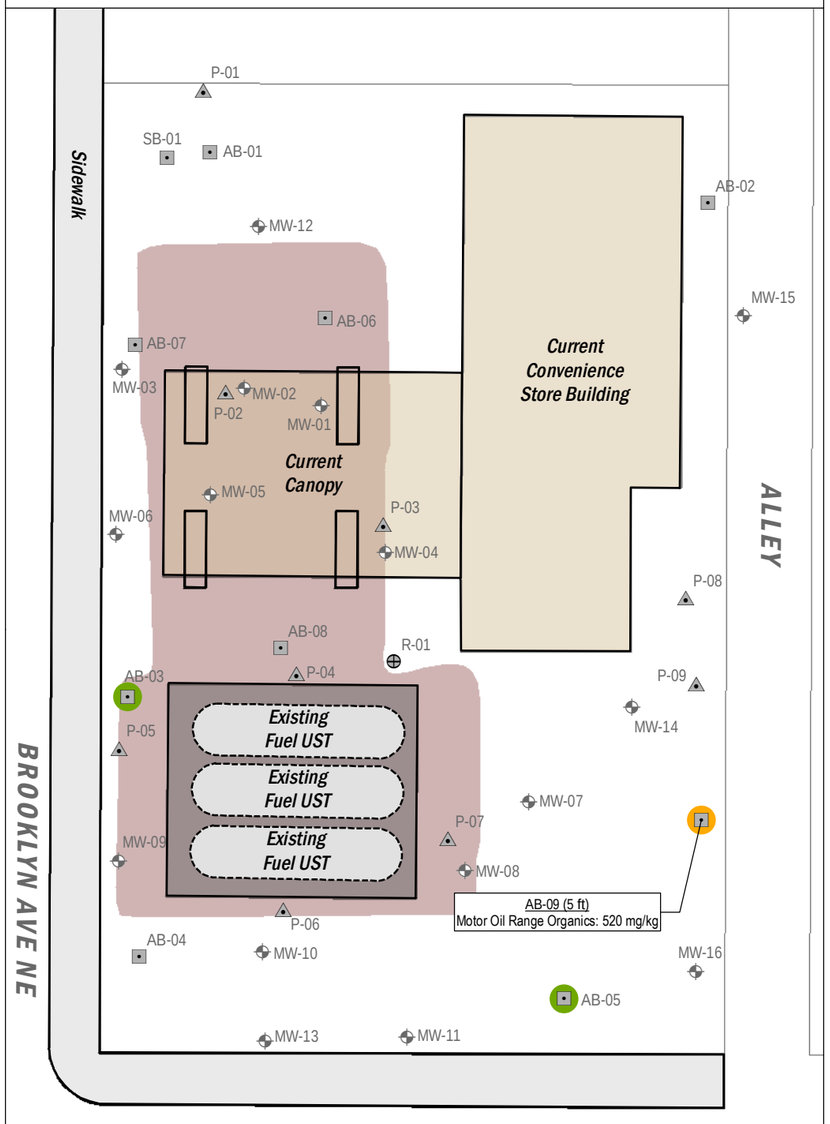
Feet

Occurrences of Gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes in Soil

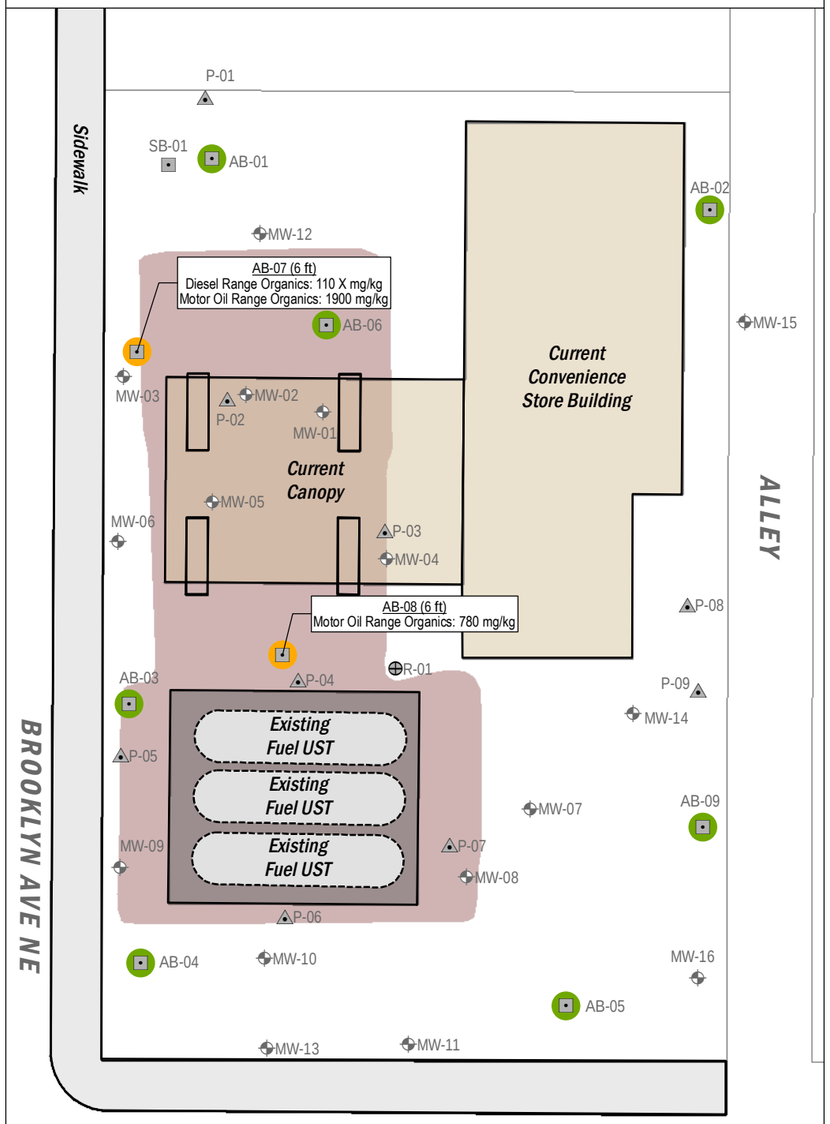
On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect Consulting	JAN-2017	BY: DLC / EAC	FIGURE NO. 4B
	PROJECT NO. 160092	REVISED BY: ---	

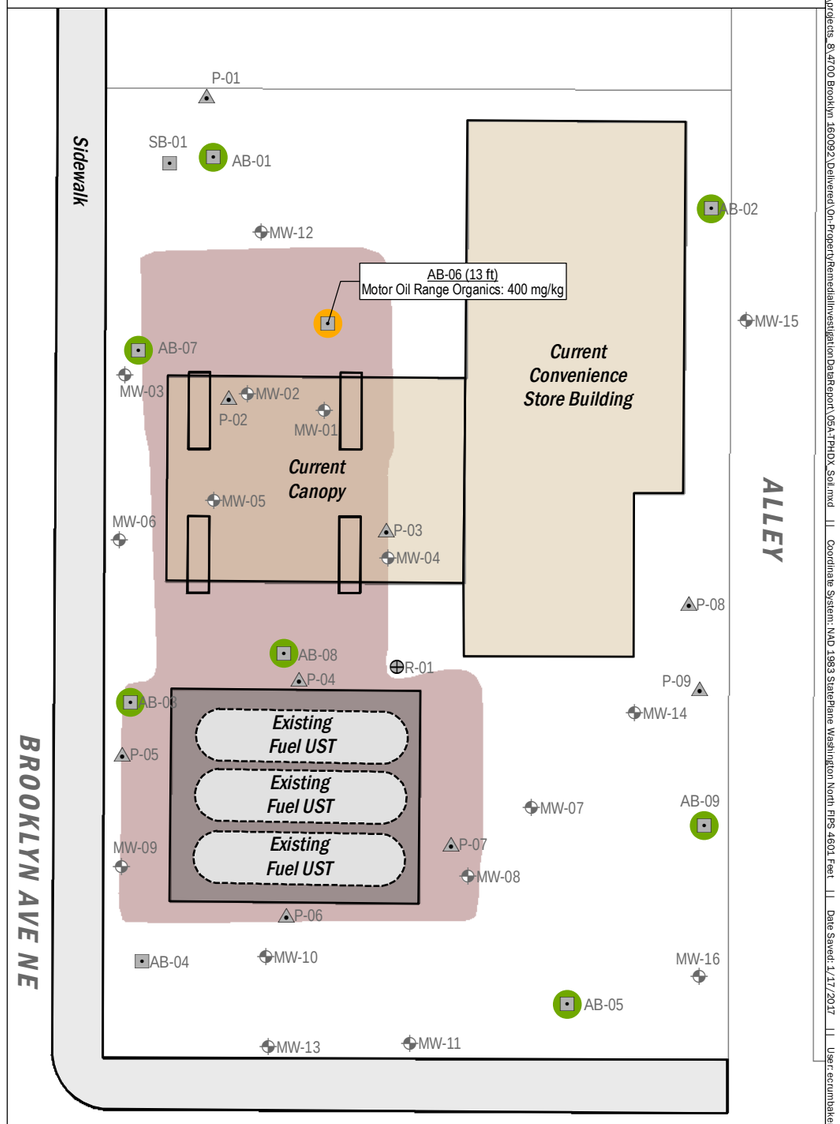
0- to 5-foot Depth



6- to 10-foot Depth



11- to 15-foot Depth



Explorations

- Monitoring Well
- Product Recovery Well
- Soil Boring
- Test Probe

Proposed Cleanup Level (CL) Screening

- No Detections, all Lab Detection Limits are Below CL.
- One or More Detected, All Below CL.
- One or More Detected Above CL.

- Tax Parcel
- 1989 Soil Excavation Boundary

Proposed Cleanup Levels in mg/kg	
Diesel Range Organics	2,000
Motor Oil Range Organics	2,000

Notes:
- Only sample results with detections are shown.
- Results in bold exceed proposed cleanup level.

N

0 25 50

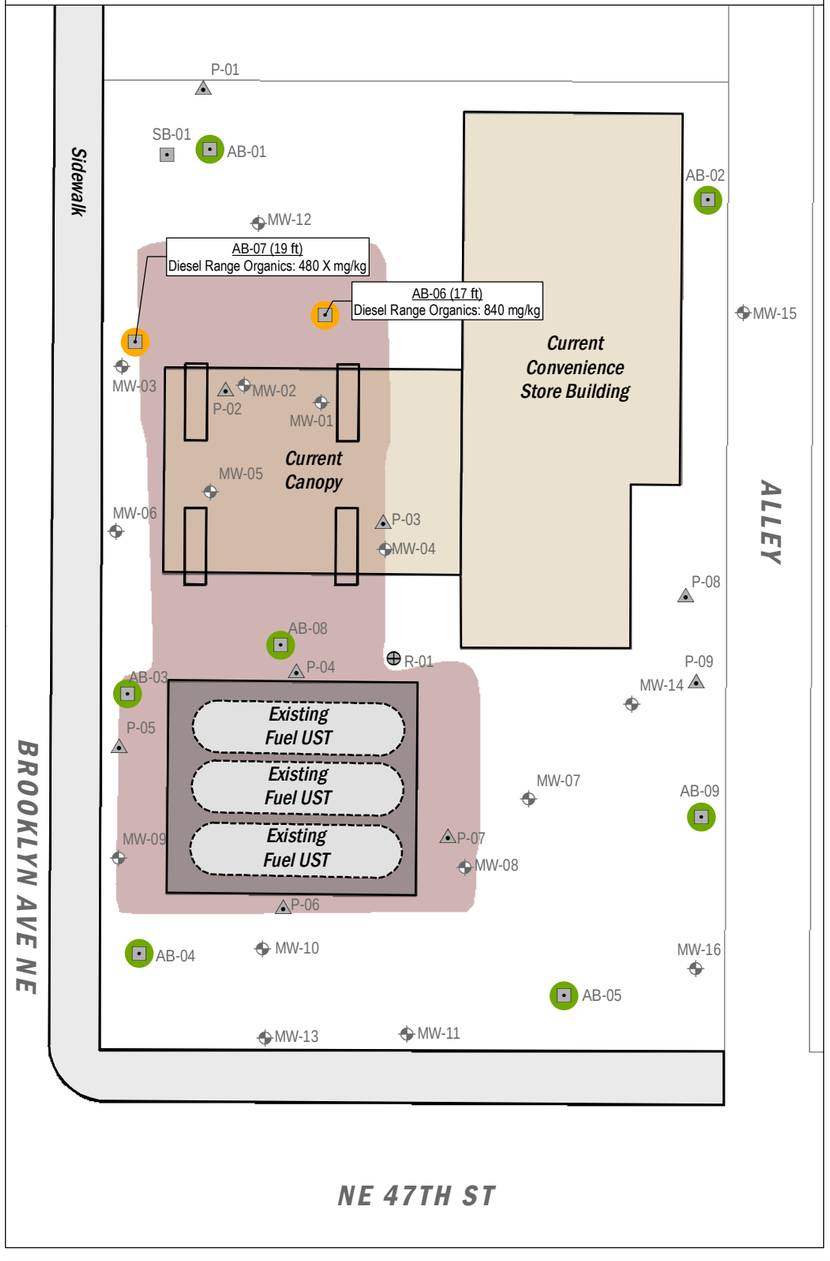
Feet

Occurrences of Diesel and Oil in Soil

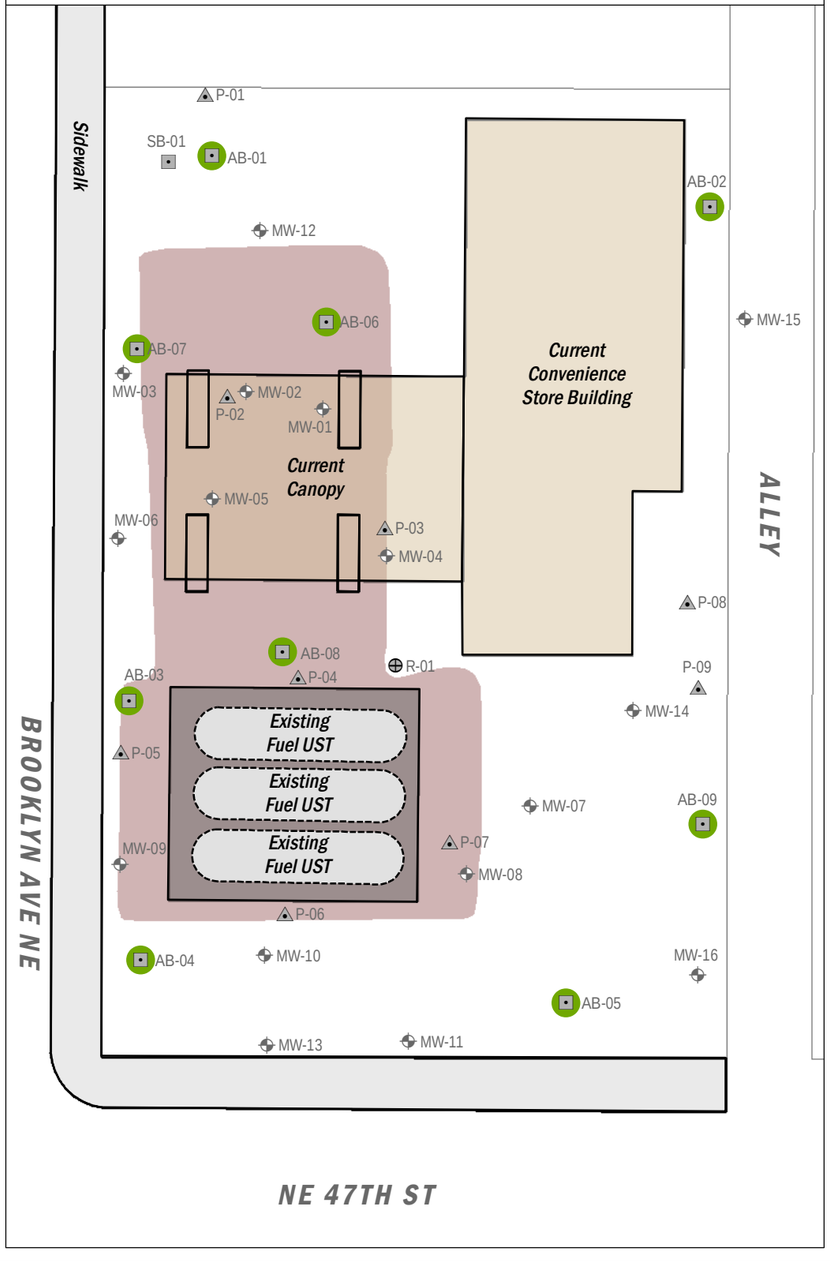
On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect Consulting	JAN-2017	BY: DLC / EAC	FIGURE NO. 5A
	PROJECT NO. 160092	REVISED BY: ---	

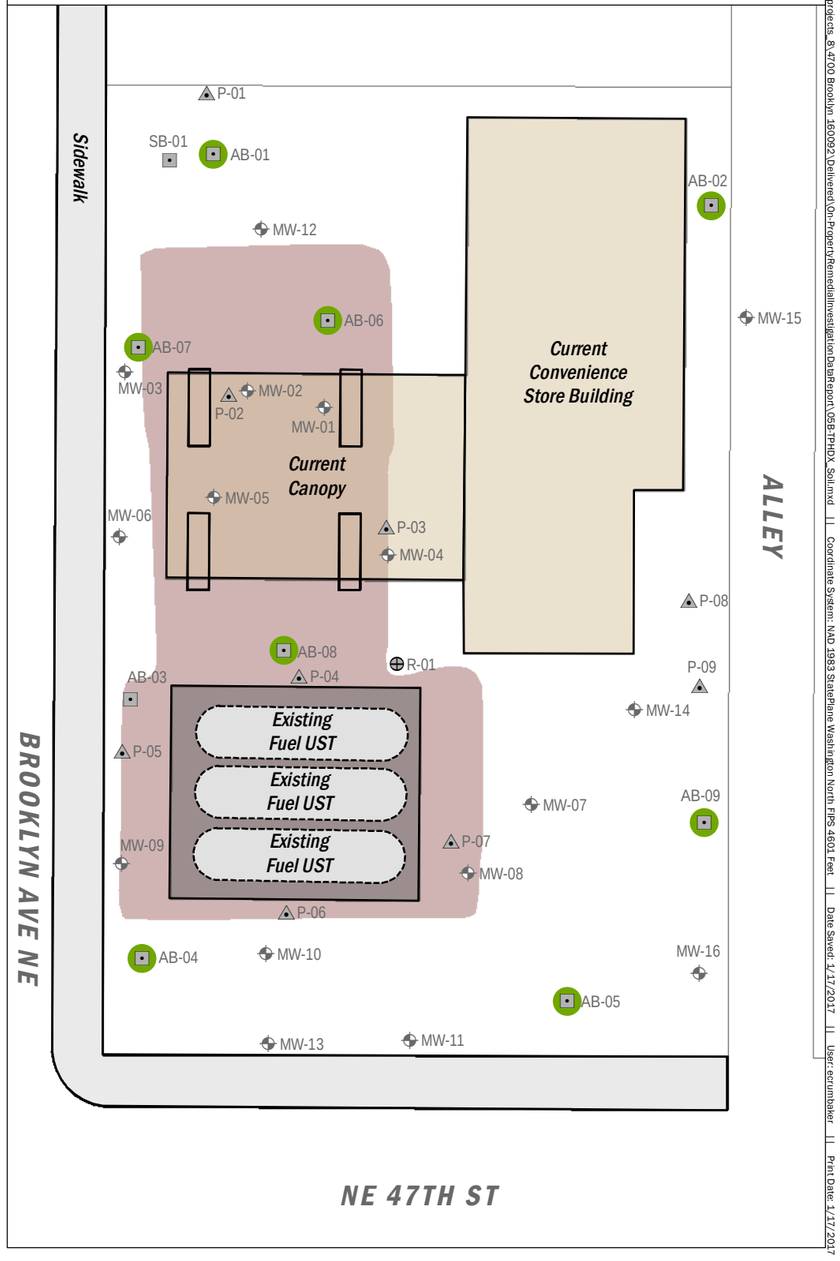
16- to 20-foot Depth



21- to 25-foot Depth



26- to 33-foot Depth



Explorations

- Monitoring Well
- Product Recovery Well
- Soil Boring
- Test Probe

Proposed Cleanup Level (CL) Screening

- No Detections, all Lab Detection Limits are Below CL.
- One or More Detected, All Below CL.
- One or More Detected Above CL.

- Tax Parcel
- 1989 Soil Excavation Boundary

Proposed Cleanup Levels in mg/kg	
Diesel Range Organics	2,000
Motor Oil Range Organics	2,000

Notes:
- Only sample results with detections are shown.
- Results in bold exceed proposed cleanup level.

N

0 25 50

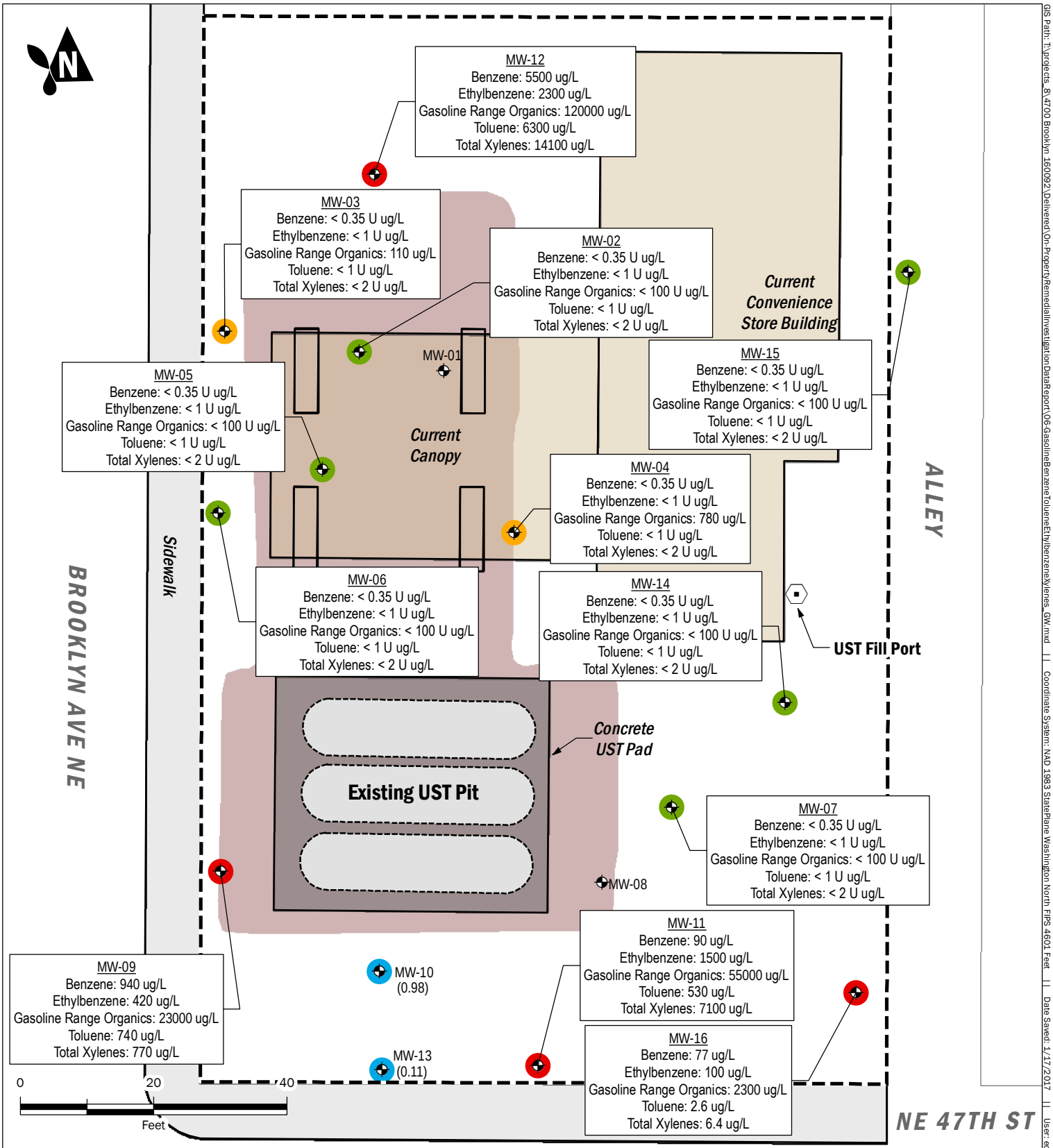
Feet

Occurrences of Diesel and Oil in Soil

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect CONSULTING

JAN-2017	BY: DLC / EAC	FIGURE NO. 5B
PROJECT NO. 160092	REVISED BY: ---	



Monitoring Well

1989 Soil Excavation Boundary

Proposed Cleanup Levels in µg/L	
Benzene	5
Ethylbenzene	700
Gasoline	800
Toluene	1,000
Total Xylenes	1,000

Free product thickness in feet — (0.98)

Proposed Cleanup Level (CL) Screening

- No Detections, all Lab Detection Limits are Below CL.
- One or More Detected, All Below CL.
- One or More Detected Above CL.
- Free Product Measured in Well
- Property Boundary

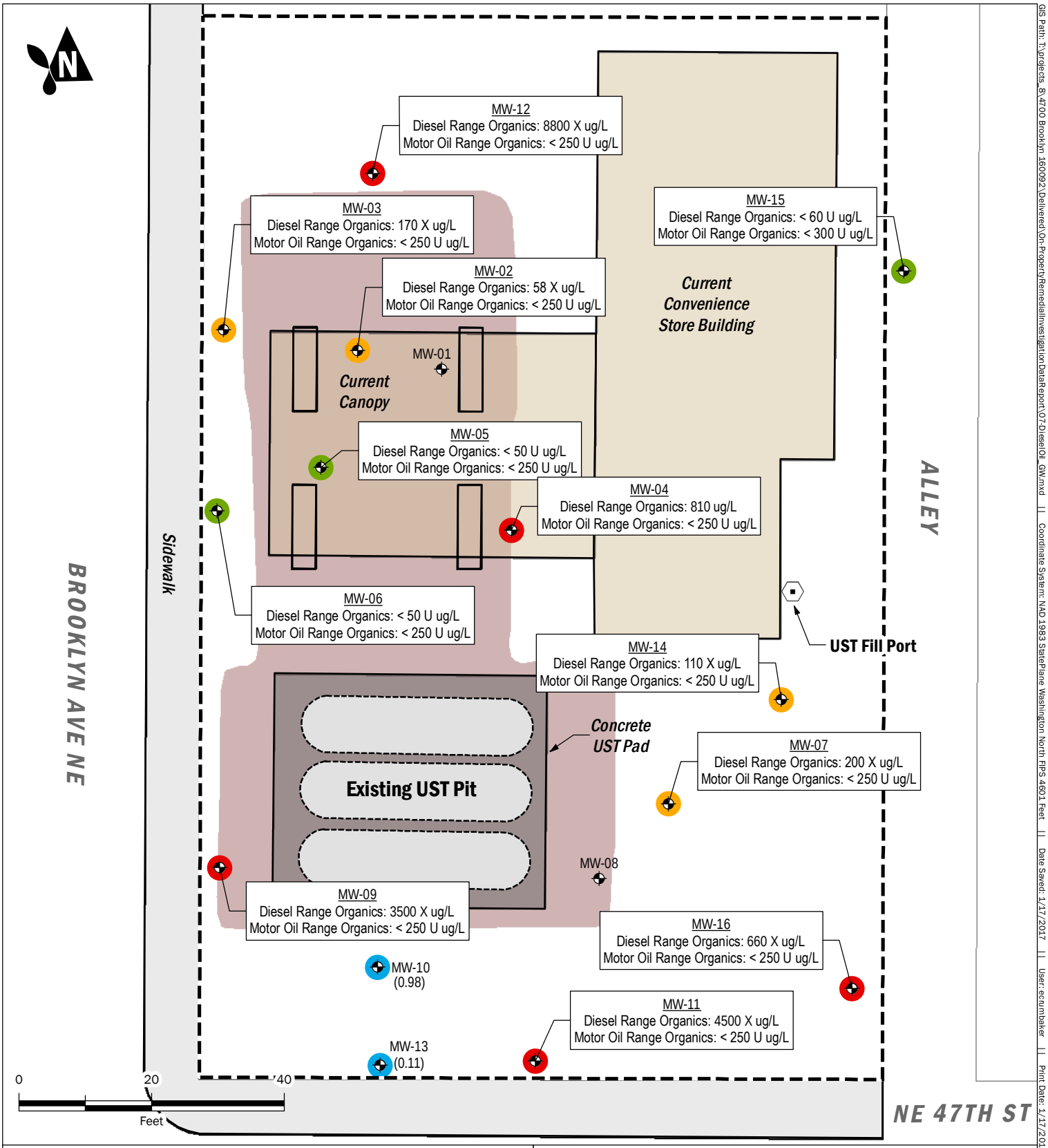
Notes:
- MW-01 and MW-08 were not sampled.
- Results in bold exceed proposed cleanup level.

Occurrences of Gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes in Ground Water

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect Consulting	JAN-2017	BY: DLC / EAC	FIGURE NO. 6
	PROJECT NO. 160092	REVISED BY: --	

GIS Path: T:\projects_8\4700 Brooklyn 160092\Delivered\On-Property\RemedialInvestigationDataReport\06-GasolineBenzeneTolueneEthylbenzeneXylenes_GW.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 1/17/2017 || User: ecrumbaker || Print Date: 1/17/2017



Monitoring Well

1989 Soil Excavation Boundary

Proposed Cleanup Levels in µg/L	
Diesel Range Organics	500
Motor Oil Range Organics	500

(0.98) Free product thickness in feet

Proposed Cleanup Level (CL) Screening

- No Detections, all Lab Detection Limits are Below CL.
- One or More Detected, All Below CL.
- One or More Detected Above CL.
- Free Product Measured in Well
- Property Boundary

Notes:
- MW-01 and MW-08 were not sampled.
- Results in bold exceed proposed cleanup level.

Occurrences of Diesel and Oil in Ground Water

On-Property Remedial Investigation Data Report
4700 Brooklyn Avenue NE
Seattle, Washington

Aspect Consulting	JAN-2017	BY: DLC / EAC	FIGURE NO. 7
	PROJECT NO. 160092	REVISED BY: --	

ATTACHMENT A

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 (5)	GW	Well-graded gravel and gravel with sand, little to no fines
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≥15% Fines (5)	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50% (1) or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines (5)	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≥15% Fines (5)	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and 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 silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diato-maceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

	Density	SPT (2) blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT (2) blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

FC = Fines Content
G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Consolidation
DD = Dry Density
K = Permeability
Str = Shear Strength
Env = Environmental
PiD = Photoionization Detector

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 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)

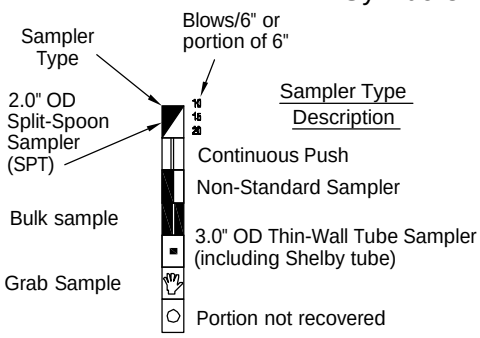
(3) Estimated Percentage

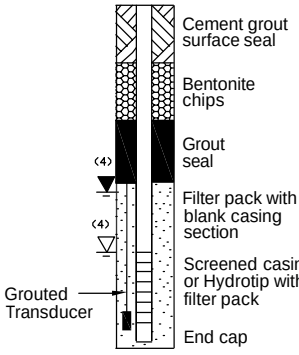
Percentage by Weight	Modifier
<5	Trace
5 to 15	Slightly (sandy, silty, clayey, gravelly)
15 to 30	Sandy, silty, clayey, gravelly)
30 to 49	Very (sandy, silty, clayey, gravelly)

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

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of groundwater — ATD = At time of drilling; Static water level (date); BGS = below ground surface
(5) Combined USCS symbols used for fines between 5% and 15% as estimated in General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.

Aspect CONSULTING

Exploration Log Key

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:

PROJECT NO.

FIGURE NO.
A-1

Q:_ACAD Standards\Standard Details\Exploration Log Key A1.dwg

Brooklyn Ave - 160092

Environmental Exploration Log

Project Address & Site Specific Location	Coordinates (SPN NAD83 ft)	Exploration Number
4700 Brooklyn Ave NE, Seattle, WA, Northwest property corner	E:1275572.3 N:245566.8	**AB-1**

Contractor	Equipment	Sampling Method	Ground Surface (GS)	
Holt Services	Rotary drill rig	Rotary core	Elev. 215' (est)	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev.**	**Depth to Water (Below GS)**
Dave	Sonic	11/9/2016	NA	Not Measured

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Slightly moist, brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine to coarse subrounded gravel, no odor.	
		Backfilled with bentonite chips						
5	210		S1				Vacuumed to 6 ft	5
							Moist, brown, SAND (SP); trace fine subrounded gravel, fine to medium sand, no odor, no sheen.	
				AB-1-8 NWTPH-Gx, -Dx, BTEX	PID= 0.1			
					PID= 0.3			
10	205							10
				AB-1-14 NWTPH-Gx, -Dx, BTEX	PID= 0.4			
15	200		S2					15
				AB-1-19 NWTPH-Gx, -Dx, BTEX				
20	195						Grades to gray brown	20
					PID= 1.0			
				AB-1-24 NWTPH-Gx, -Dx, BTEX	PID= 0.2			
25	190		S3		PID= 6.8			25
					PID= 2.1			
				AB-1-29 NWTPH-Gx, -Dx, BTEX				
30	185				PID= 0.0			30
			S4		PID= 3.1		Very moist, gray, sandy, silty GRAVEL (GM); fine to coarse sand, fine to coarse subrounded gravel, slight product odor, no sheen.	
							Hard, moist, gray, slightly sandy SILT (ML); fine sand, with low plasticity, no odor, no sheen.	
35	180			AB-1-35 NWTPH-Gx, -Dx, BTEX	PID= 0.0		Bottom of exploration at 35 ft. bgs.	35

Legend

Sample Method: Continuous core 4" ID

Water Level: Not Measured

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-1

Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, Northeast property corner		*Coordinates (SPN NAD83 ft)* E:1275654.2 N:245555.2	*Exploration Number* **AB-2**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/8/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 18' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Moist, brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, no odor, no sheen.	
5	210	Backfilled with bentonite chips	S1					5
				Soil: AB-2-8 NWTPH-Gx, - Dx, BTEX	PID= 0.0		Moist, brown, gravelly, SAND (SP); trace silt, fine to medium sand, fine subrounded gravel, no odor, no sheen.	
							No silt observed.	
10	205			Soil: AB-2-10 NWTPH-Gx, - Dx, BTEX	PID= 6.0			10
				Soil: AB-2-14 NWTPH-Gx, - Dx, BTEX	PID= 9.4			
15	200		S2					15
		▽ 11/8/2016		Soil: AB-2-17.5 NWTPH-Gx, - Dx, BTEX			Becomes gray with weak product odor.	
							Wet, gray, sandy, slightly silty GRAVEL (GP-GM); fine to coarse sand, fine subrounded gravel, weak product odor.	
20	195						Becomes silty GRAVEL (GM); with weak product odor.	20
				Soil: AB-2-24 NWTPH-Gx, - Dx, BTEX	PID= 4.4			
25	190		S3				Moist to very moist, gray SAND (SP); fine to medium sand, with weak product odor, no sheen.	25
							Wet, gray, sandy, silty GRAVEL (GM); fine to coarse sand, fine subrounded gravel, with weak product odor.	
				Soil: AB-2-28 NWTPH-Gx, - Dx, BTEX	PID= 6.6		Hard, moist, gray, slightly sandy SILT (ML); fine sand, with low to none plasticity, no odor, no sheen.	
30	185						Bottom of exploration at 30 ft. bgs.	30
35	180							35

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 7"

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-2
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, Western property line		*Coordinates (SPN NAD83 ft)* E:1275556.3 N:245476.3	*Exploration Number* **AB-3**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/7/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 28' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Moist, brown slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, with no odor.	
		Backfilled with bentonite chips	S1	Soil: AB-3-4 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 6.6			
5	210				PID= 17.1		Becomes silty SAND (SM); fine to medium sand, with weak product odor, no sheen.	5
				Soil: AB-3-8 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 21.4		Moist, brown, SAND (SP); fine to medium sand, with weak product odor, no sheen.	
10	205		S2					10
				Soil: AB-3-14 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 36.4			
15	200						Becomes gray brown, product odor weaker with depth.	15
				Soil: AB-3-19 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 26.6		Becomes brown.	
20	195		S3					20
				Soil: AB-3-24 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 4.4			
25	190						Moist, brown to black, sandy, silty GRAVEL (GM); fine to medium sand, fine to coarse subrounded gravel, with no odor, no sheen.	25
							Grades to gray brown.	
		▽ 11/7/2016	S4				Moist, brown, slightly gravelly SAND (SP); fine to medium sand, fine subrounded gravel, with no odor.	
					PID= 3.1		Wet, gray brown, slightly silty GRAVEL (GW-GM); fine to medium sand, fine to coarse subrounded gravel, with no sheen.	
30	185						Becomes silty GRAVEL (GM)	30
			S5		PID= 0.0			
							Hard, moist, gray, slightly sandy SILT (ML); fine sand, with no odor.	
35	180						Bottom of exploration at 30 ft. bgs.	35

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 7"

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-3
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, Southwest property corner		*Coordinates (SPN NAD83 ft)* E:1275557.1 N:245434.5	*Exploration Number* **AB-4**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/8/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 28' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Moist, brown, gravelly, silty SAND (SM); fine to medium sand, fine subrounded gravel, with no odor.	
							Vacuumed out from 0 to 6 ft bgs for utilities.	
5	210	Backfilled with bentonite chips	S1	Soil: AB-4-6 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 15.5			5
					PID= 450			
10	205			Soil: AB-4-10 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 66.3		Moist, brown SAND (SP); fine to medium sand.	10
							Weak product odor between 10 and 14 ft bgs.	
					PID= 71.7			
					PID= 1840			
15	200			Soil: AB-4-16.5 NWTPH-Gx, -Gx, BTEX, CVOCs			Product odor grades to strong between 14 to 17 ft bgs.	15
					PID= 1635			
				Soil: AB-4-19 NWTPH-Gx, -Gx, BTEX, CVOCs			Grades to gray brown.	
					PID= 42.2			
20	195				PID= 100			20
					PID= 9.1			
25	190	▽ 11/8/2016	S2	Soil: AB-4-24 NWTPH-Gx, -Gx, BTEX, CVOCs	PID= 6.1		Soil coarsening with depth.	25
					PID= 4.0		Becomes gravelly with weak product odor.	
					PID= 0.0		Wet, gray brown, very sandy, silty GRAVEL (GM); fine to coarse sand, fine subrounded gravel, with no odor, no sheen.	
30	185			Soil: AB-4-29 NWTPH-Gx, -Gx, BTEX, CVOCs			Hard, moist, gray, slightly sandy, gravelly SILT (ML); fine sand, fine subrounded gravel, with none to low plasticity, no odor, no sheen.	30
					PID= 3.5			
			S3		PID= 9.9		5-inch cobble at 33 ft bgs.	
35	180				PID= 31		Bottom of exploration at 35 ft. bgs.	35

Legend

Sample Method: Continuous core 7"

Water Level: ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-4
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, Southwest property corner		*Coordinates (SPN NAD83 ft)* E:1275627.0 N:245425.6	*Exploration Number* **AB-5**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/8/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 27' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Slightly moist, brown, slightly silty SAND (SP-SM); trace fine subrounded gravel, fine to medium sand, with no odor.	
							Vacuumed out from 0 to 5 ft bgs for utilities.	
5	210	Backfilled with bentonite chips	S1	Soil: AB-5-5 NWTPH-Gx, -Dx, BTEX, CVOCs				5
10	205			Soil: AB-5-10 NWTPH-Gx, -Dx, BTEX, CVOCs			Moist, brown SAND (SP); trace silt, fine to medium sand, with no odor.	10
15	200		S2	Soil: AB-5-14 NWTPH-Gx, -Dx, BTEX, CVOCs			Becomes gray brown Moderate product odor.	15
20	195		S3	Soil: AB-5-19 NWTPH-Gx, -Dx, BTEX, CVOCs				20
25	190	▽ 11/8/2016		Soil: AB-5-24 NWTPH-Gx, -Dx, BTEX, CVOCs	PID= 41.2		No product odor.	25
			S4				Wet, gray, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, with no odor, no sheen.	
30	185			Soil: AB-5-29 NWTPH-Gx, -Dx, BTEX, CVOCs			Moist, gray brown, gravelly, silty SAND (SM); fine subrounded grave, fine to medium sand, with diamict fabric, no odor, no sheen.	30
			S5	Soil: AB-5-32 NWTPH-Gx, -Dx, BTEX, CVOCs			Hard, moist, gray, slightly sandy SILT (ML); fine sand, with no odor, no sheen, none to low plasticity.	
35	180						Bottom of exploration at 35 ft. bgs. Note: PID malfunction, measurements not made.	35

Legend

Sample Method: Continuous core 7"

Water Level: ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-5
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, Southwest property corner		*Coordinates (SPN NAD83 ft)* E:1275591.5 N:245538.9	*Exploration Number* **AB-6**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/9/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 21' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Moist, brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, with no odor. Vacuumed out from 0 to 6 ft bgs for utilities.	
5	210	Backfilled with bentonite chips	S1	Soil: AB-6-8 NWTPH-Gx, -Dx, BTEX	PID= 27.8			5
					PID= 0.0			
10	205			Soil: AB-6-13 NWTPH-Gx, -Dx, BTEX	PID= 0.0		Moist, brown SAND (SP); fine to medium sand, with no odor.	10
							Weak product odor.	
15	200		S2		PID= 21.7			15
				Soil: AB-6-17 NWTPH-Gx, -Dx, BTEX, Select VOCs, Pb	PID= 1043		Grades to gray with a strong product odor.	
					PID= 68.2		Becomes slightly silty SAND (SP-SM);	
20	195	▽ 11/9/2016			PID= 11.8		Wet, gray, sandy, silty GRAVEL (GM); fine to coarse sand, fine to coarse subrounded gravel, weak product odor.	20
					PID= 2.5		Moist to wet, gray, slightly silty SAND (SP-SM); fine to medium sand, with very weak product odor.	
25	190		S3	Soil: AB-6-24 NWTPH-Gx, -Dx, BTEX	PID= 0.3		No product odor.	25
							Becomes silty SAND (SM)	
				Soil: AB-6-29 NWTPH-Gx, -Dx, BTEX	PID= 0.0			
30	185		S4		PID= 0.0			30
				Soil: AB-6-33 NWTPH-Gx, -Dx, BTEX	PID= 0.0		Hard, moist, gray, slightly sandy SILT (ML); fine sand, with none to low plasticity, no odor.	
35	180						Bottom of exploration at 33 ft. bgs.	35

Legend

Sample Method: Continuous core 4" ID

Water Level: ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-6
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, West property line		*Coordinates (SPN NAD83 ft)* E:1275559.3 N:245534.1	*Exploration Number* **AB-7**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' 9 (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/9/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 27' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal					Asphalt	0
							Moist, brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, no odor.	
5	210	Backfilled with bentonite chips	S1	Soil: AB-7-6 NWTPH-Gx, -Dx, BTEX	PID= 0.0			5
10	205			Soil: AB-7-10 NWTPH-Gx, -Dx, BTEX	PID= 0.0		Moist, brown SAND (SP); fine to medium sand, with no odor.	10
					PID= 28.7		Becomes gray with weak product odor.	
15	200		S2	Soil: AB-7-14 NWTPH-Gx, -Dx, BTEX	PID= 550		Product odor becomes moderate.	15
					PID= 232		Product odor becomes strong.	
20	195			Soil: AB-7-19 NWTPH-Gx, -Dx, BTEX	PID= 1656		Product odor becomes very strong.	20
							Woodchips between 20 and 21 ft bgs.	
					PID= 42.0			
25	190	▽ 11/9/2016	S3	Soil: AB-7-24 NWTPH-Gx, -Dx, BTEX	PID= 29.6		Becomes gravelly with fine subrounded gravel.	25
					PID= 25.1		Wet, gray brown, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine subrounded gravel, with moderate product odor, grading siltier with depth.	
30	185			Soil: AB-7-29 NWTPH-Gx, -Dx, BTEX	PID= 25.1		Becomes slightly moist, with weak product odor.	30
			S4		PID= 9.3		Hard, moist, gray, slightly sandy SILT (ML); fine sand, with none to low plasticity, no odor.	
35	180			Soil: AB-7-33 NWTPH-Gx, -Dx, BTEX	PID= 8.9		Bottom of exploration at 33 ft. bgs.	35

Legend

Sample Method: Continuous core 4" ID

Water Level: ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-7
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, North of fueling islands		*Coordinates (SPN NAD83 ft)* E:1275582.8 N:245484.7	*Exploration Number* **AB-8**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/9/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 25' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete surface seal					Asphalt	
							Moist, brown SAND (SP); fine to medium sand, no odor.	
							Vacuumed out from 0 to 6 ft bgs for utilities.	
		Backfilled with bentonite chips						
5	210		S1	Soil: AB-8-6 NWTPH-Gx, -Dx, BTEX	PID= 4.8			5
10	205			Soil: AB-8-10 NWTPH-Gx, -Dx, BTEX	PID= 39.7			10
					PID= 28.8			
15	200		S2	Soil: AB-8-14 NWTPH-Gx, -Dx, BTEX	PID= 32.6		Becomes gray brown, with a very weak product odor.	15
					PID= 39.5			
				Soil: AB-8-18 NWTPH-Gx, -Dx, BTEX	PID= 18.6			
20	195						No product odor.	20
					PID= 22.5			
25	190	▽ 11/9/2016	S3	Soil: AB-8-24 NWTPH-Gx, -Dx, BTEX	PID= 17.1		Wet, brown, silty GRAVEL (GM); fine to coarse sand, fine to coarse subrounded gravel, with no odor.	25
				Soil: AB-8-29 NWTPH-Gx, -Dx, BTEX	PID= 25.4		Wet, gray, gravelly, silty SAND (SM); fine to coarse sand, fine to coarse subrounded gravel, with no odor.	
30	185				PID= 10.8		Hard, moist, gray, slightly sandy SILT (ML); fine sand, with none to low plasticity, no odor.	30
			S4	Soil: AB-8-33 NWTPH-Gx, -Dx, BTEX	PID= 12.4			
35	180						Bottom of exploration at 35 ft. bgs.	35

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 4" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-8
Sheet 1 of 1

Aspect CONSULTING	Brooklyn Ave - 160092		Environmental Exploration Log	
	Project Address & Site Specific Location 4700 Brooklyn Ave NE, Seattle, WA, East property line		*Coordinates (SPN NAD83 ft)* E:1275650.4 N:245454.5	*Exploration Number* **AB-9**
Contractor Holt Services	*Equipment* Rotary drill rig	*Sampling Method* Rotary core	*Ground Surface (GS)* *Elev.* 215' (est)	
Operator Dave	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 11/7/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* Not Measured

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	215	Concrete surface seal			PID= 36.6		Asphalt Moist, gray brown, slightly gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, weak product odor. Becomes brown with no product odor.	0
5	210	Backfilled with bentonite chips	S1	Soil: AB-9-5 NWTPH-Gx, -Dx, BTEX	PID= 76.1 PID= 106			5
10	205			Soil: AB-9-8 NWTPH-Gx, -Dx, BTEX	PID= 46.1		Moist, brown SAND (SP); fine to medium sand, with no odor, no sheen.	10
15	200		S2	Soil: AB-9-14 NWTPH-Gx, -Dx, BTEX	PID= 59.2 PID= 72.9 PID= 317		Becomes gray with weak product odor.	15
20	195		S3	Soil: AB-9-19 NWTPH-Gx, -Dx, BTEX	PID= 472		Becomes slightly gravelly with fine subrounded gravel, and scattered very thin beds of silty sand. Sand coarsening with depth.	20
25	190			Soil: AB-9-24 NWTPH-Gx, -Dx, BTEX	PID= 79.1 PID= 36.1		Becomes gravelly with fine to coarse subrounded gravel. Moist, gray, sandy, silty GRAVEL (GM); fine to medium sand, fine subrounded gravel, with no odor.	25
30	185		S4	Soil: AB-9-27 NWTPH-Gx, -Dx, BTEX	PID= 24.3		Hard, moist, gray, slightly sandy, slightly gravelly, SILT (ML); fine sand, fine subrounded gravel, with none to low plasticity, no odor, no sheen. Bottom of exploration at 30 ft. bgs. Note: PID malfunction, measurements likely overstated.	30
35	180							35

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 5"

Water Level
- Not Measured

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: DC & AG

Exploration Log AB-9
Sheet 1 of 1

ATTACHMENT B

Survey Report from Professional Land Surveyors, Inc.

BROOKLYN AVENUE MONITOR WELLS MONITORING WELL ELEVATION TABLE SEATTLE, WA			SURVEY DATE 11/22/2016	PLS JOB NO. 16188
FEATURE	NORTH EDGE OF PVC	NORTH RIM OF OUTER CASE	NORTHING	EASTING
MW-1	216.79	217.18	245523.5	1275589.5
MW-2	216.70	217.47	245526.7	1275576.9
MW-3	217.52	217.89	245530.3	1275556.8
MW-4	216.46	217.05	245499.0	1275599.4
MW-5	217.20	217.38	245509.2	1275570.9
MW-6	217.28	217.61	245503.1	1275555.1
MW-7	215.42	216.32	245457.2	1275622.0
MW-8	215.37	215.93	245446.2	1275611.2
MW-9	216.46	216.81	245449.3	1275554.1
MW-10	215.63	215.84	245433.7	1275577.5
MW-11	214.86	215.39	245418.9	1275600.9
MW-12	216.97	217.40	245553.3	1275579.9
MW-13	215.45	215.73	245418.9	1275577.5
MW-14	216.04	216.70	245472.4	1275639.4
MW-15	215.34	215.71	245536.5	1275659.5
MW-16	214.34	214.83	245428.6	1275648.9
AB-1			245565.8	1275572.3
AB-2			245555.2	1275654.2
AB-3			245476.3	1275556.3
AB-4			245433.5	1275557.1
AB-5			245424.6	1275627.0
AB-6			245537.9	1275590.5
AB-7			245534.3	1275559.1
AB-8			245483.7	1275581.8
AB-9			245453.5	1275650.4
Horizontal Datum	NAD 1983/2011 WASHINGTON STATE PLANE NORTH ZONE			
Vertical Datum	NAVD 88 - Based on City of Seattle control ID #2839, with a published elevation of 183.295			

ATTACHMENT C

Laboratory Certificates of Analysis

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

December 6, 2016

Adam Griffin, Project Manager
Aspect Consulting, LLC
350 Madison Ave. N.
Bainbridge Island, WA 98110-1810

Dear Mr Griffin:

Included are the additional results from the testing of material submitted on November 23, 2016 from the Brooklyn Ave 160092, F&BI 611424 project. There are 8 pages included in this report.

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: data@aspectconsulting.com, Dana Cannon
ASP1206R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 23, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Brooklyn Ave PO 160092, F&BI 611424 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
611424 -01	MW-2-112116
611424 -02	MW-4-112116
611424 -03	MW-5-112116
611424 -04	MW-3-112116
611424 -05	MW-20-112116
611424 -06	MW-14-112116
611424 -07	MW-6-112116
611424 -08	MW-7-112216
611424 -09	MW-16-112216
611424 -10	MW-15-112216
611424 -11	MW-13-112216
611424 -12	MW-12-112216
611424 -13	MW-9-112216
611424 -14	MW-11-112216
611424 -15	Rinsate-112216
611424 -16	Trip Blank

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-11
Date Analyzed:	11/24/16	Data File:	112341.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.22
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	1.0
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	15
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-13
Date Analyzed:	11/23/16	Data File:	112339.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	99	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	15
1,2-Dichloroethane (EDC)	21
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-14
Date Analyzed:	11/24/16	Data File:	112343.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	95	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	9.7
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Rinsate-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-15
Date Analyzed:	11/23/16	Data File:	112338.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	06-2416 mb
Date Analyzed:	11/23/16	Data File:	112323.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	104	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 12/06/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424

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

Laboratory Code: 611384-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	111	61-139
Chloroethane	ug/L (ppb)	50	<1	105	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	71-123
Methylene chloride	ug/L (ppb)	50	<5	97	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	103	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	106	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	106	75-121
Trichloroethene	ug/L (ppb)	50	<1	97	75-109
Tetrachloroethene	ug/L (ppb)	50	<1	100	72-113

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	113	112	70-119	1
Chloroethane	ug/L (ppb)	50	108	106	66-149	2
1,1-Dichloroethene	ug/L (ppb)	50	97	96	75-119	1
Methylene chloride	ug/L (ppb)	50	99	98	63-132	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	104	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	107	107	80-116	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	105	104	80-112	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	100	99	79-109	1
1,1,1-Trichloroethane	ug/L (ppb)	50	107	106	80-116	1
Trichloroethene	ug/L (ppb)	50	103	103	77-108	0
Tetrachloroethene	ug/L (ppb)	50	101	103	78-109	2

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

611424

SAMPLE CHAIN OF CUSTODY ME 11/23/16 B04/BI4/V5

Page # 1 of 2

Report To Adam Griffin

Company Aspect

Address Bainbridge

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Matthew M Lewis

PROJECT NAME: Brooklyn Ave

PO #: 160092

REMARKS: All samples field filtered (Dissolved Lead)
- Please invoice CVOCs seperately

INVOICE TO

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Dissolved Lead	MTBE (8260)			Notes
MW-2-112116	01 A-F	11/21/16	1110	GW	6		X	X	X				X	X			
MW-4-112116	02		1210														
MW-5-112116	03		1310														
MW-3-112116	04		1355														
MW-20-112116	05		1410														
MW-14-112116	06		1450														
MW-6-112116	07		1540														
MW-7-112216	08	11/22/16	0920														
MW-16-112216	09		1020														
MW-15-112216	10		1130				↓	↓	↓				↓	↓			Samples received at 3 °C

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matthew M Lewis	Matthew M. Lewis	Aspect	11/23/16	1020
Received by: Connie Revis	CONNIE REVIS	FEDEX SDC	11/28/16	1023
Relinquished by:				
Received by: D Dela	D D Vo	FBI	11-23-16	11-05

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

611424

SAMPLE CHAIN OF CUSTODY ME 11/23/16 B04/B14/V5

Page # 2 of 2

Report To Adam Griffin

Company Aspect

Address Bainbridge

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Matthew MSeni

PROJECT NAME: Brooklyn Ave

PO #: 160092

REMARKS: Please invoice CVOCs seperately
- All dissolved Lead samples were field filtered

INVOICE TO

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	MTBE (8260)	Dissolved Lead	Chlorinated VOCs		Notes
MW-13-112216	11 A-D	11/22/16	1310	GW	4										X		
MW-12-112216	12 A-F	"	1420	"	6		X	X	X				X	X			
MW-9-112216	13	"	1510	"	"		"	"	"				"	"	X		
MW-11-112216	14	"	1600	"	"		"	"	"				"	"	"		
Rinsate-112216	15	"	1630	W	"		"	"	"				"	"	"		
Trip Bland	16 A-B			2													aff 11/23/16 HO

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matthew MSeni	Matthew Mlewis	Aspect	11/23/16	1020
Received by: Connie Rens	CONNIE RENS	FEDEX SDC	11/28/16	10:23
Relinquished by:				
Received by:	DO LO	F&BI	11-23-16	11.0

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

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
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www.friedmanandbruya.com

November 30, 2016

Adam Griffin, Project Manager
Aspect Consulting, LLC
350 Madison Ave. N.
Bainbridge Island, WA 98110-1810

Dear Mr Griffin:

Included are the additional results from the testing of material submitted on November 8, 2016 from the Brooklyn Ave PO 160092, F&BI 611142 project. There are 22 pages included in this report.

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: data@aspectconsulting.com, Dana Cannon
ASP1130R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 8, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Brooklyn Ave PO 160092, F&BI 611project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
611142 -01	AB-9-5
611142 -02	AB-9-8
611142 -03	AB-9-14
611142 -04	AB-9-19
611142 -05	AB-9-24
611142 -06	AB-9-27
611142 -07	AB-3-4
611142 -08	AB-3-8
611142 -09	AB-3-14
611142 -10	AB-3-19
611142 -11	AB-3-24
611142 -12	AB-3-28
611142 -13	AB-3-32
611142 -14	AB-5-5
611142 -15	AB-5-10
611142 -16	AB-5-14
611142 -17	AB-5-19
611142 -18	AB-5-24
611142 -19	AB-5-29
611142 -20	AB-5-32
611142 -21	AB-2-6
611142 -22	AB-2-10
611142 -23	AB-2-14
611142 -24	AB-2-17.5
611142 -25	AB-2-24
611142 -26	AB-2-28
611142 -27	AB-4-6
611142 -28	AB-4-10
611142 -29	AB-4-16.5
611142 -30	AB-4-19
611142 -31	AB-4-24
611142 -32	AB-4-29

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-3-4	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-07
Date Analyzed:	11/11/16	Data File:	111110.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-3-8	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-08
Date Analyzed:	11/11/16	Data File:	111111.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-3-14	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-09
Date Analyzed:	11/11/16	Data File:	111112.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-3-19	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-10
Date Analyzed:	11/11/16	Data File:	111113.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	101	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-3-24	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-11
Date Analyzed:	11/11/16	Data File:	111114.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-5	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-14
Date Analyzed:	11/11/16	Data File:	111115.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-10	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-15
Date Analyzed:	11/11/16	Data File:	111116.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-14	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-16
Date Analyzed:	11/11/16	Data File:	111117.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-19	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-17
Date Analyzed:	11/11/16	Data File:	111118.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-24	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-18
Date Analyzed:	11/11/16	Data File:	111119.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-29	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-19
Date Analyzed:	11/11/16	Data File:	111120.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-32	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-20
Date Analyzed:	11/11/16	Data File:	111121.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-6	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-27
Date Analyzed:	11/11/16	Data File:	111122.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-10	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-28
Date Analyzed:	11/11/16	Data File:	111123.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	96	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-16.5	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-29
Date Analyzed:	11/11/16	Data File:	111124.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-19	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-30
Date Analyzed:	11/11/16	Data File:	111125.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	95	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-24	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-31
Date Analyzed:	11/11/16	Data File:	111126.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-29	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-32
Date Analyzed:	11/11/16	Data File:	111127.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	0.066
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	06-2288 mb
Date Analyzed:	11/11/16	Data File:	111108.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	95	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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

Laboratory Code: 610393-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	35	32	10-91	9
Chloroethane	mg/kg (ppm)	2.5	<0.5	51	45	10-101	12
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	56	52	11-103	7
Methylene chloride	mg/kg (ppm)	2.5	<0.5	70	66	14-128	6
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	61	13-112	8
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	73	68	23-115	7
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	76	70	25-120	8
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	75	70	22-124	7
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	74	69	27-112	7
Trichloroethene	mg/kg (ppm)	2.5	<0.02	76	74	30-112	3
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	73	71	25-114	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	79	42-107
Chloroethane	mg/kg (ppm)	2.5	89	47-115
1,1-Dichloroethene	mg/kg (ppm)	2.5	98	65-110
Methylene chloride	mg/kg (ppm)	2.5	94	50-127
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	74-109
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	104	73-110
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	100	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	107	72-116
Trichloroethene	mg/kg (ppm)	2.5	103	72-107
Tetrachloroethene	mg/kg (ppm)	2.5	111	73-111

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

611142

SAMPLE CHAIN OF CUSTODY

ME 11-08-16 A05/425

Page # 1 of 24

Report To Adam Griffin

Company Aspect Consulting

Address ~~Seattle~~ office

City, State, ZIP ~~Seattle~~ Bainbridge.

Phone _____ Email _____

SAMPLERS (*signature*) M. Sun

PROJECT NAME: Booklyn Ave

PO #: 160[illegible]92

REMARKS: please invoice 8260C seperately

INVOICE TO

TURNAROUND TIME
- [X] Standard Turnaround
- [ ] RUSH _____
- Rush charges authorized by: _____

SAMPLE DISPOSAL
- [X] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	cPAHs	Cd, Cr, Ni, Zn		Notes
AB-9-5	01 A-E	11/7/16	0940	Soil	5		X	X	X				⊗	⊗	⊗		-
AB-9-8	02		0945														
AB-9-14	03		0955														
AB-9-19	04		1000														
AB-9-24	05		1015														
AB-9-27	06		1030														
AB-3-4	07		1315							X							
AB-3-8	08		1320														
AB-3-14	09		1335														
AB-3-19	-10	↓	1345	↓	↓												

Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matt McSun	Matthew M. Sun's	Aspect	11/8/16	1600
Received by:	Eric Clausen	F=B	11/9/16	1040
Relinquished by:				
Received by:				

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

611142

SAMPLE CHAIN OF CUSTODY ME 11-08-16

Page # 2 of ~~4~~

Report To: Adam Griffin
Company: Aspect
Address: in ~~Seattle~~ Bainbridge
City, State, ZIP:
Phone: Email:

SAMPLERS (signature): [signature]
PROJECT NAME: Brooklyn Ave
PO #: 1600~~[illegible]~~ 92
REMARKS: Please invoice 8260C separately
* Other 8260
* Lead to be determined based on TPH results
INVOICE TO:

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

ANALYSES REQUESTED *

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Chlorinated VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	~~MTBE 8260~~	Total Lead *	MTBE, EDB, EDC, Napth (8260)	Lead	Notes
AB-3-24	11 A-E	11/7/16	13~~45~~ 55	Soil	5		X	X	X	X							~~[illegible]~~
AB-3-28	12	↓	1415	↓	↓												On Hold
AB-3-32	13 A-F	↓	1430	↓	6												On Hold
AB-5-5	14 A-E	11/8/16	0900	↓	5		X	X	X	X			~~X~~	~~X~~			
AB-5-10	15	↓	0905	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-14	16	↓	0930	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-19	17	↓	0940	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~	⊗	⊗	
AB-5-24	18	↓	0945	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-29	19	↓	0950	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-32	20	↓	1000	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Matthew M. Lewis	Aspect	11/8/16	1600
Received by: [signature]	[illegible]	F&B	11/8/16	1600
Relinquished by:				
Received by:		Samples received at 4 °C		

611142 ME 11-08-16 A05 / 4 VS3

SAMPLE CHAIN OF CUSTODY

Report To: Adam Griffin
Company: Aspect
Address: Bainbridge office
City, State, ZIP:
Phone: Email:

SAMPLERS (*signature*): Matthew M. Lewis

PROJECT NAME: Brooklyn Ave | PO #: 160092

REMARKS: Invoice VOC's separate (8260C) | INVOICE TO:

Page # 3 of 4

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

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Archive Samples
☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Chlorinated VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
AB-2-6	21 A-E	11/8/16	1110	Soil	5		X	X	X								
AB-2-10	22		1115														
AB-2-14	23		1125														
AB-2-17.5	24		1130														
AB-2-24	25		1145														
AB-2-28	26		1150														
AB-4-6	27		1345							X							
AB-4-10	28		1350														
AB-4-16.5	29		1405														
AB-4-19	30		1410														

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Matthew M. Lewis	Aspect	Matthew M. Lewis	11/8/16	1600
Received by:		Eric Young	F&B	11/8/16	1600
Relinquished by:					
Received by:			Samples received at 4 °C		

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

611142

SAMPLE CHAIN OF CUSTODY ME 11-08-16 A05 / VS3

Report To Adam Griffin

Company Aspect

Address Bainbridge

City, State, ZIP

Phone Email

SAMPLERS (*signature*) [signature]

PROJECT NAME Booklyn Ave

PO# 1600 92

REMARKS All 8260C to be invoiced Seperately

INVOICE TO

Page # 4 of 4

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

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Archive Samples
☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Chlorinated VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
AB-4-24	31 A-E	11/8/16	1425	Soil	5		X	X	X	X							
AB-4-29	32 A-E	″	1430	″	″		″	″	″	″							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Matthew M. Lewis	Aspect	11/8/16	1600
Received by: [signature]	[illegible]	F&B	11/8/16	1600
Relinquished by:				
Received by:		Samples received at	4 °C	

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

November 30, 2016

Adam Griffin, Project Manager
Aspect Consulting, LLC
350 Madison Ave. N.
Bainbridge Island, WA 98110-1810

Dear Mr Griffin:

Included are the results from the testing of material submitted on November 8, 2016 from the Brooklyn Ave PO 160092, F&BI 611142 project. There are 30 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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: data@aspectconsulting.com, Dana Cannon
ASP1130R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 8, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Brooklyn Ave PO 160092, F&BI 611142 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
611142 -01	AB-9-5
611142 -02	AB-9-8
611142 -03	AB-9-14
611142 -04	AB-9-19
611142 -05	AB-9-24
611142 -06	AB-9-27
611142 -07	AB-3-4
611142 -08	AB-3-8
611142 -09	AB-3-14
611142 -10	AB-3-19
611142 -11	AB-3-24
611142 -12	AB-3-28
611142 -13	AB-3-32
611142 -14	AB-5-5
611142 -15	AB-5-10
611142 -16	AB-5-14
611142 -17	AB-5-19
611142 -18	AB-5-24
611142 -19	AB-5-29
611142 -20	AB-5-32
611142 -21	AB-2-6
611142 -22	AB-2-10
611142 -23	AB-2-14
611142 -24	AB-2-17.5
611142 -25	AB-2-24
611142 -26	AB-2-28
611142 -27	AB-4-6
611142 -28	AB-4-10
611142 -29	AB-4-16.5
611142 -30	AB-4-19
611142 -31	AB-4-24
611142 -32	AB-4-29

An 8270D internal standard failed the acceptance criteria for sample AB-9-5 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

All other quality control requirements were acceptable.

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142
Date Extracted: 11/11/16 and 11/18/16
Date Analyzed: 11/11/16 and 11/18/16

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)
AB-9-5 611142-01	<0.02	<0.02	<0.02	<0.06	2.5	83
AB-9-8 611142-02	<0.02	<0.02	<0.02	<0.06	<2	88
AB-9-14 611142-03	<0.02	<0.02	<0.02	<0.06	<2	86
AB-9-19 611142-04	<0.02	<0.02	0.039	<0.06	2.8	86
AB-9-24 611142-05	<0.02	<0.02	<0.02	<0.06	<2	83
AB-9-27 611142-06	0.060	<0.02	<0.02	<0.06	<2	93
AB-3-4 611142-07	<0.02	<0.02	<0.02	<0.06	<2	92
AB-3-8 611142-08	<0.02	<0.02	<0.02	0.068	<2	89
AB-3-14 611142-09	0.050	0.26	0.067	0.17	3.0	88
AB-3-19 611142-10	<0.02	<0.02	<0.02	<0.06	<2	88
AB-3-24	<0.02	<0.02	<0.02	<0.06	<2	89

611142-11

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142
Date Extracted: 11/11/16 and 11/18/16
Date Analyzed: 11/11/16 and 11/18/16

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)
AB-5-5 611142-14	<0.02	<0.02	<0.02	<0.06	<2	88
AB-5-10 611142-15	<0.02	<0.02	<0.02	<0.06	<2	90
AB-5-14 611142-16	<0.02	<0.02	<0.02	<0.06	<2	88
AB-5-19 611142-17	<0.02	<0.02	0.056	<0.06	4.0	89
AB-5-24 611142-18	<0.02	<0.02	0.14	<0.06	5.3	88
AB-5-29 611142-19	<0.02	<0.02	<0.02	<0.06	<2	88
AB-5-32 611142-20	<0.02	<0.02	<0.02	<0.06	<2	88
AB-2-6 611142-21	<0.02	<0.02	<0.02	<0.06	<2	89
AB-2-10 611142-22	<0.02	<0.02	<0.02	<0.06	<2	83
AB-2-14 611142-23	<0.02	<0.02	<0.02	<0.06	<2	85
AB-2-17.5	<0.02	<0.02	<0.02	<0.06	<2	85

611142-24

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142
Date Extracted: 11/11/16 and 11/18/16
Date Analyzed: 11/11/16 and 11/18/16

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)
AB-2-24 611142-25	0.053	0.050	0.33	1.0	6.6	85
AB-2-28 611142-26	<0.02	<0.02	<0.02	<0.06	<2	84
AB-4-6 611142-27	<0.02	<0.02	<0.02	<0.06	<2	82
AB-4-10 611142-28	<0.02	<0.02	<0.02	<0.06	<2	79
AB-4-16.5 611142-29	<0.02	<0.02	0.068	0.15	16	79
AB-4-19 611142-30	<0.02	<0.02	<0.02	<0.06	<2	79
AB-4-24 611142-31	<0.02	<0.02	0.068	0.090	<2	81
AB-4-29 611142-32	<0.02	<0.02	0.041	<0.06	<2	78
Method Blank 06-2315 MB	<0.02	<0.02	<0.02	<0.06	<2	88
Method Blank 11-11-16 12:08	<0.02	<0.02	<0.02	<0.06	<2	86

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142
Date Extracted: 11/10/16
Date Analyzed: 11/10/16 and 11/11/16

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)
AB-9-5 611142-01	<50	520	86
AB-9-8 611142-02	<50	<250	96
AB-9-14 611142-03	<50	<250	93
AB-9-19 611142-04	<50	<250	94
AB-9-24 611142-05	<50	<250	91
AB-9-27 611142-06	<50	<250	97
AB-3-4 611142-07	<50	<250	98
AB-3-8 611142-08	<50	<250	97
AB-3-14 611142-09	<50	<250	87
AB-3-19 611142-10	<50	<250	97
AB-3-24	<50	<250	97

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142
Date Extracted: 11/10/16
Date Analyzed: 11/10/16 and 11/11/16

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)
AB-5-5 611142-14	<50	<250	94
AB-5-10 611142-15	<50	<250	97
AB-5-14 611142-16	<50	<250	103
AB-5-19 611142-17	<50	<250	98
AB-5-24 611142-18	<50	<250	90
AB-5-29 611142-19	<50	<250	99
AB-5-32 611142-20	<50	<250	100
AB-2-6 611142-21	<50	<250	100
AB-2-10 611142-22	<50	<250	98
AB-2-14 611142-23	<50	<250	95
AB-2-17.5	<50	<250	100

611142-24

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142
Date Extracted: 11/10/16
Date Analyzed: 11/10/16 and 11/11/16

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)
AB-2-24 611142-25	<50	<250	84
AB-2-28 611142-26	<50	<250	97
AB-4-6 611142-27	<50	<250	96
AB-4-10 611142-28	<50	<250	84
AB-4-16.5 611142-29	<50	<250	86
AB-4-19 611142-30	<50	<250	96
AB-4-24 611142-31	<50	<250	85
AB-4-29 611142-32	<50	<250	87
Method Blank 06-2340 MB	<50	<250	95
Method Blank 06-2341 MB	<50	<250	95

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-9-5	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/23/16	Lab ID:	611142-01
Date Analyzed:	11/23/16	Data File:	611142-01.106
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	21.6
Nickel	25.2
Zinc	49.7

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-5-24	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/23/16	Lab ID:	611142-18
Date Analyzed:	11/23/16	Data File:	611142-18.107
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1.70

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/23/16	Lab ID:	I6-776 mb
Date Analyzed:	11/23/16	Data File:	I6-776 mb.097
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	<1
Lead	<1
Nickel	<1
Zinc	<5

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	AB-5-24	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	611142-18
Date Analyzed:	11/18/16	Data File:	111826.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	06-2408 mb
Date Analyzed:	11/18/16	Data File:	111825.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-5-24	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	611142-18
Date Analyzed:	11/11/16	Data File:	111119.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm) Dry Weight
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/11/16	Lab ID:	06-2288 mb
Date Analyzed:	11/11/16	Data File:	111108.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	95	81	119

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-9-5	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	611142-01 1/5
Date Analyzed:	11/21/16	Data File:	112116.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	31	163
Benzo(a)anthracene-d12	144 J	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01 J
Chrysene	0.019 J
Benzo(a)pyrene	<0.01 J
Benzo(b)fluoranthene	0.011 J
Benzo(k)fluoranthene	<0.01 J
Indeno(1,2,3-cd)pyrene	<0.01 J
Dibenz(a,h)anthracene	<0.01 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-9-5	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	611142-01 1/50
Date Analyzed:	11/18/16	Data File:	111809.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	127 d	31	163
Benzo(a)anthracene-d12	118 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	06-2384 mb2 1/5
Date Analyzed:	11/18/16	Data File:	111805.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	31	163
Benzo(a)anthracene-d12	111	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AB-9-5	Client:	Aspect Consulting, LLC
Date Received:	11/08/16	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	611142-01 1/50
Date Analyzed:	11/21/16	Data File:	112105.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	95 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave PO 160092, F&BI 611142
Date Extracted:	11/18/16	Lab ID:	06-2425 mb 1/5
Date Analyzed:	11/18/16	Data File:	111807.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	111	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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: 611142-02 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	73	66-121
Toluene	mg/kg (ppm)	0.5	76	72-128
Ethylbenzene	mg/kg (ppm)	0.5	72	69-132
Xylenes	mg/kg (ppm)	1.5	76	69-131
Gasoline	mg/kg (ppm)	20	70	61-153

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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: 611142-22 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	83	69-120
Toluene	mg/kg (ppm)	0.5	83	70-117
Ethylbenzene	mg/kg (ppm)	0.5	82	65-123
Xylenes	mg/kg (ppm)	1.5	82	66-120
Gasoline	mg/kg (ppm)	20	80	71-131

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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

Laboratory Code: 611142-01 (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	352	98	104	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	96	74-139

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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

Laboratory Code: 611142-23 (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	97	95	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	74-139

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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

Laboratory Code: 611336-40 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Cadmium	mg/kg (ppm)	10	<1	93	84	75-125	10
Chromium	mg/kg (ppm)	50	13.8	120 b	86 b	75-125	33 b
Lead	mg/kg (ppm)	50	14.5	94	85	75-125	10
Nickel	mg/kg (ppm)	25	13.4	91 b	74 b	75-125	21 b
Zinc	mg/kg (ppm)	50	38.9	90	75	75-125	18

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Cadmium	mg/kg (ppm)	10	101	80-120
Chromium	mg/kg (ppm)	50	101	80-120
Lead	mg/kg (ppm)	50	103	80-120
Nickel	mg/kg (ppm)	25	98	80-120
Zinc	mg/kg (ppm)	50	97	80-120

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 611142-18 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.005	<0.005	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	101	101	70-130	0

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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

Laboratory Code: 610393-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	80	77	17-134	4
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	75	70	22-124	7
Naphthalene	mg/kg (ppm)	2.5	<0.05	78	76	24-139	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	106	72-122
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	100	73-111
Naphthalene	mg/kg (ppm)	2.5	103	73-122

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

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

Laboratory Code: 610393-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	35	32	10-91	9
Chloroethane	mg/kg (ppm)	2.5	<0.5	51	45	10-101	12
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	56	52	11-103	7
Methylene chloride	mg/kg (ppm)	2.5	<0.5	70	66	14-128	6
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	61	13-112	8
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	73	68	23-115	7
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	76	70	25-120	8
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	75	70	22-124	7
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	74	69	27-112	7
Trichloroethene	mg/kg (ppm)	2.5	<0.02	76	74	30-112	3
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	73	71	25-114	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	79	42-107
Chloroethane	mg/kg (ppm)	2.5	89	47-115
1,1-Dichloroethene	mg/kg (ppm)	2.5	98	65-110
Methylene chloride	mg/kg (ppm)	2.5	94	50-127
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	74-109
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	104	73-110
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	100	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	107	72-116
Trichloroethene	mg/kg (ppm)	2.5	103	72-107
Tetrachloroethene	mg/kg (ppm)	2.5	111	73-111

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 611302-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	98	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	90	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	98	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	100	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	95	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	101	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	95	31-146

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	101	103	51-115	2
Chrysene	mg/kg (ppm)	0.17	95	94	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	105	100	56-123	5
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	101	104	54-131	3
Benzo(a)pyrene	mg/kg (ppm)	0.17	97	98	51-118	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	101	100	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	99	95	50-141	4

Date of Report: 11/30/16
Date Received: 11/08/16
Project: Brooklyn Ave PO 160092, F&BI 611142

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	93	93	55-130	0
Aroclor 1260	mg/kg (ppm)	0.8	88	90	58-133	2

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

611142

SAMPLE CHAIN OF CUSTODY

ME 11-08-16 A05/425

Page # 1 of 24

Report To Adam Griffin

Company Aspect Consulting

Address ~~Seattle~~ office

City, State, ZIP ~~Seattle~~ Bainbridge.

Phone _____ Email _____

SAMPLERS (*signature*) M. Sun

PROJECT NAME: Booklyn Ave

PO #: 160[illegible]92

REMARKS: please invoice 8260C seperately

INVOICE TO

TURNAROUND TIME
- [X] Standard Turnaround
- [ ] RUSH _____
- Rush charges authorized by: _____

SAMPLE DISPOSAL
- [X] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	cPAHs	Cd, Cr, Ni, Zn		Notes
AB-9-5	01 A-E	11/7/16	0940	Soil	5		X	X	X				⊗	⊗	⊗		-
AB-9-8	02		0945														
AB-9-14	03		0955														
AB-9-19	04		1000														
AB-9-24	05		1015														
AB-9-27	06		1030														
AB-3-4	07		1315							X							
AB-3-8	08		1320														
AB-3-14	09		1335														
AB-3-19	-10	↓	1345	↓	↓												

Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matt McSun	Matthew M. Sun's	Aspect	11/8/16	1600
Received by:	Eric Clausen	F=B	11/9/16	1040
Relinquished by:				
Received by:				

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

611142

SAMPLE CHAIN OF CUSTODY ME 11-08-16

Page # 2 of ~~4~~

Report To: Adam Griffin
Company: Aspect
Address: in ~~Seattle~~ Bainbridge
City, State, ZIP:
Phone: Email:

SAMPLERS (signature): [signature]

PROJECT NAME: Brooklyn Ave

PO #: 1600~~3~~ 92

REMARKS: please invoice 8260C separately *Other 8260 *Lead to be determined based on TPH results

INVOICE TO:

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Chlorinated VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	~~MTBE 8260~~	Total Lead*	MTBE, EDB, EDC, Naph (8260)*	Lead	Notes
AB-3-24	11 A-E	11/7/16	~~1345~~ 1355	Soil	5		X	X	X	X							~~[illegible]~~
AB-3-28	12	↓	1415	↓	↓												On Hold
AB-3-32	13 A-F	↓	1430	↓	6												On Hold
AB-5-5	14 A-E	11/8/16	0900	↓	5		X	X	X	X			~~X~~	~~X~~			
AB-5-10	15	↓	0905	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-14	16	↓	0930	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-19	17	↓	0940	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~	⊗	⊗	
AB-5-24	18	↓	0945	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-29	19	↓	0950	↓	↓		↓	↓	↓	↓			~~↓~~	~~↓~~			
AB-5-32	20	↓	1000	↓	↓		↓	↓	↓	↓							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Matthew M. Lewis	Aspect	11/8/16	1600
Received by: [signature]	[illegible]	FB	11/8/16	600
Relinquished by:				
Received by:		Samples received at 4 °C		

611142

SAMPLE CHAIN OF CUSTODY

ME 11-08-16

A05 / VS3

Page # 3 of 4

Report To: Adam Griffin

Company: Aspect

Address: Bainbridge office

City, State, ZIP

Phone Email

SAMPLERS (*signature*): Matthew M. Lewis

PROJECT NAME: Brooklyn Ave

PO #: 160092 (88 struck out, 92 written above)

REMARKS: Invoice VOC's separately (8260C)

INVOICE TO

TURNAROUND TIME

- ☒ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL

- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Chlorinated VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
AB-2-6	21 A-E	11/8/16	1110	Soil	5		X	X	X								
AB-2-10	22		1115				↓	↓	↓								
AB-2-14	23		1125				↓	↓	↓								
AB-2-17.5	24		1130				↓	↓	↓								
AB-2-24	25		1145				↓	↓	↓								
AB-2-28	26		1150				↓	↓	↓								
AB-4-6	27		1345				↓	↓	↓	X							
AB-4-10	28		1350				↓	↓	↓	↓							
AB-4-16.5	29		1405				↓	↓	↓	↓							
AB-4-19	30		1410				↓	↓	↓	↓							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matthew M. Lewis	Aspect	Matthew M. Lewis	11/8/16	1600
Received by: [signature]	Eric Young	FeB	11/8/16	1600
Relinquished by:				
Received by:		Samples received at 4 °C		

611142

SAMPLE CHAIN OF CUSTODY ME 11-08-16 A05 / VS3

Page # 4 of 4

Report To: Adam Griffin
Company: Aspect
Address: Bainbridge
City, State, ZIP
Phone ______ Email ______

SAMPLERS (signature)	Matthew M Lewis
PROJECT NAME	Booklyn Ave
PO #	1600 92
REMARKS	All 8260C to be invoiced Seperately
INVOICE TO	

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	chlorinated VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
AB-4-24	31 A-E	11/8/16	1425	Soil	5		X	X	X	X							
AB-4-29	32 A-E	|	1430	|	|		|	|	|	|							

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matthew M Lewis	Matthew M. Lewis	Aspect	11/8/16	1600
Received by: [signature]	Ezra Jone	F&B	11/8/16	1600
Relinquished by:				
Received by:		Samples received at	4 °C	

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

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

December 2, 2016

Adam Griffin, Project Manager
Aspect Consulting, LLC
350 Madison Ave. N.
Bainbridge Island, WA 98110-1810

Dear Mr Griffin:

Included are the results from the testing of material submitted on November 23, 2016 from the Brooklyn Ave PO 160092, F&BI 611424 project. There are 43 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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: data@aspectconsulting.com, Dana Cannon
ASP1202R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 23, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Brooklyn Ave PO 160092, F&BI 611424 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
611424 -01	MW-2-112116
611424 -02	MW-4-112116
611424 -03	MW-5-112116
611424 -04	MW-3-112116
611424 -05	MW-20-112116
611424 -06	MW-14-112116
611424 -07	MW-6-112116
611424 -08	MW-7-112216
611424 -09	MW-16-112216
611424 -10	MW-15-112216
611424 -11	MW-13-112216
611424 -12	MW-12-112216
611424 -13	MW-9-112216
611424 -14	MW-11-112216
611424 -15	Rinsate-112216
611424 -16	Trip Blank

All quality control requirements were acceptable.

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424
Date Extracted: 11/29/16
Date Analyzed: 11/29/16

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)
MW-2-112116 611424-01	<100	89
MW-4-112116 611424-02	780	90
MW-5-112116 611424-03	<100	88
MW-3-112116 611424-04	110	87
MW-20-112116 611424-05	120	85
MW-14-112116 611424-06	<100	89
MW-6-112116 611424-07	<100	85
MW-7-112216 611424-08	<100	87
MW-16-112216 611424-09 1/10	2,300	92
MW-15-112216 611424-10	<100	87
MW-12-112216 611424-12 1/100	120,000	88

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424
Date Extracted: 11/29/16
Date Analyzed: 11/29/16

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)
MW-9-112216 611424-13 1/40	23,000	91
MW-11-112216 611424-14 1/100	55,000	91
Rinsate-112216 611424-15	<100	90
Method Blank 06-2399 MB	<100	88

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424
Date Extracted: 11/28/16
Date Analyzed: 11/28/16

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 47-140)
MW-2-112116 611424-01	58 x	<250	98
MW-4-112116 611424-02	810	<250	106
MW-5-112116 611424-03	<50	<250	110
MW-3-112116 611424-04	170 x	<250	101
MW-20-112116 611424-05	120 x	<250	109
MW-14-112116 611424-06	110 x	<250	106
MW-6-112116 611424-07	<50	<250	115
MW-7-112216 611424-08	200 x	<250	126
MW-16-112216 611424-09	660 x	<250	106
MW-15-112216 611424-10 1/1.2	<60	<300	104
MW-12-112216 611424-12	8,800 x	<250	104

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424
Date Extracted: 11/28/16
Date Analyzed: 11/28/16

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 47-140)
MW-9-112216 611424-13	3,500 x	<250	107
MW-11-112216 611424-14	4,500 x	<250	99
Rinsate-112216 611424-15	<50	<250	119
Method Blank 06-2443 MB	<50	<250	104

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-2-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-01
Date Analyzed:	11/29/16	Data File:	611424-01.062
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-4-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-02
Date Analyzed:	11/29/16	Data File:	611424-02.061
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-5-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-03
Date Analyzed:	11/29/16	Data File:	611424-03.065
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-3-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-04
Date Analyzed:	11/29/16	Data File:	611424-04.066
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-20-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-05
Date Analyzed:	11/29/16	Data File:	611424-05.071
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-14-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-06
Date Analyzed:	11/29/16	Data File:	611424-06.072
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-6-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-07
Date Analyzed:	11/29/16	Data File:	611424-07.073
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-7-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-08
Date Analyzed:	11/29/16	Data File:	611424-08.074
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-16-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-09
Date Analyzed:	11/29/16	Data File:	611424-09.075
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-15-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-10
Date Analyzed:	11/29/16	Data File:	611424-10.076
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-12-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-12
Date Analyzed:	11/29/16	Data File:	611424-12.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	2.89

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-9-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-13
Date Analyzed:	11/29/16	Data File:	611424-13.078
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-11-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-14
Date Analyzed:	11/29/16	Data File:	611424-14.079
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	17.2

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	Rinsate-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	611424-15
Date Analyzed:	11/29/16	Data File:	611424-15.080
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/29/16	Lab ID:	I6-786 mb
Date Analyzed:	11/29/16	Data File:	I6-786 mb.057
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-01
Date Analyzed:	11/23/16	Data File:	112329.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	103	91	108
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-4-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-02
Date Analyzed:	11/23/16	Data File:	112330.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	1.8
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-5-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-03
Date Analyzed:	11/23/16	Data File:	112331.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-3-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-04
Date Analyzed:	11/23/16	Data File:	112332.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	102	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-05
Date Analyzed:	11/23/16	Data File:	112333.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	104	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-06
Date Analyzed:	11/23/16	Data File:	112334.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	102	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-6-112116	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-07
Date Analyzed:	11/23/16	Data File:	112335.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	102	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-7-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-08
Date Analyzed:	11/23/16	Data File:	112336.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-16-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-09
Date Analyzed:	11/28/16	Data File:	112816.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	99	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	77
Toluene	2.6
Ethylbenzene	100
m,p-Xylene	5.3
o-Xylene	1.1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-10
Date Analyzed:	11/23/16	Data File:	112337.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-12
Date Analyzed:	11/24/16	Data File:	112342.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	97	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	1,200 ve
Toluene	1,800 ve
Ethylbenzene	800 ve
m,p-Xylene	3,000 ve
o-Xylene	2,100 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-12 1/1000
Date Analyzed:	11/28/16	Data File:	112823.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1,000
Benzene	5,500
Toluene	6,300
Ethylbenzene	2,300
m,p-Xylene	10,000
o-Xylene	4,100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-13
Date Analyzed:	11/23/16	Data File:	112339.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	99	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	750 ve
Toluene	770 ve
Ethylbenzene	410 ve
m,p-Xylene	700 ve
o-Xylene	110

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-13 1/10
Date Analyzed:	11/28/16	Data File:	112817.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<10
Benzene	940
Toluene	740
Ethylbenzene	420
m,p-Xylene	660
o-Xylene	100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-14
Date Analyzed:	11/24/16	Data File:	112343.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	95	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	90
Toluene	510 ve
Ethylbenzene	720 ve
m,p-Xylene	2,400 ve
o-Xylene	1,200 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-14 1/100
Date Analyzed:	11/28/16	Data File:	112819.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	103	91	108
4-Bromofluorobenzene	102	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
Benzene	99
Toluene	530
Ethylbenzene	1,500
m,p-Xylene	5,800
o-Xylene	1,300

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Rinsate-112216	Client:	Aspect Consulting, LLC
Date Received:	11/23/16	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	611424-15
Date Analyzed:	11/23/16	Data File:	112338.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Brooklyn Ave PO 160092, F&BI 611424
Date Extracted:	11/23/16	Lab ID:	06-2416 mb
Date Analyzed:	11/23/16	Data File:	112323.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	104	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424

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

Laboratory Code: 611424-01 (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	106	69-134

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424

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	101	104	61-133	3

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020A

Laboratory Code: 611424-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	75	74 vo	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	94	80-120

Date of Report: 12/02/16
Date Received: 11/23/16
Project: Brooklyn Ave PO 160092, F&BI 611424

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

Laboratory Code: 611384-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	107	68-125
Benzene	ug/L (ppb)	50	<0.35	100	78-108
Toluene	ug/L (ppb)	50	<1	98	73-117
Ethylbenzene	ug/L (ppb)	50	<1	97	71-120
m,p-Xylene	ug/L (ppb)	100	<2	103	63-128
o-Xylene	ug/L (ppb)	50	<1	99	64-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	109	107	70-122	2
Benzene	ug/L (ppb)	50	100	100	81-108	0
Toluene	ug/L (ppb)	50	99	101	83-108	2
Ethylbenzene	ug/L (ppb)	50	96	99	83-111	3
m,p-Xylene	ug/L (ppb)	100	102	104	84-112	2
o-Xylene	ug/L (ppb)	50	100	102	81-117	2

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

611424

SAMPLE CHAIN OF CUSTODY ME 11/23/16 B04/BI4/V5

Page # 1 of 2

Report To Adam Griffin

Company Aspect

Address Bainbridge

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Matthew M Lewis

PROJECT NAME: Brooklyn Ave

PO #: 160092

REMARKS: All samples field filtered (Dissolved Lead)
- Please invoice CVOCs seperately

INVOICE TO

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Dissolved Lead	MTBE (8260)			Notes
MW-2-112116	01 A-F	11/21/16	1110	GW	6		X	X	X				X	X			
MW-4-112116	02		1210														
MW-5-112116	03		1310														
MW-3-112116	04		1355														
MW-20-112116	05		1410														
MW-14-112116	06		1450														
MW-6-112116	07		1540														
MW-7-112216	08	11/22/16	0920														
MW-16-112216	09		1020														
MW-15-112216	10		1130				↓	↓	↓				↓	↓			Samples received at 3 °C

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matthew M Lewis	Matthew M. Lewis	Aspect	11/23/16	1020
Received by: Connie Revis	CONNIE REVIS	FEDEX SDC	11/28/16	1023
Relinquished by:				
Received by: D Dela	D D Vo	FBI	11-23-16	11-05

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

611424

SAMPLE CHAIN OF CUSTODY ME 11/23/16 B04/B14/V5

Page # 2 of 2

Report To Adam Griffin

Company Aspect

Address Bainbridge

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Matthew MSeni

PROJECT NAME: Brooklyn Ave

PO #: 160092

REMARKS: Please invoice CVOCs seperately
- All dissolved Lead samples were field filtered

INVOICE TO

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

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	MTBE (8260)	Dissolved Lead	Chlorinated VOCs		Notes
MW-13-112216	11 A-D	11/22/16	1310	GW	4										X		
MW-12-112216	12 A-F	"	1420	"	6		X	X	X				X	X			
MW-9-112216	13	"	1510	"	"		"	"	"				"	"	X		
MW-11-112216	14	"	1600	"	"		"	"	"				"	"	"		
Rinsate-112216	15	"	1630	W	"		"	"	"				"	"	"		
Trip Bland	16 A-B			2													aff 11/23/16 HO

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Matthew MSeni	Matthew Mlewis	Aspect	11/23/16	1020
Received by: Connie Rens	CONNIE RENS	FEDEX SDC	11/28/16	10:23
Relinquished by:				
Received by:	DO LO	F&BI	11-23-16	11.0

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

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

November 30, 2016

Adam Griffin, Project Manager
Aspect Consulting, LLC
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Mr Griffin:

Included are the results from the testing of material submitted on November 10, 2016 from the Brooklyn Ave, PO 160092, F&BI 611190 project. There are 56 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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: data@aspectconsulting.com, Dana Cannon
ASP1130R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 10, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Brooklyn Ave, PO 160092, F&BI 611190 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
611190 -01	AB-8-6
611190 -02	AB-8-10
611190 -03	AB-8-14
611190 -04	AB-8-18
611190 -05	AB-8-24
611190 -06	AB-8-29
611190 -07	AB-8-33
611190 -08	AB-7-6
611190 -09	AB-7-10
611190 -10	AB-7-14
611190 -11	AB-7-19
611190 -12	AB-7-24
611190 -13	AB-7-29
611190 -14	AB-7-33
611190 -15	AB-1-8
611190 -16	AB-1-14
611190 -17	AB-1-19
611190 -18	AB-1-24
611190 -19	AB-1-29
611190 -20	AB-1-35
611190 -21	AB-6-8
611190 -22	AB-6-13
611190 -23	AB-6-17
611190 -24	AB-6-24
611190 -25	AB-6-29
611190 -26	AB-6-33

An 8270D internal standard failed the acceptance criteria for sample AB-6-13 due to matrix interferences. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted: 11/14/16 and 11/23/16
Date Analyzed: 11/14/16, 11/15/16, 11/16/16,and 11/23/16

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 50-132)
AB-8-6 611190-01	<0.02	<0.02	<0.02	<0.06	<2	90
AB-8-6 611190-01	<0.02	<0.02	<0.02	<0.06	<2	87
AB-8-10 611190-02	<0.02	<0.02	<0.02	<0.06	<2	87
AB-8-14 611190-03	<0.02	<0.02	<0.02	<0.06	<2	90
AB-8-18 611190-04	<0.02	<0.02	<0.02	<0.06	<2	92
AB-8-24 611190-05	<0.02	<0.02	<0.02	<0.06	<2	91
AB-8-29 611190-06	<0.02	<0.02	<0.02	<0.06	<2	90
AB-8-33 611190-07	<0.02	<0.02	<0.02	<0.06	<2	89
AB-7-6 611190-08	<0.02	<0.02	<0.02	<0.06	<2	89
AB-7-10 611190-09	<0.02	<0.02	<0.02	<0.06	<2	91
AB-7-14 611190-10	<0.02	<0.02	<0.02	<0.06	<2	90
AB-7-19 611190-11 1/10	0.15 j	4.3	8.2	7.5	1,100	97

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted: 11/14/16 and 11/23/16
Date Analyzed: 11/14/16, 11/15/16, 11/16/16,and 11/23/16

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 50-132)
AB-7-24 611190-12	0.024	<0.02	0.16	<0.06	<2	90
AB-7-24 611190-12	0.04	<0.02	0.16	<0.06	<2	81
AB-7-29 611190-13	<0.02	<0.02	<0.02	<0.06	<2	89
AB-7-33 611190-14	0.090	0.074	<0.02	<0.06	<2	91
AB-1-8 611190-15	<0.02	<0.02	<0.02	<0.06	<2	92
AB-1-14 611190-16	<0.02	<0.02	<0.02	<0.06	<2	91
AB-1-19 611190-17	<0.02	<0.02	<0.02	<0.06	<2	92
AB-1-24 611190-18	<0.02	<0.02	<0.02	<0.06	<2	92
AB-1-29 611190-19	<0.02	<0.02	<0.02	<0.06	<2	93
AB-1-35 611190-20	<0.02	<0.02	<0.02	<0.06	<2	95
AB-6-8 611190-21	<0.02	<0.02	<0.02	<0.06	11	91
AB-6-13 611190-22	<0.02	<0.02	<0.02	<0.06	<2	90

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted: 11/14/16 and 11/23/16
Date Analyzed: 11/14/16, 11/15/16, 11/16/16,and 11/23/16

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 50-132)
AB-6-17 611190-23 1/5	<0.02 j	<0.1	<0.1	1.5	920	97
AB-6-24 611190-24	0.12	<0.02	0.39	0.073	3.9	87
AB-6-24 611190-24	0.03	<0.02	0.12	0.073	<2	89
AB-6-29 611190-25	<0.02	<0.02	0.087	<0.06	<2	89
AB-6-33 611190-26	<0.02	<0.02	<0.02	<0.06	<2	90
Method Blank 06-2322 MB	<0.02	<0.02	<0.02	<0.06	<2	93
Method Blank 06-2321 MB	<0.02	<0.02	<0.02	<0.06	<2	95
Method Blank 06-2395 MB	<0.02	<0.02	<0.02	<0.06	<2	89

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted: 11/11/16 and 11/23/16
Date Analyzed: 11/11/16 and 11/23/16

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 56-165)
AB-8-6 611190-01	<50	780	110
AB-8-6 611190-01	<50	570	81
AB-8-10 611190-02	<50	<250	110
AB-8-14 611190-03	<50	<250	111
AB-8-18 611190-04	<50	<250	112
AB-8-24 611190-05	<50	<250	110
AB-8-29 611190-06	<50	<250	117
AB-8-33 611190-07	<50	<250	110
AB-7-6 611190-08	110 x	1,900	126
AB-7-10 611190-09	<50	<250	112
AB-7-14 611190-10	<50	<250	122
AB-7-19 611190-11	480 x	<250	120

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted: 11/11/16 and 11/23/16
Date Analyzed: 11/11/16 and 11/23/16

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 56-165)
AB-7-24 611190-12	<50	<250	122
AB-7-24 611190-12	<50	<250	93
AB-7-29 611190-13	<50	<250	110
AB-7-33 611190-14	<50	<250	109
AB-1-8 611190-15	<50	<250	109
AB-1-14 611190-16	<50	<250	110
AB-1-19 611190-17	<50	<250	108
AB-1-24 611190-18	<50	<250	110
AB-1-29 611190-19	<50	<250	114
AB-1-35 611190-20	<50	<250	115
AB-6-8 611190-21	<50	<250	112
AB-6-13 611190-22	<50	400	112

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted: 11/11/16 and 11/23/16
Date Analyzed: 11/11/16 and 11/23/16

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 56-165)
AB-6-17 611190-23	840	<250	110
AB-6-24 611190-24	<50	<250	111
AB-6-24 611190-24	<50	<250	94
AB-6-29 611190-25	<50	<250	121
AB-6-33 611190-26	<50	<250	111
Method Blank 06-2352 MB	<50	<250	97
Method Blank 06-2353 MB	<50	<250	129
Method Blank 06-2441 MB	<50	<250	94

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-8-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-01
Date Analyzed:	11/23/16	Data File:	611190-01.108
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	15.5
Nickel	23.0
Zinc	42.2

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-8-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-01
Date Analyzed:	11/23/16	Data File:	611190-01 dup.109
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	19.6
Nickel	25.2
Zinc	46.3

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-7-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-08
Date Analyzed:	11/23/16	Data File:	611190-08.110
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	17.5
Nickel	19.2
Zinc	32.4

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-7-19	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-11
Date Analyzed:	11/23/16	Data File:	611190-11.111
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	5.73

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-6-13	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-22
Date Analyzed:	11/23/16	Data File:	611190-22.112
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	23.3
Nickel	32.5
Zinc	21.8

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-6-17	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-23
Date Analyzed:	11/23/16	Data File:	611190-23.113
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	5.14

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-6-24	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-24
Date Analyzed:	11/23/16	Data File:	611190-24.114
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	2.00

Analysis For Total Metals By EPA Method 6020A

Client ID:	AB-6-24	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-24
Date Analyzed:	11/23/16	Data File:	611190-24 dup.115
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1.90

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	I6-776 mb
Date Analyzed:	11/23/16	Data File:	I6-776 mb.097
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Cadmium	<1
Chromium	<1
Lead	<1
Nickel	<1
Zinc	<5

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-7-19	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-11
Date Analyzed:	11/22/16	Data File:	112208.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	3.5

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-6-17	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-23
Date Analyzed:	11/23/16	Data File:	112314.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	93	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	6.4

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-6-17	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-23
Date Analyzed:	11/22/16	Data File:	112206.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	12

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-6-24	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-24
Date Analyzed:	11/22/16	Data File:	112211.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	0.084

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	06-2413 mb2
Date Analyzed:	11/23/16	Data File:	112305.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	06-2365 mb2
Date Analyzed:	11/18/16	Data File:	111808.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	AB-7-19	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-11
Date Analyzed:	11/23/16	Data File:	112311.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	50	150
Toluene-d8	107	50	150
4-Bromofluorobenzene	184 J, ip	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	AB-7-19	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-11
Date Analyzed:	11/18/16	Data File:	111829.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	206 ip	50	150
4-Bromofluorobenzene	362 J ip	50	150

Compounds:	Concentration mg/kg (ppm) Dry Weight
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	AB-6-17	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-23
Date Analyzed:	11/18/16	Data File:	111830.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	383 J ip	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	AB-6-24	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-24
Date Analyzed:	11/18/16	Data File:	111828.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	06-2418 mb
Date Analyzed:	11/23/16	Data File:	112310.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	06-2408 mb
Date Analyzed:	11/18/16	Data File:	111825.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-8-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-01 1/5
Date Analyzed:	11/21/16	Data File:	112117.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	163
Benzo(a)anthracene-d12	121	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.052
Chrysene	0.11
Benzo(a)pyrene	0.052
Benzo(b)fluoranthene	0.074
Benzo(k)fluoranthene	0.025
Indeno(1,2,3-cd)pyrene	0.025
Dibenz(a,h)anthracene	0.011

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-7-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-08 1/50
Date Analyzed:	11/18/16	Data File:	111812.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	120 d	31	163
Benzo(a)anthracene-d12	121 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.1
Chrysene	0.21
Benzo(a)pyrene	0.11
Benzo(b)fluoranthene	0.18
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-6-13	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	611190-22 1/5
Date Analyzed:	11/23/16	Data File:	112312.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	114	31	163
Benzo(a)anthracene-d12	123	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.011
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-6-13	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-22 1/5
Date Analyzed:	11/21/16	Data File:	112118.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	109	31	163
Benzo(a)anthracene-d12	119	24	168

Compounds:	Concentration mg/kg (ppm) Dry Weight
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01 J
Benzo(k)fluoranthene	<0.01 J
Indeno(1,2,3-cd)pyrene	0.010 J
Dibenz(a,h)anthracene	<0.01 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/23/16	Lab ID:	06-2440 mb 1/5
Date Analyzed:	11/23/16	Data File:	112310.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	105	31	163
Benzo(a)anthracene-d12	121	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	06-2384 mb2 1/5
Date Analyzed:	11/18/16	Data File:	111805.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	31	163
Benzo(a)anthracene-d12	111	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AB-8-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-01 1/50
Date Analyzed:	11/21/16	Data File:	112106.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	105 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AB-7-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-08 1/50
Date Analyzed:	11/21/16	Data File:	112108.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	80 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AB-6-13	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	611190-22 1/50
Date Analyzed:	11/21/16	Data File:	112109.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	95 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	AB-6-13	Client:	Aspect Consulting, LLC
Date Received:	11/10/16	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/30/16	Lab ID:	611190-22 1/50
Date Analyzed:	11/30/16 17:44	Data File:	113015.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75 d	29	154

Compounds:	Concentration mg/kg (ppm) Dry Weight
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/18/16	Lab ID:	06-2425 mb 1/5
Date Analyzed:	11/18/16	Data File:	111807.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	111	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Brooklyn Ave, PO 160092, F&BI 611190
Date Extracted:	11/30/16	Lab ID:	06-2478 mb 1/5
Date Analyzed:	11/30/16 17:13	Data File:	113014.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	102	29	154

Compounds:	Concentration mg/kg (ppm) Dry Weight
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611388-01 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	69-120
Toluene	mg/kg (ppm)	0.5	97	70-117
Ethylbenzene	mg/kg (ppm)	0.5	94	65-123
Xylenes	mg/kg (ppm)	1.5	97	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611190-01 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	84	66-121
Toluene	mg/kg (ppm)	0.5	90	72-128
Ethylbenzene	mg/kg (ppm)	0.5	84	69-132
Xylenes	mg/kg (ppm)	1.5	88	69-131
Gasoline	mg/kg (ppm)	20	70	61-153

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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: 611190-22 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	77	66-121
Toluene	mg/kg (ppm)	0.5	81	72-128
Ethylbenzene	mg/kg (ppm)	0.5	78	69-132
Xylenes	mg/kg (ppm)	1.5	81	69-131
Gasoline	mg/kg (ppm)	20	75	61-153

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611184-01 (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	94	97	73-135	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	86	74-139

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611190-01 (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	268	87	101	63-146	15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	100	79-144

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611388-01 (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	107	107	64-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611336-40 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Cadmium	mg/kg (ppm)	10	<1	93	84	75-125	10
Chromium	mg/kg (ppm)	50	13.8	120 b	86 b	75-125	33 b
Lead	mg/kg (ppm)	50	14.5	94	85	75-125	10
Nickel	mg/kg (ppm)	25	13.4	91 b	74 b	75-125	21 b
Zinc	mg/kg (ppm)	50	38.9	90	75	75-125	18

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Cadmium	mg/kg (ppm)	10	101	80-120
Chromium	mg/kg (ppm)	50	101	80-120
Lead	mg/kg (ppm)	50	103	80-120
Nickel	mg/kg (ppm)	25	98	80-120
Zinc	mg/kg (ppm)	50	97	80-120

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611283-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	91	91	21-145	0
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	95	96	12-160	1
Naphthalene	mg/kg (ppm)	2.5	<0.05	89	91	14-157	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	101	60-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	108	56-135
Naphthalene	mg/kg (ppm)	2.5	98	63-140

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

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

Laboratory Code: 611382-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	81	83	21-145	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	86	88	12-160	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	77	78	14-157	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	101	60-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	110	56-135
Naphthalene	mg/kg (ppm)	2.5	95	63-140

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 611142-18 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.005	<0.005	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	101	101	70-130	0

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 611190-11 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.005	<0.005	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	99	104	70-130	5

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 611302-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	98	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	90	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	98	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	100	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	95	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	101	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	95	31-146

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	101	103	51-115	2
Chrysene	mg/kg (ppm)	0.17	95	94	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	105	100	56-123	5
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	101	104	54-131	3
Benzo(a)pyrene	mg/kg (ppm)	0.17	97	98	51-118	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	101	100	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	99	95	50-141	4

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	94	96	51-115	2
Chrysene	mg/kg (ppm)	0.17	88	91	55-129	3
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	94	98	56-123	4
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	96	95	54-131	1
Benzo(a)pyrene	mg/kg (ppm)	0.17	91	94	51-118	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	90	102	49-148	12
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	87	99	50-141	13

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	93	93	55-130	0
Aroclor 1260	mg/kg (ppm)	0.8	88	90	58-133	2

Date of Report: 11/30/16
Date Received: 11/10/16
Project: Brooklyn Ave, PO 160092, F&BI 611190

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 611241-08 1/50 (Matrix Spike) 1/50

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	0.8	<0.2	82	50-150
Aroclor 1260	mg/kg (ppm)	0.8	<0.2	82	50-150

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	81	87	55-130	7
Aroclor 1260	mg/kg (ppm)	0.8	79	85	58-133	7

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

ATTACHMENT D

Data Validation Report

This appendix provides the results of a data assurance review of data reported for the soil and ground water results provided in this report. These samples were associated with the on-property investigation work completed for the 4700 Brooklyn Avenue NE property. Overall, the data were of good quality. The following narrative of the data validation results is by laboratory sample delivery group (SDG).

Data qualifiers are assigned based on outcome of the data validation. Data qualifiers are limited to and defined as follows:

- U—The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- J—The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ—The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R—The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- DNR—Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.

Sample Delivery Group 611142

Thirty (30) soil samples were in this SDG. Analysis was performed for Diesel-Range Organics (DX), Gasoline-Range Organics (GX), benzene, ethylbenzene, toluene and xylenes (BTEX), Metals, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs).

611142 Sample Index Table

			Analysis					
Sample ID	**Date**	**Matrix**	**DX**	**GX/BTEX**	**Metals**	**PCBs**	**VOC**	**PAH**
AB-2-10	11/8/2016	SOIL	X	X				
AB-2-14	11/8/2016	SOIL	X	X				
AB-2-17.5	11/8/2016	SOIL	X	X				
AB-2-24	11/8/2016	SOIL	X	X				
AB-2-28	11/8/2016	SOIL	X	X				
AB-2-6	11/8/2016	SOIL	X	X				
AB-3-14	11/7/2016	SOIL	X	X				
AB-3-19	11/7/2016	SOIL	X	X				
AB-3-24	11/7/2016	SOIL	X	X				
AB-3-4	11/7/2016	SOIL	X	X				
AB-3-8	11/7/2016	SOIL	X	X				
AB-4-10	11/8/2016	SOIL	X	X				
AB-4-16.5	11/8/2016	SOIL	X	X				
AB-4-19	11/8/2016	SOIL	X	X				
AB-4-24	11/8/2016	SOIL	X	X				
AB-4-29	11/8/2016	SOIL	X	X				
AB-4-6	11/8/2016	SOIL	X	X				
AB-5-10	11/8/2016	SOIL	X	X				
AB-5-14	11/8/2016	SOIL	X	X				
AB-5-19	11/8/2016	SOIL	X	X				
AB-5-24	11/8/2016	SOIL	X	X	X		X	
AB-5-29	11/8/2016	SOIL	X	X				
AB-5-32	11/8/2016	SOIL	X	X				
AB-5-5	11/8/2016	SOIL	X	X				
AB-9-14	11/7/2016	SOIL	X	X				
AB-9-19	11/7/2016	SOIL	X	X				
AB-9-24	11/7/2016	SOIL	X	X				
AB-9-27	11/7/2016	SOIL	X	X				
AB-9-5	11/7/2016	SOIL	X	X	X	X		X
AB-9-8	11/7/2016	SOIL	X	X				

Analyses were assessed in a Level 2 data validation process that included review of method QC (Blanks, Spikes, Duplicates, Surrogates, Holding times), laboratory narrative, laboratory flagging, and receiving info.

In all cases, accuracy was acceptable based on the assessment of spikes (Lab Control Spike (LCS), LCS duplicate (LCSD), matrix spike (MS), MS duplicate (MSD)), except as noted in the qualified results below.

Precision was acceptable based on the duplicated samples (Lab duplicates, LCS/LCSD pairs, MS/MSD pairs), except as noted in the qualified results below.

Results that have been marked as not reportable should not be used. The only results not reported for this set are ones that were rejected in favor of a lower dilution, and do not impact data completeness. All reportable results are of known quality and are acceptable for use as qualified.

611142 Qualified Results Table

Sample	Analyte	Dilution Factor	Reportable	Qualifier	Qualification Reason
AB-9-5	Benz(a)anthracene	50	N	U	DNR in favor of lower dilution
AB-9-5	Benz(a)anthracene	5	Y	UJ	Internal Standard outside control
AB-9-5	Benzo(a)pyrene	50	N	U	DNR in favor of lower dilution
AB-9-5	Benzo(a)pyrene	5	Y	UJ	Internal Standard outside control
AB-9-5	Benzo(b)fluoranthene	50	N	U	DNR in favor of lower dilution
AB-9-5	Benzo(b)fluoranthene	5	Y	J	Internal Standard outside control
AB-9-5	Benzo(k)fluoranthene	50	N	U	DNR in favor of lower dilution
AB-9-5	Benzo(k)fluoranthene	5	Y	UJ	Internal Standard outside control
AB-9-5	Chromium	1	Y	J	MS/MSD RPD exceeds control limit
AB-9-5	Chrysene	50	N	U	DNR in favor of lower dilution
AB-9-5	Chrysene	5	Y	J	Internal Standard outside control
AB-9-5	Dibenz(a,h)anthracene	50	N	U	DNR in favor of lower dilution
AB-9-5	Dibenz(a,h)anthracene	5	Y	UJ	Internal Standard outside control
AB-9-5	Indeno(1,2,3-cd)pyrene	50	N	U	DNR in favor of lower dilution
AB-9-5	Indeno(1,2,3-cd)pyrene	5	Y	UJ	Internal Standard outside control
AB-9-5	Nickel	1	Y	J	MS/MSD RPD exceeds control limit

Sample Delivery Group 611142 Additional

Eighteen (18) soil samples were in this SDG. Analysis was performed for VOCs.

611142 Additional Sample Index Table

			Analysis
Sample ID	**Date**	**Matrix**	**VOC**
AB-3-14	11/7/2016	SOIL	X
AB-3-19	11/7/2016	SOIL	X
AB-3-24	11/7/2016	SOIL	X
AB-3-4	11/7/2016	SOIL	X
AB-3-8	11/7/2016	SOIL	X
AB-4-10	11/8/2016	SOIL	X
AB-4-16.5	11/8/2016	SOIL	X
AB-4-19	11/8/2016	SOIL	X
AB-4-24	11/8/2016	SOIL	X
AB-4-29	11/8/2016	SOIL	X
AB-4-6	11/8/2016	SOIL	X
AB-5-10	11/8/2016	SOIL	X
AB-5-14	11/8/2016	SOIL	X
AB-5-19	11/8/2016	SOIL	X
AB-5-24	11/8/2016	SOIL	X
AB-5-29	11/8/2016	SOIL	X
AB-5-32	11/8/2016	SOIL	X
AB-5-5	11/8/2016	SOIL	X

Analyses were assessed in a Level 2 data validation process that included review of method QC (Blanks, Spikes, Duplicates, Surrogates, Holding times), laboratory narrative, laboratory flagging, and receiving info.

In all cases, accuracy was acceptable based on the assessment of spikes (LCS, LCSD, MS, MSD).

Precision was acceptable based on the duplicated samples (Lab duplicates, LCS/LCSD pairs, MS/MSD pairs).

All reportable results are of known quality and are acceptable for use as qualified.

No results were qualified as part of this assessment.

Sample Delivery Group 611190

Twenty-six (26) soil samples were in this SDG. Analysis was performed for Diesel-Range Organics, Gasoline, BTEX, Metals, PCBs, PAHs and VOCs.

611190 Sample Index Table

			Analyses					
Sample ID	**Date**	**Matrix**	**DX**	**GX/BTEX**	**Metals**	**PCBs**	**VOC**	**PAH**
AB-1-14	11/9/2016	SOIL	X	X				
AB-1-19	11/9/2016	SOIL	X	X				
AB-1-24	11/9/2016	SOIL	X	X				
AB-1-29	11/9/2016	SOIL	X	X				
AB-1-35	11/9/2016	SOIL	X	X				
AB-1-8	11/9/2016	SOIL	X	X				
AB-6-13	11/9/2016	SOIL	X	X	X	X		X
AB-6-17	11/9/2016	SOIL	X	X	X		X	
AB-6-24	11/9/2016	SOIL	X	X	X		X	
AB-6-29	11/9/2016	SOIL	X	X				
AB-6-33	11/9/2016	SOIL	X	X				
AB-6-8	11/9/2016	SOIL	X	X				
AB-7-10	11/9/2016	SOIL	X	X				
AB-7-14	11/9/2016	SOIL	X	X				
AB-7-19	11/9/2016	SOIL	X	X	X		X	
AB-7-24	11/9/2016	SOIL	2	2				
AB-7-29	11/9/2016	SOIL	X	X				
AB-7-33	11/9/2016	SOIL	X	X				
AB-7-6	11/9/2016	SOIL	X	X	X	X		X
AB-8-10	11/9/2016	SOIL	X	X				
AB-8-14	11/9/2016	SOIL	X	X				
AB-8-18	11/9/2016	SOIL	X	X				
AB-8-24	11/9/2016	SOIL	X	X				
AB-8-29	11/9/2016	SOIL	X	X				
AB-8-33	11/9/2016	SOIL	X	X				
AB-8-6	11/9/2016	SOIL	X	X	X	X		X

Analyses were assessed in a Level 2 data validation process that included review of method QC (Blanks, Spikes, Duplicates, Surrogates, Holding times), laboratory narrative, laboratory flagging, and receiving info.

In all cases, accuracy was acceptable based on the assessment of spikes (LCS, LCSD, MS, MSD).

Precision was acceptable based on the duplicated samples (Lab duplicates, LCS/LCSD pairs, MS/MSD pairs), except as noted.

The lab flagged some results as estimated, either due to internal standard failure, or other unnamed issues. The qualification of "estimate" (J/UJ) has been carried through in these instances.

Surrogate recovery was out on sample analyses. Associated results have been qualified as estimated.

Some analyses appear to have been performed outside of holding time. Associated results have been qualified as estimated (J/UJ).

Two Diesel-Range Organics results were flagged "X" by the lab to indicate that the chromatographic pattern does not resemble the fuel standard used for quantitation. An "X" flag has been applied to these results in the validation to indicate that these results may not be the result of a standard diesel fuel product.

Due to an oversight, a QA/QC field duplicate was not collected. The field duplicate is collected to assess the reproducibility of field techniques as well as laboratory sample preparation and analysis. This oversight was recognized after field activities and sufficient sample volume remained at the laboratory for most locations; therefore, Aspect requested the laboratory prepare a second aliquot of soil sample from select locations. This duplicate sample provides an assessment of laboratory reproducibility and soil matrix variability. Results are reported in Table D-1 (attached). Duplicate results were outside of the control limits for a few analytes— associated results in the parent samples have been qualified as estimated.

All reportable results are of known quality and are acceptable for use as qualified.

611190 Qualified Results Table

Sample	Analyte	Dilution Factor	Reportable	Qualifier	Qualification Reason
AB-6-13	Benz(a)anthracene	5	Y	UJ	Extracted/Analyzed outside of holding time
AB-6-13	Benzo(a)pyrene	5	Y	UJ	Extracted/Analyzed outside of holding time
AB-6-13	Benzo(b)fluoranthene	5	Y	UJ	Extracted/Analyzed outside of holding time
AB-6-13	Benzo(k)fluoranthene	5	Y	UJ	Extracted/Analyzed outside of holding time
AB-6-13	Chromium	1	Y	J	MS/MSD RPD exceeds control
AB-6-13	Chrysene	5	Y	UJ	Extracted/Analyzed outside of holding time
AB-6-13	Dibenzo(a,h)anthracene	5	Y	UJ	Extracted/Analyzed outside of holding time
AB-6-13	Indeno(1,2,3-cd)pyrene	5	Y	J	Extracted/Analyzed outside of holding time
AB-6-13	Nickel	1	Y	J	MS/MSD RPD exceeds control
AB-6-17	1,2-Dibromoethane (EDB)	1	Y	UJ	Surrogate recovery outside control limits. Internal standard recovery outside control.
AB-6-17	Benzene	5	Y	UJ	Flagged as estimated by lab.
AB-6-17	Naphthalene	1	Y	J	Lab Dup Outside Control
AB-6-24	Benzene	1	Y	J	Lab Dup Outside Control
AB-6-24	Ethylbenzene	1	Y	J	Lab Dup Outside Control
AB-7-19	1,2-Dibromoethane (EDB)	1	Y	UJ	Surrogate recovery outside control limits. Internal standard recovery outside control.
AB-7-19	Benzene	10	Y	J	Flagged by lab - rationale unclear.
AB-7-19	Diesel Range Organics	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
AB-7-6	Benz(a)anthracene	50	Y	UJ	Extracted/Analyzed outside of holding time
AB-7-6	Benzo(a)pyrene	50	Y	J	Extracted/Analyzed outside of holding time
AB-7-6	Benzo(b)fluoranthene	50	Y	J	Extracted/Analyzed outside of holding time
AB-7-6	Benzo(k)fluoranthene	50	Y	UJ	Extracted/Analyzed outside of holding time
AB-7-6	Chromium	1	Y	J	MS/MSD RPD exceeds control
AB-7-6	Chrysene	50	Y	J	Extracted/Analyzed outside of holding time
AB-7-6	Dibenzo(a,h)anthracene	50	Y	UJ	Extracted/Analyzed outside of holding time
AB-7-6	Diesel Range Organics	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
AB-7-6	Indeno(1,2,3-cd)pyrene	50	Y	UJ	Extracted/Analyzed outside of holding time
AB-7-6	Nickel	1	Y	J	MS/MSD RPD exceeds control
AB-8-6	Benz(a)anthracene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Benzo(a)pyrene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Benzo(b)fluoranthene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Benzo(k)fluoranthene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Chromium	1	Y	J	MS/MSD RPD exceeds control
AB-8-6	Chrysene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Dibenzo(a,h)anthracene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Indeno(1,2,3-cd)pyrene	5	Y	J	Extracted/Analyzed outside of holding time
AB-8-6	Nickel	1	Y	J	MS/MSD RPD exceeds control

Sample Delivery Group 611424a

Fourteen (14) ground water samples were in this SDG. Analysis was performed for Diesel-Range Organics, Gasoline, BTEX (by 8260c), and Metals.

611424a Sample Index Table

			Analysis			
Sample ID	**Date**	**Matrix**	**DX**	**GX**	**Metals**	**BTEX**
MW-11-112216	11/22/2016	GROUND WATER	X	X	X	X
MW-12-112216	11/22/2016	GROUND WATER	X	X	X	X
MW-14-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-15-112216	11/22/2016	GROUND WATER	X	X	X	X
MW-16-112216	11/22/2016	GROUND WATER	X	X	X	X
MW-20-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-2-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-3-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-4-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-5-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-6-112116	11/21/2016	GROUND WATER	X	X	X	X
MW-7-112216	11/22/2016	GROUND WATER	X	X	X	X
MW-9-112216	11/22/2016	GROUND WATER	X	X	X	X

In all cases, accuracy was acceptable based on the assessment of spikes (LCS, LCSD, MS, MSD), except as noted.

Precision was acceptable based on the duplicated samples (Lab Dups, LCS/LCSD pairs, MS/MSD pairs, and a Field Duplicate).

Some Diesel-Range Organics results were flagged "X" by the lab to indicate that the chromatographic pattern does not resemble the fuel standard used for quantitation. An "X" flag has been applied to these results in the validation to indicate that these results may not be the result of a standard diesel fuel product.

One field blank was collected as part of this SDG. All results for the field blank were non-detect and no qualification needed.

Results that have been marked as not reportable should not be used. The only results not reported for this set are ones that were rejected in favor of a lower dilution or due to exceedance of instrument range, and do not impact data completeness. All reportable results are of known quality and are acceptable for use as qualified.

611424a Qualified Results Table

Sample	Analyte	Dilution Factor	Reportable	Qualifier	Qualification Reason
MW-11-112216	Benzene	100	N	R	Rejected in favor of lower dilution
MW-11-112216	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-11-112216	Ethylbenzene	1	N	R	Result Exceeds Instrument Range
MW-11-112216	Lead	1	Y	J	MSD %R Low
MW-11-112216	m,p-Xylene	1	N	R	Result Exceeds Instrument Range
MW-11-112216	Methyl t-butyl ether (MTBE)	100	N	R	Rejected in favor of lower dilution
MW-11-112216	o-Xylene	1	N	R	Result Exceeds Instrument Range
MW-11-112216	Toluene	1	N	R	Result Exceeds Instrument Range
MW-12-112216	Benzene	1	N	R	Result Exceeds Instrument Range
MW-12-112216	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-12-112216	Ethylbenzene	1	N	R	Result Exceeds Instrument Range
MW-12-112216	Lead	1	Y	J	MSD %R Low
MW-12-112216	m,p-Xylene	1	N	R	Result Exceeds Instrument Range
MW-12-112216	Methyl t-butyl ether (MTBE)	1000	N	R	Rejected in favor of lower dilution
MW-12-112216	o-Xylene	1	N	R	Result Exceeds Instrument Range
MW-12-112216	Toluene	1	N	R	Result Exceeds Instrument Range
MW-14-112116	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-14-112116	Lead	1	Y	UJ	MSD %R Low
MW-15-112216	Lead	1	Y	UJ	MSD %R Low
MW-16-112216	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-16-112216	Lead	1	Y	UJ	MSD %R Low
MW-20-112116	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-20-112116	Lead	1	Y	UJ	MSD %R Low
MW-2-112116	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-2-112116	Lead	1	Y	UJ	MSD %R Low
MW-3-112116	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-3-112116	Lead	1	Y	UJ	MSD %R Low
MW-4-112116	Lead	1	Y	UJ	MSD %R Low
MW-5-112116	Lead	1	Y	UJ	MSD %R Low
MW-6-112116	Lead	1	Y	UJ	MSD %R Low
MW-7-112216	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-7-112216	Lead	1	Y	UJ	MSD %R Low
MW-9-112216	Benzene	1	N	R	Result Exceeds Instrument Range
MW-9-112216	Diesel Range TPH	1	Y	X	The sample chromatographic pattern does not resemble the fuel standard used for quantitation

MW-9-112216	Ethylbenzene	1	N	R	Result Exceeds Instrument Range
Sample	**Analyte**	**Dilution Factor**	**Reportable**	**Qualifier**	**Qualification Reason**
MW-9-112216	Lead	1	Y	UJ	MSD %R Low
MW-9-112216	m,p-Xylene	1	N	R	Result Exceeds Instrument Range
MW-9-112216	Methyl t-butyl ether (MTBE)	10	N	R	Rejected in favor of lower dilution
MW-9-112216	o-Xylene	10	N	R	Rejected in favor of lower dilution
MW-9-112216	Toluene	1	N	R	Result Exceeds Instrument Range
RINSATE-112216	Lead	1	Y	UJ	MSD %R Low

Sample Delivery Group 611424 additional

Three (3) ground water samples were in this SDG. Analysis was performed for a sub-list of VOCs.

611424 Additional Sample Index Table

			Analysis
Sample ID	**Date**	**Matrix**	**VOC**
MW-11-112216	11/22/2016	GROUND WATER	**X**
MW-13-112216	11/22/2016	GROUND WATER	**X**
MW-9-112216	11/22/2016	GROUND WATER	X

Analyses were assessed in a Level 2 data validation process that included review of method QC (Blanks, Spikes, Duplicates, Surrogates, Holding Times), laboratory narrative, laboratory flagging, and receiving info.

In all cases, accuracy was acceptable based on the assessment of spikes (LCS, LCSD, MS).

Precision was acceptable based on the duplicated samples (Lab duplicates, and LCS/LCSD pairs).

One field blank was collected as part of this SDG. All results for the field blank were non-detect and no qualification needed.

All reportable results are of known quality and are acceptable for use as qualified.

No results were qualified as part of this assessment.

Table D-1 - Lab Duplicate Table

Project #160092 - 4700 Brooklyn Avenue NE, Seattle, WA

		Sample	AB-6-13		AB-6-17		AB-6-24		AB-7-19		AB-7-24		AB-8-6	
		Type	Primary	Duplicate	Primary	Duplicate	Primary	Duplicate	Primary	Duplicate	Primary	Duplicate	Primary	Duplicate
Analyte	RL	Unit												
NWTPH-DX														
Diesel Range Organics	50	mg/kg	< 50		840		< 50	< 50	480		< 50	< 50	< 50	< 50
Motor Oil Range Organics	250	mg/kg	400		< 250		< 250	< 250	< 250		< 250	< 250	780	570
NWTPH-GX														
Gasoline Range Organics	2	mg/kg	< 2		920		3.9	< 2	1100		< 2	< 2	< 2	< 2
SW6020A														
Cadmium	1	mg/kg	< 1										< 1	< 1
Chromium	5	mg/kg	23.3										15.5	19.6
Lead	1	mg/kg			5.14		2	1.9	5.73					
Nickel	1	mg/kg	32.5										23	25.2
Zinc	5	mg/kg	21.8										42.2	46.3
SW8021B														
Benzene	0.02	mg/kg	< 0.02		< 0.02		0.12	0.03	0.15		0.024	0.04	< 0.02	< 0.02
Ethylbenzene	0.02	mg/kg	< 0.02		< 0.1		0.39	0.12	8.2		0.16	0.16	< 0.02	< 0.02
Toluene	0.02	mg/kg	< 0.02		< 0.1		< 0.02	< 0.02	4.3		< 0.02	< 0.02	< 0.02	< 0.02
Total Xylenes	0.06	mg/kg	< 0.06		1.5		0.073	0.073	7.5		< 0.06	< 0.06	< 0.06	< 0.06
SW8082														
Aroclor 1016	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1221	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1232	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1242	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1248	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1254	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1260	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1262	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
Aroclor 1268	0.2	mg/kg	< 0.2	< 0.2									< 0.2	
SW8260C														
1,2-Dibromoethane (EDB)	0.005	mg/kg			< 0.005		< 0.005		< 0.005	< 0.005				
1,2-Dichloroethane (EDC)	0.05	mg/kg			< 0.05	< 0.05	< 0.05		< 0.05					
Methyl tert-butyl ether (MTBE)	0.05	mg/kg			< 0.05	< 0.05	< 0.05		< 0.05					
Naphthalene	0.05	mg/kg			6.4	12	0.084		3.5					
SW8270DSIM														
Benz(a)anthracene	0.01	mg/kg	< 0.01	< 0.01									0.052	
Benzo(a)pyrene	0.01	mg/kg	< 0.01	< 0.01									0.052	
Benzo(b)fluoranthene	0.01	mg/kg	< 0.01	< 0.01									0.074	
Benzo(k)fluoranthene	0.01	mg/kg	< 0.01	< 0.01									0.025	
Chrysene	0.01	mg/kg	< 0.01	< 0.01									0.11	
Dibenzo(a,h)anthracene	0.01	mg/kg	< 0.01	< 0.01									0.011	
Indeno(1,2,3-cd)pyrene	0.01	mg/kg	0.011	0.01									0.025	

Notes

Yellow - Duplicate did not meet precision control requirements. Parent and duplicate qualified as estimated.

< - not detected at or above the value indicated.

ATTACHMENT E

Field Documentation

Aspect consulting
IN-DEPTH PERSPECTIVE

Boring/ Well No.	AB-1
Surface Elevation:	

Project Feature:	Brooklyn Ave	Date Started:	11/9/16	Date Completed:	
Location:	4700 Brooklyn Ave NE	Drilling Contractor:	Holt Services: Dave		
Drilling Method:	Sonic Rotary	Logged by:	MML		
Sampling Method:	Continuous Core	Checked by:			

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
		11/9/16						0		Gravelly, sl silty SAND (SP-SM).
							Vacced to 6'	5		
		1255	S1	4'	4'	0.1			SP	Moist, brown, f-m SAND (SP); no odor, tr fine gravel (subrnd).
						0.3	AB-1-8 @1300			
		1300	S2					10		SAA, no odor
				10'	10'	0.4	AB-1-14 @1305		SP	
							AB-1-19 @1310	15		SAA no odor
		1320	S3					20	SP	Grades to gray-brown by 20'
						1.0	AB-1-24 @1330			
				10'	10'	0.2		25	SP	no odor, SAA
						6.8				
						2.1	AB-1-29 @1335			
		1340	S4			0.0		30	SP	Becomes grey, no odor
				5'	5'	3.1	AB-1-35 @1400	33	GM	Gray, very moist; sand, silty GRAVEL (GM); f-c subrnd grav. f-c sand, slight product odor
						0.0		35	ML	

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Aspect consulting
IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-2-	Project Feature: Brooklyn Ave	Date Started: 11/8/16	Date Completed:
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
		11/8/16 1105	S1	10		0.0	Vac'd to 6', backfilled w/ cuttings. AB-2-6 @ 1110	SP-SM	0	Asphalt
									5	Moist, brown, gravelly, sl silty SAND (SP-SM); f-m sand, f subrnd grav, no odor,
								SP		Becomes f to si.
										no silt
			S2			6.0	AB-2-10 @ 1115		10	
				10	9.5X	9.4	AB-2-14 @ 1125		15	
										Becomes grey w/ sl product odor
							AB-2-17.5 1130	GP-GM		wet, grey, sl silty, sandy GRAV (GP-GM); f-c sand, f subrnd grav.
			S3		4X	4.1			20	
				7			AB-2-24 1145	GM		Becomes silty (SM), sl. product odor
					6.6	6.6			25	
			S4					SP		SP, sl product odor, moist to very moist
								GM		wet, very weak product odor at 26
				3			AB-2-28 1150	ML		Moist, ML, no odor
										ML
									30	

Aspect consulting
IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-3	Project Feature: Brooklyn Ave	Date Started: 11/7/16	Date Completed: 11/7/16
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID ppm	Comments	USCS	Depth	Description
0		11/7/16 1310	S1	10'	8 5'	6.6	AB-3-4@1315	SP-SM		Asphalt Moist brown, sl silty, SAND (SP-SM), f subrnd grav, f-m sand no odor
						17.1		SM	5	
						21.4	AB-3-8@1320	SM SP		Becomes silty, product odor, grayer 5-6 Moist, brn, SAND (SP); f-m, sl product odor,
10		1330	S2						10	SAA, sl. product odor,
						36.4	AB-3-14@1335	SP		
				10'	10'				15	product odor very slight, becomes gray brn, coarser
						26.6	AB-3-19@1345	SP		
20		1345	S3						20	Becomes brown again, no odor
				5'	5'					Grades to gray brn.
						4.4	AB-3-24@1355			Becomes gravelly at 23' and brn, (f-c subrnd grav)
		1410	S4					GM	25	Brown to black, sandy, silty GRAV (GM); f-c grav, f-m sa, becomes brown at 27'
				5'	5'	3.1	AB-3-28@1415	SP		Moist, brown, SAND (SP); sl gravelly f subrnd grav,
								GM-GW		wet, gray brn, sl silty GRAVEL (GW-GM); f-c subrnd grav, f-m sand, no sheen
30		1420	S5	5'	5'	0.0	AB-3-32@1430	GM	30 32	
								ML	32.5	Moist Gray brown, (ML), sl gravelly, tr f sand.

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to 35' or 5' into silt

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IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-4			
Surface Elevation:			
Project Feature:	Brooklyn Ave	Date Started:	Date Completed:
Location:	4700 Brooklyn Ave NE	Drilling Contractor:	Holt Services: Dave
Drilling Method:	Sonic Rotary	Logged by:	MML
Sampling Method:	Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
		11/8/16	S1						0	
				4'	4'		Vacced to 6'			
						15.5	AB-4-6 @ 1345			
						450				
						66.3	AB-4-10 @ 1350		5	
			S2			66.3				wet
						71.7		SP-SM		Moist, brn, gravelly silty SAND (SP-SM); f-m Sa, f subrnd gravel, no odor
				10'	10'		AB-4-		10	Moist, brn, SAND (SP); F-m sa, very weak product odor
						1840				
						1635	AB-4-15.5 1405	SP	15	Strong odor b/n 14-17'
						42.2				Grades to Grey brown,
						100	AB-4-19 1410		20	
						9.1				
							AB-4-24 1425	SP		
						6.1			25	Coarsening w/depth
						4.0				Becomes gravelly @ 26', very weak odor
								GM		wet, very sandy silty GRAY (GM); f-c sand, fine subrnd gravel,
						0.0	AB-4-29 1430		30	wet, grey, VSILT (ML); no odor, top 1ft is gravelly (f subrnd)
						3.5		ML		sandy
						9.9				cobble at 33
						31			35	

PID Blue

Aspect consulting
IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-5	Project Feature: Brooklyn Ave	Date Started: 11/8/16	Date Completed: 11/8/16
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
0		11/8/16 0850	~~S1~~						0	Asphalt
								SP-SM		Brown, moist, sl silty (SP-SM); f-m sand, tr f gravel, subrnd; no odor
							Vacced to 4'10"			vacced to 4'10'
			S1	10' 5.'	5'		AB-~~S~~-5 0900		5	
							AB-S-10 0905			
10		0920	S2					SP	10	Moist, brown, SAND (SP); f-m sa, tr si., no odor
							AB-S-14-0930	SP		Becomes gray/brown F-m sand
				10	10				15	Product odor at about 15'
							AB-S-19: 0940			
20		0930	S3						20	~~B~~ Grades to gray by 20', weak product odor coarsening w/ depth
							AB-S-24: 0945			
		0945	S4			41.2 *			25	No Product odor
								SP-SM		hot grey, gravelly (SP-SM); f-m sand, fine subrnd gravel
								SM		Moist, gray brown, gravelly silty SAND (SM); f subrnd gravel, f-m sand, diamict fabric, no odor
30		1000	S5						30	30.5
								ML		
									35	

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~~B-5-32~~ @1000

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* PID acting weird, slowly rises in VOCs, take it out slowly decreases - don't trust it

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IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-6	Project Feature: Brooklyn Ave	Date Started: 11/9/16	Date Completed:
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
		11/9/16					Backfilled w/ chips		0	
							Vacced down to 6'			
		1445	S1	4'		27.8	AB-6-8 @1455	SP-SM		Moist, brn, SP-SM;
						0.0				
			S2			0.0	AB-6-13 @1505		10	
				10'	10'	21.7	~~1505~~	SP		Moist, brn, f-m SAND (SP); no odor
										slight product odor
						1,043	AB-6-17 @ 1510			Becomes gray, strong product odor,
						68.2		SP-SM		Becomes slightly silty.
			S3						20	
						11.8		GM		Gray, wet, silty, sandy GRAV (GM); f-c subrnd gray f-c sand, slight product odor
						2.5	AB-6-24 @1520	SP-SM		Moist to wet, gray, f-m sl silty SAND (SP-SM), very weak odor
						0.3				No odor
								SM		Becomes silty SAND
						0.0	AB-6-29 @1525			
						0.0			30	
						0.0	AB-6-33 @1540	ML		31.5
										33

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IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-7	Project Feature: Brooklyn Ave	Date Started: 11/9/16	Date Completed: 11/9/16
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
		11/9/16 1030					Vacced to 6'		5	
			S1	4'			AB-7-6 1035	SP-SM	SP-SM	Moist, brn, gravelly, sl silty SAND (SP-SM); f-m sand, no odor, f subrnd grav.
							AB-7-10 1045		10	
		1050	S2					SP	SP	Brown, moist, f-m SAND (SP); no odor
						28.7				weak product odor, becomes gray
				10'	10'	550	AB-7-14 1055		15	moderate product odor
						232			SP	strong product odor
						1656	AB-7-19 @ 1100		20	very strong product odor at 19'
		1115	S3						SP	wood chips s/n 20-21' bgs
						42.0				
						29.6	AB-7-24 1120		25	
						25.1				Becomes gravelly
					2	25.1	AB-7-29 1125		SP-SM	wet gray brown, gravelly (SP-SM); f-c sand, f subrnd gray, moderate product odor, siltier w/ depth
										Becomes sl moist s/n 29-30
		1130				9.3			30	31 weak product odor at 30.5
						8.9	AB-7-33 1140		ML	Moist SILT, (ML)
									33	No product odor at 33'

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IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-8	Project Feature: Brooklyn Ave	Date Started:	Date Completed:
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
		11/9/16 0820					Uncased to 6'		0	
				4'	4'	4.8	AB-8-6 0830	SP	5	Moist, brn f-m sand, no odor
		0840				39.7	AB-8-10 0835		10	
						28.8				
						32.6	AB-8-14 0845			Very weak product odor, becomes gray brn at 14'
				10'	8	39.5		SP		
						18.6	AB-8-18 0850 hold		20	
							~~AB-8-~~			No product odor
						22.5				
				10'	9'	17.1	AB-8-24 0905		25	Brown, wet, silty GRAV (GM); f-c subrnd gray, f-c sand
						25.4	AB-8-29 0910 hold	GM		
						10.8		SM	30	Grades to gray, gravelly silty SAND (SM); no odor, no sheen,
						12.4	AB8336 0925	ML	31	Gray, sl sandy SILT (ML); no plast, no odor, fine sand.
									35	

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Go to 30' or tag the ML

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IN-DEPTH PERSPECTIVE

Boring/ Well No. AB-9	Project Feature: Brooklyn Ave	Date Started: 11/7/16	Date Completed:
Surface Elevation:	Location: 4700 Brooklyn Ave NE	Drilling Contractor: Holt Services: Dave	
	Drilling Method: Sonic Rotary	Logged by: MML	
	Sampling Method: Continuous Core	Checked by:	

Depth	Elevation	Date/Time	Samples/ Run No.	Run Length	Recovery	PID	Comments	USCS	Depth	Description
0		11/7/16 0930	S1	10'	8'	36.6			0	Asphalt
						76.1	AB-9-5 (0940)	SP-SM		Moist, grey brn, sl gravelly, sl silty SAND (SP-SM); f-m sa, f grav subrnded, product odor,
						106				Becomes brown at 2' w/no odor
						46.1	AB-9-8 (0945)			
10		0950	S2		X				10	no recovery
				10'	5'2"	59.2		SP		Moist, brown, SAND (SP); no odor, f-m sa,
							AB-9-14 (0955)			
				10'	7'9"	72.9				
					9.5'	317		SP		Becomes gray w/ sl product odor at 14.5'
						472	AB-9-19 (1000)			w/ scattered very thin beds of silty SA, sl gravelly
20		1005	S3					SP	20	Sand coarsening w/ depth, no odor
				5'	5'	79.1				Becomes gravelly at 23 (f-c subrnd grav)
							AB-9-24 1015			
		1020				36.1		GM		Becomes silty, sandy Gravel at 25', no odor
				5'	3.5		AB-9-27 1030		27'	
				NA	X	24.3		ML		Moist, sl gravelly, sl sandy (ML); f grav, fine sand no odor, no sheen,
30									30	Bottom at 30'

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 **Page:** 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 21 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 16.28
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1023	Ø	~0.3	16.28							Start Purge
1028	↓	↓	16.48	16.3	1216	2.91	6.71	92.0	clear	
1033	↓	↓		16.3	1229	2.75	6.71	88.0		
1038	↓	↓	16.55	16.4	1226	2.57	6.72	87.7	3.68	
1043	~1.5	↓		16.3	1223	2.46	6.72	87.7	½ -	
1048	↓	↓	16.58	16.4	1222	2.23	6.73	87.8	1.41	
1053	↓	↓		16.4	1217	2.08	6.74	88.1		
1058	↓	↓		16.4	1218	1.97	6.73	88.4		
1103	~2¾	↓	16.70	16.4	1217	1.95	6.74	88.8	1.15	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1110	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX, MTBE
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments: Water seems effervesent (sp?) slightly

Aspect CONSULTING

Dupe

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-3 + MW-20 Page: 1 of 1

Project Name: FH Brooklyn

Project Number: 160092

Date: Nov. 21 2016

Developed by: MML

Measuring Point of Well: TOC

Screened Interval (ft. TOC):

Filter Pack Interval (ft. TOC):

Starting Water Level (ft TOC): 16.33

Casing Stickup (ft):

Total Depth (ft TOC):

Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 3 ft from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1328	∅	~0.3	16.33							
1333				16.7	566.9	2.26	6.73	52.9	clear	Start Purge
1338				17.3	437.9	0.89	6.58	57.2		
1343				17.5	422.8	0.78	6.56	59.7		
1348			16.61	17.5	454.2	0.82	6.55	61.7	10.2	
1353				17.5	448.0	0.80	6.56	62.0	10.7	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1355	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)

Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water

Disposal of Discharged Water: Drum on site

Observations/Comments:

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-4 **Page:** 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 21 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 16.46
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1141	Ø	~0.3	16.46							
1146			16.72	16.7	762	0.41	6.88	85.1		Start Purge
1151	↓		16.75	16.8	700	0.25	6.72	80.3		
1156			16.76	16.9	663	0.23	6.66	72.6	32.9	
1201	~2	↓	1	16.9	673	0.20	6.63	71.1	14.2	Sample

Total Gallons Purged: ~2
Total Casing Volumes Removed:
Ending Water Level (ft TOC):
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1210	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX + MTBE
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing
Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 **Page:** 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 21 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 15.83
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1222	Ø	~0.3	15.83							
1227				16.8	825	3.34	6.71	40.3	clear	Start Purge
1232			15.88	16.9	832	3.19	6.75	41.8	4.82	
1237				16.8	778	3.08	6.78	44.4		
1242				16.9	753	3.01	6.75	46.5		
1247				16.9	712	2.94	6.75	48.0		
1252			15.93	16.9	667	2.88	6.75	49.2		
1257	↓		↓	17.0	662	2.84	6.73	51.7	↓	
1302	2½	↓		16.9	660	2.91	6.75	52.4	0.98	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1310	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-6 **Page:** 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 21 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 15.67
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~2' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1513	Ø	~0.3	15.67							Start Purge
1518	1	|	15.89	17.4	508.8	2.54	6.62	70.1	clear	
1523	|	|		17.4	503.3	2.54	6.63	68.5		
1528	↓	|	15.93	17.4	500.3	2.58	6.63	68.9	16.4	
1533	1½	↓	↓	17.4	495.7	2.42	6.62	69.4	6.8	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1540	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-7 **Page:** 1 of 1

Project Name: EH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 17.23
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
0829	Ø	~0.3	17.23							Start Purge
0834	|	|	|	17.2	638	1.04	6.29	80.0	clear	
0839	|	|	|	17.2	643	1.17	6.32	63.0		
0844	|	|	↓	17.2	647	1.05	6.36	47.5		
0849	|	|	17.81	17.2	653	1.02	6.39	40.4	8.13	
0854	|	|	|	17.2	649	0.98	6.44	29.2		
0859	|	|	↓	17.2	655	1.00	6.47	21.2		
0904	|	|	17.83	17.2	657	1.03	6.48	15.8		
0909	↓	|	|	17.2	655	1.05	6.50	10.7		
0914	3	↓	↓	17.2	657	1.04	6.53	10.3	2.69	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
0920	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX, MTBE
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-9 Page: 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 16.50
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1448	Ø	~0.3	16.43							
1453	1	1	↓	16.9	665	0.70	6.78	-43.3	clear	Start Purge
1458	↓	1	↓	17.1	660	0.58	6.69	-38.0	10.9	
1503	↓	1	16.48	17.0	649	0.50	6.65	-34.8	↓	
1508	1 1/2	1	16.50	17.2	649	0.49	6.62	-33.0	6.59	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1510	40	VOA		4	no	no/HCl			NWTPH-Gx, BTEX + CVOCs
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments: Used 3/8" tubing to sample below LNAPL

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-11 Page: 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 15.36
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1629	Ø	~0.3	15.31							
1534				15.9	633	0.92	6.63	-14.2	clear	Start Purge
1539				16.8	636	0.60	6.62	3.1		
1544			15.40	17.2	636	0.61	6.62	32.5		
1549				17.1	634	0.63	6.61	44.7		
1554			15.42	17.2	636	0.63	6.62	48.1		
1559	~2			17.3	640	0.64	6.62	53.9	8.93	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1600	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX +CVOCs
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments: 3/8" tubing to get under LNAPL

Rinsate Sample (Rinsate-11/22/16) collected at 1630.

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12 Page: 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 16.60
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1351	Ø	~0.3	16.60							
1356	↓	↓	↓	16.3	892	0.63	6.74	-39.0	clear	Start Purge
1401	↓	↓	↓	16.3	893	0.61	6.76	-44.0	↓	
1406	↓	↓	16.66	16.2	894	0.61	6.77	-47.6	↓	
1411	1¼	↓	16.67	16.2	894	0.61	6.78	-50.2	8.03	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1420	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments: Used 3/8" tubing to sample below LNAPL

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13 Page: 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 15.53
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1245	Ø	~0.3	15.53							
1250	↓	|	↓	17.5	693	0.72	6.64	-15.5	clear	Start Purge
1255	↓	|	15.64	17.7	681	0.57	6.64	-20.1	↓	
1300		|	↓	17.8	683	0.59	6.64	-20.5	↓	
1305	1¼	|	15.65	17.8	687	0.57	6.65	-21.1	5.30	sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1310	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX 8260 CVOCs
	~~500~~	~~Amber~~		~~1~~	no	none			~~NWTPH-Dx~~
	~~250~~	~~Poly~~		~~1~~	yes	none			~~Dissolved Lead~~

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments: Used 3/8" tubing sealed w/ plumbers tape (teflon) to sample below LNAPL, strong product odor

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14 **Page:** 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 21 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 17.69
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1429	Ø	~0.3	17.69							
1434	↓	↓	↓	17.0	514.8	0.77	6.51	61.0	clear	Start Purge
1439	↓	↓	↓	17.2	541.0	0.53	6.50	61.6	↓	
1444	↓	↓	↓	17.3	534.9	0.50	6.51	61.7	↓	
1449	1¼	↓	↓	17.3	529.1	0.48	6.51	61.8	0.71	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1450	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX + MTBE
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-15 Page: 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 15.78
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~3' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1052	Ø	~0.3	15.78							
1057				15.8	337.5	4.12	6.99	-31.6	clear	Start Purge
1102				16.0	266.5	4.10	6.96	-22.4		
1107				16.0	242.3	4.06	6.93	-18.2		
1112			16.01	16.0	239.9	4.12	6.88	-11.7		
1117				16.1	239.9	4.21	6.86	-8.3		
1122	~2			16.0	239.2	4.07	6.84	-4.5	4.16	sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1130	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-16 Page: 1 of 1

Project Name: FH Brooklyn
Project Number: 160092
Date: Nov. 22 2016
Developed by: MML
Measuring Point of Well: TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):
Starting Water Level (ft TOC): 15.37
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~2' from bottom

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
0951	Ø	~0.3	15.37							
0956	↓	↓	↓	17.0	662	1.20	6.51	-9.9	clear	Start Purge
1001	↓	↓	↓	17.2	682	1.02	6.53	-19.7	10.9	
1006	↓	↓	15.48	17.3	695	0.93	6.55	-23.7		
1011	↓	↓	↓	17.3	699	0.91	6.58	-24.0		
1016	2¼	↓	↓	17.4	709	0.86	6.59	-16.4	1.73	Sample

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume [mL]	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1020	40	VOA		4	no	no/HCl	clear	none	NWTPH-Gx, BTEX + MTBE
	500	Amber		1	no	none			NWTPH-Dx
	250	Poly		1	yes	none			Dissolved Lead

METHODS

Sampling Equipment with IDs: YSI (Black)
Purging Equipment: Peristaltic Pump + Tubing Decon Equipment: Alconox + DI Water
Disposal of Discharged Water: Drum on site
Observations/Comments: Product odor, no sheen.

11/21/16 MML Brooklyn Ave.
Groundwater Sampling.

0700 Arrive at Annex, grab ice, print field forms

0720 Leave Annex for site

0740 Arrive on site, walk perimeter looking for gate. No luck. Unbolt fence

	Well	DTW	DTP	Product Thickness	Comments
	✗ MW-1	–			Bends to the east ~1ft bgs, can't get a tape down there or tubing. Obstructed.
	✓ MW-2	16.28			
	✓ +1 -3	16.33			
	✓ -4	16.46			
	✓ -5	15.83			
	✓ -6	15.67			
	✓ -7	17.23			TD = 22.30' bTOC, another well next to it. Dry. ~10' deep
	✗ -8	–			Sedimented up to 10.60' bgs. Can't get to water
cVOC	✓ -9	16.43	16.31	<0.01	16.43, sheen on top.
cVOC LNAPL	✗ -10	16.61	15.62	~0.99'	Had a "sock" in it, probably full of absorbant
	-11	15.31	15.31	<0.01'	
	✓ -12	16.60	16.60	<0.01'	Maybe just a sheen.
cVOC	✗ -13	15.53	15.42	0.11	
	✗ -14	17.69			
	✗ -15	15.78			
	✗ -16	15.37			

0830 Calibrate YSI, begin opening wells all around the site to equilibrate

0915 Wells were hard to open. MW-8 stuck. Begin taking a round of water levels & probes measurements

1020 Begin gw sampling.

1600 Finish sampling. Dump water, clean YSI, etc.

1615 Leave site