



SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

October 18, 2017

Mr. Scott Koppelman
AMLI Residential Partners
425 Pontius Avenue North, Suite 400
Seattle, Washington 98109

SUBJECT: THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT
Former Avtech Property (AMLI Wallingford)
3400 Wallingford Avenue North, Seattle, Washington
Project Number: 0789-004-27

Mr. Koppelman:

SoundEarth Strategies, Inc. (SoundEarth) has prepared this report to present the results of the Third Quarter 2017 groundwater monitoring event (monitoring event) conducted at the AMLI Wallingford property located at 3400 Wallingford Avenue North in Seattle, Washington (the Property), as shown in Figure 1. The Property consists of 2.02 acres under redevelopment on the north and south sides of North 34th Street (North Block and South Block, respectively), as shown on Figure 2.

BACKGROUND

The Property was initially developed by the early 1900s with four single-family residences. A two-story factory/commercial building was constructed on the North Block in 1909. This building contained a shoe manufacturer from 1909 to the 1940s and Grandma's Cookies in the 1950s and 1960s. Avtech Corporation (Avtech), a manufacturer of aviation electronics, occupied the building from 1974 to 2011. Two furniture workshop buildings were constructed on the south side of North 34th Street in the 1930s (South Block), with an additional single-story warehouse constructed in 1965. Avtech occupied the South Block buildings from the 1980s to 2011.

Based on the results of previous subsurface investigations (2011 through 2014) and cleanup action activities performed during site redevelopment between November 2014 and April 2015, subsurface soil beneath the Property consists primarily of localized, near-surface anthropogenic fill overlying Vashon-age glacial till, which overlies glacial advance outwash deposits. Groundwater was encountered within the advance outwash deposits during subsurface exploration activities. This water-bearing zone was typically encountered at depths ranging from approximately 21.5 to 45 feet below the pre-construction ground surface and appeared to extend beyond the maximum depth explored of 55 feet below the pre-construction ground surface. The groundwater migration direction has been consistently toward the southeast.

The site is defined by the nature and extent of contamination associated with one or more releases of hazardous substances prior to any cleanup of that contamination (the Site). Based on the information gathered to date, the Site includes soil contaminated with trichloroethene (TCE), tetrachloroethene (PCE), lead, and carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and groundwater contaminated

with TCE. The TCE and PCE impacts likely resulted from past manufacturing activities at the former Avtech facility on the Property. Sampling conducted to date indicates that soil was impacted by TCE in the former loading dock area of the commercial building, formerly located on the North Block, at depths ranging from approximately 9 to 30 feet below grade. Groundwater containing TCE concentrations exceeding the Washington State Model Toxics Control Act (MTCA) Method A cleanup level was present on the southern half of the North Block and apparently migrated to the south across North 34th Street to the South Block, the adjacent Varsity Inn property, and beneath Burke Avenue North (east of North 34th Street). The results of previous groundwater sampling at the Site are summarized in Table 1.

The Site was accepted into the Washington State Department of Ecology's Voluntary Cleanup Program (VCP) Project No. NW2739 on June 11, 2013. An interim cleanup action was performed at the Site between November 2014 and February 2015, along with the installation of a soil vapor extraction system on the North Block and the installation of new injection wells and the injection events with potassium permanganate at the Site in March 2015. Approximately 5,414 tons of TCE-, petroleum hydrocarbon-, cPAH-, and lead-impacted soils were excavated from the Property in the course of mass excavation activities and disposed of at Waste Management's Columbia Ridge Landfill in Arlington, Oregon, between December 2, 2014, and February 18, 2015. In March 2015, SoundEarth injected 53,765 gallons of an aqueous potassium permanganate solution containing 18,480 pounds of potassium permanganate. The solution was injected into 56 wells on the North and South Blocks: 31,068 gallons were injected into 32 wells on the North Block and 22,697 gallons were injected into 24 wells on the South Block.

SoundEarth conducted additional injection events in July and December 2016. During the July 2016 injection event, SoundEarth set up a multipoint automated injection system and a single-point injection system to inject mixed batches of potassium permanganate solution into 14 injection wells. Over the course of the July 2016 injection event, approximately 12,000 gallons of 3 percent solution potassium permanganate and 4,000 gallons of rinse water were injected.

During the December 2016 injection event, SoundEarth injected batches of potassium permanganate solution into injection wells IW56 and IW57. Over the course of the injection event conducted on December 19 through 21, 2016, SoundEarth injected a total of 2,000 gallons of solution into injection wells IW56 and IW57. The purpose of the injection was to treat residual contamination in MW18.

THIRD QUARTER FIELD ACTIVITIES

The monitoring event was conducted on September 18 and 19, 2017. The monitoring event was performed to evaluate the environmental quality of groundwater beneath the Property and Site.

Third Quarter 2017 Groundwater Sampling Event

Upon arrival at the Property on September 18, 2017, SoundEarth personnel opened monitoring wells MW04, MW05, MW12, MW16A, MW18, and IW08. Water levels were permitted to equilibrate with atmospheric pressure for a minimum of 15 minutes before groundwater level measurements were obtained. Groundwater levels were measured relative to the top of well casing to an accuracy of 0.01 feet using an electronic water level meter.

On September 18 and 19, 2017, groundwater samples were collected from monitoring wells MW04, MW05, MW12, MW16A, MW18, and IW08. Groundwater samples from MW04, MW05, MW12,

MW16A, and MW18 were collected in accordance with the U.S. Environmental Protection Agency (EPA) *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (April 1996). Purging and sampling of each monitoring well were performed using a bladder pump or peristaltic pump and dedicated polyethylene tubing at flow rates ranging from 110 to 150 milliliters per minute. The intake was placed approximately 2 to 3 feet below the surface of the groundwater or mid-screen in each monitoring well. During purging, water quality was monitored using a YSI water quality meter equipped with a flow-through cell. The water quality parameters that were monitored and recorded included temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential. Each monitoring well was purged until a minimum subset of pH, specific conductivity, and dissolved oxygen and/or turbidity stabilized. Due to the depth to groundwater and the limited water column, injection well IW08 was sampled using a Waterra hand pump. No water quality parameters were recorded or measured from well IW08.

Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into clean, laboratory-prepared sample containers. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported to Friedman & Bruya, Inc., of Seattle, Washington, under standard chain-of-custody protocols for laboratory analysis.

The groundwater samples were submitted for analysis of chlorinated volatile organic compounds (CVOCs) by EPA Method 8260C. Purge water generated during the monitoring event was placed in an appropriately labeled 55-gallon steel drum and temporarily stored on the Property pending receipt of analytical data and proper disposal.

Groundwater Results

Groundwater levels measured on September 18, 2017, ranged from 23.80 (MW05) to 37.24 (IW08) feet below the top of the monitoring well casings (Table 1). Using these measurements, the groundwater elevations were calculated and contoured, as shown on Figure 2. The groundwater contours indicate a general groundwater flow direction toward the southeast with an average gradient of 0.05 feet per foot between wells MW05 and MW12.

Groundwater analytical results from the monitoring event are summarized below (Figure 3; Table 1):

- A concentration of TCE exceeding the MTCA Method A cleanup level of 5 micrograms per liter (µg/L) was detected in the groundwater sample collected from monitoring well MW12 at 6.7 µg/L.
- All other CVOCs were below their respective laboratory reporting limits and/or MTCA Method A cleanup levels in the groundwater samples collected during the monitoring event.

DATA QUALITY REVIEW

SoundEarth performed a quality assurance/quality control (QA/QC) review of the analytical results, which included a review of accuracy and precision of the data supplied by the laboratory. All QA/QC criteria are acceptable for the groundwater samples, and the analytical results are considered usable to meet the project objectives. A copy of the laboratory analytical report is provided as Attachment A.

CONCLUSIONS AND RECOMMENDATIONS

The targeted chemical injection event in 2016 resulted in a decrease in TCE concentrations below the MTCA Method A cleanup level in groundwater monitoring wells across the Site. A concentration of TCE in groundwater above the MTCA Method A cleanup level was detected in only monitoring well MW12 during this monitoring event. Concentrations of TCE in this well have been below the laboratory reporting limit during the previous four quarterly monitoring events. SoundEarth recommends additional quarterly sampling, including a groundwater monitoring event at the Site in Fourth Quarter 2017, the results of which will be included in a groundwater monitoring report. Continued quarterly monitoring should be conducted during 2018 to evaluate the need for an additional injection of chemical oxidation compounds.

CLOSING

SoundEarth appreciates this opportunity to provide AMLI Residential Partners with environmental consulting services. Please call either of the undersigned at 206-306-1900 if you have any questions or comments regarding the content of this report.

Respectfully,
SoundEarth Strategies, Inc.



Clare Tochilin, LG
Project Hydrogeologist

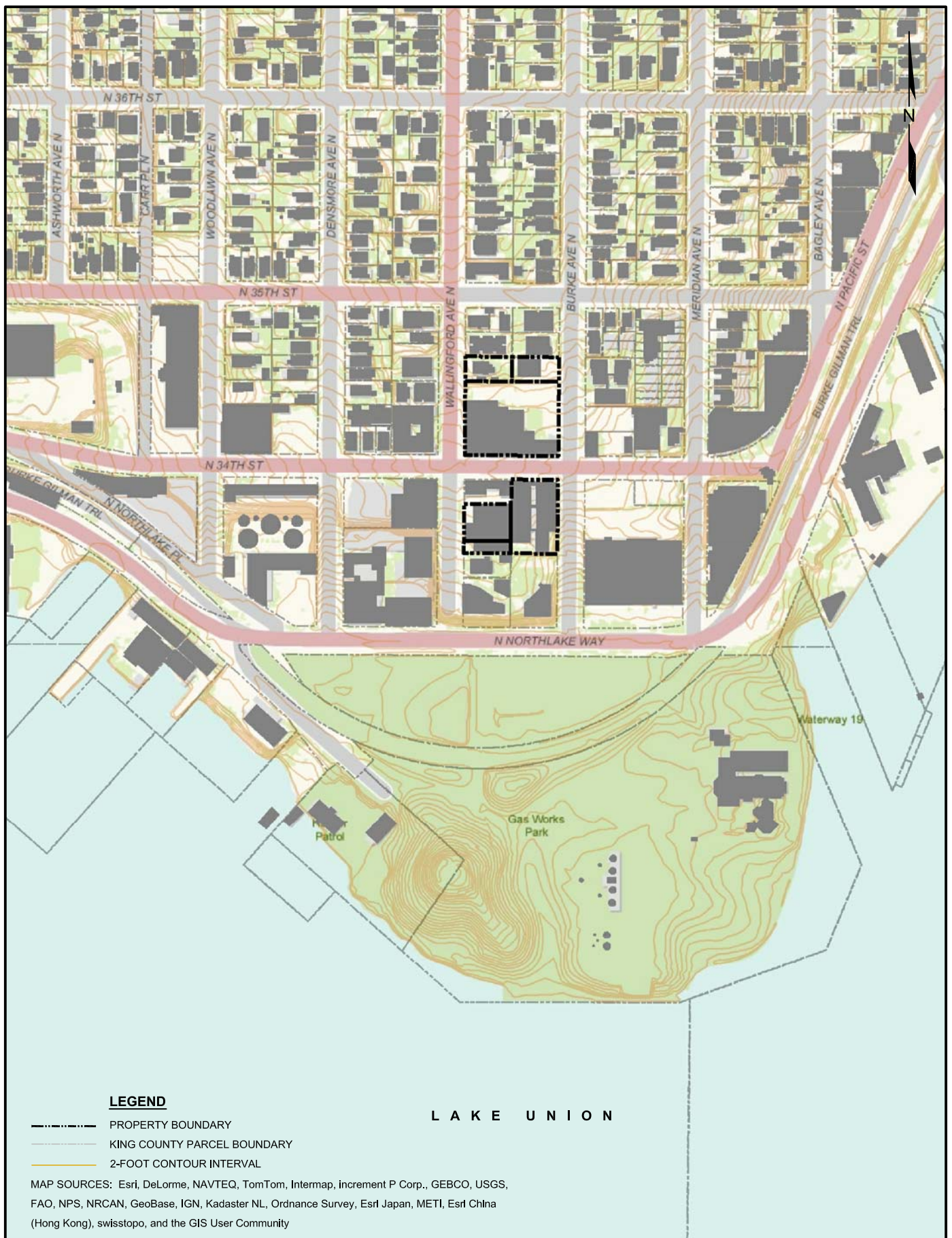


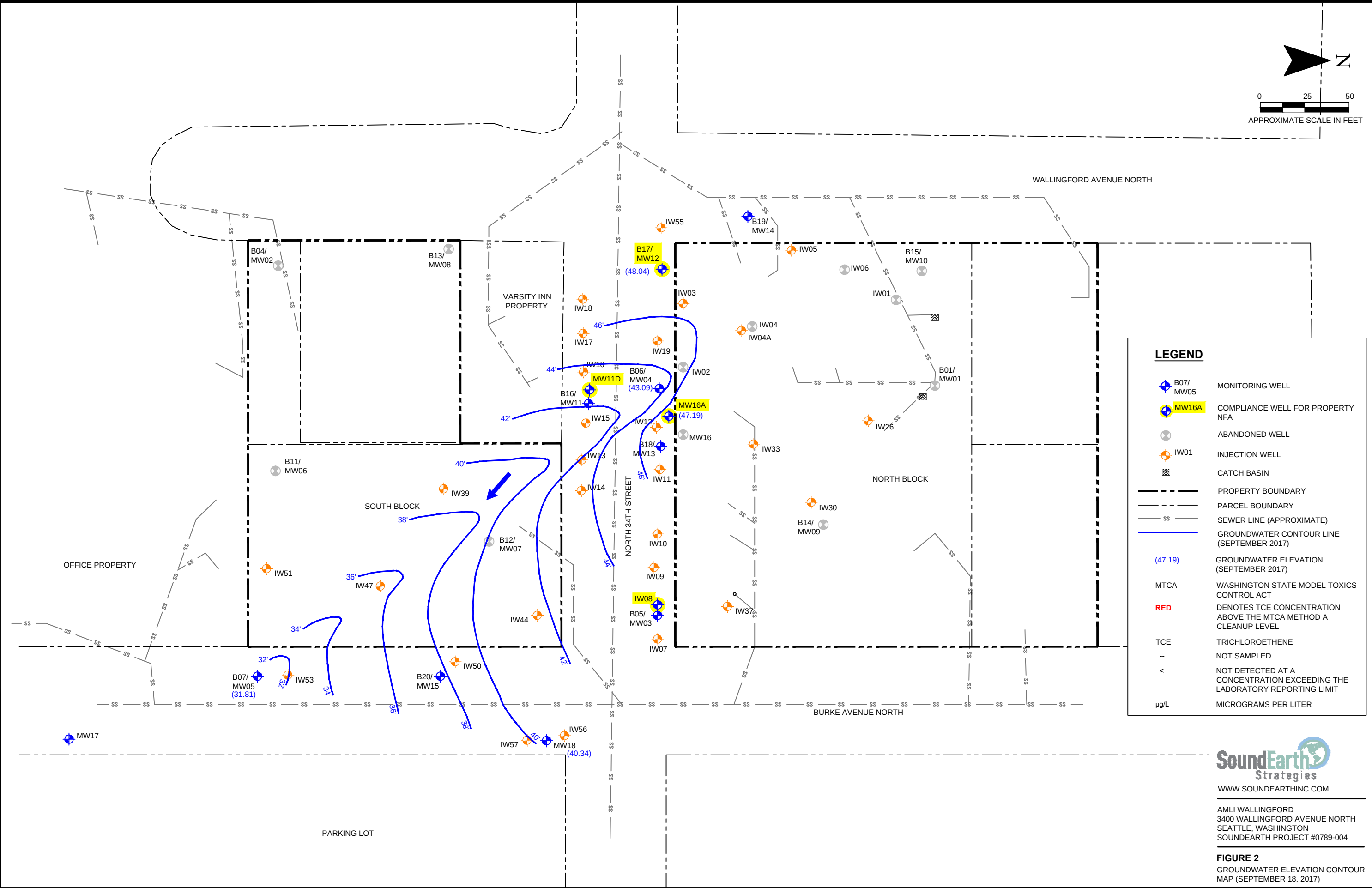
Rob Roberts
Senior Scientist

Attachments: Figure 1, Property Location Map
Figure 2, Groundwater Elevation Contour Map (September 18, 2017)
Figure 3, Groundwater Analytical Results
Table 1, Summary of Groundwater Data
A, Laboratory Analytical Report
Friedman & Bruya, Inc. #709316

CJT:rt

FIGURES





LEGEND

B07/
MW05

MONITORING WELL

MW16A

COMPLIANCE WELL FOR PROPERTY
NFA

ABANDONED WELL

IW01

INJECTION WELL

CATCH BASIN

PROPERTY BOUNDARY

PARCEL BOUNDARY

SEWER LINE (APPROXIMATE)

GROUNDWATER CONTOUR LINE
(SEPTEMBER 2017)

(47.19)

GROUNDWATER ELEVATION
(SEPTEMBER 2017)

MTCA

WASHINGTON STATE MODEL TOXICS
CONTROL ACT

RED

DENOTES TCE CONCENTRATION
ABOVE THE MTCA METHOD A
CLEANUP LEVEL

TCE

TRICHLOROETHENE

--

NOT SAMPLED

<

NOT DETECTED AT A
CONCENTRATION EXCEEDING THE
LABORATORY REPORTING LIMIT

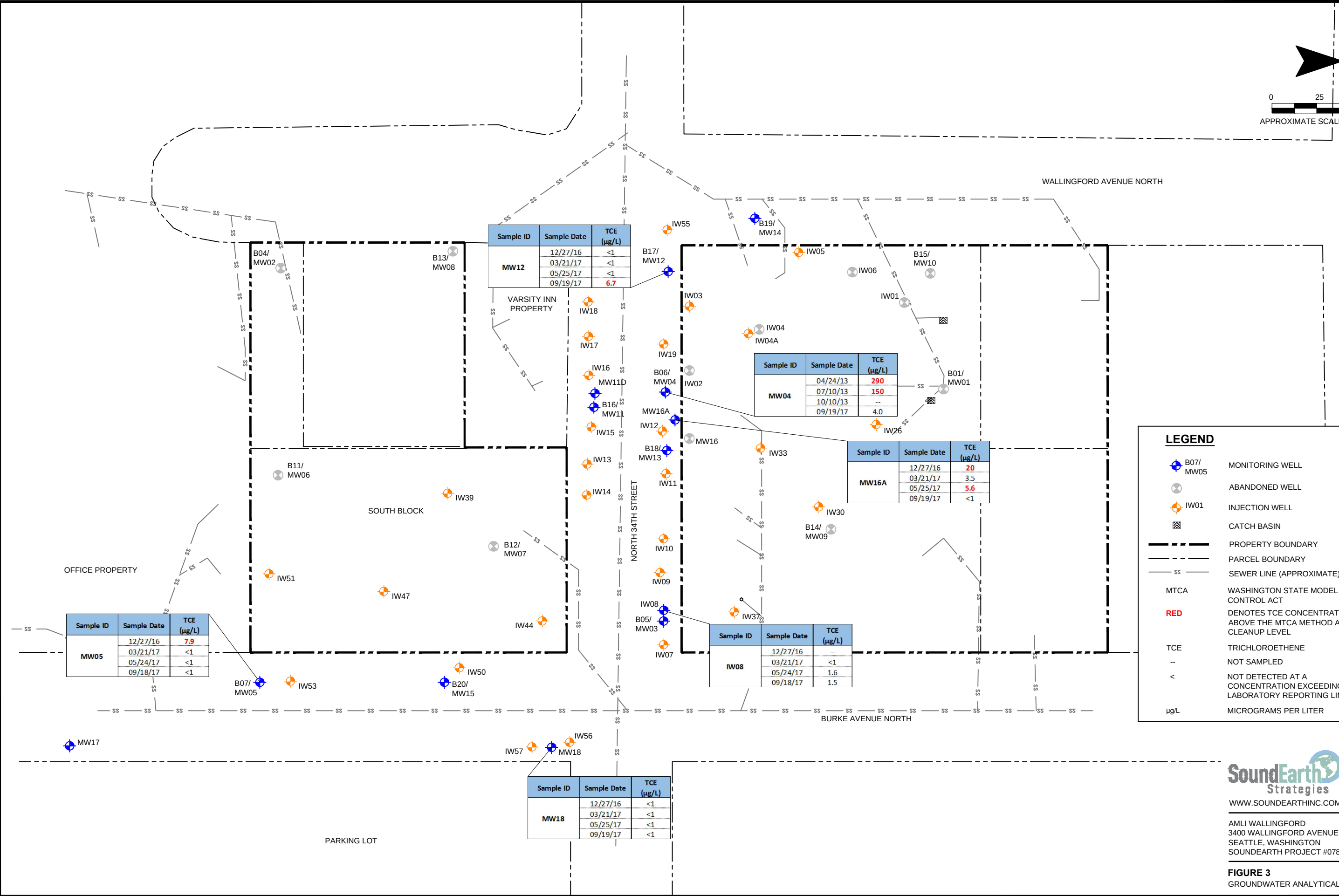
µg/L

MICROGRAMS PER LITER

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AMLI WALLINGFORD
3400 WALLINGFORD AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0789-004

FIGURE 2
GROUNDWATER ELEVATION CONTOUR
MAP (SEPTEMBER 18, 2017)



LEGEND

- B07/ MW05 MONITORING WELL
- ABANDONED WELL
- IW01 INJECTION WELL
- CATCH BASIN
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SEWER LINE (APPROXIMATE)
- MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
- RED DENOTES TCE CONCENTRATION ABOVE THE MTCA METHOD A CLEANUP LEVEL
- TCE TRICHLOROETHENE
- NOT SAMPLED
- < NOT DETECTED AT A CONCENTRATION EXCEEDING THE LABORATORY REPORTING LIMIT
- µg/L MICROGRAMS PER LITER

TABLE



Table 1
Summary of Groundwater Data
Former Avtech Property (AML Wallingford)
3400 Wallingford Avenue North
Seattle, Washington

Sample ID and TOC Elevation	Sample Date	Depth to Groundwater ⁽¹⁾ (feet)	Groundwater Elevation ⁽²⁾ (feet)	Analytical Results (µg/L)																			
				DRPH ⁽³⁾	ORPH ⁽³⁾	Benzene ⁽⁴⁾	Toluene ⁽⁴⁾	Ethylbenzene ⁽⁴⁾	Total Xylenes ⁽⁴⁾	Vinyl Chloride ⁽⁴⁾	cis-1,2-DCE ⁽⁴⁾	TCE ⁽⁴⁾	PCE ⁽⁴⁾	Naphthalene ⁽⁴⁾	Dissolved Chromium ⁽⁵⁾	Dissolved Arsenic ⁽⁵⁾	Dissolved Selenium ⁽⁵⁾	Dissolved Silver ⁽⁵⁾	Dissolved Cadmium ⁽⁵⁾	Dissolved Barium ⁽⁵⁾	Dissolved Lead ⁽⁵⁾	Dissolved Mercury ⁽⁶⁾	Total Manganese ⁽⁵⁾
MW01 84.44	01/17/12	27.59	56.85	<50	<250	<0.35	<1	<1	<3	<0.2 ^{br}	<1	<1	<1	<1	1.58	1.43	<1	<1	<1	3.94	<1	<0.1	--
	05/01/12	25.02	59.42	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	01/11/13	26.25	58.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/25/13	24.75	59.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/10/13	25.55	58.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/10/13	27.43	57.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/25/14	27.67	56.77	--	--	--	--	--	--	<0.2	<1	2.3	<1	--	--	--	--	--	--	--	--	--	--
Well Decommissioned On October 29, 2014																							
MW02 69.73	01/17/12	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/27/12	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/11/13	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/25/13	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/10/13	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/10/13	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Well Decommissioned On October 29, 2014																							
MW03 75.48	01/17/12	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/27/12	31.18	44.30	--	--	--	--	--	--	<0.2	2.2	83	<1	--	--	--	--	--	--	--	--	--	--
	05/08/12	31.06	44.42	--	--	--	--	--	--	<0.2	1.9	64	<1	--	1.69	1.44	<1	<1	<1	11.9	<1	<0.1	--
	01/14/13	31.78	43.70	--	--	--	--	--	--	<0.2	1.7	71	<1	--	--	--	--	--	--	--	--	--	--
	04/24/13	30.96	44.52	--	--	--	--	--	--	<0.2	1.8	76	<1	--	--	--	--	--	--	--	--	--	--
	07/10/13	Inaccessible																					
	10/10/13	Inaccessible																					
	06/29/15	36.15	39.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/14/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/02/15	31.72	43.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/18/16	31.10	44.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	05/27/16	32.55	42.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/27/16	34.48	41.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW04 79.47	01/17/12	36.70	42.77	--	--	<0.35	<1	<1	<3	<0.2 ^{br}	<1	110	<1	<1	18.6	<1	<1	<1	<1	4.33	<1	<0.1	--
	04/27/12	36.09	43.38	--	--	--	--	--	--	<0.2	<1	170	<1	--	--	--	--	--	--	--	--	--	--
	01/11/13	36.44	43.03	--	--	--	--	--	--	<0.2	<1	85	<1	--	--	--	--	--	--	--	--	--	--
	04/24/13	35.93	43.54	--	--	--	--	--	--	<0.2	<1	290	<1	--	--	--	--	--	--	--	--	--	--
	07/10/13	36.15	43.32	--	--	--	--	--	--	<0.2	<1	150	<1	--	--	--	--	--	--	--	--	--	--
	10/10/13	36.90	42.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/19/17	36.38	43.09	--	--	--	--	--	--	<0.2	<1	4.0	<1	--	--	--	--	--	--	--	--	--	--
MW04 (Field Dup) 79.47	01/17/12	36.70	42.77	--	--	<0.35	<1	<1	<3	<0.2 ^{br}	<1	120	<1	<1	18.6	<1	<1	<1	<1	4.65	<1	<0.1	--
	04/27/12	36.09	43.38	--	--	--	--	--	--	<0.2	<1	170	<1	--	--	--	--	--	--	--	--	--	--
	06/29/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/14/15	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level for Groundwater ⁽⁷⁾				500	500	5	1,000	700	1,000	0.2	NE	5	5	160	50	5	NE	NE	5	NE	15	2	NE

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Former Avtech Property (AMLI Wallingford)
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MW05 55.61	01/17/12	24.90	30.71	--	--	<0.35	<1	<1	<3	<0.2 ^{DT}	<1	3.3	<1	<1	<1	5.31	3.55	<1	<1	22.6	<1	<0.1	--
	05/01/12	23.40	32.21	--	--	--	--	--	--	<0.2	<1	1.9	<1	--	--	--	--	--	--	--	--	--	--
	01/14/13	24.34	31.27	--	--	--	--	--	--	<0.2	<1	3.3	<1	--	--	--	--	--	--	--	--	--	--
	04/24/13	22.86	32.75	--	--	--	--	--	--	<0.2	<1	3.0	<1	--	--	--	--	--	--	--	--	--	--
	07/10/13	23.71	31.90	--	--	--	--	--	--	<0.2	<1	1.9	<1	--	--	--	--	--	--	--	--	--	--
	10/10/13	25.57	30.04	--	--	--	--	--	--	<0.2	1.1	8.2	<1	--	--	--	--	--	--	--	--	--	--
	10/28/13	--	--	--	--	--	--	--	--	<0.2	1.1	8.4	<1	--	--	--	--	--	--	--	--	--	--
	03/25/14	25.77	29.84	--	--	--	--	--	--	<0.2	2.1	9.9	<1	--	--	--	--	--	--	--	--	--	--
	06/29/15			Inaccessible																			
	09/14/15	24.82	30.79	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	12/03/15	25.24	30.37	--	--	--	--	--	--	<0.2	2.8	27	<1	--	--	--	--	--	--	--	--	--	--
	02/22/16	24.66	30.95	--	--	--	--	--	--	<0.2	2.5	23	<1	--	--	--	--	--	--	--	--	--	--
	05/27/16	24.52	31.09	--	--	--	--	--	--	<0.2	2.1	21	<1	--	--	--	--	--	--	--	--	--	--
	09/29/16	24.85	30.76	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	12/27/16	24.04	31.57	--	--	--	--	--	--	<0.2	<1	7.9	<1	--	--	--	--	--	--	--	--	--	--
	03/21/17	22.95	32.66	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	05/24/17	22.23	33.38	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	09/18/17	23.80	31.81	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
MW06 68.39	04/25/12	31.84	36.55	--	--	--	--	--	--	<0.2	<1	3.2	<1	--	--	--	--	--	--	--	--	--	--
	01/14/13	31.86	36.53	--	--	--	--	--	--	<0.2	<1	2.4	<1	--	--	--	--	--	--	--	--	--	--
	04/26/13	30.85	37.54	--	--	--	--	--	--	<0.2	<1	4.5	<1	--	--	--	--	--	--	--	--	--	--
	07/11/13	32.01	36.38	--	--	--	--	--	--	<0.2	<1	3.2	<1	--	--	--	--	--	--	--	--	--	--
	10/11/13	33.61	34.78	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	04/17/14	--	--	--	--	--	--	--	--	<0.2	<1	3.9	<1	--	--	--	--	--	--	--	--	--	--
Well Decommissioned On October 29, 2014																							
MW07 76.78	04/25/12	37.43	39.35	--	--	--	--	--	--	<0.2	<1	3.3	<1	--	--	--	--	--	--	--	--	--	--
	01/11/13	37.59	39.19	--	--	--	--	--	--	<0.2	<1	3.5	<1	--	--	--	--	--	--	--	--	--	--
	04/25/13	36.52	40.26	--	--	--	--	--	--	<0.2	<1	6.1	<1	--	--	--	--	--	--	--	--	--	--
	07/11/13	36.97	39.81	--	--	--	--	--	--	<0.2	<1	11	<1	--	--	--	--	--	--	--	--	--	--
	10/10/13	37.97	38.81	--	--	--	--	--	--	<0.2	<1	6.5	<1	--	--	--	--	--	--	--	--	--	--
	03/25/14	38.32	38.46	--	--	--	--	--	--	<0.2	<1	6.4	<1	--	--	--	--	--	--	--	--	--	--
Well Decommissioned On October 29, 2014																							
MW08 76.61	04/25/12	37.86	38.75	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	01/11/13	37.34	39.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/25/13			Inaccessible																			
	07/10/13			Inaccessible																			
	10/10/13			Inaccessible																			
Well Decommissioned On October 29, 2014																							
MTCA Method A Cleanup Level for Groundwater ⁽⁷⁾				500	500	5	1,000	700	1,000	0.2	NE	5	5	160	50	5	NE	NE	5	NE	15	2	NE



Table 1
Summary of Groundwater Data
Former Avtech Property (AMLI Wallingford)
3400 Wallingford Avenue North
Seattle, Washington

Sample ID and TOC Elevation	Sample Date	Depth to Groundwater ⁽¹⁾ (feet)	Groundwater Elevation ⁽²⁾ (feet)	Analytical Results (µg/L)																				
				DRPH ⁽³⁾	ORPH ⁽³⁾	Benzene ⁽⁴⁾	Toluene ⁽⁴⁾	Ethylbenzene ⁽⁴⁾	Total Xylenes ⁽⁴⁾	Vinyl Chloride ⁽⁴⁾	cis-1,2-DCE ⁽⁴⁾	TCE ⁽⁴⁾	PCE ⁽⁴⁾	Napthalene ⁽⁴⁾	Dissolved Chromium ⁽⁵⁾	Dissolved Arsenic ⁽⁵⁾	Dissolved Selenium ⁽⁵⁾	Dissolved Silver ⁽⁵⁾	Dissolved Cadmium ⁽⁵⁾	Dissolved Barium ⁽⁵⁾	Dissolved Lead ⁽⁵⁾	Dissolved Mercury ⁽⁶⁾	Total Manganese ⁽⁵⁾	
MW09 81.17	05/01/12	23.19	57.98	--	--	--	--	--	--	<0.2	<1	2.0	<1	--	--	--	--	--	--	--	--	--	--	
	01/14/13	24.00	57.17	--	--	--	--	--	--	<0.2	1.5	42	<1	--	--	--	--	--	--	--	--	--	--	
	04/24/13	22.87	58.30	--	--	--	--	--	--	<0.2	<1	24	<1	--	--	--	--	--	--	--	--	--	--	
	07/10/13	23.65	57.52	--	--	--	--	--	--	<0.2	<1	36	<1	--	--	--	--	--	--	--	--	--	--	
	10/10/13	25.52	55.65	--	--	--	--	--	--	<0.2	1.5	43	<1	--	--	--	--	--	--	--	--	--	--	
	03/25/14	25.72	55.45	--	--	--	--	--	--	<0.2	2.4	51	<1	--	--	--	--	--	--	--	--	--	--	--
Well Decommissioned On October 29, 2014																								
MW10 85.50	05/01/12	21.90	63.60	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	01/11/13	22.56	62.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	04/25/13	21.49	64.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	07/10/13	22.63	62.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/10/13	24.75	60.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	03/25/14	24.82	60.68	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
Well Decommissioned On October 29, 2014																								
MW11 78.80	04/30/12	44.56	34.24	--	--	--	--	--	--	<0.2	<1	14	<1	--	--	--	--	--	--	--	--	--	--	--
	05/08/12	44.52	34.28	--	--	--	--	--	--	<0.2	<1	29	<1	--	--	--	--	--	--	--	--	--	--	--
	01/11/13	44.74	34.06	--	--	--	--	--	--	<0.2	<1	78	<1	--	--	--	--	--	--	--	--	--	--	--
	04/25/13	43.56	35.24	--	--	--	--	--	--	<0.2	<1	39	<1	--	--	--	--	--	--	--	--	--	--	--
	07/10/13	43.90	34.90	--	--	--	--	--	--	<0.2	<1	56	<1	--	--	--	--	--	--	--	--	--	--	--
	10/10/13	44.59	34.21	--	--	--	--	--	--	<0.2	<1	35	<1	--	--	--	--	--	--	--	--	--	--	--
	03/25/14	44.86	33.94	--	--	--	--	--	--	<0.2	<1	48	<1	--	--	--	--	--	--	--	--	--	--	--
	06/29/15	41.43	37.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/14/15	42.24	36.56	Inaccessible																				
	12/03/15	42.40	36.40	--	--	--	--	--	--	<0.2	<1	16	<1	--	--	--	--	--	--	--	--	--	--	--
	02/18/16	41.15	37.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	05/27/16	--	--	Inaccessible																				
MW11D 76.01	04/30/14	43.74	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	06/29/15	44.25	31.76	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	09/15/15	44.65	31.36	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	12/03/15	43.71	32.30	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	02/18/16	43.18	32.83	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	05/27/16	42.59	33.42	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level for Groundwater ⁽⁷⁾				500	500	5	1,000	700	1,000	0.2	NE	5	5	160	50	5	NE	NE	5	NE	15	2	NE	

Table 1
Summary of Groundwater Data
Former Avtech Property (AMLI Wallingford)
3400 Wallingford Avenue North
Seattle, Washington

Sample ID and TOC Elevation	Sample Date	Depth to Groundwater ⁽¹⁾ (feet)	Groundwater Elevation ⁽²⁾ (feet)	Analytical Results (µg/L)																				
				DRPH ⁽³⁾	ORPH ⁽³⁾	Benzene ⁽⁴⁾	Toluene ⁽⁴⁾	Ethylbenzene ⁽⁴⁾	Total Xylenes ⁽⁴⁾	Vinyl Chloride ⁽⁴⁾	cis-1,2-DCE ⁽⁴⁾	TCE ⁽⁴⁾	PCE ⁽⁴⁾	Napthalene ⁽⁴⁾	Dissolved Chromium ⁽⁵⁾	Dissolved Arsenic ⁽⁵⁾	Dissolved Selenium ⁽⁵⁾	Dissolved Silver ⁽⁵⁾	Dissolved Cadmium ⁽⁵⁾	Dissolved Barium ⁽⁵⁾	Dissolved Lead ⁽⁵⁾	Dissolved Mercury ⁽⁶⁾	Total Manganese ⁽⁵⁾	
MW12 81.83	04/27/12	32.81	49.02	--	--	--	--	--	--	<0.2	<1	14	<1	--	--	--	--	--	--	--	--	--	--	
	01/14/13	33.30	48.53	--	--	--	--	--	--	<0.2	<1	5.0	<1	--	--	--	--	--	--	--	--	--	--	
	04/25/13	32.76	49.07	--	--	--	--	--	--	<0.2	<1	5.7	<1	--	--	--	--	--	--	--	--	--	--	
	07/10/13	33.08	48.75	--	--	--	--	--	--	<0.2	<1	10	<1	--	--	--	--	--	--	--	--	--	--	
	10/10/13	32.95	48.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/29/15	32.89	48.94	--	--	--	--	--	--	<0.2	<1	2.9	<1	--	--	--	--	--	--	--	--	--	--	
	09/15/15	33.70	48.13	--	--	--	--	--	--	<0.2	<1	13	<1	--	--	--	--	--	--	--	--	--	--	
	12/03/15	33.74	48.09	--	--	--	--	--	--	<0.2	<1	15	<1	--	--	--	--	--	--	--	--	--	--	
	02/18/16	31.96	49.87	--	--	--	--	--	--	<0.2	<1	9.1	<1	--	--	--	--	--	--	--	--	--	--	
	05/27/16	32.36	49.47	--	--	--	--	--	--	<0.2	<1	9.2	<1	--	--	--	--	--	--	--	--	--	--	
	09/29/16	34.10	47.73	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	12/27/16	33.09	48.74	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	03/21/17	32.03	49.80	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	05/25/17	31.90	49.93	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	09/19/17	33.79	48.04	--	--	--	--	--	--	<0.2	<1	6.7	<1	--	--	--	--	--	--	--	--	--	--	
MW13 78.94	04/27/12	34.97	43.97	--	--	--	--	--	--	<0.2	<1	1.0	<1	--	--	--	--	--	--	--	--	--	--	
	05/07/12	34.94	44.00	--	--	--	--	--	--	<0.2	<1	2.0	<1	--	--	--	--	--	--	--	--	--	--	
	04/24/13	34.88	44.06	--	--	--	--	--	--	<0.2	<1	2.5	<1	--	--	--	--	--	--	--	--	--	--	
	07/10/13	35.15	43.79	--	--	--	--	--	--	<0.2	<1	37	<1	--	--	--	--	--	--	--	--	--	--	
	10/10/13	35.73	43.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/29/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	09/14/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	02/18/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	05/27/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/27/16	39.67	39.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW14 84.60	04/30/12	29.99	54.61	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	01/11/13	30.95	53.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	04/25/13			Inaccessible																				
	07/10/13	30.56	54.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/10/13	32.00	52.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/29/15	32.00	52.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/14/15	33.18	51.42	Inaccessible																				
	02/18/16			Inaccessible																				
05/27/16				31.35	53.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MTCA Method A Cleanup Level for Groundwater ⁽⁷⁾				500	500	5	1,000	700	1,000	0.2	NE	5	5	160	50	5	NE	NE	5	NE	15	2	NE	

Table 1
Summary of Groundwater Data
Former Avtech Property (AMLI Wallingford)
3400 Wallingford Avenue North
Seattle, Washington

Sample ID and TOC Elevation	Sample Date	Depth to Groundwater ⁽¹⁾ (feet)	Groundwater Elevation ⁽²⁾ (feet)	Analytical Results (µg/L)																				
				DRPH ⁽³⁾	ORPH ⁽³⁾	Benzene ⁽⁴⁾	Toluene ⁽⁴⁾	Ethylbenzene ⁽⁴⁾	Total Xylenes ⁽⁴⁾	Vinyl Chloride ⁽⁴⁾	cis-1,2-DCE ⁽⁴⁾	TCE ⁽⁴⁾	PCE ⁽⁴⁾	Napthalene ⁽⁴⁾	Dissolved Chromium ⁽⁵⁾	Dissolved Arsenic ⁽⁵⁾	Dissolved Selenium ⁽⁵⁾	Dissolved Silver ⁽⁵⁾	Dissolved Cadmium ⁽⁵⁾	Dissolved Barium ⁽⁵⁾	Dissolved Lead ⁽⁵⁾	Dissolved Mercury ⁽⁶⁾	Total Manganese ⁽⁵⁾	
MW15 66.09	04/30/12	27.37	38.72	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	01/14/13	27.76	38.33	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	04/24/13	26.69	39.40	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	07/10/13	Inaccessible																						
	10/28/13	28.02	38.07	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	
	04/16/14	28.38	37.71	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	06/29/15	32.76	33.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/14/15	29.14	36.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/03/15	29.65	36.44	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	02/18/16	28.75	37.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW16	05/27/16	29.11	36.98	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	12/27/16	28.45	37.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/16/14	40.18	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
Well Destroyed By Earthwork Construction: February 2015																								
MW16A 81.97 ⁽⁸⁾	06/29/15	34.78	--	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	09/30/15	--	--	--	--	--	--	--	--	<0.2	<1	3.0	<1	--	--	--	--	--	--	--	--	--	--	--
	12/03/15	37.09	44.88	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	02/18/16	36.06	45.91	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	05/27/16	36.60	45.37	--	--	--	--	--	--	<0.2	<1	9.7	<1	--	--	--	--	--	--	--	--	--	--	--
	09/29/16	35.01	46.96	--	--	--	--	--	--	<0.2	<1	6.4	<1	--	--	--	--	--	--	--	--	--	--	--
	12/27/16	34.00	47.97	--	--	--	--	--	--	<0.2	<1	20	<1	--	--	--	--	--	--	--	--	--	--	--
	03/21/17	33.71	48.26	--	--	--	--	--	--	<0.2	<1	3.5	<1	--	--	--	--	--	--	--	--	--	--	--
	05/25/17	33.70	48.27	--	--	--	--	--	--	<0.2	<1	5.6	<1	--	--	--	--	--	--	--	--	--	--	--
	09/19/17	34.78	47.19	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
MW17 43.95	06/29/15	12.51	31.44	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	07/17/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	276
	09/14/15	13.36	30.59	--	--	--	--	--	--	<0.2	<1	1.2	<1	--	--	--	--	--	--	--	--	--	--	8.10
	12/03/15	12.83	31.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.00
	02/22/16	11.15	32.80	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	05/27/16	12.00	31.95	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	12/27/16	Inaccessible																						
MW18 72.43	06/29/15	32.76	39.67	--	--	--	--	--	--	<0.2	4.9	46	<1	--	--	--	--	--	--	--	--	--	--	--
	07/16/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	251
	09/15/15	33.94	38.49	--	--	--	--	--	--	<0.2	5.1	45	<1	--	--	--	--	--	--	--	--	--	--	25.6
	12/03/15	34.00	38.43	--	--	--	--	--	--	<0.2	8.2	69	<1	--	--	--	--	--	--	--	--	--	--	35.6
	02/19/16	33.31	39.12	--	--	--	--	--	--	<0.2	5.1	50	<1	--	--	--	--	--	--	--	--	--	--	--
	05/27/16	31.98	40.45	--	--	--	--	--	--	<0.2	4.2	36	<1	--	--	--	--	--	--	--	--	--	--	--
	09/29/16	33.06	39.37	--	--	--	--	--	--	<0.2	4.4	41	<1	--	--	--	--	--	--	--	--	--	--	--
	12/27/16	32.18	40.25	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	03/21/17	31.82	40.61	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	05/25/17	30.50	41.93	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
	09/19/17	32.09	40.34	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level for Groundwater ⁽⁷⁾				500	500	5	1,000	700	1,000	0.2	NE	5	5	160	50	5	NE	NE	5	NE	15	2	NE	



Table 1
Summary of Groundwater Data
Former Avtech Property (AMLI Wallingford)
3400 Wallingford Avenue North
Seattle, Washington

Sample ID and TOC Elevation	Sample Date	Depth to Groundwater ⁽¹⁾ (feet)	Groundwater Elevation ⁽²⁾ (feet)	Analytical Results (µg/L)																			
				DRPH ⁽³⁾	ORPH ⁽³⁾	Benzene ⁽⁴⁾	Toluene ⁽⁴⁾	Ethylbenzene ⁽⁴⁾	Total Xylenes ⁽⁴⁾	Vinyl Chloride ⁽⁴⁾	cis-1,2-DCE ⁽⁴⁾	TCE ⁽⁴⁾	PCE ⁽⁴⁾	Naphthalene ⁽⁴⁾	Dissolved Chromium ⁽⁵⁾	Dissolved Arsenic ⁽⁵⁾	Dissolved Selenium ⁽⁵⁾	Dissolved Silver ⁽⁵⁾	Dissolved Cadmium ⁽⁵⁾	Dissolved Barium ⁽⁵⁾	Dissolved Lead ⁽⁵⁾	Dissolved Mercury ⁽⁶⁾	Total Manganese ⁽⁵⁾
IW01	04/16/14	24.90	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
	Well Decommissioned On February 3, 2015																						
IW02	04/16/14	36.91	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
	Well Destroyed By Earthwork Construction: February 2015																						
IW03	04/16/14	33.20	NS	--	--	--	--	--	--	<0.2	<1	17	<1	--	--	--	--	--	--	--	--	--	
IW04	04/16/14	30.05	NS	--	--	--	--	--	--	<0.2	<1	44	<1	--	--	--	--	--	--	--	--	--	
	Well Decommissioned On March 9, 2015																						
IW05	04/16/14	30.29	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
IW06	04/16/14	28.75	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
	Well Decommissioned On February 5, 2015																						
IW08 75.90	07/16/15	--	NS	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
	09/15/15	35.54	40.36	--	--	--	--	--	--	<0.2	<1	5.7	<1	--	--	--	--	--	--	--	--	--	
	12/03/15	35.34	40.56	--	--	--	--	--	--	<0.2	<1	16	<1	--	--	--	--	--	--	--	--	--	
	02/19/16	35.00	40.90	--	--	--	--	--	--	<0.2	<1	15	<1	--	--	--	--	--	--	--	--	--	
	05/27/16	35.55	40.35	--	--	--	--	--	--	<0.2	<1	7.2	<1	--	--	--	--	--	--	--	--	--	
	10/24/16	38.73	37.17	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
	12/27/16	35.99	39.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	03/21/17	35.79	40.11	--	--	--	--	--	--	<0.2	<1	<1	<1	--	--	--	--	--	--	--	--	--	
	05/24/17	35.84	40.06	--	--	--	--	--	--	<0.2	<1	1.6	<1	--	--	--	--	--	--	--	--	--	
	09/18/17	37.24	38.66	--	--	--	--	--	--	<0.2	<1	1.5	<1	--	--	--	--	--	--	--	--	--	
MTCA Method A Cleanup Level for Groundwater ⁽⁷⁾				500	500	5	1,000	700	1,000	0.2	NE	5	5	160	50	5	NE	NE	5	NE	15	2	NE

NOTES:

Red denotes concentrations exceeding the MTCA Method A Cleanup Level.

Sample analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

TOC elevations surveyed by Triad Associates on May 3, 2012.

⁽¹⁾ Measured in feet below a fixed spot on the top of the well casing rim.

⁽²⁾ Elevation datum NAVD88, Seattle BM#2609CC 58A at 60.344' and BM#2609CC 55A at 32.066'.

⁽³⁾ Analyzed by Method NWTPH-Dx.

⁽⁴⁾ Analyzed by EPA Method 8260C. All other 8260C analytes were not detected above the laboratory reporting limit.

⁽⁵⁾ Analyzed by EPA Method 6020 or 200.8.

⁽⁶⁾ Analyzed by EPA Method 1631E.

⁽⁷⁾ MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 340 of Title 173 of the Washington Administrative Code, revised November 2007.

⁽⁸⁾ Well casing was repaired, extended-up, and surveyed after the Third Quarter 2015 groundwater sampling event was performed.

Laboratory Note:

⁽⁹⁾ Sample received with incorrect preservation. Results should be considered an estimate.

-- = not analyzed/not measured

< = not detected at a concentration exceeding the laboratory reporting limit

µg/L = micrograms per liter

cis-1,2-DCE = cis-1,2-dichloroethene

DRPH = diesel-range petroleum hydrocarbons

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

NAVD88 = North American Vertical Datum of 1988

NE = no MTCA Method A cleanup level established for this analyte

NS = well casing not surveyed

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

PCE = tetrachloroethene

TCE = trichloroethene

TOC = top of casing elevation

ATTACHMENT A
LABORATORY ANALYTICAL REPORT

Friedman & Bruya, Inc. #709316

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

September 25, 2017

Rob Roberts, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr Roberts:

Included are the results from the testing of material submitted on September 19, 2017 from the SOU_0789-004_20170919, F&BI 709316 project. There are 10 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Jonathan Loeffler
SOU0925R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 19, 2017 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_ 0789-004_ 20170919, F&BI 709316 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
709316 -01	IW08-20170918
709316 -02	MW05-20170918
709316 -03	MW12-20170919
709316 -04	MW04-20170919
709316 -05	MW16A-20170919
709316 -06	MW18-20170919

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	IW08-20170918	Client:	SoundEarth Strategies
Date Received:	09/19/17	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	709316-01
Date Analyzed:	09/20/17	Data File:	092017.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

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	1.5
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW05-20170918	Client:	SoundEarth Strategies
Date Received:	09/19/17	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	709316-02
Date Analyzed:	09/20/17	Data File:	092018.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	99	60	133

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW12-20170919	Client:	SoundEarth Strategies
Date Received:	09/19/17	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	709316-03
Date Analyzed:	09/20/17	Data File:	092019.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	99	60	133

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	6.7
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW04-20170919	Client:	SoundEarth Strategies
Date Received:	09/19/17	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	709316-04
Date Analyzed:	09/20/17	Data File:	092020.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

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	4.0
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW16A-20170919	Client:	SoundEarth Strategies
Date Received:	09/19/17	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	709316-05
Date Analyzed:	09/20/17	Data File:	092021.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	99	60	133

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW18-20170919	Client:	SoundEarth Strategies
Date Received:	09/19/17	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	709316-06
Date Analyzed:	09/20/17	Data File:	092022.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_ 0789-004_ 20170919
Date Extracted:	09/20/17	Lab ID:	07-2070 mb
Date Analyzed:	09/20/17	Data File:	092011.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	101	60	133

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/17

Date Received: 09/19/17

Project: SOU_ 0789-004_ 20170919, F&BI 709316

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

Laboratory Code: 709316-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	89	36-166
Chloroethane	ug/L (ppb)	50	<1	118	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	95	60-136
Methylene chloride	ug/L (ppb)	50	<5	96	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	92	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	91	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	92	60-146
Trichloroethene	ug/L (ppb)	50	1.5	92	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	91	10-226

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	91	88	50-154	3
Chloroethane	ug/L (ppb)	50	116	114	58-146	2
1,1-Dichloroethene	ug/L (ppb)	50	96	94	67-136	2
Methylene chloride	ug/L (ppb)	50	99	96	39-148	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	94	91	68-128	3
1,1-Dichloroethane	ug/L (ppb)	50	94	91	79-121	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	96	93	80-123	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	89	73-132	3
1,1,1-Trichloroethane	ug/L (ppb)	50	94	91	83-130	3
Trichloroethene	ug/L (ppb)	50	92	91	80-120	1
Tetrachloroethene	ug/L (ppb)	50	92	90	76-121	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.

709316

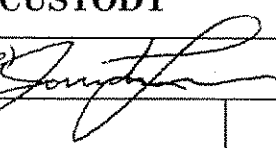
SAMPLE CHAIN OF CUSTODY

ME 09/19/17

1

of

vw 6

Send Report to Rob Roberts, cc: Jonathan LoefflerCompany SoundEarth Strategies, Inc.Address 2811 Fairview Avenue E, Suite 2000City, State, ZIP Seattle, Washington 98102Phone # 206-306-1900 Fax # 206-306-1907SAMPLERS (signature) 

Page #

of

PROJECT NAME/NO.

PO #

AvTech / 0789-004

TURNAROUND TIME

☒ Standard (2 Weeks)

RUSH

Rush charges authorized by:

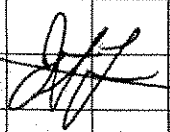
REMARKS

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED					Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	CVOCs by 8260	Total Manganese by 200.8	
IW08-20170918	IW08	—	01A	9/18/17	1551	WATER	3				X		
MW05-20170918	MW05	—	02	9/18/17	1712	WATER	3				X		
MW12-20170919	MW12	—	03	9/19/17	1146	WATER	3				X		
MW04-20170919	MW04	—	04	9/19/17	1246	WATER	3				X		
MW16A-20170919	MW16A	—	05	9/19/17	1343	WATER	3				X		
MW18-20170919	MW18	—	06	9/19/17	1441	WATER	3				X		
 9/19/17													
													received at 4 °C

Friedman & Bruya, Inc.

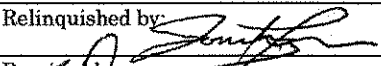
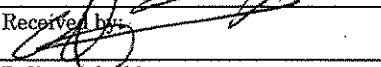
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	JONATHAN LOEFFLER	SOUNDEARTH	9/19/17	1640
Received by: 	Eric Llam	FWB	9/19/17	1640
Relinquished by:				
Received by:				