

MEMORANDUM

Project No.: 050004-010-04

November 6, 2018

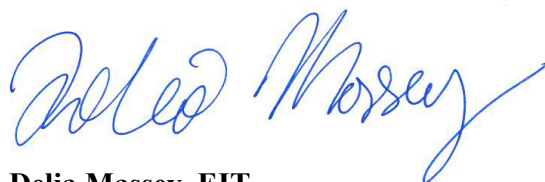
To: Robert Cugini, Barbee Mill Co., Inc.

cc: Lynn Manolopoulos, Davis Wright Tremaine

From:



Jeremy Porter, PE
Sr. Associate Remediation Engineer
jporter@aspectconsulting.com



Delia Massey, EIT
Project Engineer
dmassey@aspectconsulting.com

Re: Data Gaps Investigation Results

Data Gaps Investigation Results

This memorandum presents the results of our field investigation conducted at the Barbee Mill site (Site) in Renton, Washington, in January, July, and September 2018. The purpose of this work was to collect additional site-specific data needed to develop and evaluate remedial alternatives. The work is being conducted by Barbee Mill Co., Inc., under an Agreed Order (AO) No. DE 5396, including the first and second amendments, with the Washington State Department of Ecology (Ecology).

Specific objectives for the data gaps field investigation were described in the Data Gaps Analysis and Work Plan (Work Plan; Aspect, 2017), as follows:

- **Define the vertical and lateral extent of contamination.** The current estimated extent of contamination is based on data collected 10 or more years ago prior to interim remedial actions and may overestimate the extent of contamination. Monitoring data indicate a steady decline in arsenic concentrations downgradient of the passive attenuation zone on the Quendall Terminals Property (Quendall Property).
- **Ensure that the final Barbee Mill remedy is compatible with future Quendall Property use.** The Quendall Terminals Superfund Site FS (Aspect, 2016) has been finalized, and a development plan for the Quendall Property, which is north-adjacent to the Barbee Property, has been approved by the City of Renton. Based on these documents, the Quendall Property is likely to be capped, and the development in this area may include a park, a natural habitat area, and possibly a dock.

The planned investigation was described in the Work Plan. A summary of the investigation, including any deviations from the Work Plan, and the results of the investigation are provided below.

Field Explorations

The investigation was performed in three phases:

- January 22 through January 29, 2018: collection of upland soil and groundwater samples identified in the Work Plan.
- July 9 and 10, 2018: collection of additional upland groundwater samples based on the January 2018 data.
- September 11 through 14, 2018: collection of offshore soil and groundwater samples, including installation and sampling of temporary well points, as identified in the Work Plan.

Additional sampling details are provided below.

Soil Samples

Between January 22 and January 29, 2018, Aspect collected upland soil samples from the Site using a direct-push probe rig supplied by Holt Drilling of Puyallup, Washington. Drilling and sampling methods outlined in the Work Plan were followed. Ten soil borings (B-06 through B-09, B11 through B-15, and AB-10¹) were advanced as shown on Figure 1. Soil cores were collected at continuous 4-foot intervals using a dual tube sampler with disposable acrylic liner. One sample was collected for analysis from each interval, unless no recovery was obtained. Soil samples were collected to target more permeable layers in accordance with the Work Plan. Samples were analyzed for total arsenic by EPA Method 6020B by OnSite Environmental, Inc (OnSite) in Redmond, Washington.

Between September 11 and September 14, 2018, Aspect collected offshore soil samples from a barge operated by Northern Marine Construction of Seattle, Washington, using a direct-push probe rig supplied by Holt Drilling. Five soil borings (B-01 through B-05) were advanced to a maximum depth of 27 feet below the lake level (17.08 ft NAVD88) and located as shown on Figure 1. Soil cores were collected at continuous 4-foot intervals below mudline using a dual tube sampler with disposable acrylic liner. One soil sample was collected for chemical analysis from each interval below the mudline, except for the upper interval at B-02 where no recovery was obtained.² Samples were analyzed for total arsenic by EPA Method 6020B by OnSite.

In boring B-03, one sample depth was reclassified during review of the boring log based on the following. Sample B03-21.0-23.0 contained woody debris, which is only found in the Historical Fill layer, so the sample is suspected to be material pushed down from higher up in the boring. Therefore, Sample B03-21.0-23.0 is believed to represent soil at the 9- to 11-foot depth interval, as indicated in Table 1.

¹ Planned borings AB-01 through AB-09 and AB-11 through AB-15 were named with a 'B' prefix instead of an 'AB' prefix.

² Poor recovery was encountered in the shallow intervals of several off-shore borings due to wood debris and/or loose, mucky sediment.

Groundwater Samples

Groundwater samples were collected from upland borings B-06 through B-15 from each of six 4-foot intervals,³ depending on where groundwater was encountered, following the methods in the Work Plan. Borings B-06, B-07, B-10, B-12, B-13, and B-15 were sampled from 8 to 28 feet, and borings B-08, B-09, B-11, and B-14 (where groundwater was not encountered above 8 feet) were sampled from 12 to 32 feet. A groundwater sample was not collected at one interval (B-14 at 24 feet) due to insufficient yield.

At each sample interval, a temporary well screen was set. The boring was purged and a sample was collected using low-flow techniques. Parameters measured in the field included temperature, conductivity, pH, dissolved oxygen, and redox potential. Samples were submitted to OnSite for analysis of dissolved arsenic by EPA Method 6020B.

Based on the data collected in January 2018, two additional upland borings were advanced on July 9 and 10, 2018, and one previously advanced boring was advanced deeper, to bound the lateral and vertical extent of arsenic contamination in groundwater. The same sample collection methods were used as in January, with the exception that 5-foot screens were used for sampling instead of 4-foot screens. Sampling conducted in July 2018 was as follows:

- Boring B-15 was advanced to 40 feet and two additional groundwater samples were collected between 31 and 40 feet to evaluate the vertical extent of arsenic at this location.
- Boring B-16 was advanced east of B-15 and two groundwater samples were collected between 23 and 32 feet to evaluate the eastern lateral extent along the property line.
- Boring B-17 was advanced northeast of B-06 and three groundwater samples were collected between 7 and 20 feet to bound the northeastern lateral extent along the shoreline.

Offshore groundwater samples were collected from borings B-01 through B-05 from each of three 4-foot intervals below the mudline,⁴ following the methods in the Work Plan. Each boring was advanced to a maximum depth of 27 feet below the lake level and located as shown on Figure 1.

Temporary Well Point Samples

On September 11, 2018, Aspect installed two offshore temporary well points (TWP-1 and TWP-2) at locations shown on Figure 1. Each well point was installed to a depth of 5 feet below the sediment surface, with a screen from a depth of 1 to 5 feet below mudline and was sampled with tubing inserted to 4 feet. Due to material availability, the screen depth differed slightly from the Work Plan, which called for a 2-foot screen from 2 to 4 feet below mudline. This still met the overall objective of these samples, which was to evaluate arsenic concentrations in shallow groundwater below the bioactive sediment zone (4 inches deep).

³ The groundwater sample names for B-06 through B-15 and AB-10 indicate the bottom of the screened interval. For example, sample B06-08-012418 was collected at boring B-06 with the screen set from 4 to 8 feet. Groundwater samples were collected from mid-screen.

⁴The groundwater sample names for B-01 through B-05 indicate the middle of the screened interval. For example, sample B01-17-012418 was collected at boring B-01 with the screen set from 15 to 19 feet. Groundwater samples were collected from mid-screen.

Well points were purged and sampled using low-flow techniques. Parameters measured in the field included temperature, conductivity, pH, dissolved oxygen, and redox potential. Samples were submitted to OnSite for analysis of dissolved arsenic by EPA Method 6020B.

Results

Chemical sampling results are summarized in Table 1 for soil samples and Table 2 for groundwater and well point samples. Laboratory analytical reports are provided in Attachment A. Boring logs are provided in Attachment B.

There were no exceedances of the preliminary soil cleanup level (20 mg/kg) in either the upland or offshore soil samples. The highest detected upland arsenic concentration was 10 mg/kg at B-08 from 19.5 to 20 feet, and the highest detected offshore arsenic concentration was 5.1 mg/kg at B-04 from 20 to 21 feet (Table 1). Offshore soil samples were also below the preliminary sediment cleanup level (14 mg/kg) identified in the “Draft Remedial Investigation Report” (Aspect, 2012).

Slight exceedances of the Site groundwater cleanup level (20 ug/L) were detected in one discrete interval in borings B-11, B-12, and B-16⁵ (on the northeast side of the Site). However, we have used these borings to delineate the approximate extent of the Site arsenic plume, as shown on Figure 1, for the following reasons

- Natural background concentrations of arsenic are elevated due to high-organic soils such as peat and organic silt. The detected exceedances (ranging from 24 to 33 ug/L) are very similar to the range of natural background concentrations (up to 28 ug/L) identified east of the Site that were used for calculating the Site cleanup level.
- The borings are located outside the historic Site plume⁶ and are not directly downgradient of the former source area.

Exceedances of the cleanup level were also detected at the 12- and 16-foot depth intervals at B-17 (34 and 68 ug/L, respectively). However, these exceedances are unlikely to be associated with the Barbee Mill plume, for the following reasons:

- Arsenic concentrations upgradient of this location (at B-11 and B-12) are lower and are below cleanup levels at the same depth intervals.
- Heavy sheen and hydrocarbon odor were noted at the 16-foot interval where the highest concentration was detected. B-17 is located close to the former mouth of the May Creek Channel, which is one of the heavily impacted areas of the Quendall Property. Elevated arsenic concentrations have been detected at a number of locations on the Quendall Property that have been attributed to Quendall Property DNAPL creating reducing conditions that mobilize arsenic. Further investigation north and east of B-17 and B-11

⁵ Only two intervals were sampled in boring B-16 because the lateral boundary for shallower intervals was defined by boring B-15.

⁶ The historic Site plume refers to the extent of arsenic above the Site groundwater cleanup level measured prior to remediation, as documented in the Interim Remedial Action Plan – Upland Areas (Hart Crowser, 2000) and the draft Engineering Design Report – Barbee Mill Groundwater Remediation (Aspect Consulting, 2006).

would be close to or within the DNAPL-impacted area of the Quendall Property where arsenic concentrations are likely to be affected by local highly reducing conditions.

There were no exceedances of the groundwater cleanup level in the offshore borings B-01 through B-05. The groundwater samples from the offshore temporary well points both exceeded the Site cleanup level, with values of 49 ug/L at TWP-1 and 26 ug/L at TWP-2. These values are lower than the exceedances measured at permanent well point WP-8, which is located between TWP-1 and TWP-2. The western extent of the Barbee Mill arsenic plume is delineated by B-03, B-04, and B-05 (Figure 1).

The vertical extent of the arsenic plume is generally delineated at or above approximately 24 feet in depth as shown on the cross-section (Figure 2), except for at boring B-15 where deeper samples exceeded the cleanup level (with the highest concentration (84 ug/L) at 32 feet). There were also slight exceedances of the cleanup level (less than twice) at B-15 at the 40-foot interval (36 ug/L), B-16 at the 32-foot interval (33 ug/L) and at B-09 at the 28-foot interval (22 ug/L); however, these are similar to the range of natural background concentrations measured at the Site as discussed above.

Based on the collected data, the data gaps identified in the Work Plan have been addressed, and the lateral and vertical extent of arsenic in soil and groundwater at Barbee Mill have been defined as shown on Figures 1 and 2. Slight exceedances of the Site cleanup level for arsenic may be present outside of the defined plume area due to variability in naturally occurring background levels and/or aggravated reducing conditions from contaminants on the adjacent Quendall Superfund Site (which are being addressed separately). The collected data is sufficient for finalizing the Remedial Investigation (RI) Report and proceeding with the draft Feasibility Study (FS).

In accordance with the Work Plan and the AO deliverable schedule, we recommend proceeding as follows:

- Revising the draft RI Report to incorporate data collected from 2012 to date and submitting the draft RI Report to Ecology within 90 days of approval of this memorandum.
- Submitting the final RI Report within 30 days of receipt of Ecology comments on the draft RI Report.
- Submitting the draft FS Report within 90 days of receipt of Ecology comments on the draft RI Report.
- Submitting the final FS Report within 30 days of receipt of Ecology comments on the draft FS Report.

References

Aspect Consulting, LLC (Aspect), 2012, Remedial Investigation Report, Barbee Mill Site, Renton, Washington. September 27, 2012.

Aspect Consulting, LLC (Aspect), 2016, Feasibility Study, Quendall Terminals Site, Renton, Washington. August 18, 2017.

Aspect Consulting, LLC (Aspect), 2017, Data Gaps Analysis and Work Plan, Barbee Mill Site, Renton, Washington. August 18, 2017.

Limitations

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

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

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

Attachments: Table 1 – Summary of Soil Analytical Results
Table 2 – Summary of Temporary Groundwater Analytical Results
Figure 1 – Dissolved Arsenic Concentrations in Temporary Groundwater Samples
Figure 2 – Cross-section A-A'
Attachment A – Laboratory Reports from OnSite Environmental, Inc.
Attachment B – Boring Logs
Attachment C – Report Limitations and Guidelines for Use

TABLES

Table 1 - Summary of Soil Analytical Results

Project No. 050004-010-04, 4101 Lake Washington Blvd N, Renton, WA

Upland Boring	Depth (bgs)	Arsenic (mg/kg)
B-06	4 - 4.5 ft	5.3
B-06	7.5 - 8 ft	1.9
B-06	12 - 12.5 ft	3.6
B-06	16 - 16.5 ft	1.4
B-06	19.5 - 20 ft	4.5
B-06	24 - 24.5 ft	2.7
B-06	27.5 - 28 ft	3.1
B-07	3.5 - 4 ft	2.4
B-07	7.5 - 8 ft	1.9
B-07	12 - 12.5 ft	2.5
B-07	16.5 - 17 ft	2.6
B-07	21.5 - 22 ft	2
B-07	24 - 24.5 ft	3.1
B-07	27.5 - 28 ft	3.3
B-08	2.5 - 3 ft	1.9
B-08	7.5 - 8 ft	4.3
B-08	11.5 - 12 ft	3.4
B-08	16 - 16.5 ft	3.7
B-08	19.5 - 20 ft	10
B-08	23.5 - 24 ft	5.7
B-08	28 - 28.5 ft	4
B-09	4.5 - 5 ft	2.3
B-09	7.5 - 8 ft	5.4
B-09	11.5 - 12 ft	4.8
B-09	16 - 16.5 ft	4.6
B-09	19.5 - 20 ft	4.2
B-09	24 - 24.5 ft	4.3
B-09	29.5 - 30 ft	2.5
AB-10	4.5 - 5 ft	2.8
AB-10	7 - 7.5 ft	7.8
AB-10	11.5 - 12 ft	4.6
AB-10	14.5 - 15 ft	4.5
AB-10	19 - 20 ft	2.7
AB-10	24.5 - 25 ft	1.1
AB-10	28 - 28.5 ft	2.5
B-11	4 - 4.5 ft	3.6
B-11	7.5 - 8 ft	4
B-11	11.5 - 12 ft	2.1
B-11	16 - 16.5 ft	3.3
B-11	20 - 20.5 ft	3.4
B-11	24 - 24.5 ft	1.4
B-11	25.5 - 26 ft	6.5
B-11	28 - 28.5 ft	3.1
B-12	3.5 - 4 ft	3.7
B-12	7.5 - 8 ft	5.7
B-12	11.5 - 12 ft	1.3
B-12	16 - 16.5 ft	1.5
B-12	19.5 - 20 ft	2.4
B-12	23 - 23.5 ft	3.7
B-12	24.5 - 25 ft	0.99

Upland Boring	Depth (bgs)	Arsenic (mg/kg)
B-13	3.5 - 4 ft	4.8
B-13	7.5 - 8 ft	3.2
B-13	13 - 13.5 ft	3.7
B-13	16 - 16.5 ft	3.8
B-13	19.5 - 20 ft	3.4
B-13	23.5 - 24 ft	2
B-13	27 - 27.5 ft	1.6
B-14	4 - 4.5 ft	1.2
B-14	7.5 - 8 ft	1.2
B-14	12 - 12.5 ft	2.3
B-14	16.5 - 17 ft	1.9
B-14	20 - 20.5 ft	2.7
B-14	24 - 24.5 ft	5.2
B-14	27.5 - 28 ft	2.2
B-14	30 - 30.5 ft	1.4
B-15	4 - 4.5 ft	6.2
B-15	8.5 - 9 ft	1.3
B-15	12 - 12.5 ft	1.1
B-15	16 - 16.5 ft	1.8
B-15	20 - 20.5 ft	4.8
B-15	24 - 24.5 ft	2.8
B-15	28 - 28.5 ft	2.5
B-15	30.5 - 31 ft	2

Offshore Boring	Depth (bls)	Arsenic (mg/kg)
B-01	12 - 13 ft	3.9
B-01	19 - 20 ft	2.7
B-01	23 - 24 ft	1.3
B-02	21 - 22 ft	1.8
B-02	26 - 27 ft	1.2
B-03	8 - 9 ft	2.3
B-03	9 - 11 ft	1.8
B-03	25 - 26 ft	1.6
B-04	18 - 19 ft	3.2
B-04	20 - 21 ft	5.1
B-04	24 - 25 ft	1.7
B-05	16 - 17 ft	4.3
B-05	21 - 22 ft	1.5
B-05	26 - 26.5 ft	1

Notes:

Values shown are total arsenic results by EPA Method 6020B.

All units are mg/kg.

Bold values indicate arsenic detection.

Highlighted cells indicate exceedance of 20 mg/kg CUL.

bgs = below ground surface

bls = below lake surface

Table 1

Barbee Mill Groundwater Remediation

Page 1 of 1

Table 2 - Summary of Temporary Groundwater Analytical Results

Project No. 050004-010-04, 4101 Lake Washington Blvd N, Renton, WA

Onshore												
Depth (bgs)	B-06	B-07	B-08	B-09	AB-10	B-11	B-12	B-13	B-14	B-15	B-16	B-17
8 ft	3 U	12	NC	NC	71	NC	3 U	4.8	NC	4.6	NC	NC
12 ft	27	68	160	17	97	10	14	13	64	5.4	NC	34
16 ft	46	43	150	32	210	14	3 U	28	60	3 U	NC	68
20 ft	78	24	150	170	220	24	3 U	19	3 U	3 U	NC	15
24 ft	6.7	3.5	180	700	40	19	3 U	3 U	NC	38	NC	NC
28 ft	3.7	8.1	3 U	22	3 U	3 U	31	3.6	9.4	78	20	NC
32 ft	NC	NC	7.9	3 U	NC	4.4	NC	NC	10	84	33	NC
36 ft	NC	NC	NC	NC	NC	NC	NC	NC	NC	41	NC	NC
40 ft	NC	NC	NC	NC	NC	NC	NC	NC	NC	36	NC	NC

Offshore					
Depth (bls)	B-01	B-02	B-03	B-04	B-05
18 ft	NC	NC	NC	NC	8.5
19 ft	1.7	1.5	1 U	3.1	NC
23 ft	5.1	1 U	1.1	6.4	3.4
27 ft	4.4	2.6	4.4	6.2	1.8

Offshore Well Points		
Depth (bss)	TWP-1	TWP-2
4 ft	49	26

Notes:

Values shown are dissolved arsenic results by EPA Method 6020B.

All units are ug/L.

Bold values indicate arsenic detection.

Highlighted cells indicate exceedance of 20 ug/L CUL.

NC = not collected.

bgs = below ground surface

bls = below lake surface

bss = below sediment surface

U - Analyte was not detected at or above the reported result.

Depths shown are the bottom of a 4-5 ft screen.

Samples were collected midscreen.

Aspect Consulting

11/6/2018

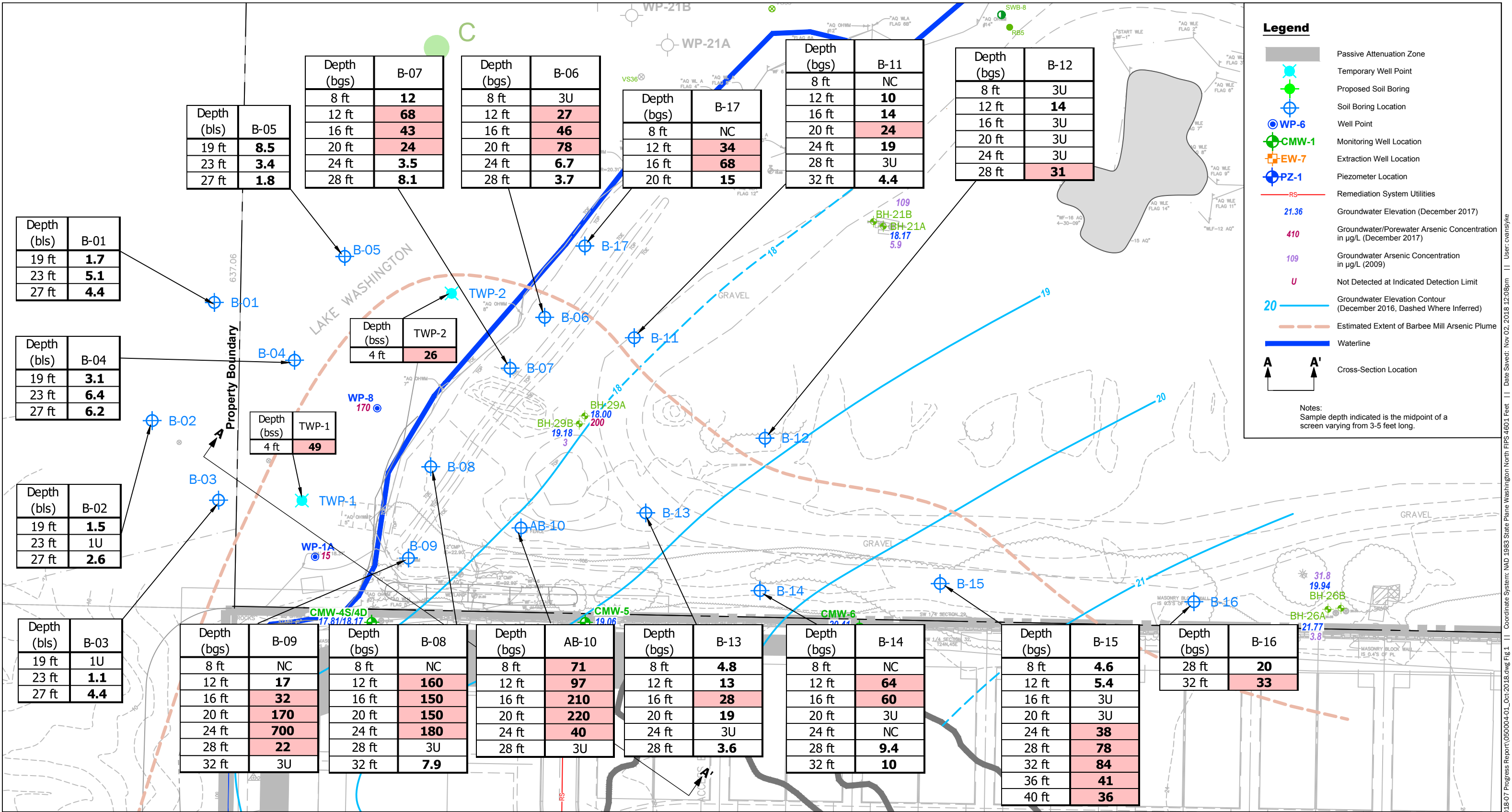
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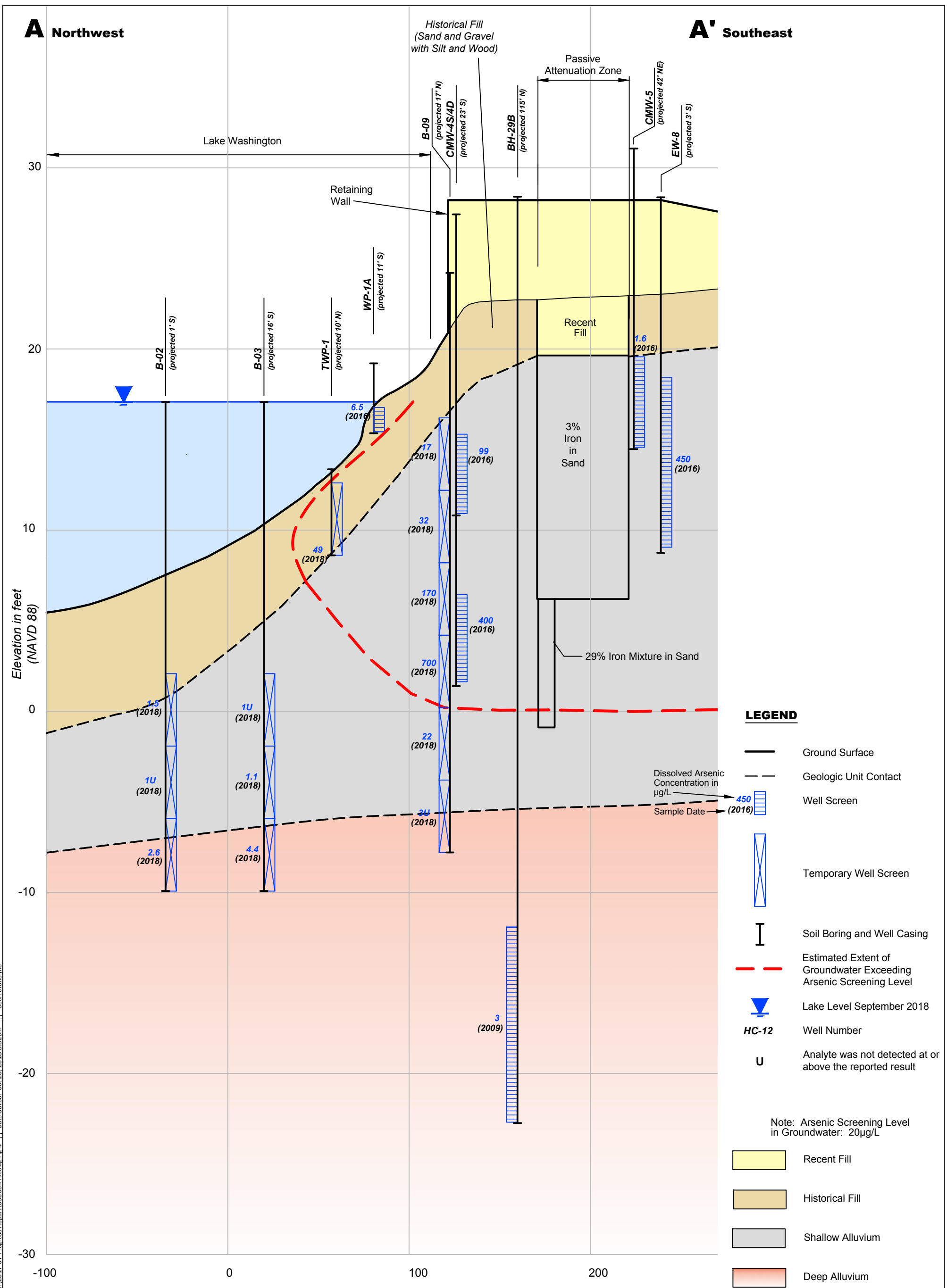
Table 2

Barbee Mill Groundwater Remediation

Page 1 of 1

FIGURES





Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 5'
Vertical Exaggeration 10x



**Cross Section A-A' -
Extent of Groundwater Exceeding the Arsenic
Screening Level**
Barbee Mill Remedial Investigation
Renton, Washington



Oct-2018
PROJECT NO.
050004

BY:
DIM/CMV
REVISED BY:
-

FIGURE NO.

2

ATTACHMENT A

**Laboratory Reports from
OnSite Environmental, Inc.**



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 5, 2018

Jeremy Porter
Aspect Consulting
401 2nd Avenue South, Suite 201
Seattle, WA 98104

Re: Analytical Data for Project 050004
Laboratory Reference No. 1801-307

Dear Jeremy:

Enclosed are the analytical results and associated quality control data for samples submitted on January 31, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'DB', with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

Case Narrative

Samples were collected on January 22, 23, 24, 25, 26, and 29, 2018 and received by the laboratory on January 31, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-01					
Client ID:	B06-4.0-4.5					
Arsenic	5.3	0.30	6020B	1-31-18	2-2-18	
Lab ID:	01-307-02					
Client ID:	B06-7.5-8.0					
Arsenic	1.9	0.31	6020B	1-31-18	2-2-18	
Lab ID:	01-307-03					
Client ID:	B06-12.0-12.5					
Arsenic	3.6	0.35	6020B	1-31-18	2-2-18	
Lab ID:	01-307-04					
Client ID:	B06-16.0-16.5					
Arsenic	1.4	0.29	6020B	1-31-18	2-2-18	
Lab ID:	01-307-05					
Client ID:	B06-19.5-20.0					
Arsenic	4.5	0.38	6020B	1-31-18	2-2-18	
Lab ID:	01-307-06					
Client ID:	B06-24.0-24.5					
Arsenic	2.7	0.40	6020B	1-31-18	2-2-18	
Lab ID:	01-307-07					
Client ID:	B06-27.5-28.0					
Arsenic	3.1	0.36	6020B	1-31-18	2-2-18	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-14					
Client ID:	B07-3.5-4.0					
Arsenic	2.4	0.38	6020B	1-31-18	2-2-18	
Lab ID:	01-307-15					
Client ID:	B07-7.5-8.0					
Arsenic	1.9	0.35	6020B	1-31-18	2-2-18	
Lab ID:	01-307-16					
Client ID:	B07-12.0-12.5					
Arsenic	2.5	0.32	6020B	1-31-18	2-2-18	
Lab ID:	01-307-17					
Client ID:	B07-16.5-17.0					
Arsenic	2.6	0.34	6020B	1-31-18	2-2-18	
Lab ID:	01-307-18					
Client ID:	B07-21.5-22.0					
Arsenic	2.0	0.31	6020B	1-31-18	2-2-18	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-19					
Client ID:	B07-24-24.5					
Arsenic	3.1	0.32	6020B	1-31-18	2-2-18	
Lab ID:	01-307-20					
Client ID:	B07-27.5-28.0					
Arsenic	3.3	0.30	6020B	1-31-18	2-2-18	
Lab ID:	01-307-27					
Client ID:	B08-2.5-3.0					
Arsenic	1.9	0.38	6020B	1-31-18	2-2-18	
Lab ID:	01-307-28					
Client ID:	B08-7.5-8.0					
Arsenic	4.3	0.29	6020B	1-31-18	2-2-18	
Lab ID:	01-307-29					
Client ID:	B08-11.5-12.0					
Arsenic	3.4	0.30	6020B	1-31-18	2-2-18	
Lab ID:	01-307-30					
Client ID:	B08-16.0-16.5					
Arsenic	3.7	0.31	6020B	1-31-18	2-2-18	
Lab ID:	01-307-31					
Client ID:	B08-19.5-20.0					
Arsenic	10	0.38	6020B	1-31-18	2-2-18	



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-32					
Client ID:	B08-23.5-24.0					
Arsenic	5.7	0.40	6020B	1-31-18	2-2-18	
Lab ID:	01-307-33					
Client ID:	B08-28.0-28.5					
Arsenic	4.0	0.31	6020B	2-1-18	2-2-18	
Lab ID:	01-307-40					
Client ID:	B09-4.5-5.0					
Arsenic	2.3	0.28	6020B	2-1-18	2-2-18	
Lab ID:	01-307-41					
Client ID:	B09-7.5-8.0					
Arsenic	5.4	0.31	6020B	2-1-18	2-2-18	
Lab ID:	01-307-42					
Client ID:	B09-11.5-12					
Arsenic	4.8	0.47	6020B	2-1-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID: 01-307-43						
Client ID: B09-16.0-16.5						
Arsenic	4.6	0.33	6020B	2-1-18	2-2-18	
Lab ID: 01-307-44						
Client ID: B09-19.5-20.0						
Arsenic	4.2	0.37	6020B	2-1-18	2-2-18	
Lab ID: 01-307-45						
Client ID: B09-24.0-24.5						
Arsenic	4.3	0.30	6020B	2-1-18	2-2-18	
Lab ID: 01-307-46						
Client ID: B09-29.5-30.0						
Arsenic	2.5	0.42	6020B	2-1-18	2-2-18	
Lab ID: 01-307-53						
Client ID: AB10-4.5-5.0						
Arsenic	2.8	0.29	6020B	2-1-18	2-2-18	
Lab ID: 01-307-54						
Client ID: AB10-7.0-7.5						
Arsenic	7.8	0.33	6020B	2-1-18	2-2-18	
Lab ID: 01-307-55						
Client ID: AB10-11.5-12.0						
Arsenic	4.6	0.38	6020B	2-1-18	2-2-18	



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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-56					
Client ID:	AB10-14.5-15.0					
Arsenic	4.5	0.28	6020B	2-1-18	2-2-18	
Lab ID:	01-307-57					
Client ID:	AB10-19.0-20.0					
Arsenic	2.7	0.33	6020B	2-1-18	2-2-18	
Lab ID:	01-307-58					
Client ID:	AB10-24.5-25.0					
Arsenic	1.1	0.29	6020B	2-1-18	2-2-18	
Lab ID:	01-307-59					
Client ID:	AB10-28.0-28.5					
Arsenic	2.5	0.32	6020B	2-1-18	2-2-18	
Lab ID:	01-307-66					
Client ID:	B11-4.0-4.5					
Arsenic	3.6	0.31	6020B	2-1-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-67					
Client ID:	B11-7.5-8.0					
Arsenic	4.0	0.29	6020B	2-1-18	2-2-18	
Lab ID:	01-307-68					
Client ID:	B11-11.5-12.0					
Arsenic	2.1	0.29	6020B	2-1-18	2-2-18	
Lab ID:	01-307-69					
Client ID:	B11-16.0-16.5					
Arsenic	3.3	0.31	6020B	2-1-18	2-2-18	
Lab ID:	01-307-70					
Client ID:	B11-20.0-20.5					
Arsenic	3.4	0.37	6020B	2-1-18	2-2-18	
Lab ID:	01-307-71					
Client ID:	B11-24.0-24.5					
Arsenic	1.4	0.30	6020B	2-2-18	2-2-18	
Lab ID:	01-307-72					
Client ID:	B11-25.5-26.0					
Arsenic	6.5	0.48	6020B	2-2-18	2-2-18	
Lab ID:	01-307-73					
Client ID:	B11-28.0-28.5					
Arsenic	3.1	0.31	6020B	2-2-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-80					
Client ID:	B12-3.5-4.0					
Arsenic	3.7	0.27	6020B	2-2-18	2-2-18	
Lab ID:	01-307-81					
Client ID:	B12-7.5-8.0					
Arsenic	5.7	0.33	6020B	2-2-18	2-2-18	
Lab ID:	01-307-82					
Client ID:	B12-11.5-12.0					
Arsenic	1.3	0.33	6020B	2-2-18	2-2-18	
Lab ID:	01-307-83					
Client ID:	B12-16.0-16.5					
Arsenic	1.5	0.28	6020B	2-2-18	2-2-18	
Lab ID:	01-307-84					
Client ID:	B12-19.5-20.0					
Arsenic	2.4	0.40	6020B	2-2-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-85					
Client ID:	B12-23.0-23.5					
Arsenic	3.7	0.62	6020B	2-2-18	2-2-18	
Lab ID:	01-307-86					
Client ID:	B12-24.5-25.0					
Arsenic	0.99	0.31	6020B	2-2-18	2-2-18	
Lab ID:	01-307-93					
Client ID:	B13-3.5-4.0					
Arsenic	4.8	0.30	6020B	2-2-18	2-2-18	
Lab ID:	01-307-94					
Client ID:	B13-7.5-8.0					
Arsenic	3.2	0.33	6020B	2-2-18	2-2-18	
Lab ID:	01-307-95					
Client ID:	B13-13.0-13.5					
Arsenic	3.7	0.32	6020B	2-2-18	2-2-18	
Lab ID:	01-307-96					
Client ID:	B13-16.0-16.5					
Arsenic	3.8	0.29	6020B	2-2-18	2-2-18	
Lab ID:	01-307-97					
Client ID:	B13-19.5-20.0					
Arsenic	3.4	0.30	6020B	2-2-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-98					
Client ID:	B13-23.5-24.0					
Arsenic	2.0	0.31	6020B	2-2-18	2-2-18	
Lab ID:	01-307-99					
Client ID:	B13-27.0-27.5					
Arsenic	1.6	0.30	6020B	2-2-18	2-2-18	
Lab ID:	01-307-106					
Client ID:	B14-4.0-4.5					
Arsenic	1.2	0.29	6020B	2-2-18	2-2-18	
Lab ID:	01-307-107					
Client ID:	B14-7.5-8.0					
Arsenic	1.2	0.30	6020B	2-2-18	2-2-18	
Lab ID:	01-307-108					
Client ID:	B14-12.0-12.5					
Arsenic	2.3	0.31	6020B	2-2-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-109					
Client ID:	B14-16.5-17.0					
Arsenic	1.9	0.39	6020B	2-2-18	2-2-18	
Lab ID:	01-307-110					
Client ID:	B14-20.0-20.5					
Arsenic	2.7	0.31	6020B	2-2-18	2-2-18	
Lab ID:	01-307-111					
Client ID:	B14-24.0-24.5					
Arsenic	5.2	0.66	6020B	2-2-18	2-2-18	
Lab ID:	01-307-112					
Client ID:	B14-27.5-28.0					
Arsenic	2.2	0.34	6020B	2-2-18	2-2-18	
Lab ID:	01-307-113					
Client ID:	B14-30.0-30.5					
Arsenic	1.4	0.31	6020B	2-2-18	2-2-18	
Lab ID:	01-307-120					
Client ID:	B15-4.0-4.5					
Arsenic	6.2	0.36	6020B	2-2-18	2-2-18	
Lab ID:	01-307-121					
Client ID:	B15-8.5-9.0					
Arsenic	1.3	0.30	6020B	2-2-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-122					
Client ID:	B15-12.0-12.5					
Arsenic	1.1	0.30	6020B	2-2-18	2-2-18	
Lab ID:	01-307-123					
Client ID:	B15-16.0-16.5					
Arsenic	1.8	0.35	6020B	2-2-18	2-2-18	
Lab ID:	01-307-124					
Client ID:	B15-20.0-20.5					
Arsenic	4.8	0.60	6020B	2-2-18	2-2-18	
Lab ID:	01-307-125					
Client ID:	B15-24.0-24.5					
Arsenic	2.8	0.50	6020B	2-2-18	2-2-18	
Lab ID:	01-307-126					
Client ID:	B15-28.0-28.5					
Arsenic	2.5	0.30	6020B	2-2-18	2-2-18	



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TOTAL ARSENIC
EPA 6020B

Matrix: Soil
Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	01-307-127					
Client ID:	B15-30.5-31.0					
Arsenic	2.0	0.29	6020B	2-2-18	2-2-18	



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**TOTAL ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 1-31-18
Date Analyzed: 2-2-18

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0131SM2

Analyte	Method	Result	PQL
Arsenic	6020B	ND	0.25



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**TOTAL ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-1-18
Date Analyzed: 2-2-18

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0201SM1

Analyte	Method	Result	PQL
Arsenic	6020B	ND	0.25



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**TOTAL ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-2-18
Date Analyzed: 2-2-18

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0202SM1

Analyte	Method	Result	PQL
Arsenic	6020B	ND	0.25



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**TOTAL ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-2-18
Date Analyzed: 2-2-18

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0202SM2

Analyte	Method	Result	PQL
Arsenic	6020B	ND	0.25



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**TOTAL ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Extracted: 1-31-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	1.53	1.52	0	0.25	



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**TOTAL ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Extracted: 2-1-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-43

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	3.50	3.26	7	0.25	



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**TOTAL ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Extracted: 2-2-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-83

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	1.38	1.53	10	0.25	



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**TOTAL ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Extracted: 2-2-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-110

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	2.20	2.55	15	0.25	



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**TOTAL ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Extracted: 1-31-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	91.3	90	88.0	86	4	



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**TOTAL ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Extracted: 2-1-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-43

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	91.0	88	92.8	89	2	



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**TOTAL ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Extracted: 2-2-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-83

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	86.0	85	88.0	87	2	



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**TOTAL ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Extracted: 2-2-18

Date Analyzed: 2-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-307-110

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	88.8	87	90.0	88	1	



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**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID: 01-307-08						
Client ID: B06-08-012418						
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID: 01-307-09						
Client ID: B06-28-012418						
Arsenic	3.7	3.0	6020B		2-1-18	
Lab ID: 01-307-10						
Client ID: B06-12-012418						
Arsenic	27	3.0	6020B		2-1-18	
Lab ID: 01-307-11						
Client ID: B06-16-012418						
Arsenic	46	3.0	6020B		2-1-18	
Lab ID: 01-307-12						
Client ID: B06-20-012418						
Arsenic	78	3.0	6020B		2-1-18	
Lab ID: 01-307-13						
Client ID: B06-24-012418						
Arsenic	6.7	3.0	6020B		2-1-18	
Lab ID: 01-307-21						
Client ID: B07-08-012418						
Arsenic	12	3.0	6020B		2-1-18	



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**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-22					
Client ID:	B07-28-012418					
Arsenic	8.1	3.0	6020B		2-1-18	
Lab ID:	01-307-23					
Client ID:	B07-12-012418					
Arsenic	68	3.0	6020B		2-1-18	
Lab ID:	01-307-24					
Client ID:	B07-16-012418					
Arsenic	43	3.0	6020B		2-1-18	
Lab ID:	01-307-25					
Client ID:	B07-20-012418					
Arsenic	24	3.0	6020B		2-1-18	
Lab ID:	01-307-26					
Client ID:	B07-24-012418					
Arsenic	3.5	3.0	6020B		2-1-18	



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**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-34					
Client ID:	B08-12-012318					
Arsenic	160	3.0	6020B		2-1-18	
Lab ID:	01-307-35					
Client ID:	B08-32-012318					
Arsenic	7.9	3.0	6020B		2-1-18	
Lab ID:	01-307-36					
Client ID:	B08-16-012318					
Arsenic	150	3.0	6020B		2-1-18	
Lab ID:	01-307-37					
Client ID:	B08-20-012318					
Arsenic	150	3.0	6020B		2-1-18	
Lab ID:	01-307-38					
Client ID:	B08-24-012318					
Arsenic	180	3.0	6020B		2-1-18	
Lab ID:	01-307-39					
Client ID:	B08-28-012318					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-47					
Client ID:	B09-12-012218					
Arsenic	17	3.0	6020B		2-1-18	



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**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-48					
Client ID:	B09-32-012318					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-49					
Client ID:	B09-16-012318					
Arsenic	32	3.0	6020B		2-1-18	
Lab ID:	01-307-50					
Client ID:	B09-20-012318					
Arsenic	170	3.0	6020B		2-1-18	
Lab ID:	01-307-51					
Client ID:	B09-24-012318					
Arsenic	700	6.0	6020B		2-1-18	
Lab ID:	01-307-52					
Client ID:	B09-28-012318					
Arsenic	22	3.0	6020B		2-1-18	



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**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-60					
Client ID:	AB10-08-012218					
Arsenic	71	3.0	6020B		2-1-18	
Lab ID:	01-307-61					
Client ID:	AB10-28-012218					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-62					
Client ID:	AB1012-012218					
Arsenic	97	3.0	6020B		2-1-18	
Lab ID:	01-307-63					
Client ID:	AB10-16-012218					
Arsenic	210	3.0	6020B		2-1-18	
Lab ID:	01-307-64					
Client ID:	AB10-20-012218					
Arsenic	220	3.0	6020B		2-1-18	
Lab ID:	01-307-65					
Client ID:	AB10-24-012218					
Arsenic	40	3.0	6020B		2-1-18	
Lab ID:	01-307-74					
Client ID:	B11-32-012518					
Arsenic	4.4	3.0	6020B		2-1-18	



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**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-75					
Client ID:	B11-12-012518					
Arsenic	10	3.0	6020B		2-1-18	
Lab ID:	01-307-76					
Client ID:	B11-16-012518					
Arsenic	14	3.0	6020B		2-1-18	
Lab ID:	01-307-77					
Client ID:	B11-20-012518					
Arsenic	24	3.0	6020B		2-1-18	
Lab ID:	01-307-78					
Client ID:	B11-24-012518					
Arsenic	19	3.0	6020B		2-1-18	
Lab ID:	01-307-79					
Client ID:	B11-28-012518					
Arsenic	ND	3.0	6020B		2-1-18	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-87					
Client ID:	B12-08-012518					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-88					
Client ID:	B12-28-012518					
Arsenic	31	3.0	6020B		2-1-18	
Lab ID:	01-307-89					
Client ID:	B12-12-012518					
Arsenic	14	3.0	6020B		2-1-18	
Lab ID:	01-307-90					
Client ID:	B12-16-012518					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-91					
Client ID:	B12-20-012518					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-92					
Client ID:	B12-24-012518					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-100					
Client ID:	B13-08-012618					
Arsenic	4.8	3.0	6020B		2-1-18	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-101					
Client ID:	B13-28-012918					
Arsenic	3.6	3.0	6020B		2-1-18	
Lab ID:	01-307-102					
Client ID:	B13-12-012918					
Arsenic	13	3.0	6020B		2-1-18	
Lab ID:	01-307-103					
Client ID:	B13-16-012918					
Arsenic	28	3.0	6020B		2-1-18	
Lab ID:	01-307-104					
Client ID:	B13-20-012918					
Arsenic	19	3.0	6020B		2-1-18	
Lab ID:	01-307-105					
Client ID:	B13-24-012918					
Arsenic	ND	3.0	6020B		2-1-18	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**DISSOLVED ARSENIC
EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-114					
Client ID:	B14-28-012618					
Arsenic	9.4	3.0	6020B		2-1-18	
Lab ID:	01-307-115					
Client ID:	B14-12-012618					
Arsenic	64	3.0	6020B		2-1-18	
Lab ID:	01-307-116					
Client ID:	B14-16-012618					
Arsenic	60	3.0	6020B		2-1-18	
Lab ID:	01-307-117					
Client ID:	B14-20-012618					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-119					
Client ID:	B14-32-012618					
Arsenic	10	3.0	6020B		2-1-18	
Lab ID:	01-307-128					
Client ID:	B15-32-012618					
Arsenic	84	3.0	6020B		2-1-18	
Lab ID:	01-307-129					
Client ID:	B15-08-012918					
Arsenic	4.6	3.0	6020B		2-1-18	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-307-130					
Client ID:	B15-12-012918					
Arsenic	5.4	3.0	6020B		2-1-18	
Lab ID:	01-307-131					
Client ID:	B15-16-012918					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-132					
Client ID:	B15-20-012918					
Arsenic	ND	3.0	6020B		2-1-18	
Lab ID:	01-307-133					
Client ID:	B15-24-012918					
Arsenic	38	3.0	6020B		2-1-18	
Lab ID:	01-307-134					
Client ID:	B15-28-012918					
Arsenic	78	3.0	6020B		2-1-18	



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0201D2

Analyte	Method	Result	PQL
Arsenic	6020B	ND	3.0



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0201D3

Analyte	Method	Result	PQL
Arsenic	6020B	ND	3.0



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
METHOD BLANK QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0201D4

Analyte	Method	Result	PQL
Arsenic	6020B	ND	3.0



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: 01-307-08

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	3.0	



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: 01-307-49

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	32.5	31.1	4	3.0	



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
DUPLICATE QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: 01-307-102

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	12.7	12.9	2	3.0	



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: 01-307-08

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	200.0	199	99	202	101	2	



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: 01-307-49

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	200.0	226	97	224	96	1	



Date of Report: February 5, 2018
Samples Submitted: January 31, 2018
Laboratory Reference: 1801-307
Project: 050004

**DISSOLVED ARSENIC
EPA 6020B
MS/MSD QUALITY CONTROL**

Date Analyzed: 2-1-18

Matrix: Water
Units: ug/L (ppb)

Lab ID: 01-307-102

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	200.0	205	96	212	100	3	



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

% MOISTURE

Date Analyzed: 2-1&2-18

Client ID	Lab ID	% Moisture
B06-4.0-4.5	01-307-01	16
B06-7.5-8.0	01-307-02	19
B06-12.0-12.5	01-307-03	29
B06-16.0-16.5	01-307-04	14
B06-19.5-20.0	01-307-05	34
B06-24.0-24.5	01-307-06	37
B06-27.5-28.0	01-307-07	31
B07-3.5-4.0	01-307-14	33
B07-7.5-8.0	01-307-15	28
B07-12.0-12.5	01-307-16	22
B07-16.5-17.0	01-307-17	27
B07-21.5-22.0	01-307-18	20
B07-24-24.5	01-307-19	21
B07-27.5-28.0	01-307-20	17
B08-2.5-3.0	01-307-27	35
B08-7.5-8.0	01-307-28	13
B08-11.5-12.0	01-307-29	17
B08-16.0-16.5	01-307-30	19
B08-19.5-20.0	01-307-31	34
B08-23.5-24.0	01-307-32	37
B08-28.0-28.5	01-307-33	18
B09-4.5-5.0	01-307-40	10
B09-7.5-8.0	01-307-41	19
B09-11.5-12	01-307-42	47
B09-16.0-16.5	01-307-43	25
B09-19.5-20.0	01-307-44	33
B09-24.0-24.5	01-307-45	16



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

% MOISTURE

Date Analyzed: 2-1&2-18

Client ID	Lab ID	% Moisture
B09-29.5-30.0	01-307-46	41
AB10-4.5-5.0	01-307-53	14
AB10-7.0-7.5	01-307-54	25
AB10-11.5-12.0	01-307-55	34
AB10-14.5-15.0	01-307-56	9
AB10-19.0-20.0	01-307-57	25
AB10-24.5-25.0	01-307-58	14
AB10-28.0-28.5	01-307-59	22
B11-4.0-4.5	01-307-66	20
B11-7.5-8.0	01-307-67	13
B11-11.5-12.0	01-307-68	14
B11-16.0-16.5	01-307-69	18
B11-20.0-20.5	01-307-70	33
B11-24.0-24.5	01-307-71	16
B11-25.5-26.0	01-307-72	47
B11-28.0-28.5	01-307-73	18
B12-3.5-4.0	01-307-80	6
B12-7.5-8.0	01-307-81	24
B12-11.5-12.0	01-307-82	25
B12-16.0-16.5	01-307-83	10
B12-19.5-20.0	01-307-84	38
B12-23.0-23.5	01-307-85	60
B12-24.5-25.0	01-307-86	20
B13-3.5-4.0	01-307-93	16
B13-7.5-8.0	01-307-94	24
B13-13.0-13.5	01-307-95	22
B13-16.0-16.5	01-307-96	13



Date of Report: February 5, 2018
 Samples Submitted: January 31, 2018
 Laboratory Reference: 1801-307
 Project: 050004

% MOISTURE

Date Analyzed: 2-1&2-18

Client ID	Lab ID	% Moisture
B13-19.5-20.0	01-307-97	18
B13-23.5-24.0	01-307-98	21
B13-27.0-27.5	01-307-99	16
B14-4.0-4.5	01-307-106	13
B14-7.5-8.0	01-307-107	17
B14-12.0-12.5	01-307-108	19
B14-16.5-17.0	01-307-109	36
B14-20.0-20.5	01-307-110	19
B14-24.0-24.5	01-307-111	62
B14-27.5-28.0	01-307-112	26
B14-30.0-30.5	01-307-113	19
B15-4.0-4.5	01-307-120	31
B15-8.5-9.0	01-307-121	18
B15-12.0-12.5	01-307-122	15
B15-16.0-16.5	01-307-123	30
B15-20.0-20.5	01-307-124	58
B15-24.0-24.5	01-307-125	50
B15-28.0-28.5	01-307-126	17
B15-30.5-31.0	01-307-127	14





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference





OnSite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company:

Project Name:

Project Number:

Project Manager:

Sampled by:

Turnaround Request
(in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
(TPH analysis 5 Days)
☐ (other)

Laboratory Number: **01-307**

Lab ID

Date Sampled

Time Sampled

Matrix

Number of Containers

NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx (☐ Acid / SG Clean-up)	
Volatiles 8260C	
Halogenated Volatiles 8260C	
EDB EPA 8011 (Waters Only)	
Semivolatiles 8270D/SIM (with low-level PAHs)	
PAHs 8270D/SIM (low-level)	
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
% Moisture	

1	B06-4.0-4.5	1/29	1330	S	1
2	B06-7.5-8.0		1335		
3	B06-12.0-12.5		1400		
4	B06-16.0-16.5		1410		
5	B06-19.5-20.0		1415		
6	B06-24.0-24.5		1420		
7	B06-27.5-28.0	1/29	1430		
8	B06-08-012418		1355	W	
9	B06-28-012418		1450		
10	B06-12-012418		1515		

Signature: *Breagh Giver* Company: *Aspect* Date: *1/29* Time: *2200*

Relinquished	<i>Breagh Giver</i>	Aspect	1/29	2200	* FIELD FILTERED Special Dis. WATER - 3.0 ppm SOIL - 1.0 ppm
Received	<i>Breagh Giver</i>	Aspect	1/30	920	
Relinquished	<i>Breagh Giver</i>	Aspect	1/30	1030	
Received	<i>Breagh Giver</i>	Aspect	1/30/18	1030	
Relinquished	<i>Breagh Giver</i>	Aspect			
Received					
Reviewed/Date		Reviewed/Date			

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐



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Chain of Custody

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Days ☐ 3 Days

☒ Standard (7 Days)
(TPH analysis 5 Days)

☐ _____ (other)

Laboratory Number: **01-307**

Company: **Aspect**
Project Number: **050004**
Project Name: **Barbee Mill**
Project Manager: **Jeremy Porter / Delia Massay**
Sampled by: **Breigh Grier**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
21	B07-08-012418	1/24	0920	W	1
22	B07-28-012418		1020		
23	B07-12-012418		1050		
24	B07-16-012418		1105		
25	B07-20-012418		1135		
26	B07-24-012418		1150		
27	B08-25-3.0	1/23	1405	S	
28	B08-7.5-8.0		1410		
29	B08-11.5-12.0		1415		
30	B08-16.0-16.5		1445		

NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx (☐ Acid / SG Clean-up)	
Volatiles 8260C	
Halogenated Volatiles 8260C	
EDB EPA 8011 (Waters Only)	
Semivolatiles 8270D/SIM (with low-level PAHs)	
PAHs 8270D/SIM (low-level)	
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
Dissolved As	X
As	X
% Moisture	X

Signature	Company	Date	Time	Comments/Special Instructions
<i>Breigh Grier</i>	Aspect	1/29	2:20	
<i>Delia Massay</i>	Aspect	1/30	9:20	
<i>Jeremy Porter</i>	Aspect	1/30	10:30	
<i>Breigh Grier</i>	Aspect	1/30	10:30	

Relinquished				
Received				
Relinquished				
Received				
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date				

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐



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Chain of Custody

Turnaround Request
(in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Days ☐ 3 Days

☐ Standard (7 Days)
(TPH analysis 5 Days)

☐ (other) _____

Laboratory Number: **01-307**

Company: **Aspect**
Project Number: **050004**
Project Name: **Barbee Mill**
Project Manager: **Jeremy Porter / Delia Massey**
Sampled by: **Breagh Greer**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix
31	B08-19.5-20.0	1/23	1450	S
32	B08-23.5-24.0	↓	1455	↓
33	B08-28.0-28.5	↓	1500	↓
34	B08-12-012318	1/23	1435	W
35	B08-32-012318	↓	1525	↓
36	B08-16-012318	↓	1600	↓
37	B08-20-012318	↓	1615	↓
38	B08-24-012318	↓	1700	↓
39	B08-28-012318	↓	1725	↓

Number of Containers

NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx (☐ Acid / SG Clean-up)	
Volatiles 8260C	
Halogenated Volatiles 8260C	
EDB EPA 8011 (Waters Only)	
Semivolatiles 8270D/SIM (with low-level PAHs)	
PAHs 8270D/SIM (low-level)	
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
Dissolved As As	
% Moisture	

Signature	Company	Date	Time	Comments/Special Instructions
<i>Breagh Greer</i>	Aspect	1/22	2200	
<i>Delia Massey</i>	Aspect	1/30	9:30	
<i>Jeremy Porter</i>	Aspect	1/30	10:30	
<i>Delia Massey</i>	Aspect	1/30	10:30	

Received	Relinquished	Reviewed/Date
Received	Relinquished	Reviewed/Date
Received	Relinquished	Reviewed/Date
Received	Relinquished	Reviewed/Date
Received	Relinquished	Reviewed/Date

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐



Chain of Custody

Page 16 of 14

Company: Aspect					
Project Number: 050004					
Project Name: Barbee Mill					
Project Manager: Jeremy Pater / Delia					
Sampled by: Massey					
☐ Same Day ☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ Standard (7 Days) (TPH analysis 5 Days)					
☐ _____ (other)					
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
S0	B09-20-012318	1/23	1130	W	1
S1	B09-24-012318		1155	W	
S2	B09-28-012318	↓	1225	W	
S3	AB10-4.5-5.0	1/22	1015	S	
S4	AB10-7.0-7.5		1018		
S5	AB10-11.5-12.0		1055		
S6	AB10-14.5-15.0		1057		
S7	AB10-19.0-20.0		1110		
S8	AB10-24.5-25.0		1135		
S9	AB10-28.0-28.5	↓	1150		
Signature: [Signature]					Company: Asput
Date: 1/29					Time: 2200
Comments/Special Instructions:					
Data Package: Standard ☐ Level III ☐ Level IV ☐					
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐					



Page 9 of 14

☐ Same Day ☐ 1 Day

☐ 2 Days ☐ 3 Days

☒ Standard (7 Days)
(TPH analysis 5 Days)

1501

(other)

Number of Containers

NWTPH-HCID
NWTPH-Gx/BTEX
NWTPH-Gx
NWTPH-Dx (☐ Acid / SG Clean-up)
Volatiles 8260C
Halogenated Volatiles 8260C
EDB EPA 8011 (Waters Only)
Semivolatiles 8270D/SIM (with low-level PAHs)
PAHs 8270D/SIM (low-level)
PCBs 8082A
Organochlorine Pesticides 8081B
Organophosphorus Pesticides 8270D/SIM
Chlorinated Acid Herbicides 8151A
Total RCRA Metals
Total MTCA Metals
TCLP Metals
HEM (oil and grease) 1664A
As
Dissolved As
% Moisture

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished	Brenneman	Aspet	1/29	2200	
Received		ACPHA	1/30	2:20	
Relinquished		ACPHA	1/30	10:30	
Received		Q82E	1/30/18	1030	
Relinquished					
Received					
Reviewed/Date		Reviewed/Date			Data Package: Standard ☐ Level III ☐ Level IV ☐ Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐



Onsite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
(in working days)
(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Days ☐ 3 Days

☒ Standard (7 Days)
(TPH analysis 5 Days)

☐ _____ (other)

Laboratory Number: **01-307**

Number of Containers

NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx (☐ Acid / SG Clean-up)	
Volatiles 8260C	
Halogenated Volatiles 8260C	
EDB EPA 8011 (Waters Only)	
Semivolatiles 8270D/SIM (with low-level PAHs)	
PAHs 8270D/SIM (low-level)	
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
Dissolved As As	
% Moisture	

Company: **Aspect**

Project Number: **650004**

Project Name: **Barbee Mill**

Project Manager: **Jeremy Porter / Delia Massey**

Sampled by: **Breegh Greer**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix
100	B13-08-012618	1/26	0926	W
101	B13-28-012918	1/29	1550	
102	B13-12-012918		1620	
103	B13-16-012918		1640	
104	B13-20-012918		1705	
105	B13-24-012918		1725	
106	B14-4.0-4.5	1/26	0935	S
107	B14-7.5-8.0		0940	
108	B14-12.0-12.5		0950	
109	B14-16.5-17.0		1000	

Signature: _____ Company: **Aspect**

Date: **1/29** Time: **2200** Comments/Special Instructions:

Relinquished		Aspect	1/29	2200	Data Package: Standard ☐ Level III ☐ Level IV ☐ Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐
Received		Aspect	1/30	2:20	
Relinquished		Aspect	1/30	10:30	
Received		Aspect	1/30	10:30	
Relinquished		Aspect	1/30	10:30	
Received					
Reviewed/Date					



Page 12 of 14

**Turnaround Request
(in working days)**
(Check One)

Laboratory Number:

01-307

Company: <u>Aspect</u>		(Check One)													
Project Number: <u>050004</u>	☐ Same Day	☐ 1 Day													
Project Name: <u>Barbee Mill</u>	☐ 2 Days	☐ 3 Days													
Project Manager: <u>Jeremy Porter / Delia Massery</u>	☒ Standard (7 Days) (TPH analysis 5 Days)														
Sampled by: <u>Breagh Finer</u>	☐ _____ (other)														
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers										
110	B14-20.0-20.5	1/26	1000	S	1	NWTPH-HCID									
111	B14-24.0-24.5		1005		1	NWTPH-Gx/BTEX									
112	B14-27.5-28.0		1010		1	NWTPH-Gx									
113	B14-30.0-30.5	✓	1500	✓	1	NWTPH-Dx (☐ Acid / SG Clean-up)									
114	B14-28-012618	1/26	1035	W		Volatiles 8260C									
115	B14-12-012618		1135			Halogenated Volatiles 8260C									
116	B14-16-012618		1200			EDB EPA 8011 (Waters Only)									
117	B14-20.0-012618		1215			Semivolatiles 8270D/SIM (with low-level PAHs)									
118	B14-24-012618		1405			PAHs 8270D/SIM (low-level)									
119	B14-32-012618	✓	1430	✓		PCBs 8082A									
						Organochlorine Pesticides 8081B									
						Organophosphorus Pesticides 8270D/SIM									
						Chlorinated Acid Herbicides 8151A									
						Total RCRA Metals									
						Total MTCA Metals									
						TCLP Metals									
						HEM (oil and grease) 1664A									
						As Dissolved As									
						% Moisture									
Signature: <u>Breagh Finer</u>		Company: <u>Aspect</u>	Date: <u>1/29</u>	Time: <u>1200</u>	Comments/Special Instructions										
Relinquished															
Received	<u>Delia Massery</u>	<u>Aspect</u>	<u>1/30</u>	<u>9:20</u>											
Relinquished															
Received	<u>Breagh Finer</u>	<u>Aspect</u>	<u>1/30</u>	<u>10:30</u>											
Relinquished															
Received	<u>Breagh Finer</u>	<u>Aspect</u>	<u>1/30</u>	<u>10:30</u>											
Relinquished															
Received															
Reviewed/Date					Data Package: Standard ☐ Level III ☐ Level IV ☐										
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐															

Chain of Custody

[illegible]



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 17, 2018

Jeremy Porter
Aspect Consulting
401 2nd Avenue South, Suite 201
Seattle, WA 98104

Re: Analytical Data for Project 050004
Laboratory Reference No. 1807-058

Dear Jeremy:

Enclosed are the analytical results and associated quality control data for samples submitted on July 10, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'DB', with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 17, 2018
Samples Submitted: July 10, 2018
Laboratory Reference: 1807-058
Project: 050004

Case Narrative

Samples were collected on July 9 and 10, 2018 and received by the laboratory on July 10, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: July 17, 2018
 Samples Submitted: July 10, 2018
 Laboratory Reference: 1807-058
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B16-32-070918					
Laboratory ID:	07-058-01					
Arsenic	33	1.0	EPA 6020B		7-12-18	
Client ID:	B16-28-070918					
Laboratory ID:	07-058-02					
Arsenic	20	1.0	EPA 6020B		7-12-18	
Client ID:	B15-40-070918					
Laboratory ID:	07-058-03					
Arsenic	36	1.0	EPA 6020B		7-12-18	
Client ID:	B15-36-070918					
Laboratory ID:	07-058-04					
Arsenic	41	1.0	EPA 6020B		7-12-18	
Client ID:	B17-12-071018					
Laboratory ID:	07-058-05					
Arsenic	34	1.0	EPA 6020B		7-12-18	
Client ID:	B17-16-071018					
Laboratory ID:	07-058-06					
Arsenic	68	1.0	EPA 6020B		7-12-18	
Client ID:	B17-20-071018					
Laboratory ID:	07-058-07					
Arsenic	15	1.0	EPA 6020B		7-12-18	



Date of Report: July 17, 2018
 Samples Submitted: July 10, 2018
 Laboratory Reference: 1807-058
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0712D1					
Arsenic	ND	1.0	EPA 6020B		7-12-18	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-058-07							
	ORIG	DUP						
Arsenic	15.0	14.9	NA	NA	NA	NA	0	20

MATRIX SPIKES

Laboratory ID:	07-058-07									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	103	104	80.0	80.0	15.0	110	111	75-125	0	20

SPIKE BLANK

Laboratory ID:	SB0712D1									
Arsenic	81.6		80.0		N/A	102		80-120		





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference





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Chain of Custody

Page 1 of 1

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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

September 26, 2018

Jeremy Porter
Aspect Consulting
401 2nd Avenue South, Suite 201
Seattle, WA 98104

Re: Analytical Data for Project 050004
Laboratory Reference No. 1809-154

Dear Jeremy:

Enclosed are the analytical results and associated quality control data for samples submitted on September 14, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 26, 2018
Samples Submitted: September 14, 2018
Laboratory Reference: 1809-154
Project: 050004

Case Narrative

Samples were collected on September 11, 12, 13 and 14, 2018 and received by the laboratory on September 14, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B01-12.0-13.0					
Laboratory ID:	09-154-03					
Arsenic	3.9	0.42	EPA 6020B	9-24-18	9-25-18	
Client ID:	B01-19.0-20.0					
Laboratory ID:	09-154-05					
Arsenic	2.7	0.31	EPA 6020B	9-24-18	9-25-18	
Client ID:	B01-23.0-24.0					
Laboratory ID:	09-154-07					
Arsenic	1.3	0.27	EPA 6020B	9-24-18	9-25-18	
Client ID:	B02-21.0-22.0					
Laboratory ID:	09-154-11					
Arsenic	1.8	0.32	EPA 6020B	9-24-18	9-25-18	
Client ID:	B02-26.0-27.0					
Laboratory ID:	09-154-13					
Arsenic	1.2	0.31	EPA 6020B	9-24-18	9-25-18	
Client ID:	B03-8.0-9.0					
Laboratory ID:	09-154-14					
Arsenic	2.3	0.37	EPA 6020B	9-24-18	9-25-18	
Client ID:	B03-21.0-23.0					
Laboratory ID:	09-154-16					
Arsenic	1.8	0.31	EPA 6020B	9-24-18	9-25-18	
Client ID:	B03-25.0-26.0					
Laboratory ID:	09-154-18					
Arsenic	1.6	0.31	EPA 6020B	9-24-18	9-25-18	



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

**TOTAL ARSENIC
EPA 6020B**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B04-18.0-19.0					
Laboratory ID:	09-154-21					
Arsenic	3.2	0.34	EPA 6020B	9-24-18	9-25-18	

Client ID:	B04-24.0-25.0					
Laboratory ID:	09-154-23					
Arsenic	1.7	0.30	EPA 6020B	9-24-18	9-25-18	

Client ID:	B04-20.0-21.0					
Laboratory ID:	09-154-25					
Arsenic	5.1	0.33	EPA 6020B	9-24-18	9-25-18	

Client ID:	B05-16.0-17.0					
Laboratory ID:	09-154-27					
Arsenic	4.3	0.38	EPA 6020B	9-24-18	9-25-18	

Client ID:	B05-21.0-22.0					
Laboratory ID:	09-154-29					
Arsenic	1.5	0.30	EPA 6020B	9-24-18	9-25-18	

Client ID:	B05-26.0-26.5					
Laboratory ID:	09-154-31					
Arsenic	1.0	0.30	EPA 6020B	9-24-18	9-25-18	



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

**TOTAL ARSENIC
 EPA 6020B
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0924SM2					
Arsenic	ND	0.25	EPA 6020B	9-24-18	9-25-18	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-154-31							
	ORIG	DUP						
Arsenic	0.830	0.905	NA	NA	NA	NA	9	20

MATRIX SPIKES

Laboratory ID:	09-154-31							
	MS	MSD	MS	MSD	MS	MSD		
Arsenic	90.3	87.3	100	100	0.830	89	86	75-125
							3	20

SPIKE BLANK

Laboratory ID:	SB0924SM2							
Arsenic	94.0		100	N/A	94	80-120		



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TWP1-4-091118					
Laboratory ID:	09-154-01					
Arsenic	49	1.0	EPA 6020B		9-25-18	
Client ID:	TWP2-4-091118					
Laboratory ID:	09-154-02					
Arsenic	26	1.0	EPA 6020B		9-25-18	
Client ID:	B01-17-091418					
Laboratory ID:	09-154-04					
Arsenic	1.7	1.0	EPA 6020B		9-25-18	
Client ID:	B01-21-091418					
Laboratory ID:	09-154-06					
Arsenic	5.1	1.0	EPA 6020B		9-25-18	
Client ID:	B01-25-091418					
Laboratory ID:	09-154-08					
Arsenic	4.4	1.0	EPA 6020B		9-25-18	
Client ID:	B02-17-091318					
Laboratory ID:	09-154-09					
Arsenic	1.5	1.0	EPA 6020B		9-25-18	
Client ID:	B02-21-091318					
Laboratory ID:	09-154-10					
Arsenic	ND	1.0	EPA 6020B		9-25-18	
Client ID:	B02-25-091318					
Laboratory ID:	09-154-12					
Arsenic	2.6	1.0	EPA 6020B		9-25-18	



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B03-17-091318					
Laboratory ID:	09-154-15					
Arsenic	ND	1.0	EPA 6020B		9-25-18	
Client ID:	B03-21-091318					
Laboratory ID:	09-154-17					
Arsenic	1.1	1.0	EPA 6020B		9-25-18	
Client ID:	B03-25-091318					
Laboratory ID:	09-154-19					
Arsenic	4.4	1.0	EPA 6020B		9-25-18	
Client ID:	B04-17-091218					
Laboratory ID:	09-154-20					
Arsenic	3.1	1.0	EPA 6020B		9-25-18	
Client ID:	B04-21-091218					
Laboratory ID:	09-154-22					
Arsenic	6.4	1.0	EPA 6020B		9-25-18	
Client ID:	B04-25-091218					
Laboratory ID:	09-154-24					
Arsenic	6.2	1.0	EPA 6020B		9-25-18	
Client ID:	B05-16-091218					
Laboratory ID:	09-154-26					
Arsenic	8.5	1.0	EPA 6020B		9-25-18	
Client ID:	B05-21-091218					
Laboratory ID:	09-154-28					
Arsenic	3.4	1.0	EPA 6020B		9-25-18	



Date of Report: September 26, 2018
Samples Submitted: September 14, 2018
Laboratory Reference: 1809-154
Project: 050004

DISSOLVED ARSENIC
EPA 6020B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B05-25-091218					
Laboratory ID:	09-154-30					
Arsenic	1.8	1.0	EPA 6020B		9-25-18	



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

**DISSOLVED ARSENIC
 EPA 6020B
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0925D1					
Arsenic	ND	1.0	EPA 6020B		9-25-18	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-154-01							
	ORIG	DUP						
Arsenic	49.2	50.6	NA	NA	NA	NA	3	20

MATRIX SPIKES

Laboratory ID:	09-154-01							
	MS	MSD	MS	MSD	MS	MSD		
Arsenic	138	144	80.0	80.0	49.2	111	119	75-125
							5	20

SPIKE BLANK

Laboratory ID:	SB0925D1							
Arsenic	79.6		80.0	N/A	100	80-120		



Date of Report: September 26, 2018
 Samples Submitted: September 14, 2018
 Laboratory Reference: 1809-154
 Project: 050004

% MOISTURE

Date Analyzed: 9-18-18

Client ID	Lab ID	% Moisture
B01-12.0-13.0	09-154-03	40
B01-19.0-20.0	09-154-05	19
B01-23.0-24.0	09-154-07	8
B02-21.0-22.0	09-154-11	22
B02-26.0-27.0	09-154-13	20
B03-8.0-9.0	09-154-14	33
B03-21.0-23.0	09-154-16	19
B03-25.0-26.0	09-154-18	19
B04-18.0-19.0	09-154-21	26
B04-24.0-25.0	09-154-23	16
B04-20.0-21.0	09-154-25	24
B05-16.0-17.0	09-154-27	34
B05-21.0-22.0	09-154-29	16
B05-26.0-26.5	09-154-31	18





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference





Onsite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: **Aspect Consulting**

Project Number: **050004**

Project Name: **Barbee Mill**

Project Manager: **Della Massery / Jeremy Porter**

Sampled by: **Breagh Greer**

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Days ☐ 3 Days

☒ Standard (7 Days)

☐ _____ (other)

Lab ID **Sample Identification**

Date Sampled Time Sampled Matrix

Number of Containers

NWTPH-HCID
NWTPH-Gx/BTEX
NWTPH-Gx
NWTPH-Dx (☐ Acid / SG Clean-up)
Volatiles 8260C
Halogenated Volatiles 8260C
EDB EPA 8011 (Waters Only)
Semivolatiles 8270D/SIM (with low-level PAHs)
PAHs 8270D/SIM (low-level)
PCBs 8082A
Organochlorine Pesticides 8081B
Organophosphorus Pesticides 8270D/SIM
Chlorinated Acid Herbicides 8151A
Total RCRA Metals
Total MTCA Metals
TCLP Metals
HEM (oil and grease) 1664A

As
Dissolved As

% Moisture

Laboratory Number: **09-154**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture
1	TPP#1-04444-091118	9/11/18	1500	W	1																		
2	TPP#2-04444-091118	9/11/18	1725	W	1																		
3	B01-12.0-13.0	9/14/18	0820	S																			
4	B01-17-091418	9/14/18	0855	W																			
5	B01-19.0-20.0	9/14/18	0920	S																			
6	B01-21-091418	9/14/18	1120	W																			
7	B01-23.0-24.0	9/14/18	0930	S																			
8	B01-25-091418	9/14/18	1020	W																			
9	B02-17-091318	9/13/18	1405	W																			
10	B02-21-091318	9/13/18	1450	W																			

Signature

Company

Date

Time

Comments/Special Instructions

Breagh Greer

Aspect

9/14/18 1500

*It not enough soil to analyze pls
call Breagh @ 6123327343*

Van

Sperry

9/14/18 16:40

Van

Sperry

9/14/18 1735

Received

[Signature]

Reviewed/Date

Data Package: Standard ☐ Level III ☐ Level IV ☐

Reviewed/Date

Reviewed/Date

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐



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Chain of Custody

Aspect Consulting

Project Number: 65004

Project Name: Barbel mill

Project Manager: Delia Massey / Jeremy Porter

Breyn Breer

Company: Aspect Consulting			(Check One)		
Project Number: 050004			☐ Same Day ☐ 1 Day		
Project Name: Barber Mill			☐ 2 Days ☐ 3 Days		
Project Manager: Delia Massey / Jeremy Porter			☒ Standard (7 Days)		
Sampled by: Breagh Greer			☐ _____ (other)		
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
11	B02-21.0-22.0	9/13/18	1430	S	1
12	B02-25-091318	9/13/18	1550	W	1
13	B02-26.0-27.0	9/13/18	1510	S	1
14	B03-8.0-9.0	9/13/18	1015	S	1
15	B03-17-091318	9/13/18	1220	W	1
16	B03-21.0-23.0	9/13/18	1025	S	1
17	B03-21-091318	9/13/18	1300	W	1
18	B03-25.0-26.0	9/13/18	1030	S	1
19	B03-25-091318	9/13/18	1120	W	1
20	B04-17-091218	9/12/18	1520	W	1
NWTPH-HCID					
NWTPH-Gx/BTEX					
NWTPH-Gx					
NWTPH-Dx (☐ Acid / SG Clean-up)					
Volatiles 8260C					
Halogenated Volatiles 8260C					
EDB EPA 8011 (Waters Only)					
Semivolatiles 8270D/SIM (with low-level PAHs)					
PAHs 8270D/SIM (low-level)					
PCBs 8082A					
Organochlorine Pesticides 8081B					
Organophosphorus Pesticides 8270D/SIM					
Chlorinated Acid Herbicides 8151A					
Total RCRA Metals					
Total MTCA Metals					
TCLP Metals					
HEM (oil and grease) 1664A					
As					
Dissolved As					
%					
Moisture					

Reviewed/Date

Reviewed/Date

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliv

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐



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Chain of Custody

Page 3 of 4

ENVIRONMENTAL INC. Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com			Turnaround Request (in working days)			Laboratory Number: 09-154															
Company: Aspect Consulting			☐ Same Day ☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ Standard (7 Days) ☐ (other) _____																		
Project Number: 050004																					
Project Name: Barbee Mill																					
Project Manager: Della Massey / Jeremy Porter																					
Sampled by: _____																					
Lab ID			Date Sampled			Time Sampled			Matrix			Number of Containers									
Sample Identification																					
21	B04-18.0-19.0	9/12/18	0850	S	1	NWTPH-HCID															
22	B04- 20.0-21.0 21-091218	9/12/18	0915	W	1	NWTPH-Gx/BTEX															
23	B04-24.0-25.0	9/12/18	1606	S	1	NWTPH-Gx															
24	B04-25-091218	9/12/18	1700	W	1	NWTPH-Dx (☐ Acid / SG Clean-up)															
25	B04-20.0-21.0	9/12/18	1545	S	1	Volatiles 8260C															
26	B05-16-091218	9/12/18	1230	W	1	Halogenated Volatiles 8260C															
27	B05-16.0-17.0	9/12/18	1140	S	1	EDB EPA 8011 (Waters Only)															
28	B05-21-091218	9/12/18	1330	W	1	Semivolatiles 8270D/SIM (with low-level PAHs)															
29	B05-21.0-22.0	9/12/18	1310	S	1	PAHs 8270D/SIM (low-level)															
30	B05-25-091218	9/12/18	1050	W	1	PCBs 8082A															
						Organochlorine Pesticides 8081B															
						Organophosphorus Pesticides 8270D/SIM															
						Chlorinated Acid Herbicides 8151A															
						Total RCRA Metals															
						Total MTCA Metals															
						TCLP Metals															
						HEM (oil and grease) 1664A															
						As															
						Dissolved As															
						% Moisture															
Relinquished			Signature			Company			Date			Time			Comments/Special Instructions						
Received			Bumpkin			Aspect			9/14/18			1500									
Relinquished			Van			SP4			9/14/18			1640									
Received			Van			SP4			9/14/18			1735									
Relinquished			[Signature]			[Signature]			9/14/18			1735									
Received															Data Package: Standard ☐ Level III ☐ Level IV ☐						
Reviewed/Date															Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐						



Chain of Custody

Page 4 of 4

[illegible]

ATTACHMENT B

Boring Logs

Coarse-Grained Soils - More than 50% (1) Retained on No. 200 Sieve			Terms Describing Relative Density and Consistency		
Gravels - More than 50% (1) of Coarse Fraction Retained on No. 4 Sieve		(5)	GW	Well-graded gravel and gravel with sand, little to no fines	<u>Density</u> Very Loose 0 to 4 Loose 4 to 10 Medium Dense 10 to 30 Dense 30 to 50 Very Dense > 50 <u>Consistency</u> 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
			GP	Poorly-graded gravel and gravel with sand, little to no fines	
			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)	SW	Well-graded sand and sand with gravel, little to no fines	<u>Test Symbols</u> 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
			SP	Poorly-graded sand and sand with gravel, little to no fines	
			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	Silt and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel	<u>Component Definitions</u> <u>Size Range and Sieve Number</u> 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)
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay	
			OL	Organic clay or silt of low plasticity	
	Silt and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous 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	
(3) <u>Estimated Percentage</u> <u>Percentage by Weight</u> <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)					<u>Moisture Content</u> 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
<u>Symbols</u> 					
(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)					(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)
(4) Depth of groundwater 					BGS = below ground surface

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.



Exploration Log Key

DATE:	PROJECT NO.
DESIGNED BY:	
DRAWN BY:	FIGURE NO.
REVISED BY:	B-1

		Barbee Mill - 050004 <i>Project Address & Site Specific Location</i> 4101 Lake Washington Blvd. North, W of B05			Environmental Exploration Log <i>Coordinates (Lat, Lon WGS84)</i> 47.59909, -122.33164 (est)		<i>Exploration Number</i> B-01	
		<i>Contractor</i> Holt Services		<i>Equipment</i> Geoprobe 7822DT	<i>Sampling Method</i> Grab	<i>Ground Surface (GS) Elev. (NAVD88)</i> 17.08' (est)	B-01	
<i>Operator</i> Michael		<i>Exploration Method(s)</i> Direct push	<i>Work Start/Completion Dates</i> 09/14/2018		<i>Top of Casing Elev. (NAVD88)</i> NA	<i>Depth to Water (Below GS)</i> 0' (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)
		09/14/2018					Lake Washington Water; Lake Washington (Depth to mudline 12 feet)	
15								5
5								
10								10
10								
5								
5				B01-12.0-13.0			SILT (ML); wet, gray, low plasticity; 10% fine sand, 15% black fine disintegrated organics	
15							3" diameter wood pieces	15
0		Backfilled with bentonite grout						
20				B01-19.0-20.0			SAND WITH SILT (SW-SM); wet, gray	20
-5								
25				B01-23.0-24.0			GRAVEL WITH SAND (GP); wet, gray; fine subangular to subrounded gravel, 20% fine to coarse sand, trace silt	25
-10								
							Bottom of exploration at 27 ft. bgs.	
							Note: Drilling from barge. Water sample IDs printed vertically next to water sample symbol.	

Legend ☐ No Soil Sample Recovery ☒ Water Sample ☒ Continuous core 1.85" ID ☒ Grab sample		Water Level  Water Level ATD	See Exploration Log Key for explanation of symbols Logged by: BMG Approved by: DIM 2018-10-26	Exploration Log B-01 Sheet 1 of 1
--	--	--	---	---

**Barbee Mill - 050004**

Project Address & Site Specific Location

4101 Lake Washington Blvd. North, W of B30

Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.53149, -122.20530 (est)

Exploration Number

B-02

Contractor

Holt Services

Equipment

Geoprobe 7822DT

Sampling Method

Grab

Ground Surface (GS) Elev. (NAVD88)

17.08' (est)

Operator

Michael

Exploration Method(s)

Direct push

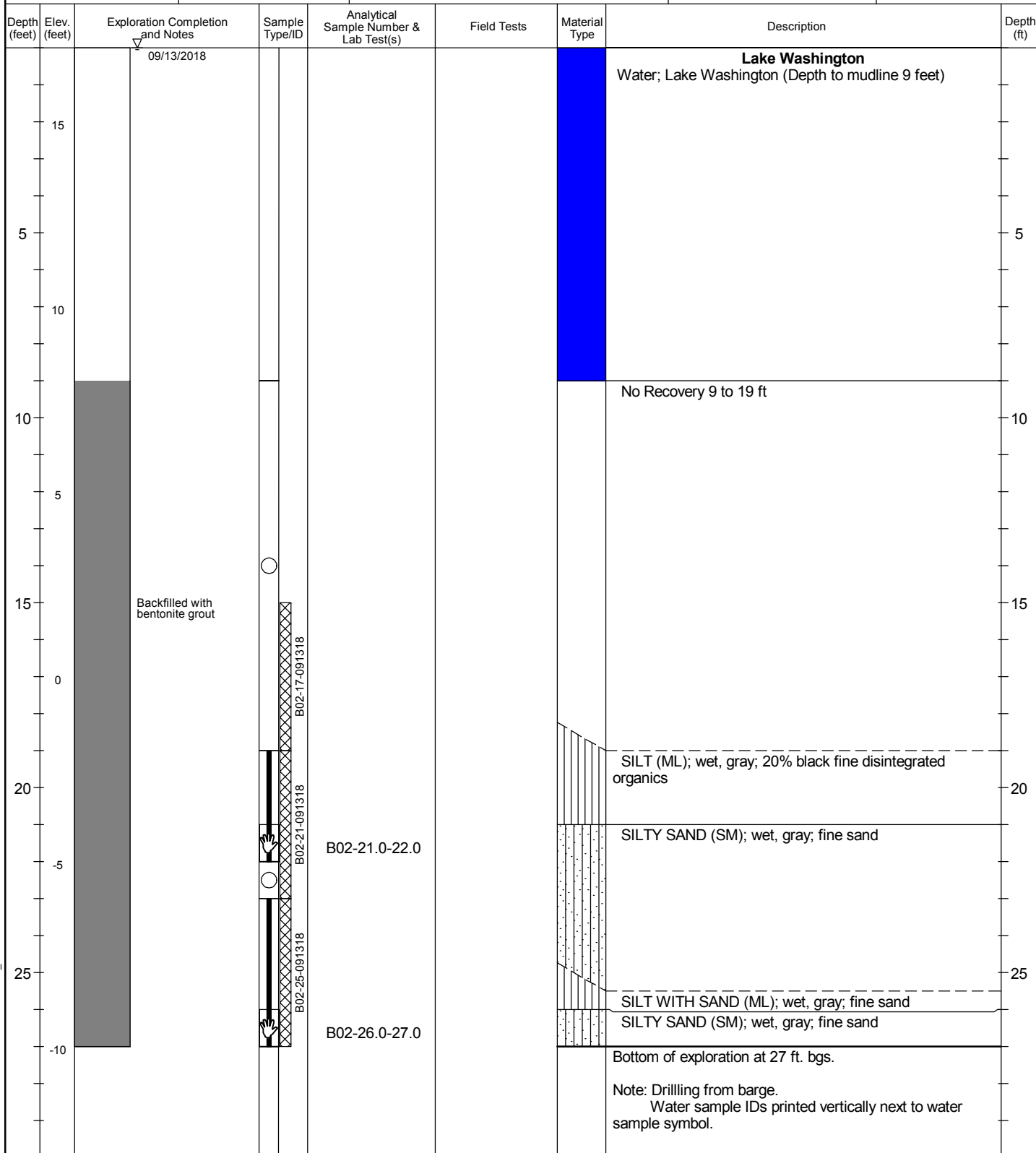
Work Start/Completion Dates

09/13/2018

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

**Legend**

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☒ Continuous core 1.85" ID
- ☒ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26**Exploration Log**
B-02

Sheet 1 of 1



Barbee Mill - 050004

Environmental Exploration Log

Project Address & Site Specific Location

Coordinates (Lat, Lon WGS84)

Exploration Number

4101 Lake Washington Blvd. North, S of B04

47.53137, -122.20514 (est)

B-03

Contractor

Equipment

Sampling Method

Ground Surface (GS) Elev. (NAVD88)

Holt Services

Geoprobe 7822DT

Grab

17.08' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

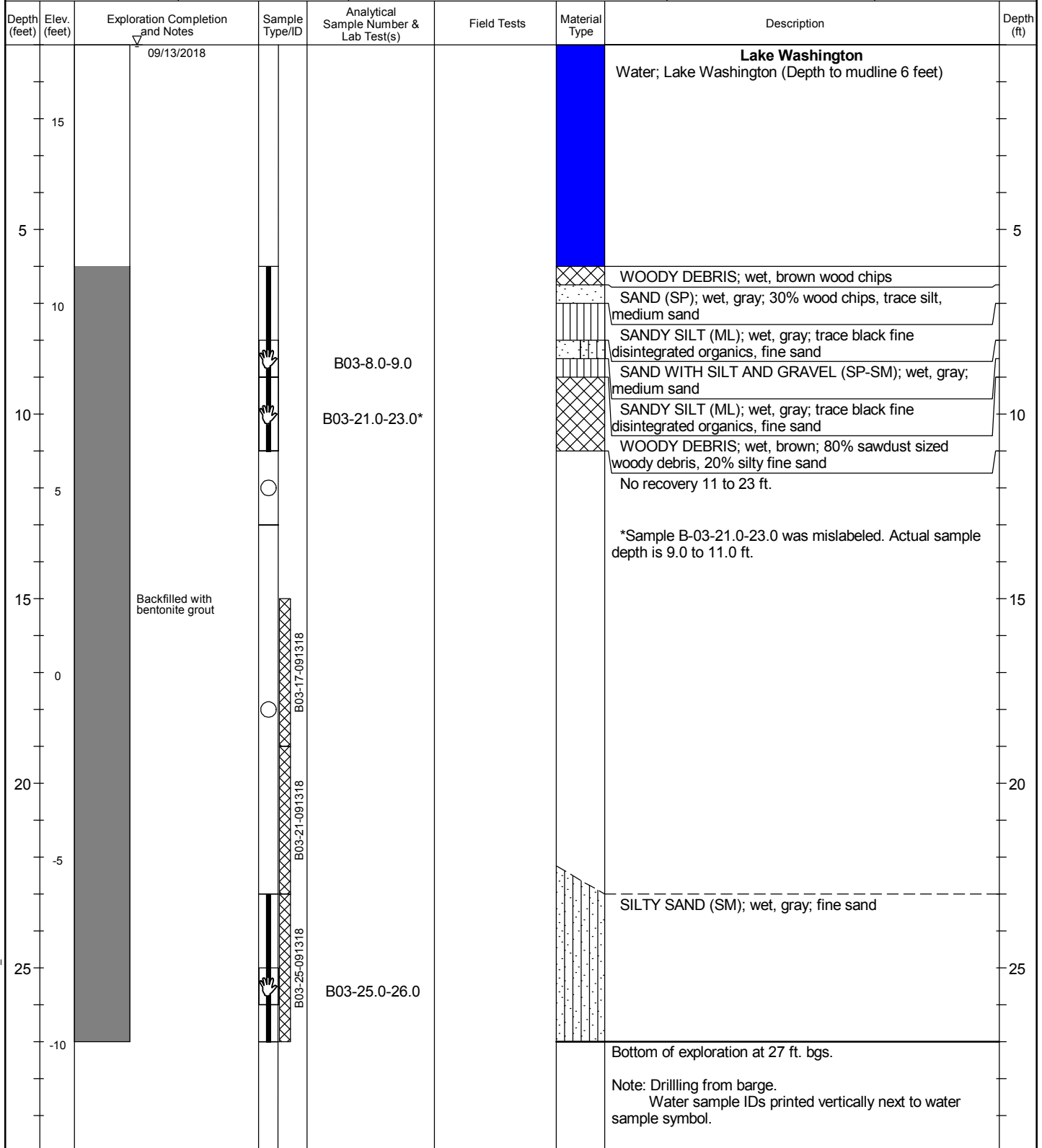
Depth to Water (Below GS)

Michael

Direct push

09/13/2018

NA



Legend

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☒ Continuous core 1.85" ID
- ☒ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26

Exploration Log
B-03

Sheet 1 of 1

**Barbee Mill - 050004**

Project Address & Site Specific Location

4101 Lake Washington Blvd. North, S of B05

Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.53158, -122.20498 (est)

Exploration Number

B-04

Contractor

Holt Services

Equipment

Geoprobe 7822DT

Sampling Method

Grab

Ground Surface (GS) Elev. (NAVD88)

17.08' (est)

Operator

Michael

Exploration Method(s)

Direct push

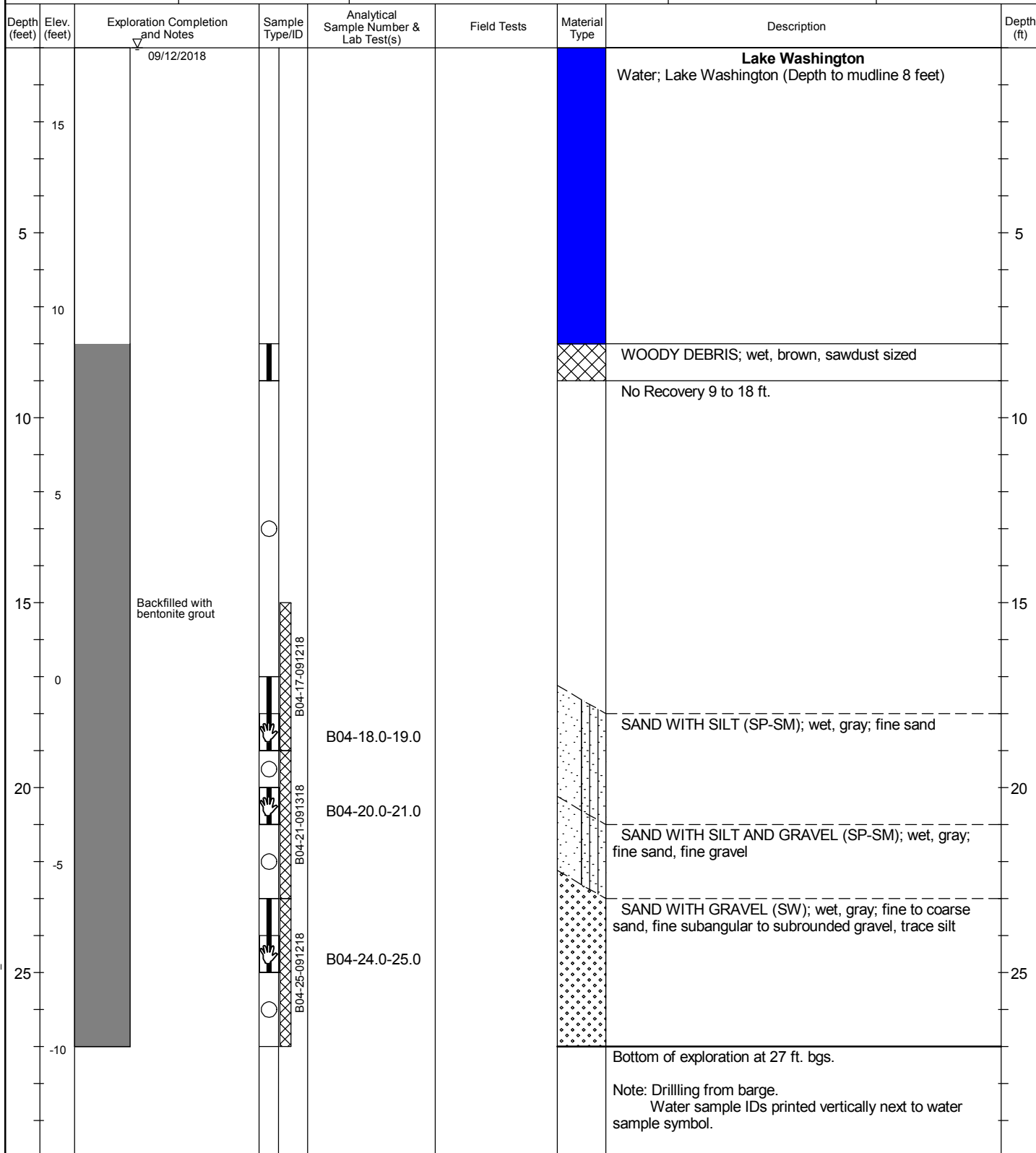
Work Start/Completion Dates

09/12/2018

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

**Legend**

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☒ Continuous core 1.85" ID
- ☒ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26**Exploration Log**
B-04

Sheet 1 of 1

**Barbee Mill - 050004**

Project Address & Site Specific Location

4101 Lake Washington Blvd. North, W of TWP2

Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.53177, -122.20490 (est)

Exploration Number

B-05

Contractor

Holt Services

Equipment

Geoprobe 7822DT

Sampling Method

Grab

Ground Surface (GS) Elev. (NAVD88)

17.08' (est)

Operator

Michael

Exploration Method(s)

Direct push

Work Start/Completion Dates

09/12/2018

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

0' (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)
		09/12/2018					Lake Washington Water; Lake Washington (depth to mudline ~11 feet)	
15								5
5								
10								10
10								
5							No recovery 11 to 16 ft.	15
15		Backfilled with bentonite grout	B05-16-091218	B05-16.0-17.0			SILTY SAND (SM); wet, gray; fine to medium sand, 15% sawdust SILT (ML); wet, gray/brown; 10% sawdust	
0			B05-21-091218	B05-21.0-22.0			SILTY SAND (SM); wet, gray; fine to medium sand SILT (ML); wet, gray	20
20			B05-25-091218	B05-26.0-26.5			2-inch layer silty fine to medium sand 2-inch layer silty fine to medium sand	25
-5							Bottom of exploration at 27 ft. bgs. Note: Drilling from barge. Water sample IDs printed vertically next to water sample symbol.	
25								
-10								

Legend

- No Soil Sample Recovery
- Water Sample
- Continuous core 1.85" ID
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26**Exploration Log**
B-05

Sheet 1 of 1

		Barbee Mill - 050004 <i>Project Address & Site Specific Location</i> 4101 Lake Washington Blvd. North, NE of B07			Environmental Exploration Log <i>Coordinates (Lat, Lon WGS84)</i> 47.53165, -122.20443 (est)		<i>Exploration Number</i> B-06	
		<i>Contractor</i> Holt Services		<i>Equipment</i> Geoprobe 7822DT	<i>Sampling Method</i> Grab	<i>Ground Surface (GS) Elev. (NAVD88)</i> 22.85' (est)		Depth to Water (Below GS) 5.75' (ATD)
<i>Operator</i> Michael		<i>Exploration Method(s)</i> Direct push	<i>Work Start/Completion Dates</i> 01/24/2018		<i>Top of Casing Elev. (NAVD88)</i> NA			

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		Backfilled with bentonite chips					SILTY SAND WITH GRAVEL (SM); moist, dark brown; with woody debris and chunks of concrete	
20								
5		01/24/2018	B06-08-012418	B06-4.0-4.5			SAND WITH SILT AND GRAVEL (SP-SM); moist, gray; fine to coarse sand, fine to coarse gravel	5
15			B06-12-012418	B06-7.5-8.0				
10			B06-16-012418	B06-12.0-12.5			SAND WITH SILT AND GRAVEL (SP-SM); moist, gray; medium to coarse sand, coarse gravel	10
10			B06-20-012418	B06-16.0-16.5			Trace woody debris	15
15			B06-24-012418	B06-19.5-20.0			WOODY DEBRIS; moist, brown; with silty sand and hydrocarbon-like odor and sheen	20
20							SILTY SAND (SM); moist, gray; trace gravel, slight sheen	

Legend ☐ No Soil Sample Recovery ☒ Water Sample ☒ Continuous core 1.85" ID ☒ Grab sample		Water Level  Water Level ATD	See Exploration Log Key for explanation of symbols Logged by: ACO Approved by: DIM 2018-10-26	Exploration Log B-06 Sheet 1 of 2
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**Barbee Mill - 050004****Environmental Exploration Log**

Project Address & Site Specific Location

Coordinates (Lat, Lon WGS84)

Exploration Number

4101 Lake Washington Blvd. North, NE of B07

47.53165, -122.20443 (est)

B-06

Contractor

Equipment

Sampling Method

Ground Surface (GS) Elev. (NAVD88)

Holt Services

Geoprobe 7822DT

Grab

22.85' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Michael

Direct push

01/24/2018

NA

5.75' (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							SAND WITH GRAVEL (SP); moist, gray; coarse sand and gravel, distinct sheen	
25				B06-24.0-24.5			SANDY SILT (ML); moist, gray with brown staining; with trace woody debris	25
							Becomes dark gray	
-5				B06-27.5-28.0				
							Bottom of exploration at 28 ft. bgs.	
							Note: Water sample IDs printed vertically next to water sample symbol.	
30								30
-10								
35								35
-15								
40								40
-20								

Legend

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☐ Continuous core 1.85" ID
- ☐ Grab sample

Water Level

☒ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO
Approved by: DIM 2018-10-26**Exploration Log
B-06**

Sheet 2 of 2

**Barbee Mill - 050004**

Project Address & Site Specific Location

4101 Lake Washington Blvd. North, NE of B08

Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.53158, -122.20451 (est)

Exploration Number

B-07

Contractor

Holt Services

Equipment

Geoprobe 7822DT

Sampling Method

Grab

Ground Surface (GS) Elev. (NAVD88)

23.42' (est)

Operator

Michael

Exploration Method(s)

Direct push

Work Start/Completion Dates

01/24/2018

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

6.25' (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)
0			B7-24-012418				SILTY SAND (SM); moist, dark gray; medium to coarse sand, trace fine gravel, hydrocarbon-like odor and sheen (continued)	
25			B7-24-012418	B07-24-24.5				25
			B7-28-012418				SAND (SW); moist, gray with brown stains; trace silt, fine to coarse sand	
				B07-27.5-28.0			SILTY SAND (SM); moist, gray	
-5							Bottom of exploration at 28 ft. bgs.	
30							Note: Water sample IDs printed vertically next to water sample symbol.	30
-10								
35								35
-15								
40								40
-20								

Legend

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☒ Continuous core 1.85" ID
- ☒ Grab sample

Water Level

☒ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO

Approved by: DIM 2018-10-26

**Exploration Log
B-07**

Sheet 2 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
		Project Address & Site Specific Location			Coordinates (Lat, Lon WGS84)		Exploration Number	
4101 Lake Washington Blvd. North, W part of site, N of B09		47.53143, -122.20468 (est)				B-08		
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)				
Holt Services	Geoprobe 7822DT	Grab		25.22' (est)				
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		Depth to Water (Below GS)		
Michael	Direct push	01/23/2018		NA		11.9' (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)
25		Backfilled with bentonite chips		B08-2.5-3.0			SILTY SAND WITH GRAVEL (SM); moist, dark brown; roots and topsoil to 0.5 ft, with concrete, wood, brick	
5	20			B08-7.5-8.0			SANDY SILT (ML); moist, dark brown	5
							GRAVEL WITH SAND (GP); dry, gray	
							SILTY SAND (SM); moist, gray; trace gravel	
10	15			B08-11.5-12.0			SANDY SILT (ML); moist, dark gray; trace woody debris	10
15	10			B08-16.0-16.5			WOODY DEBRIS; dark brown wood pulp	15
							SAND (SP); moist, gray; with trace silt and gravel	
				B08-20.0-12318			SILTY SAND (SM); moist, gray, trace gravel; trace woody debris	
20	5			B08-24.0-12318			SILTY SAND (SM); moist, gray; medium to coarse sand, trace gravel	20

Legend

- ☐ No Soil Sample Recovery
- ☐ Water Sample
- ☐ Continuous core 1.85" ID
- ☐ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO

Approved by: DIM 2018-10-26

Exploration Log B-08

Sheet 1 of 2

**Barbee Mill - 050004****Environmental Exploration Log**

Project Address & Site Specific Location

Coordinates (Lat, Lon WGS84)

Exploration Number

4101 Lake Washington Blvd. North, W part of site, N of B09

47.53143, -122.20468 (est)

B-08

Contractor

Equipment

Sampling Method

Ground Surface (GS) Elev. (NAVD88)

Holt Services

Geoprobe 7822DT

Grab

25.22' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Michael

Direct push

01/23/2018

NA

11.9' (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)
25	0		B08-24-012318	B08-23.5-24.0			SILTY SAND (SM); moist, gray; medium to coarse sand, trace gravel (continued)	25
			B08-28-012318				SANDY SILT (ML); moist, dark brown; trace organics, hydrocarbon-like odor	
30	-5		B08-32-012318	B08-28.0-28.5			SILTY SAND (SM); wet, gray; medium to coarse sand, trace gravel, trace woody debris	30
							1" thick layers of sandy silt	
35	-10						Bottom of exploration at 32 ft. bgs.	35
40	-15						Note: Water sample IDs printed vertically next to water sample symbol.	40

Legend

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☒ Continuous core 1.85" ID
- ☒ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO
Approved by: DIM 2018-10-26**Exploration Log
B-08**

Sheet 2 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
		Project Address & Site Specific Location			Coordinates (Lat, Lon WGS84)		Exploration Number	
4101 Lake Washington Blvd. North, SW corner of site		47.53129, -122.20472 (est)				B-09		
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)				
Holt Services	Geoprobe 7822DT	Grab		24.2' (est)				
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		Depth to Water (Below GS)		
Michael	Direct push	01/22/2018		NA		7.55' (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)
		Backfilled with bentonite chips					SILTY SAND WITH GRAVEL (SM); dry, dark brown; angular gravel, woody debris	
20							Concrete debris, organic debris	
5				B09-4.5-5.0			Becomes moist	5
		01/22/2018					SILT (ML); moist, blue gray, stained brown; trace sand and gravel, organic debris	
15				B09-7.5-8.0				10
10							SILTY SAND WITH GRAVEL (SM); very moist, dark brown to orange; with woody pulp	
				B09-11.5-12.0			6" thick medium to coarse sand layer	
10							SAND WITH SILT (SP-SM); Moist, gray; fine to medium sand	15
15				B09-16.0-16.5			WOODY DEBRIS; .	
							SILT WITH SAND (ML); Moist, gray-brown; fine sand, trace woody debris	
5				B09-20.0-23.18			Hydrocarbon-like odor	20
20				B09-24.0-23.18				

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Sample Type

Water Sample

Continuous core 1.85" ID

Grab sample

Legend

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO

Approved by: DIM 2018-10-26

Exploration Log B-09

Sheet 1 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
		Project Address & Site Specific Location			Coordinates (Lat, Lon WGS84)		Exploration Number	
4101 Lake Washington Blvd. North, SW corner of site		47.53129, -122.20472 (est)				B-09		
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)				
Holt Services	Geoprobe 7822DT	Grab		24.2' (est)				
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		Depth to Water (Below GS)		
Michael	Direct push	01/22/2018		NA		7.55' (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)
			B09-24-012318				SILT WITH SAND (ML); Moist, gray-brown; fine sand, trace woody debris (continued)	
0			B09-24-012318	B09-24.0-24.5			SAND WITH SILT (SP-SM); Moist, gray; fine to medium sand	25
25			B09-28-012318					
			B09-32-012318	B09-29.5-30.0			SANDY SILT (ML); Moist, gray-brown; fine to medium sand	30
-5								
30							Bottom of exploration at 32 ft. bgs.	
							Note: Water sample IDs printed vertically next to water sample symbol.	
-10								35
35								40
-15								
40								

Legend

- Water Sample
- Continuous core 1.85" ID
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

 Logged by: ACO
 Approved by: DIM 2018-10-26

Exploration Log B-09
 Sheet 2 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
		Project Address & Site Specific Location			Coordinates (Lat, Lon WGS84)		Exploration Number	
4101 Lake Washington Blvd. North, S-central part of site		47.53134, -122.20448 (est)				AB-10		
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)				
Holt Services	Geoprobe 7822DT	Grab		24.21' (est)				
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		Depth to Water (Below GS)		
Michael	Direct push	01/22/2018		NA		8.32' (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)
		Backfilled with bentonite chips					SILTY SAND WITH GRAVEL (SM); moist, dark brown; trace roots & seashells	
							SAND WITH SILT (SP-SM); dark brown to black; fine sand	
20							SAND WITH GRAVEL (SP); dry, light gray; trace silt, trace wood debris	
5			AB10-4.5-5.0				Becomes moist, dark gray, medium to coarse sand	5
			AB10-7.0-7.5				SILTY SAND WITH GRAVEL (SM); wet, gray	
		01/22/2018					CLAY (CL); grey to green; trace coarse gravel	
15							SILTY SAND (SM); wet, dark brown	
10			AB10-11.5-12.0				SAND WITH GRAVEL (SP); moist, dark gray; trace silt, medium to coarse sand	10
			AB10-14.5-15.0				Becomes fine to medium sand, with woody debris	15
15							Becomes dark gray to green, medium to coarse sand	
10			AB10-16.5-17.0					
5			AB10-19.0-20.0					
20			AB10-24.0-25.0					

Legend

- Water Sample
- Continuous core 1.85" ID
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols
 Logged by: ACO
 Approved by: DIM 2018-10-26

Exploration Log AB-10
 Sheet 1 of 2

		Barbee Mill - 050004 <i>Project Address & Site Specific Location</i> 4101 Lake Washington Blvd. North, E of B06			Environmental Exploration Log <i>Coordinates (Lat, Lon WGS84)</i> 47.53162, -122.20424 (est)		<i>Exploration Number</i> B-11	
		<i>Contractor</i> Holt Services		<i>Equipment</i> Geoprobe 7822DT	<i>Sampling Method</i> Grab	<i>Ground Surface (GS) Elev. (NAVD88)</i> 26.74' (est)	Depth to Water (Below GS) 9.02' (ATD)	
<i>Operator</i> Michael		<i>Exploration Method(s)</i> Direct push	<i>Work Start/Completion Dates</i> 01/25/2018		<i>Top of Casing Elev. (NAVD88)</i> NA			

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
25		Backfilled with bentonite chips					FILL TOPSOIL; Topsoil with rootlets SILTY SAND (SM); moist, light brown; trace gravel, woody debris Concrete debris	
5			B11-4.0-4.5				SILTY SAND WITH GRAVEL (SM); moist, dark brown and gray; wood debris, concrete debris Woody debris and concrete debris in layers	5
20			B11-7.5-8.0	B11-12-012518			SILTY SAND WITH GRAVEL (SM); moist, dark brown; with woody debris	10
15			B11-11.5-12.0	B11-16-012518			SILTY SAND (SM); moist, dark gray; fine to medium sand with 2-inch thick interbeds of dark gray sandy silt	15
15			B11-16.0-16.5	B11-20-012518			SAND WITH SILT (SP-SM); moist, gray and brown; fine to coarse sand, woody debris 1.5-inch-thick gravel layer	
20			B11-24-012518	B11-20.0-20.5			SILTY SAND (SM); wet, light gray; fine to medium sand, trace woody debris SILTY SAND WITH GRAVEL (SM); moist, gray; medium to coarse sand, trace organics	20

Legend

 Water Sample
 Continuous core 1.85" ID
 Grab sample

 Water Level
 Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO
 Approved by: DIM 2018-10-26

Exploration Log B-11

Sheet 1 of 2

**Barbee Mill - 050004**

Project Address & Site Specific Location

4101 Lake Washington Blvd. North, E of B06

Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.53162, -122.20424 (est)

Exploration Number

B-11

Contractor

Holt Services

Equipment

Geoprobe 7822DT

Sampling Method

Grab

Ground Surface (GS) Elev. (NAVD88)

26.74' (est)

Operator

Michael

Exploration Method(s)

Direct push

Work Start/Completion Dates

01/25/2018

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

9.02' (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)
25			B11-24.0-24.5				SILTY SAND WITH GRAVEL (SM); moist, gray; medium to coarse sand, trace organics (continued) Becomes dark gray	25
0			B11-25.5-26.0				SILT WITH SAND (ML); moist, dark brown; fine sand	
			B11-28.0-28.5				SAND WITH SILT (SP-SM); moist, gray and brown interbeds of silt with fine to medium sand	
30							SILTY SAND (SM); moist, gray, fine to coarse sand; interbedded with moist, dark gray, sandy silt with trace gravel	30
-5							Bottom of exploration at 32 ft. bgs. Note: Water sample IDs printed vertically next to water sample symbol.	
35								35
-10								
40								40
-15								

Legend

- Water Sample
- Continuous core 1.85" ID
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO
Approved by: DIM 2018-10-26**Exploration Log
B-11**

Sheet 2 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
		Project Address & Site Specific Location			Coordinates (Lat, Lon WGS84)		Exploration Number	
4101 Lake Washington Blvd. North, E of B11		47.53148, -122.20394 (est)				B-12		
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)				
Holt Services	Geoprobe 7822DT	Grab		25' (est)				
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		Depth to Water (Below GS)		
Michael	Direct push	01/25/2018		NA		6.69' (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)
		Backfilled with bentonite chips					TOPSOIL; moist soil with rootlets	
5	20		B12-3.5-4.0				SILTY SAND WITH GRAVEL (SM); moist, dark brown interbedded with light gray; fine to coarse sand, woody debris, concrete debris	5
		01/25/2018	B12-08-012518					
			B12-7.5-8.0				SILT (ML); moist, light gray to green; moderate plasticity, trace sand, trace gravel, rootlets	
10	15		B12-12-012518				SILTY SAND (SM); moist, brown; medium to coarse sand, trace gravel, trace woody debris	10
			B12-11.5-12.0				SAND WITH SILT AND GRAVEL (SP-SM); moist, dark gray; fine to coarse gravel	
15	10		B12-16-012518				SANDY SILT (ML); moist, dark brown; fine to medium sand, trace organics	15
			B12-16.0-16.5				Interbeds of fine sand with silt	
20	5		B12-20-012518				SILTY SAND (SM); moist, gray, fine to medium sand, trace gravel	20
			B12-19.5-20.0					
			B12-24-012518					

Legend

- No Soil Sample Recovery
- Water Sample
- Continuous core 1.85" ID
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO

Approved by: DIM 2018-10-26

Exploration Log B-12

Sheet 1 of 2

**Barbee Mill - 050004****Environmental Exploration Log**

Project Address & Site Specific Location

Coordinates (Lat,Lon WGS84)

Exploration Number

4101 Lake Washington Blvd. North, E of B11

47.53148, -122.20394 (est)

B-12

Contractor

Equipment

Sampling Method

Ground Surface (GS) Elev. (NAVD88)

Holt Services

Geoprobe 7822DT

Grab

25' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Michael

Direct push

01/25/2018

NA

6.69' (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)
							SILT WITH SAND (ML); wet, brown-yellow; trace wood debris	
25	0		B12-24-012518	B12-23.0-23.5				
			B12-24-012518	B12-24.5-25.0			No recovery	25
30	-5						Bottom of exploration at 28 ft. bgs.	30
							Note: Water sample IDs printed vertically next to water sample symbol.	
35	-10							35
40	-15							40

Legend

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☐ Continuous core 1.85" ID
- ☐ Grab sample

Water Level

☒ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO
Approved by: DIM 2018-10-26**Exploration Log**
B-12

Sheet 2 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
		Project Address & Site Specific Location			Coordinates (Lat, Lon WGS84)		Exploration Number	
4101 Lake Washington Blvd. North, S of large puddle, SW of B12		47.53136, -122.20420 (est)				B-13		
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)				
Holt Services	Geoprobe 7822DT	Grab		24.12' (est)				
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		Depth to Water (Below GS)		
Michael	Direct push	01/26/2018 to 01/29/2018		NA		5.21' (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)
		Backfilled with bentonite chips					SILTY SAND (SM); Dark brown, moist	
							Becomes light gray, sand-sized concrete debris	
20				B13-3.5-4.0			Becomes dark gray	
5		01/26/2018	B13-08-012618				Medium to coarse sand, wood debris, concrete debris	5
							Becomes light green 5 to 7 ft	
				B13-7.5-8.0			Woody debris	
15			B13-12-012918					
10							SILTY SAND WITH GRAVEL (SM); wet, gray; fine to coarse sand with fine gravel	
				B13-13.0-13.5			SAND WITH SILT AND GRAVEL (SP-SM); wet, gray; fine to medium sand, woody debris	
10			B13-16-012918					
15								
				B13-16.0-16.5			SAND (SP); wet, gray; fine to medium sand, trace fine gravel	
			B13-20-012918					
5								
20				B13-19.5-20.0			SILTY SAND (SM); we, gray; fine to medium sand	20
			B13-24-012918					

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Sample Type

Water Sample

Continuous core 1.85" ID

Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO

Approved by: DIM 2018-10-26

Exploration Log B-13

Sheet 1 of 2

		Barbee Mill - 050004 <i>Project Address & Site Specific Location</i> 4101 Lake Washington Blvd. North, S of large puddle, SW of B12			Environmental Exploration Log <i>Coordinates (Lat,Lon WGS84)</i> 47.53136, -122.20420 (est)		<i>Exploration Number</i> B-13	
		<i>Contractor</i> Holt Services		<i>Equipment</i> Geoprobe 7822DT	<i>Sampling Method</i> Grab	<i>Ground Surface (GS) Elev. (NAVD88)</i> 24.12' (est)		<i>Depth to Water (Below GS)</i> 5.21' (ATD)
<i>Operator</i> Michael		<i>Exploration Method(s)</i> Direct push	<i>Work Start/Completion Dates</i> 01/26/2018 to 01/29/2018		<i>Top of Casing Elev. (NAVD88)</i> NA			

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			B13-24-012918	B13-23.5-24.0			SILTY SAND (SM); we, gray; fine to medium sand (continued)	
25			B13-28-012918	B13-27.0-27.5			SILT (ML); moist to wet, brown with woody staining	25
							SILTY SAND (SM); moist, gray; fine to medium sand	
-5							Bottom of exploration at 28 ft. bgs.	
30							Note: Water sample IDs printed vertically next to water sample symbol.	30
-10								
35								35
-15								
40								40

Legend ☒ Water Sample ☐ Continuous core 1.85" ID ☐ Grab sample	Water Level ☒ Water Level ATD	See Exploration Log Key for explanation of symbols Logged by: ACO Approved by: DIM 2018-10-26	Exploration Log B-13 Sheet 2 of 2

Aspect CONSULTING		Barbee Mill - 050004			Environmental Exploration Log			
Contractor		Equipment		Sampling Method		Ground Surface (GS) Elev. (NAVD88)		
Holt Services		Geoprobe 7822DT		Grab		25.8' (est)		
Operator		Exploration Method(s)		Work Start/Completion Dates		Top of Casing Elev. (NAVD88)		
Michael		Direct push		01/26/2018		NA		
Project Address & Site Specific Location		Coordinates (Lat,Lon WGS84)		Exploration Number				
4101 Lake Washington Blvd. North, SE of B13 on berm		47.53125, -122.20395 (est)		B-14				
Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
25		Backfilled with bentonite chips					SILTY SAND (SM); moist, brown; trace roots, with woody debris	
5				B14-4.0-4.5			Becomes gray, with gravel-sized concrete debris	5
20							SILT WITH SAND (ML); moist, light green	
							SILTY SAND WITH GRAVEL (SM); moist, brown	
		01/26/2018		B14-7.5-8.0			SAND WITH SILT (SP-SM); moist, gray	
10							SILTY SAND (SM); moist, light gray; fine to coarse sand, trace gravel, woody debris	10
15				B14-12.0-12.5				
							Thin layers dark brown sandy silt	15
15				B14-16.5-17.0				
10								
20				B14-20.0-20.5			Becomes medium to coarse sand	20
5								

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Legend

Water Sample

Continuous core 1.85" ID

Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: ACO

Approved by: DIM 2018-10-26

Exploration Log B-14

Sheet 1 of 2

		Barbee Mill - 050004 <i>Project Address & Site Specific Location</i> 4101 Lake Washington Blvd. North, SE of B13 on berm			Environmental Exploration Log <i>Coordinates (Lat,Lon WGS84)</i> 47.53125, -122.20395 (est)		<i>Exploration Number</i> B-14	
		<i>Contractor</i> Holt Services		<i>Equipment</i> Geoprobe 7822DT	<i>Sampling Method</i> Grab	<i>Ground Surface (GS) Elev. (NAVD88)</i> 25.8' (est)		<i>Depth to Water (Below GS)</i> 8.25' (ATD)
<i>Operator</i> Michael		<i>Exploration Method(s)</i> Direct push	<i>Work Start/Completion Dates</i> 01/26/2018			<i>Top of Casing Elev. (NAVD88)</i> NA		

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
25	0		  	B14-24.0-24.5 B14-28.0-28.0 B14-30.0-30.5		     	SILTY SAND (SM); moist, light gray; fine to coarse sand, trace gravel, woody debris (continued) Becomes fine to medium sand	25
							SILT WITH SAND (ML); moist, light brown; trace woody debris	
							SILTY SAND (SM); wet, reddish to brown, gray; trace gravel, trace woody debris	
							SILTY SAND WITH GRAVEL (SM); moist, gray; fine to medium sand	
35	-10						Bottom of exploration at 32 ft. bgs. Note: Water sample IDs printed vertically next to water sample symbol.	35
40	-15							40

Legend  Water Sample  Continuous core 1.85" ID  Grab sample		 Water Level ATD	See Exploration Log Key for explanation of symbols Logged by: ACO Approved by: DIM 2018-10-26	Exploration Log B-14 Sheet 2 of 2
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Barbee Mill - 050004

Environmental Exploration Log

Project Address & Site Specific Location

Coordinates (Lat, Lon WGS84)

Exploration Number

4101 Lake Washington Blvd. North, E of B14, S of road

47.53127, -122.20355 (est)

B-15

Contractor

Equipment

Sampling Method

Ground Surface (GS) Elev. (NAVD88)

Holt Services

Geoprobe 7822DT

Grab

26.63' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Michael

Direct push

01/26/2018 to 07/09/2018

NA

16.1' (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)
25	0		B15-24-012918	B15-24.0-24.5			SILTY SAND WITH GRAVEL (SM); wet, gray; fine to coarse sand, fine to coarse gravel, with 6-inch layers of silty sand (continued)	25
			B15-28-012918	B15-28.0-28.5			Becomes moist, brown	
30	-5		B15-32-012618	B15-30.5-31.0			Becomes wet, gray	30
			B15-36-070918					
35	-10		B15-40-070918				SAND (SP); wet, gray; trace silt, fine to medium sand	35
40	-15						Bottom of exploration at 40 ft. bgs.	40
							Note: Water sample IDs printed vertically next to water sample symbol.	

Legend

- Water Sample
- Continuous core 1.85" ID
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26

Exploration Log
B-15

Sheet 2 of 2



Barbee Mill - 050004

Environmental Exploration Log

Project Address & Site Specific Location

Coordinates (Lat, Lon WGS84)

Exploration Number

4101 Lake Washington Blvd. North, E of B15

47.53125, -122.20299 (est)

B-16

Contractor

Equipment

Sampling Method

Ground Surface (GS) Elev.

Holt Services

Geoprobe 7822DT

Grab

25' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev.

Depth to Water (Below GS)

Michael

Direct push

07/09/2018

NA

6.3' (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)
		Backfilled with bentonite chips					SILTY SAND (SM); dry, brown; fine to medium sand, trace organics	
5	20						SAND (SP); slightly moist, brown; trace silt, 2-inch layer of woodchips	5
		07/09/2018					SILT (ML); Wet, gray	
							SAND WITH SILT (SP-SM); Wet, gray; fine to medium sand	
							SILT (ML); Wet, gray	
							SAND WITH SILT (SP-SM); Wet, gray; fine to medium sand	
10	15						SILT (ML); moist, brown; with 2-inch thick sand layers, with sawdust	10
15	10						SAND (SP); very moist, gray; fine to medium sand	15
20	5						SILT WITH SAND (ML); wet, gray; fine to medium sand	20
							SAND (SP); very moist, gray, fine sand	

Legend

- ☐ No Soil Sample Recovery
- ☒ Water Sample
- ☐ Continuous core 1.85" ID

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26

Exploration Log
B-16

Sheet 1 of 2

**Barbee Mill - 050004**

Project Address & Site Specific Location

4101 Lake Washington Blvd. North, N of B6

Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.53176, -122.20435 (est)

Exploration Number

B-17

Contractor

Holt Services

Equipment

Geoprobe 7822DT

Sampling Method

Grab

Ground Surface (GS) Elev.

22' (est)

Operator

Michael

Exploration Method(s)

Direct push

Work Start/Completion Dates

07/10/2018

Top of Casing Elev.

NA

Depth to Water (Below GS)

4.3' (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)
20		Backfilled with bentonite chips					TOPSOIL; dry, brown, with silt, fine to coarse sand	
							GRAVEL (GW); dry, with silt, fine to coarse sand, fine to coarse gravel; woody debris	
							WOODY DEBRIS; Very moist, dark brown	
5		07/10/2018					SILTY SAND (SM); very moist, gray; fine to medium sand	5
15							SAND WITH GRAVEL (SW); wet, gray; fine to coarse sand, fine to coarse gravel	
10			B17-12-071018					10
10			B17-16-071018				SILTY SAND (SM); wet, gray; fine sand	
							WOODY DEBRIS; .	
							SILTY SAND (SM); wet, gray; fine sand	
15			B17-20-071018				SAND (SP); wet, gray; trace silt, fine to medium sand	15
5							SANDY SILT (ML); wet, gray; fine sand, woody debris, strong hydrocarbon-like odor, heavy sheen	
							SAND (SP); wet, gray; fine sand	
							SANDY SILT (ML); wet, gray, fine sand 2" woody debris layer	
							SILTY SAND (SM); wet, gray, fine sand 2" woody debris layer	
20							Bottom of exploration at 20 ft. bgs.	20
							Note: Water sample IDs printed vertically next to water sample symbol.	

Legend

- ☐ No Soil Sample Recovery
- ☐ Water Sample
- ☐ Continuous core 1.85" ID

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: DIM 2018-10-26**Exploration Log**
B-17

Sheet 1 of 1

ATTACHMENT C

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

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

Services for Specific Purposes, Persons and Projects

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

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

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

This Report Is Project-Specific

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

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

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

Geoscience Interpretations

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

Discipline-Specific Reports Are Not Interchangeable

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

Environmental Regulations Are Not Static

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

Property Conditions Change Over Time

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