YEAR 1 ANNUAL REPORT FOR GROUNDWATER MONITORED NATURAL ATTENUATION

Lignin Operable Unit, G-P West Site

Prepared for: Port of Bellingham

Project No. AS210368-B-08 • February 29, 2024 FINAL

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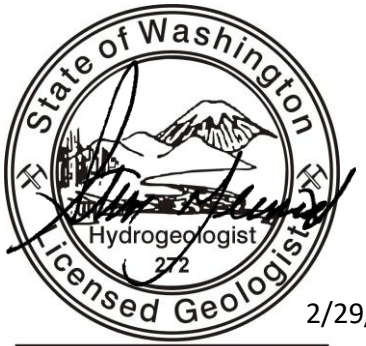
Aspect Consulting, LLC



2/29/2024

Amy Tice, LG
Project Geologist
amy.tice@aspectconsulting.com

Steve Germiat, LHG
Principal Hydrogeologist
steve.germiat@aspectconsulting.com

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1 Background for Groundwater Monitoring Program

This report presents results from the first year of compliance monitoring for groundwater monitored natural attenuation (MNA), a component of the cleanup action selected by the Washington State Department of Ecology (Ecology), for the Lignin Operable Unit (OU) of the Chlor-Alkali Remedial Action Unit (RAU) of the Georgia-Pacific (G-P) West Site (Site). The Site is being cleaned up under the authority of the Washington State Model Toxics Control Act (MTCA), Chapter 70A.305 of the Revised Code of Washington (RCW), and the MTCA Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC).

In August 2022, Ecology finalized the Cleanup Action Plan (CAP) for the Lignin OU (Ecology, 2022), and Ecology and the Port of Bellingham (Port) executed the First Amendment to the Site's Consent Decree requiring execution of that CAP.[1] The CAP-selected cleanup action for the Lignin OU included soil excavation to remove soils contaminated with carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and zinc that posed a direct contact risk for an unrestricted land use,[2] and to remove metals-impacted soil to enhance natural attenuation of metals in groundwater. The soil removal was conducted in September through December of 2022 (Aspect, 2023a). Mercy Housing Northwest has begun construction for 83 affordable housing units and childcare facility on an approximately 2.3-acre portion of the Lignin OU (Mercy Parcel on Figure 1). The Port is in early planning with Millworks LLC regarding mixed-use redevelopment of the 1.1-acre parcel located immediately north of the Mercy Parcel (Port property on Figure 1).

Following the soil removal, the Lignin OU cleanup includes groundwater monitored natural attenuation (MNA) to address low-level residual dissolved chromium and copper concentrations that exceeded groundwater cleanup levels based on protection of discharge to the Whatcom Waterway prior to the soil removal action. The soil removal permanently removed metals-impacted soil to reduce the mass of metals contamination and thereby enhance natural attenuation of metals contamination in groundwater and reduce the groundwater restoration time frame (Ecology, 2022).

Monitoring of the groundwater MNA cleanup action is being conducted in accordance with the "Compliance Monitoring Plan for Groundwater MNA" (CMP; Aspect, 2023a), which was reviewed and approved by Ecology prior to initiation of the monitoring program.

This report documents the first year of groundwater compliance monitoring data and provides recommendations in accordance with the CMP.

[1] The Lignin OU CAP was Exhibit G to the amended Consent Decree.
[2] Assuming a child's incidental ingestion of soil for a lifetime.

Following this Background section, the organization of the report is as follows:

- *Section 2* outlines the new monitoring well locations, installation, and development.
- *Section 3* the describes the groundwater sampling and analysis completed in the first year of monitoring.
- *Section 4* contains an evaluation of the groundwater analytical data with respect to the cleanup levels.
- *Section 5* presents the conclusions reached from the data to date and recommendations for future work.

2 Monitoring Well Installation and Development

Based on the groundwater elevation mapping, groundwater in the Lignin OU's shallow unconfined water-bearing zone flows generally northwestward toward Laurel Street (Aspect, 2022). In accordance with the CMP, the monitoring well locations were selected as follows:

- **Downgradient.** Monitoring wells LW-MW101, LW-MW102, and LW-MW103 were installed along the downgradient edge (norther boundary) of the Lignin OU, as shown on Figure 1. The purpose of these wells is to determine if MNA within the Lignin OU is sufficient to prevent migration of groundwater exceeding cleanup levels toward the Whatcom Waterway.
- **LW-MW02 Replacement.** Monitoring well LW-MW104 was installed in the vicinity of decommissioned monitoring well LW-MW02, which was decommissioned during the 2022 soil cleanup action (Aspect, 2023b). The most recent groundwater sampling results at LW-MW02 from 2022 (before the soil cleanup action) showed a chromium exceedance in January 2022 and a copper exceedance in February 2022. The replacement well (LW-MW104) was used to continue monitoring groundwater concentrations as close downgradient of the LW-MW02 location as practical while staying on Port property.
- **Upgradient.** Monitoring well LW-MW105 was installed on the upgradient edge (southeastern boundary) of the Lignin OU (Figure 1) to provide a point of comparison with groundwater concentrations within the Lignin OU.

2.1 Monitoring Well Installation and Development

The new monitoring wells were installed by a state-licensed resource protection well driller using a direct-push probe rig and constructed in accordance with Chapter 173-160 WAC. In accordance with the CMP, the monitoring wells were installed in the locations shown on Figure 1 and were constructed of 2-inch-diameter PVC well casing with 10-foot-long, 10-slot well screens. The top of the well screen for each monitoring well was placed at the water table depth observed during drilling. Screens were prepacked with silica sand, and an annular seal consisting of bentonite chips was placed above the filter pack. A concrete surface seal was set at grade. The finished monitoring wells were protected with flush-mount steel monuments set into the concrete surface seal. Boring logs, including well construction information, for the five new wells are included in Appendix A.

Each newly installed monitoring well was then developed to remove fine-grained material from inside the well casing and filter pack, and to improve hydraulic communication between the well screen and the surrounding water-bearing formation. Well development was performed using a well development pump, gently surging the entire saturated length of the well screen. Each well was developed until turbidity in the development water is reduced to 25 nephelometric turbidity units (NTU) or less. Groundwater produced during well development was managed as described for investigation-derived waste in Section 2.2.

During the four rounds of quarterly groundwater monitoring (May 2023 through January 2024), groundwater was observed in the five monitoring wells at depths ranging from about 2 to 8 feet below ground surface (bgs), representing a groundwater elevation ranging from 9 to 14 feet NAVD88[3] (Table 1). The year of water level data indicate seasonal changes in water table elevation ranging from 2.47 to 2.96 feet across the OU.

2.2 Investigation-Derived Waste

The purge water from the development and sampling of the monitoring wells was discharged to the Port's on-site pump station to the Aerated Stabilization Basin (ASB).

The direct-push probe rods from monitoring well installation (Section 2.1) were decontaminated prior to the first boring and between each monitoring well boring using a steam cleaner. Rinsate from decontamination of equipment, and water produced during well development for replacement wells, was managed as described above for purge water. Soil cuttings from replacement wells were placed in a labeled Washington State Department of Transportation-approved drum and was sampled and profiled for appropriate off-Site disposal. Laboratory results from the IDW sampling are included in Appendix A, and the disposal manifest is included as Appendix C.

[3] All elevations are determined using North American Vertical Datum of 1988 (NAVD88).

3 Year 1 Groundwater Sampling and Analysis

For the first year of the MNA program, the five monitoring wells were monitored quarterly, in accordance with the CMP (in Mayv[4] July, October 2023, and January2024). Monitoring wells were sampled using low-flow sampling techniques described in the CMP and were submitted for analysis of dissolved copper and dissolved chromium by U.S. Environmental Protection Agency (EPA) Method 200.8.[5] In accordance with the CMP, the groundwater samples were analyzed by OnSite Environmental (OnSite) of Redmond, Washington, an Ecology-accredited analytical laboratory, until the fourth round. Prior to conducting the fourth round of monitoring, OnSite informed Aspect that their ICP-MS instrument was inoperable and would remain so for some indeterminate time. To complete the scheduled monitoring on time, Aspect chose to submit the round-four samples to ALS-Environmental in Everett, Washington, an Ecology-accredited laboratory (also running EPA Method 200.8) that has previously conducted analyses of groundwater samples from elsewhere in the Chlor-Alkali RAU.

[4] The first quarter "April" round was completed on May 3, 2023, immediately following the April 2023 monitoring well installation and development.
[5] Inductively coupled plasma mass spectrometry (ICP-MS). EPA Method 200.8 is functionally equivalent to EPA Method 6020A.

4 Data Evaluation

During the four rounds of quarterly groundwater monitoring (May 2023 through January 2024), groundwater was measured in the five monitoring wells at depths ranging from about 3 to 9 feet bgs, representing groundwater elevations ranging between about 9 and 12 feet NAVD88 (Table 1). The year 1 water level data indicate seasonal changes in water table elevation ranging from 1 to 2 feet across the OU.

Based on Aspect's independent quality assurance validation of the four rounds of monitoring data, no data were qualified, and the data are usable for their intended purpose. Appendix B provides the data validation report and laboratory reports for the four rounds of data.

The analytical results from the quarterly groundwater monitoring events are presented in Table 2 and are summarized as follows:

- Dissolved chromium was detected below the groundwater cleanup level of 260 micrograms per liter (ug/L) at all five monitoring wells during each quarter of sampling in Year 1.
- Dissolved copper was either not detected or was detected below the groundwater cleanup level of 3.1 ug/L at all five monitoring wells during each quarter of sampling in Year 1.

In short, each sample of groundwater collected during the four quarters of Year 1 complied with the CAP groundwater cleanup levels.

5 Conclusions and Recommendation to Terminate Monitoring

In accordance with the CMP, pending Ecology approval, after the first year of quarterly monitoring has been completed, MNA monitoring can be discontinued for any monitoring well that meets cleanup levels, which is defined as having four consecutive rounds of samples with dissolved chromium and copper concentrations below cleanup levels, as agreed to by Ecology.

Because measured concentrations of chromium and copper in all five wells were below cleanup levels during the four consecutive rounds of quarterly monitoring, we recommend terminating the Lignin OU MNA monitoring program and decommissioning the wells on the OU.

6 References

Aspect Consulting, LLC (Aspect), 2022, Engineering Design Report, Lignin Operable Unit, Chlor-Alkali Remedial Action Unit, Georgia-Pacific West Site, Bellingham, Washington, May 13, 2022.

Aspect Consulting, LLC (Aspect), 2023a, As-Built Cleanup Report, Lignin Operable Unit, Georgia-Pacific West Site, Bellingham, Washington, March 2023.

Aspect Consulting, LLC (Aspect), 2023b, Compliance Monitoring Plan for Groundwater Monitored Natural Attenuation, Lignin Operable Unit, Georgia-Pacific West Site, April 2023.

Washington State Department of Ecology (Ecology), 2022, Cleanup Action Plan, Lignin Operable Unit, Chlor-Alkali Remedial Action Unit of Georgia-Pacific West Site, Bellingham, Washington, August 2022.

7 Limitations

Work for this project was performed for the Port of Bellingham (Client), and this report 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 report 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.

TABLES

Table 1. Monitoring Well Details and Groundwater Elevations

Project 210368B-08, Lignin Operable Unit, GP West Site, Bellingham, Washington

Well ID	Northing (feet)	Easting (feet)	TOC Elevation (feet)	Screen Interval (feet bgs)	Date	Depth to Water (feet BTOC)	Groundwater Elevation (feet)
LW-MW101	641,725.1	1,242,057.7	14.02	5 to 15	5/3/2023	4.17	9.85
					7/12/2023	5.36	8.66
					10/26/2023	4.73	9.29
					1/9/2024	2.89	11.13
LW-MW102	641,834.8	1,242,171.2	14.19	5 to 15	5/3/2023	3.54	10.65
					7/12/2023	4.97	9.22
					10/26/2023	4.95	9.24
					1/9/2024	2.21	11.98
LW-MW103	641,952.5	1,242,290.7	14.94	5 to 15	5/3/2023	2.72	12.22
					7/12/2023	4.59	10.35
					10/26/2023	4.33	10.61
					1/9/2024	1.63	13.31
LW-MW104	641,824.9	1,242,296.4	18.69	8 to 18	5/3/2023	7.35	11.34
					7/12/2023	9.25	9.44
					10/27/2023	9.13	9.56
					1/9/2024	6.35	12.34
LW-MW105	641,940.5	1,242,507.9	19.18	8 to 18	5/3/2023	6.81	12.37
					7/12/2023	8.50	10.68
					10/26/2023	8.60	10.58
					1/9/2024	5.90	13.28

Notes:

Horizontal coordinates (northings and eastings) are in feet relative to Washington State Plane (North Zone) NAD83/1998 grid.
Elevations are relative to the North American Vertical Datum (NAVD88).

Abbreviations:

bgs = below ground surface
BTOC = below top of casing
TOC = top of casing

Table 2. Year 1 Groundwater MNA Monitoring Data

Project 210368B-08, Lignin Operable Unit, GP West Site, Bellingham, Washington

			Downgradient Wells												Well Near Center of OU			
			LW-MW101				LW-MW102				LW-MW103				LW-MW104			
Analyte	**Unit**	**Groundwater Cleanup Level**	**05/03/23**	**07/12/23**	**10/26/23**	**01/09/24**	**05/03/23**	**07/12/23**	**10/26/23**	**01/09/24**	**05/03/23**	**07/12/23**	**10/26/23**	**01/09/24**	**05/03/23**	**07/12/23**	**10/27/23**	**01/09/24**
Dissolved Metals																		
Chromium	ug/L	260	**1.9**	**6.0**	**4.1**	2.0 U	**9.0**	**19**	**19**	**8.6**	**190**	**190**	**90**	**230**	**4.9**	**24**	**18**	**3.2**
Copper	ug/L	3.1	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**1.4**	**1.3**	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Field Parameters																		
Temperature	deg C		11.0	16.0	15.4	9.8	11.3	15.0	15.6	10.9	11.8	15.4	16.2	11.6	12.8	15.9	13.9	11.3
Elec. Conductivity	uS/cm		398	526	1,894	779	772	570	1,289	941	917	807	2,087	1,142	2,382	1,872	4,535	2,652
Dissolved Oxygen	mg/L		0.00	0.14	0.29	0.23	0.00	0.14	0.28	0.52	0.00	0.11	0.20	0.23	0.00	0.13	0.20	0.44
pH	SU		8.05	7.62	7.21	7.49	7.07	7.03	6.79	6.96	7.50	7.41	7.15	7.46	8.46	8.35	8.19	8.29
ORP	mVolts		-218	-294	-283	-262	-188	-312	-308	-278	-194	-271	-309	-301	-252	-336	-368	-344
Turbidity	NTU		3	2	N/M	2	2	1	N/M	3	3	3	N/M	6	2	1	N/M	1

			Upgradient Well			
			LW-MW105			
Analyte	**Unit**	**Groundwater Cleanup Level**	**05/03/23**	**07/12/23**	**10/26/23**	**01/09/24**
Dissolved Metals						
Chromium	ug/L	260	**2.1**	**2.5**	**2.8**	**2.2**
Copper	ug/L	3.1	1.0 U	1.0 U	1.0 U	2.0 U
Field Parameters						
Temperature	deg C		11.0	14.1	15.7	12.0
Elec. Conductivity	uS/cm		1,840	1,160	2,754	1,931
Dissolved Oxygen	mg/L		0.00	0.10	0.08	0.39
pH	SU		7.89	7.29	6.86	7.26
ORP	mVolts		-111	-200	-241	-273
Turbidity	NTU		4	2	N/M	2

Notes:

Groundwater cleanup levels from the Lignin Operable Unit Cleanup Action Plan (Ecology, 2022).

Bold - detected

Blue Shaded - Detected result exceeded respective cleanup level

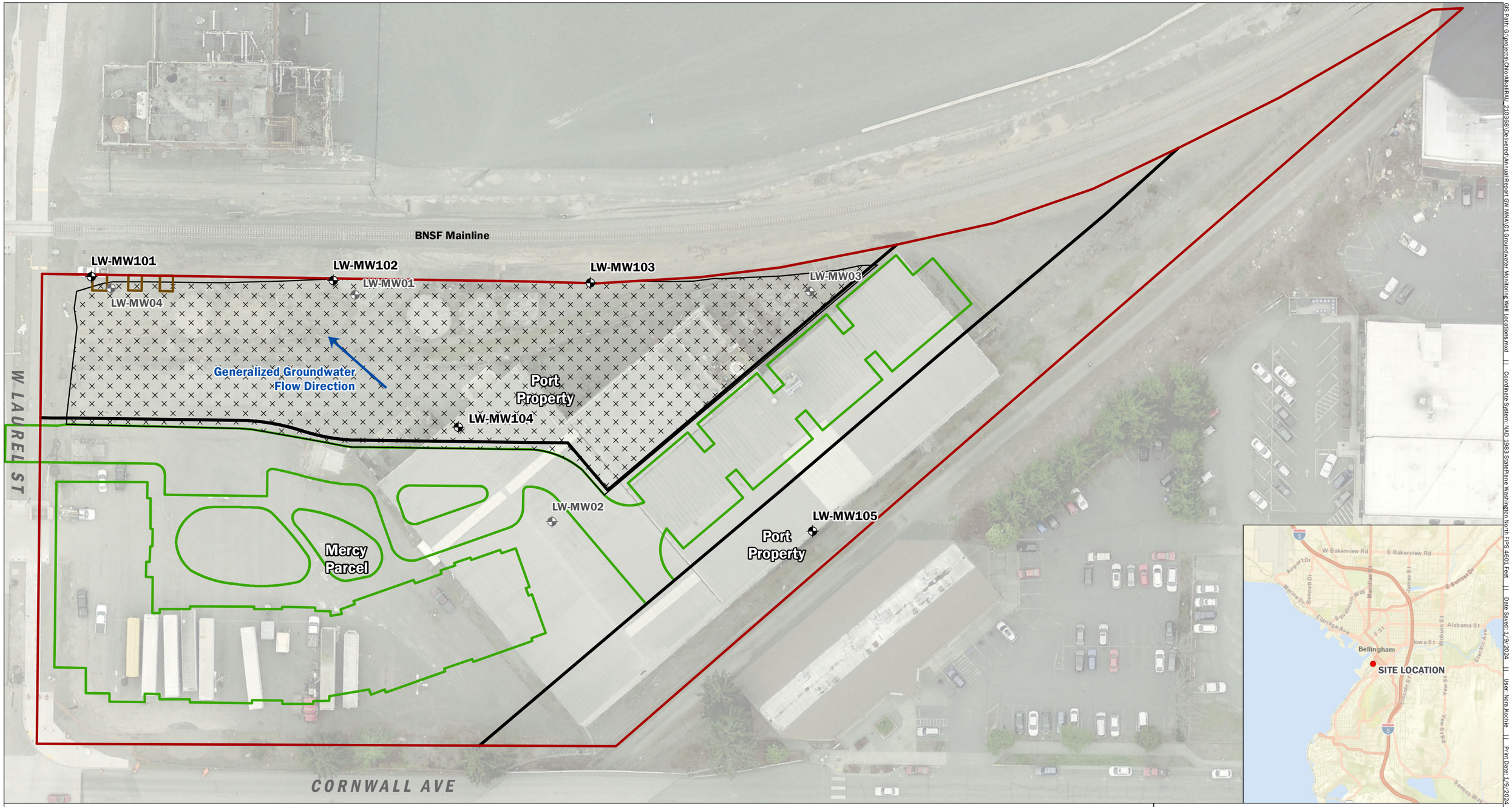
U - Analyte not detected at or above the reporting limit shown

J - Analyte was positively identified, and the reported value is an estimate

N/M: Turbidity meter malfunctioned during the October 2023 monitoring event.

deg C - degrees Celsius, ug/L - micrograms per liter, uS/cm - microsiemens per centimeter, mg/L - milligrams per liter, mVolts - millivolts, NTU - Nephelometric Turbidity Units, SU - standard units

FIGURES



Groundwater Monitoring Well Locations

Year 1 Annual Report for Groundwater MNA
Lignin Operable Unit, Georgia-Pacific West Site
Bellingham, Washington

Aspect Consulting	JAN-2024	BY: AET / NLK	FIGURE NO. 1
	PROJECT NO. 210368	REVISED BY: ---	

Basemap Layer Credits || Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Whatcom County

GIS Path: G:\projects\ChlorAlkaliRAU_210368\Deliverest\Annual Report GW MNA\Q1 Groundwater Monitoring Well Locations.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 1/9/2024 || User: Nora Kochle || Print Date: 1/9/2024

APPENDIX A

Construction Logs for New Monitoring Wells

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

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

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

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

GEOTECHNICAL LAB TESTS

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

CHEMICAL LAB TESTS

Organic Chemicals

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

Metals

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

FIELD TESTS

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

COMPONENT DEFINITIONS

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

ESTIMATED[1] PERCENTAGE

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

MOISTURE CONTENT

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

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

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

CONSISTENCY

Cohesive or Fine-Grained Soils

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

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Aspect CONSULTING

Exploration Log Key

Aspect CONSULTING	Lignin OU GW MNA - 210368		Monitoring Well Log	
	Project Address & Site Specific Location Laurel St & Cornwall Ave, Bellingham, WA 98225, Lignin Parcel		*Coordinates (SPN NAD83 ft)* E:1242057.70 N:641725.10	*Exploration Number* **LW-MW101**
Contractor Cascade Drilling	*Equipment* Geoprobe MC5	*Sampling Method* Percussion hammer	*Ground Surface Elev. (NAVD88)* 14.38'	Ecology Well Tag No. BPR 247
Operator Scott	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 4/27/2023	*Top of Casing Elev. (NAVD88)* 14.02'	*Depth to Water (Below GS)* 4.53' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	14	Flush 8-inch Morris monument set in concrete.					Approximately 3 feet of gravel ballast.	0
		2-inch Schedule 40 PVC pipe set in concrete.						
		2-inch Schedule 40 PVC pipe set in 3/8-inch hydrated bentonite chips.						
		2-inch Schedule 40 PVC pipe set in 2/12 sand.					SILTY SAND WITH GRAVEL (SM); slightly moist, green gray; fine to coarse sand; fine, angular to subrounded gravel.	
	10	▼ 5/3/2023 4/27/2023					SILTY SAND (SM); dark gray, moist; fine sand; trace organics (woody debris).	
5							Becomes wet.	5
							SILTY SAND (SM); dark gray, wet; fine sand; trace shell fragments.	
							SANDY SILT (ML); gray, wet; non-plastic; fine sand.	
	5						SILTY SAND (SM); gray, wet; fine to medium sand; trace shell fragments.	
10		2-inch pre-packed 0.010 slotted Schedule 40 PVC pipe set in sand.						10
							SANDY SILT (ML); gray, wet; non-plastic; fine sand.	
	0						PEAT (PT); brown, wet; mostly organics (woody fragments).	
15		Threaded PVC endcap.					Bottom of exploration at 15 ft. bgs.	15
	-5							
20								20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.68" ID

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

See Exploration Log Key for explanation of symbols

Logged by: BW
Approved by: AET

Exploration Log LW-MW101
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\210368 - LIGNIN OU GW MNA.GPJ January 15, 2024

Aspect CONSULTING	Lignin OU GW MNA - 210368		Monitoring Well Log	
	Project Address & Site Specific Location Laurel St & Cornwall Ave, Bellingham, WA 98225, Lignin Parcel		*Coordinates (SPN NAD83 ft)* E:1242171.20 N:641834.80	*Exploration Number* **LW-MW102**
Contractor Cascade Drilling	*Equipment* Geoprobe MC5	*Sampling Method* Percussion hammer	*Ground Surface Elev. (NAVD88)* 14.8'	Ecology Well Tag No. BPR 246
Operator Scott	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 4/27/2023	*Top of Casing Elev. (NAVD88)* 14.19'	*Depth to Water (Below GS)* 4.15' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	15	Flush 8-inch Morris monument set in concrete. 2-inch Schedule 40 PVC pipe set in concrete. 2-inch Schedule 40 PVC pipe set in 3/8-inch hydrated bentonite chips. 2-inch Schedule 40 PVC pipe set in 2/12 sand. ▼ 5/3/2023 ▽ 4/27/2023					Approximately 3 feet of gravel ballast.	0
5	10						GRAVEL WITH SILT AND SAND (GP-GM); gray, moist; fine to coarse sand; fine, subrounded to rounded gravel.	5
							SANDY SILT WITH GRAVEL (ML); gray, moist; non-plastic; fine sand; fine to coarse, subrounded to rounded gravel.	
							SILTY SAND (SM); dark gray, moist; fine to medium sand. Becomes wet.	
							SANDY SILT (ML); gray, wet; non-plastic; fine sand.	
							PEAT (PT); brown, wet; mostly organics (woody fragments).	
							SANDY SILT (ML); gray, wet; non-plastic; fine sand.	
10	5	2-inch pre-packed 0.010 slotted Schedule 40 PVC pipe set in sand.					SILTY SAND (SM); dark gray, wet; fine to coarse sand.	10
							Becomes with subtrace shell fragments.	
15	0	Threaded PVC endcap.					Bottom of exploration at 15 ft. bgs.	15
20	-5							20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.68" ID

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

See Exploration Log Key for explanation of symbols

Logged by: BW
Approved by: AET

Exploration Log LW-MW102
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\210368 - LIGNIN OU GW MNA.GPJ January 15, 2024

Aspect CONSULTING	Lignin OU GW MNA - 210368		Monitoring Well Log	
	Project Address & Site Specific Location Laurel St & Cornwall Ave, Bellingham, WA 98225, Lignin Parcel		*Coordinates (SPN NAD83 ft)* E:1242290.70 N:641952.50	*Exploration Number* **LW-MW103**
Contractor Cascade Drilling	*Equipment* Geoprobe MC5	*Sampling Method* Percussion hammer	*Ground Surface Elev. (NAVD88)* 15.19'	Ecology Well Tag No. BPR 245
Operator Scott	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 4/26/2023	*Top of Casing Elev. (NAVD88)* 14.94'	*Depth to Water (Below GS)* 2.97' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	15	Flush 8-inch Morris monument set in concrete. 2-inch Schedule 40 PVC pipe set in concrete. 2-inch Schedule 40 PVC pipe set in 3/8-inch hydrated bentonite chips. ▽ 4/26/2023 ▼ 5/2/2023					Approximately 2 feet of gravel ballast.	0
							GRAVEL WITH SILT AND SAND (GP-GM); gray, moist; fine to coarse sand; fine to coarse, angular to rounded gravel.	
							PEAT (PT); brown, wet; mostly organics (woody fragments).	
5	10	2-inch Schedule 40 PVC pipe set in 2/12 sand.					SILTY SAND (SM); dark gray, wet; fine to medium sand. Becomes with trace gravel.	5
							SANDY SILT (ML); gray, wet; non-plastic; fine sand; trace shell fragments.	
10	5	2-inch pre-packed 0.010 slotted Schedule 40 PVC pipe set in sand.					SILTY SAND (SM); dark gray, wet; fine to coarse sand. Becomes with abundant organics (woody fragments). Becomes with trace shell fragments.	10
							SILTY SAND WITH GRAVEL (SM); dark gray, wet; fine to coarse sand; fine to coarse, subrounded to rounded gravel; trace shell fragments.	
							SILTY SAND (SM); gray, wet; fine sand; subtrace shell fragments.	
15	0	Threaded PVC endcap.					Bottom of exploration at 15 ft. bgs.	15
20	-5							20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.68" ID

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

See Exploration Log Key for explanation of symbols

Logged by: BW
Approved by: AET

Exploration Log LW-MW103
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\210368 - LIGNIN OU GW MNA.GPJ January 15, 2024

Aspect CONSULTING	Lignin OU GW MNA - 210368		Monitoring Well Log	
	Project Address & Site Specific Location Laurel St & Cornwall Ave, Bellingham, WA 98225, Lignin Parcel		*Coordinates (SPN NAD83 ft)* E:1242296.40 N:641824.90	*Exploration Number* **LW-MW104**
Contractor Cascade Drilling	*Equipment* Geoprobe MC5	*Sampling Method* Percussion hammer	*Ground Surface Elev. (NAVD88)* 19.2'	Ecology Well Tag No. BPR 244
Operator Scott	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 4/26/2023	*Top of Casing Elev. (NAVD88)* 18.69'	*Depth to Water (Below GS)* 7.86' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Flush 8-inch Morris monument set in concrete.					Approximately 5 feet of gravel ballast.	
		2-inch Schedule 40 PVC pipe set in concrete.						
	15	2-inch Schedule 40 PVC pipe set in 3/8-inch hydrated bentonite chips.						
5							SILTY SAND (SM); gray, moist; fine to medium sand; trace organics (woody fibers).	5
		2-inch Schedule 40 PVC pipe set in 2/12 sand.						
		4/26/2023 5/2/2023					SILT (ML); green gray, moist; non-plastic.	
							PEAT (PT); dark brown, moist; mostly organics (woody fragments).	
	10						SILTY SAND (SM); dark gray, wet; fine sand; few organics (woody fragments).	
10							SILTY SAND (SM); dark gray, wet; fine sand; subtrace shell fragments.	10
		2-inch pre-packed 0.010 slotted Schedule 40 PVC pipe set in sand.						
							SILT WITH SAND (ML); dark gray, wet; non-plastic; fine sand.	
	5						SILTY SAND (SM); dark gray, wet; fine to medium sand; subtrace shell fragments.	
15								15
		Threaded PVC endcap.						
							SANDY SILT (ML); gray, wet; non-plastic; fine sand; abundant organics (woody fragments).	
	0						SILTY SAND (SM); gray, wet; fine to medium sand; trace shell fragments.	
20		Backfilled with slough.					Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.68" ID

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

See Exploration Log Key for explanation of symbols

Logged by: BW
Approved by: AET

Exploration Log LW-MW104
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\210368 - LIGNIN OU GW MNA.GPJ January 15, 2024

Aspect CONSULTING	Lignin OU GW MNA - 210368		Monitoring Well Log	
	Project Address & Site Specific Location Laurel St & Cornwall Ave, Bellingham, WA 98225, Lignin Parcel		*Coordinates (SPN NAD83 ft)* E:1242507.90 N:641940.50	*Exploration Number* **LW-MW105**
Contractor Cascade Drilling	*Equipment* Geoprobe MC5	*Sampling Method* Percussion hammer	*Ground Surface Elev. (NAVD88)* 19.67'	Ecology Well Tag No. BPR 243
Operator Scott	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 4/26/2023	*Top of Casing Elev. (NAVD88)* 19.18'	*Depth to Water (Below GS)* 7.3' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	15	Flush 8-inch Morris monument set in concrete.					Approximately 8 feet of gravel ballast.	0
		2-inch Schedule 40 PVC pipe set in concrete.						
		2-inch Schedule 40 PVC pipe set in 3/8-inch hydrated bentonite chips.						
5		▽ 4/26/2023 ▼ 5/2/2023						5
		2-inch Schedule 40 PVC pipe set in 2/12 sand.					SAND WITH SILT AND GRAVEL (SP-SM); gray brown, wet; fine to coarse sand; fine to coarse, subangular to rounded gravel.	
	10							
10							SILTY SAND (SM); brown, wet; fine to coarse sand.	10
							GRAVEL WITH SILT AND SAND (GP-GM); gray, wet; fine to coarse sand; fine to coarse, subrounded to rounded gravel.	
		2-inch pre-packed 0.010 slotted Schedule 40 PVC pipe set in sand.					SILTY SAND (SM); gray, wet; fine sand.	
							SILT (ML); gray, wet; non-plastic.	
	5						SILTY SAND (SM); gray, wet; fine to medium sand; trace shell fragments.	
15							Becomes with few organics (woody fragments) and shell fragments.	15
							SILT WITH SAND (ML); dark gray with green and yellow mottling, wet; non-plastic; fine sand.	
							SILTY SAND (SM); gray, wet; fine to coarse sand.	
		Threaded PVC endcap.					Bottom of exploration at 18 ft. bgs.	
	0							
20								20

Legend

Sample Type: ◧ Continuous core 1.68" ID

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

See Exploration Log Key for explanation of symbols

Logged by: BW
Approved by: AET

Exploration Log LW-MW105
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\210368 - LIGNIN OU GW MNA.GPJ January 15, 2024

APPENDIX B

Data Validation and Laboratory Reports

DATA VALIDATION REPORT

Lignin OU of GP West Site
Rounds 1 – 4 Groundwater Sampling
January 2024
Sample Delivery Groups
2305-0043, 2307-088, 2311-003, and EV24010052

Prepared by:
Aspect Consulting, LLC
710 2nd Ave, Suite 550
Seattle, WA 98104

Project No. 210368-B-08 • January 15, 2024

1 Introduction

This report summarizes the findings of a U.S. Environmental Protection Agency (EPA) Stage 2A data validation performed on analytical data groundwater samples collected from May 2023 through January 2024 for the GP West Lignin OU groundwater monitoring program.

Samples were analyzed for select metals by EPA method 200.8 by ALS Lab Group (ALS) in Everett, Washington or by OnSite Environmental Inc. (OnSite) in Redmond, Washington. Refer to the table below for further information.

Table 1. Analytical Methods

Sample Collection Date	Sample Delivery Group	Analysis	Method	Laboratory
May 2023	2305-0043	Chromium and Copper	EPA 200.8	OnSite
July 2023	2307-088	Chromium and Copper	EPA 200.8	OnSite
October 2023	2311-003	Chromium and Copper	EPA 200.8	OnSite
January 2024	EV24010052	Chromium and Copper	EPA 200.8	ALS

The validation followed the procedures documented in the analytical methods, and the *National Functional Guidelines for Organic Data Review* (EPA, 2017), and *Contract Laboratory Program SOW* (EPA, 2016).

Data assigned a J qualifier (estimated) may be used for site evaluation purposes, but the reasons for qualification should be considered when interpreting sample concentrations. Data marked as rejected (R) should not be used under any circumstances. Values without qualification meet all data measurement quality objectives and are suitable for use.

No data were qualified in the course of this review; all quality control (QC) requirements were met.

2 Data Validation Findings for Sample Delivery Group 2305-0043

Water samples in this sample delivery group (SDG), and the chemical analyses performed on them, are tabulated below. The sections below describe the results of the data quality review.

Table 2. Sample Index

Sample Name	Sample Date	Sample Matrix	Dissolved Chromium	Dissolved Copper
LW-MW101-20230503	5/3/23 11:00	Water	X	X
LW-MW102-20230503	5/3/23 10:00	Water	X	X
LW-MW103-20230502	5/3/23 14:38	Water	X	X
LW-MW104-20230502	5/3/23 13:40	Water	X	X
LW-MW105-20230502	5/3/23 11:30	Water	X	X

2.1 Metals (EPA 200.8)

2.1.1 Sample Receipt, Preservation, and Holding Times

Sample receipt and preservation (2–6 degrees Celsius [C]) were acceptable. Samples were analyzed within the requisite holding time limit.

2.1.2 Method Blanks / Detection Levels

Target analytes were not detected at or above the reporting levels in the method blank. No qualification or action was needed.

2.1.3 Laboratory Control Samples

All laboratory control sample (LCS) percent recoveries (%R) were within the laboratory-specified control limits for requested analytes. No qualification or action was needed.

2.1.4 Laboratory Duplicate Sample

All laboratory duplicate sample relative percent differences (RPDs) were within the laboratory-specified control limits for all target analytes. No qualification or action was needed.

2.1.5 Matrix Spike / Matrix Spike Duplicates

All matrix spike (MS) and MS duplicate sample %Rs and RPDs were within the laboratory-specified control limits for all target analytes. No qualification or actions were needed.

2.1.6 Overall Assessment

Accuracy was acceptable based on the LCS and MS/MSD %Rs and precision was acceptable based on the laboratory duplicate and MS/MSD RPD values. The data are of known quality and are acceptable for use.

3 Data Validation Findings for Sample Delivery Group 2307-088

Water samples in this SDG, and the chemical analyses performed on them, are tabulated below. The sections below describe the results of the data quality review.

Table 3. Sample Index

Sample Name	Sample Date	Sample Matrix	Dissolved Chromium	Dissolved Copper
LW-MW101-20230712	7/12/23 15:45	Water	X	X
LW-MW102-20230712	7/12/23 14:45	Water	X	X
LW-MW103-20230712	7/12/23 13:50	Water	X	X
LW-MW104-20230712	7/12/23 11:45	Water	X	X
LW-MW105-20230712	7/12/23 10:30	Water	X	X

3.1 Metals (EPA 200.8)

3.1.1 Sample Receipt, Preservation, and Holding Times

Sample receipt and preservation (2–6 degrees C) were acceptable. Samples were analyzed within the requisite holding time limit.

3.1.2 Method Blanks / Detection Levels

Target analytes were not detected at or above the reporting levels in the method blank. No qualification or action was needed.

3.1.3 Laboratory Control Samples

All LCS %R were within the laboratory-specified control limits for requested analytes. No qualification or action was needed.

3.1.4 Laboratory Duplicate Sample

All laboratory duplicate sample RPDs were within the laboratory-specified control limits for all target analytes. No qualification or action was needed.

3.1.5 Matrix Spike / Matrix Spike Duplicates

All MS and MS duplicate sample %Rs and RPDs were within the laboratory-specified control limits for all target analytes. No qualification or actions were needed.

3.1.6 Overall Assessment

Accuracy was acceptable based on the LCS and MS/MSD %Rs and precision was acceptable based on the laboratory duplicate and MS/MSD RPD values. The data are of known quality and are acceptable for use.

4 Data Validation Findings for Sample Delivery Group 2311-003

Water samples in this SDG, and the chemical analyses performed on them, are tabulated below. The sections below describe the results of the data quality review.

Table 4. Sample Index

Sample Name	Sample Date	Sample Matrix	Dissolved Chromium	Dissolved Copper
LW-MW101-20230503	10/26/23 13:30	Water	X	X
LW-MW102-20230503	10/26/23 14:40	Water	X	X
LW-MW103-20230502	10/26/23 16:10	Water	X	X
LW-MW104-20230502	10/27/23 9:45	Water	X	X
LW-MW105-20230502	10/26/23 17:25	Water	X	X

4.1 Metals (EPA 200.8)

4.1.1 Sample Receipt, Preservation, and Holding Times

Sample receipt and preservation (2–6 degrees C) were acceptable. Samples were analyzed within the requisite holding time limit.

4.1.2 Method Blanks / Detection Levels

Target analytes were not detected at or above the reporting levels in the method blank. No qualification or action was needed.

4.1.3 Laboratory Control Samples

All LCS %R were within the laboratory-specified control limits for requested analytes. No qualification or action was needed.

4.1.4 Laboratory Duplicate Sample

All laboratory duplicate sample RPDs were within the laboratory-specified control limits for all target analytes. No qualification or action was needed.

4.1.5 Matrix Spike / Matrix Spike Duplicates

All MS and MS duplicate sample %Rs and RPDs were within the laboratory-specified control limits for all target analytes. No qualification or actions were needed.

4.1.6 Overall Assessment

Accuracy was acceptable based on the LCS and MS/MSD %Rs and precision was acceptable based on the laboratory duplicate and MS/MSD RPD values. The data are of known quality and are acceptable for use.

5 Data Validation Findings for Sample Delivery Group EV24010052

Water samples in this SDG, and the chemical analyses performed on them, are tabulated below. The sections below describe the results of the data quality review.

Table 5. Sample Index

Sample Name	Sample Date	Sample Matrix	Dissolved Chromium	Dissolved Copper
LW-MW101-20240109	01/09/2024 10:15	Water	X	X
LW-MW102-20240109	01/09/2024 11:05	Water	X	X
LW-MW103-20240109	01/09/2024 12:05	Water	X	X
LW-MW104-20240109	01/09/2024 13:30	Water	X	X
LW-MW105-20240109	01/09/2024 14:55	Water	X	X

5.1 Metals (EPA 200.8)

5.1.1 Sample Receipt, Preservation, and Holding Times

Sample receipt and preservation (2–6 degrees C) were acceptable. Samples were analyzed within the requisite holding time limit.

5.1.2 Method Blanks / Detection Levels

Target analytes were not detected at or above the reporting levels in the method blank. No qualification or action was needed.

5.1.3 Laboratory Control Samples

All LCS %R were within the laboratory specified control limits for requested analytes. No qualification or action was needed.

5.1.4 Overall Assessment

Accuracy was acceptable based on the LCS percent recoveries, and precision was acceptable based on the LCS RPD values. The data are of known quality and are acceptable for use.

6 Qualified Data Summary

No sample results were qualified in the course of the Stage 2A validation performed.

7 Data Qualifier Definitions

Data Qualifier	Definition
J	The analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
U	The analyte was analyzed for but was considered not detected at the reporting limit or reported value.
UJ	The analyte was analyzed for, and the associated quantitation limit was an estimated value.

8 References

U.S. Environmental Protection Agency (EPA), 2017 National Functional Guidelines for Organic Methods Data Review, Office of Superfund Remediation and Technology Innovation (OSRTI), USEPA Publication No. 540-R-2017-002, January.

U.S. Environmental Protection Agency (EPA), 2016, Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Superfund Methods, Multi-Media, Multi-Concentration, SOM02.4, October.

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

May 12, 2023

Amy Tice
Aspect Consulting
Dexter Horton Building
710 2nd Avenue, Suite 550
Seattle, WA 98104

Re: Analytical Data for Project 210368-B-09
Laboratory Reference No. 2305-043

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on May 4, 2023.

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,

David Baumeister
Project Manager

Enclosures

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

Case Narrative

Samples were collected on April 27, May 2 and 3, 2023 and received by the laboratory on May 4, 2023. 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: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Comp. Soil-Sp1-20230427**					
Laboratory ID:	05-043-06					
Diesel Range Organics	**ND**	30	NWTPH-Dx	5-5-23	5-5-23	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	5-5-23	5-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*82*	*50-150*				

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0505S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	5-5-23	5-5-23	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	5-5-23	5-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-059-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	40	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	40	
Surrogate:											
o-Terphenyl						*70*	*80*	*50-150*			

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

SEMIVOLATILE ORGANICS EPA 8270E/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Comp. Soil-Sp1-20230427**					
Laboratory ID:	05-043-06					
n-Nitrosodimethylamine	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Pyridine	**ND**	0.40	EPA 8270E	5-10-23	5-10-23	
Phenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Aniline	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
bis(2-Chloroethyl)ether	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2-Chlorophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,3-Dichlorobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,4-Dichlorobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Benzyl alcohol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,2-Dichlorobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2-Methylphenol (o-Cresol)	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
bis(2-Chloroisopropyl)ether	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
n-Nitroso-di-n-propylamine	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Hexachloroethane	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Nitrobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Isophorone	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2-Nitrophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,4-Dimethylphenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
bis(2-Chloroethoxy)methane	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,4-Dichlorophenol	**ND**	0.080	EPA 8270E	5-10-23	5-10-23	
1,2,4-Trichlorobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Naphthalene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
4-Chloroaniline	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
Hexachlorobutadiene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
4-Chloro-3-methylphenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2-Methylnaphthalene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
1-Methylnaphthalene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Hexachlorocyclopentadiene	**ND**	0.35	EPA 8270E	5-10-23	5-10-23	
2,4,6-Trichlorophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,3-Dichloroaniline	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,4,5-Trichlorophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2-Chloronaphthalene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2-Nitroaniline	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,4-Dinitrobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Dimethylphthalate	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,3-Dinitrobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,6-Dinitrotoluene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,2-Dinitrobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Acenaphthylene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
3-Nitroaniline	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Comp. Soil-Sp1-20230427**					
Laboratory ID:	05-043-06					
2,4-Dinitrophenol	**ND**	0.25	EPA 8270E	5-10-23	5-10-23	
Acenaphthene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
4-Nitrophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,4-Dinitrotoluene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Dibenzofuran	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,3,5,6-Tetrachlorophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
2,3,4,6-Tetrachlorophenol	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Diethylphthalate	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
4-Chlorophenyl-phenylether	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
4-Nitroaniline	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Fluorene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
4,6-Dinitro-2-methylphenol	**ND**	0.36	EPA 8270E	5-10-23	5-10-23	
n-Nitrosodiphenylamine	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
1,2-Diphenylhydrazine	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
4-Bromophenyl-phenylether	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Hexachlorobenzene	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Pentachlorophenol	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
Phenanthrene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Anthracene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Carbazole	**ND**	0.040	EPA 8270E	5-10-23	5-10-23	
Di-n-butylphthalate	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
Fluoranthene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Pyrene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Butylbenzylphthalate	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
bis-2-Ethylhexyladipate	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
Benzo[a]anthracene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Chrysene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
bis(2-Ethylhexyl)phthalate	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
Di-n-octylphthalate	**ND**	0.20	EPA 8270E	5-10-23	5-10-23	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Benzo(j,k)fluoranthene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Indeno[1,2,3-cd]pyrene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Benzo[g,h,i]perylene	**ND**	0.0080	EPA 8270E/SIM	5-10-23	5-10-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*62*	*11 - 111*				
Phenol-d6	*64*	*26 - 117*				
Nitrobenzene-d5	*66*	*31 - 111*				
2-Fluorobiphenyl	*67*	*38 - 109*				
2,4,6-Tribromophenol	*77*	*27 - 127*				
Terphenyl-d14	*76*	*37 - 116*				

Date of Report: May 12, 2023
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Laboratory Reference: 2305-043
Project: 210368-B-09

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0510S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Pyridine	**ND**	0.33	EPA 8270E	5-10-23	5-11-23	
Phenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Aniline	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2-Chlorophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Benzyl alcohol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Hexachloroethane	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Nitrobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Isophorone	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2-Nitrophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,4-Dichlorophenol	**ND**	0.067	EPA 8270E	5-10-23	5-11-23	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Naphthalene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
4-Chloroaniline	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
Hexachlorobutadiene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2-Methylnaphthalene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
1-Methylnaphthalene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Hexachlorocyclopentadiene	**ND**	0.46	EPA 8270E	5-10-23	5-11-23	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2-Chloronaphthalene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2-Nitroaniline	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Dimethylphthalate	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Acenaphthylene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
3-Nitroaniline	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	

Date of Report: May 12, 2023
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Laboratory Reference: 2305-043
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QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0510S1					
2,4-Dinitrophenol	**ND**	0.36	EPA 8270E	5-10-23	5-11-23	
Acenaphthene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
4-Nitrophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Dibenzofuran	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Diethylphthalate	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
4-Nitroaniline	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Fluorene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
4,6-Dinitro-2-methylphenol	**ND**	0.39	EPA 8270E	5-10-23	5-11-23	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Hexachlorobenzene	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Pentachlorophenol	**ND**	0.26	EPA 8270E	5-10-23	5-11-23	
Phenanthrene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Anthracene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Carbazole	**ND**	0.033	EPA 8270E	5-10-23	5-11-23	
Di-n-butylphthalate	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
Fluoranthene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Pyrene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Butylbenzylphthalate	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
Benzo[a]anthracene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Chrysene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
Di-n-octylphthalate	**ND**	0.17	EPA 8270E	5-10-23	5-11-23	
Benzo[b]fluoranthene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Benzo(j,k)fluoranthene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Benzo[a]pyrene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Indeno[1,2,3-cd]pyrene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Dibenz[a,h]anthracene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Benzo[g,h,i]perylene	**ND**	0.007	EPA 8270E/SIM	5-10-23	5-10-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*75*	*11 - 111*				
Phenol-d6	*73*	*26 - 117*				
Nitrobenzene-d5	*65*	*31 - 111*				
2-Fluorobiphenyl	*68*	*38 - 109*				
2,4,6-Tribromophenol	*66*	*27 - 127*				
Terphenyl-d14	*70*	*37 - 116*				

Date of Report: May 12, 2023
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SEMIVOLATILE ORGANICS EPA 8270E/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-048-03										
	MS	MSD	MS	MSD		MS	MSD				
n-Nitrosodimethylamine	**0.607**	**0.605**	0.667	0.667	ND	91	91	20 - 120	0	30	
Pyridine	**0.455**	**0.451**	0.667	0.667	ND	68	68	20 - 120	1	30	
Phenol	**0.579**	**0.564**	0.667	0.667	ND	87	85	28 - 112	3	39	
Aniline	**0.535**	**0.517**	0.667	0.667	ND	80	78	20 - 120	3	30	
bis(2-Chloroethyl)ether	**0.538**	**0.529**	0.667	0.667	ND	81	79	20 - 120	2	30	
2-Chlorophenol	**0.573**	**0.549**	0.667	0.667	ND	86	82	30 - 108	4	40	
1,3-Dichlorobenzene	**0.535**	**0.533**	0.667	0.667	ND	80	80	20 - 120	0	30	
1,4-Dichlorobenzene	**0.541**	**0.534**	0.667	0.667	ND	81	80	25 - 106	1	44	
Benzyl alcohol	**0.681**	**0.588**	0.667	0.667	ND	102	88	20 - 120	15	30	
1,2-Dichlorobenzene	**0.545**	**0.538**	0.667	0.667	ND	82	81	20 - 120	1	30	
2-Methylphenol (o-Cresol)	**0.590**	**0.546**	0.667	0.667	ND	88	82	20 - 120	8	30	
bis(2-Chloroisopropyl)ether	**0.568**	**0.559**	0.667	0.667	ND	85	84	20 - 120	2	30	
(3+4)-Methylphenol (m,p-Cresol)	**0.584**	**0.567**	0.667	0.667	ND	88	85	20 - 120	3	30	
n-Nitroso-di-n-propylamine	**0.597**	**0.579**	0.667	0.667	ND	90	87	32 - 112	3	42	
Hexachloroethane	**0.490**	**0.490**	0.667	0.667	ND	73	73	20 - 120	0	30	
Nitrobenzene	**0.567**	**0.567**	0.667	0.667	ND	85	85	20 - 120	0	30	
Isophorone	**0.568**	**0.562**	0.667	0.667	ND	85	84	20 - 120	1	30	
2-Nitrophenol	**0.546**	**0.539**	0.667	0.667	ND	82	81	20 - 120	1	30	
2,4-Dimethylphenol	**0.531**	**0.523**	0.667	0.667	ND	80	78	20 - 120	2	30	
bis(2-Chloroethoxy)methane	**0.540**	**0.538**	0.667	0.667	ND	81	81	20 - 120	0	30	
2,4-Dichlorophenol	**0.576**	**0.561**	0.667	0.667	ND	86	84	20 - 120	3	30	
1,2,4-Trichlorobenzene	**0.545**	**0.548**	0.667	0.667	ND	82	82	30 - 110	1	40	
Naphthalene	**0.574**	**0.578**	0.667	0.667	ND	86	87	20 - 120	1	30	
4-Chloroaniline	**0.564**	**0.573**	0.667	0.667	ND	85	86	20 - 120	2	30	
Hexachlorobutadiene	**0.567**	**0.564**	0.667	0.667	ND	85	85	20 - 120	1	30	
4-Chloro-3-methylphenol	**0.593**	**0.589**	0.667	0.667	ND	89	88	44 - 112	1	28	
2-Methylnaphthalene	**0.560**	**0.559**	0.667	0.667	ND	84	84	20 - 120	0	30	
1-Methylnaphthalene	**0.581**	**0.576**	0.667	0.667	ND	87	86	20 - 120	1	30	
Hexachlorocyclopentadiene	**0.312**	**0.304**	0.667	0.667	ND	47	46	20 - 120	3	30	
2,4,6-Trichlorophenol	**0.596**	**0.571**	0.667	0.667	ND	89	86	20 - 120	4	30	
2,3-Dichloroaniline	**0.595**	**0.569**	0.667	0.667	ND	89	85	20 - 120	4	30	
2,4,5-Trichlorophenol	**0.614**	**0.574**	0.667	0.667	ND	92	86	20 - 120	7	30	
2-Chloronaphthalene	**0.581**	**0.559**	0.667	0.667	ND	87	84	20 - 120	4	30	
2-Nitroaniline	**0.622**	**0.585**	0.667	0.667	ND	93	88	20 - 120	6	30	
1,4-Dinitrobenzene	**0.614**	**0.580**	0.667	0.667	ND	92	87	20 - 120	6	30	
Dimethylphthalate	**0.590**	**0.570**	0.667	0.667	ND	88	85	20 - 120	3	30	
1,3-Dinitrobenzene	**0.582**	**0.558**	0.667	0.667	ND	87	84	20 - 120	4	30	
2,6-Dinitrotoluene	**0.578**	**0.569**	0.667	0.667	ND	87	85	20 - 120	2	30	
1,2-Dinitrobenzene	**0.587**	**0.574**	0.667	0.667	ND	88	86	20 - 120	2	30	
Acenaphthylene	**0.633**	**0.611**	0.667	0.667	ND	95	92	20 - 120	4	30	
3-Nitroaniline	**0.593**	**0.566**	0.667	0.667	ND	89	85	20 - 120	5	30	

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
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SEMIVOLATILE ORGANICS EPA 8270E/SIM
QUALITY CONTROL
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Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-048-03										
	MS	MSD	MS	MSD		MS	MSD				
2,4-Dinitrophenol	**0.292**	**0.257**	0.667	0.667	ND	44	39	20 - 120	13	30	
Acenaphthene	**0.561**	**0.545**	0.667	0.667	ND	84	82	34 - 107	3	33	
4-Nitrophenol	**0.703**	**0.674**	0.667	0.667	ND	105	101	33 - 140	4	34	
2,4-Dinitrotoluene	**0.598**	**0.584**	0.667	0.667	ND	90	88	38 - 111	2	31	
Dibenzofuran	**0.590**	**0.574**	0.667	0.667	ND	88	86	20 - 120	3	30	
2,3,5,6-Tetrachlorophenol	**0.542**	**0.507**	0.667	0.667	ND	81	76	20 - 120	7	30	
2,3,4,6-Tetrachlorophenol	**0.630**	**0.562**	0.667	0.667	ND	94	84	20 - 120	11	30	
Diethylphthalate	**0.613**	**0.588**	0.667	0.667	ND	92	88	20 - 120	4	30	
4-Chlorophenyl-phenylether	**0.577**	**0.560**	0.667	0.667	ND	87	84	20 - 120	3	30	
4-Nitroaniline	**0.606**	**0.591**	0.667	0.667	ND	91	89	20 - 120	3	30	
Fluorene	**0.595**	**0.575**	0.667	0.667	ND	89	86	20 - 120	3	30	
4,6-Dinitro-2-methylphenol	**0.304**	**0.278**	0.667	0.667	ND	46	42	20 - 120	9	30	
n-Nitrosodiphenylamine	**0.574**	**0.555**	0.667	0.667	ND	86	83	20 - 120	3	30	
1,2-Diphenylhydrazine	**0.560**	**0.538**	0.667	0.667	ND	84	81	20 - 120	4	30	
4-Bromophenyl-phenylether	**0.583**	**0.559**	0.667	0.667	ND	87	84	20 - 120	4	30	
Hexachlorobenzene	**0.571**	**0.545**	0.667	0.667	ND	86	82	20 - 120	5	30	
Pentachlorophenol	**0.525**	**0.486**	0.667	0.667	ND	79	73	27 - 141	8	36	
Phenanthrene	**0.592**	**0.572**	0.667	0.667	ND	89	86	20 - 120	3	30	
Anthracene	**0.591**	**0.579**	0.667	0.667	ND	89	87	20 - 120	2	30	
Carbazole	**0.574**	**0.560**	0.667	0.667	ND	86	84	20 - 120	2	30	
Di-n-butylphthalate	**0.611**	**0.592**	0.667	0.667	ND	92	89	20 - 120	3	30	
Fluoranthene	**0.589**	**0.564**	0.667	0.667	ND	88	85	20 - 120	4	30	
Pyrene	**0.592**	**0.568**	0.667	0.667	ND	89	85	28 - 126	4	33	
Butylbenzylphthalate	**0.580**	**0.557**	0.667	0.667	ND	87	84	20 - 120	4	30	
bis-2-Ethylhexyladipate	**0.572**	**0.545**	0.667	0.667	ND	86	82	20 - 120	5	30	
3,3'-Dichlorobenzidine	**0.567**	**0.547**	0.667	0.667	ND	85	82	20 - 120	4	30	
Benzo[a]anthracene	**0.568**	**0.548**	0.667	0.667	ND	85	82	20 - 120	4	30	
Chrysene	**0.581**	**0.563**	0.667	0.667	ND	87	84	20 - 120	3	30	
bis(2-Ethylhexyl)phthalate	**0.628**	**0.596**	0.667	0.667	ND	94	89	20 - 120	5	30	
Di-n-octylphthalate	**0.595**	**0.572**	0.667	0.667	ND	89	86	20 - 120	4	30	
Benzo[b]fluoranthene	**0.581**	**0.553**	0.667	0.667	ND	87	83	20 - 120	5	30	
Benzo(j,k)fluoranthene	**0.562**	**0.537**	0.667	0.667	ND	84	81	20 - 120	5	30	
Benzo[a]pyrene	**0.586**	**0.564**	0.667	0.667	ND	88	85	20 - 120	4	30	
Indeno[1,2,3-cd]pyrene	**0.641**	**0.594**	0.667	0.667	ND	96	89	20 - 120	8	30	
Dibenz[a,h]anthracene	**0.618**	**0.592**	0.667	0.667	ND	93	89	20 - 120	4	30	
Benzo[g,h,i]perylene	**0.598**	**0.580**	0.667	0.667	ND	90	87	20 - 120	3	30	
Surrogate:											
2-Fluorophenol						*77*	*75*	*11 - 111*			
Phenol-d6						*81*	*76*	*26 - 117*			
Nitrobenzene-d5						*80*	*79*	*31 - 111*			
2-Fluorobiphenyl						*83*	*79*	*38 - 109*			
2,4,6-Tribromophenol						*94*	*89*	*27 - 127*			
Terphenyl-d14						*88*	*83*	*37 - 116*			

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Comp. Soil-Sp1-20230427**					
Laboratory ID:	05-043-06					
Arsenic	**ND**	12	EPA 6010D	5-9-23	5-9-23	
Barium	**39**	3.0	EPA 6010D	5-9-23	5-9-23	
Cadmium	**ND**	0.60	EPA 6010D	5-9-23	5-9-23	
Chromium	**23**	0.60	EPA 6010D	5-9-23	5-9-23	
Lead	**ND**	6.0	EPA 6010D	5-9-23	5-9-23	
Mercury	**ND**	0.30	EPA 7471B	5-10-23	5-10-23	
Selenium	**ND**	12	EPA 6010D	5-9-23	5-9-23	
Silver	**ND**	1.2	EPA 6010D	5-9-23	5-9-23	

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0509SM2					
Arsenic	**ND**	10	EPA 6010D	5-9-23	5-9-23	
Barium	**ND**	2.5	EPA 6010D	5-9-23	5-9-23	
Cadmium	**ND**	0.50	EPA 6010D	5-9-23	5-9-23	
Chromium	**ND**	0.50	EPA 6010D	5-9-23	5-9-23	
Lead	**ND**	5.0	EPA 6010D	5-9-23	5-9-23	
Selenium	**ND**	10	EPA 6010D	5-9-23	5-9-23	
Silver	**ND**	1.0	EPA 6010D	5-9-23	5-9-23	
Laboratory ID:	MB0510S1					
Mercury	**ND**	0.25	EPA 7471B	5-10-23	5-10-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	05-048-03									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Barium	**49.5**	**42.7**	NA	NA		NA	NA	15	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**15.8**	**14.4**	NA	NA		NA	NA	9	20	
Lead	**18.3**	**12.1**	NA	NA		NA	NA	41	20	C
Selenium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	05-077-01									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-048-03										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**88.5**	**86.9**	100	100	ND	**89**	**87**	75-125	2	20	
Barium	**138**	**138**	100	100	49.5	**88**	**89**	75-125	0	20	
Cadmium	**51.8**	**51.4**	50.0	50.0	ND	**104**	**103**	75-125	1	20	
Chromium	**106**	**106**	100	100	15.8	**90**	**90**	75-125	0	20	
Lead	**256**	**254**	250	250	18.3	**95**	**94**	75-125	1	20	
Selenium	**89.7**	**88.5**	100	100	ND	**90**	**89**	75-125	1	20	
Silver	**20.5**	**20.1**	25.0	25.0	ND	**82**	**80**	75-125	2	20	
Laboratory ID:	05-077-01										
Mercury	**0.512**	**0.513**	0.500	0.500	0.00917	**101**	**101**	80-120	0	20	
SPIKE BLANK											
Laboratory ID:	SB0509SM2										
Arsenic	**92.4**		100		N/A	**92**		80-120			
Barium	**92.5**		100		N/A	**93**		80-120			
Cadmium	**51.1**		50.0		N/A	**102**		80-120			
Chromium	**94.5**		100		N/A	**95**		80-120			
Lead	**253**		250		N/A	**101**		80-120			
Selenium	**90.3**		100		N/A	**90**		80-120			
Silver	**22.3**		25.0		N/A	**89**		80-120			
Laboratory ID:	SB0510S1										
Mercury	**0.475**		0.500		N/A	**95**		80-120			

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

DISSOLVED METALS
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**LW-MW101-20230503**					
Laboratory ID:	05-043-01					
Chromium	**1.9**	1.0	EPA 200.8		5-10-23	
Copper	**ND**	1.0	EPA 200.8		5-10-23	
Client ID:	**LW-MW102-20230503**					
Laboratory ID:	05-043-02					
Chromium	**9.0**	1.0	EPA 200.8		5-10-23	
Copper	**ND**	1.0	EPA 200.8		5-10-23	
Client ID:	**LW-MW103-20230502**					
Laboratory ID:	05-043-03					
Chromium	**190**	1.0	EPA 200.8		5-10-23	
Copper	**1.4**	1.0	EPA 200.8		5-10-23	
Client ID:	**LW-MW104-20230502**					
Laboratory ID:	05-043-04					
Chromium	**4.9**	1.0	EPA 200.8		5-10-23	
Copper	**ND**	1.0	EPA 200.8		5-10-23	
Client ID:	**LW-MW105-20230502**					
Laboratory ID:	05-043-05					
Chromium	**2.1**	1.0	EPA 200.8		5-10-23	
Copper	**ND**	1.0	EPA 200.8		5-10-23	

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

DISSOLVED METALS
EPA 200.8
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0509F1					
Chromium	**ND**	1.0	EPA 200.8	5-9-23	5-10-23	
Copper	**ND**	1.0	EPA 200.8	5-9-23	5-10-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-090-01										
	ORIG	DUP									
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Copper	**1.67**	**1.68**	NA	NA		NA		NA	1	20	
MATRIX SPIKES											
Laboratory ID:	05-090-01										
	MS	MSD	MS	MSD		MS	MSD				
Chromium	**78.2**	**79.0**	80.0	80.0	ND	**98**	**99**	75-125	1	20	
Copper	**79.4**	**79.6**	80.0	80.0	1.67	**97**	**97**	75-125	0	20	
SPIKE BLANK											
Laboratory ID:	SB0509F1										
Chromium	**72.2**		80.0		N/A	**90**		85-115			
Copper	**72.4**		80.0		N/A	**91**		85-115			

Date of Report: May 12, 2023
Samples Submitted: May 4, 2023
Laboratory Reference: 2305-043
Project: 210368-B-09

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
Comp. Soil-Sp1-20230427	05-043-06	**17**	5-5-23

OnSite Environmental Inc.

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.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, 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.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect Consulting
Project Number: 210368-B-09
Project Name: Lyons OU MNA
Project Manager: Amy Tice
Sampled by: Bo Ward

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number: 05-043

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Dissolved chromium + copper **				% Moisture
1	LW-MW101-20230503	5/3/23	11:00	Water	1																		X				
2	LW-MW102-20230503	5/3/23	10:00		1																		X				
3	LW-MW103-20230502	5/2/23	14:38		1																		X				
4	LW-MW104-20230502	5/2/23	13:40		1																		X				
5	LW-MW105-20230502	5/2/23	11:30		1																		X				
6	Comp-Soil-Spl-20230427	4/27/23	12:00	Soil	1				X				X						X									+

	Signature	Company	Date	Time
Relinquished		Aspect Consulting	5/3/23	12:00
Received		OSE	5/4/23	1200
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Cu + Cr - 1.0 ppb

* Field Filtered

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

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

July 20, 2023

Amy Tice
Aspect Consulting
Dexter Horton Building
710 2nd Avenue, Suite 550
Seattle, WA 98104

Re: Analytical Data for Project 210368
Laboratory Reference No. 2307-088

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on July 13, 2023.

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,

David Baumeister
Project Manager

Enclosures

Date of Report: July 20, 2023
Samples Submitted: July 13, 2023
Laboratory Reference: 2307-088
Project: 210368

Case Narrative

Samples were collected on July 12, 2023 and received by the laboratory on July 13, 2023. 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 20, 2023
Samples Submitted: July 13, 2023
Laboratory Reference: 2307-088
Project: 210368

DISSOLVED METALS
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**LW-MW101-20230712**					
Laboratory ID:	07-088-01					
Chromium	**6.0**	1.0	EPA 200.8		7-27-23	
Copper	**ND**	1.0	EPA 200.8		7-27-23	
Client ID:	**LW-MW102-20230712**					
Laboratory ID:	07-088-02					
Chromium	**19**	1.0	EPA 200.8		7-27-23	
Copper	**ND**	1.0	EPA 200.8		7-27-23	
Client ID:	**LW-MW103-20230712**					
Laboratory ID:	07-088-03					
Chromium	**190**	1.0	EPA 200.8		7-27-23	
Copper	**1.3**	1.0	EPA 200.8		7-27-23	
Client ID:	**LW-MW104-20230712**					
Laboratory ID:	07-088-04					
Chromium	**24**	1.0	EPA 200.8		7-27-23	
Copper	**ND**	1.0	EPA 200.8		7-27-23	
Client ID:	**LW-MW105-20230712**					
Laboratory ID:	07-088-05					
Chromium	**2.5**	1.0	EPA 200.8		7-27-23	
Copper	**ND**	1.0	EPA 200.8		7-27-23	

Date of Report: July 20, 2023
Samples Submitted: July 13, 2023
Laboratory Reference: 2307-088
Project: 210368

DISSOLVED METALS
EPA 200.8
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0712F1					
Chromium	**ND**	10	EPA 200.8	7-12-23	7-18-23	
Copper	**ND**	10	EPA 200.8	7-12-23	7-18-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-070-01										
	ORIG	DUP									
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Copper	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-070-01										
	MS	MSD	MS	MSD		MS	MSD				
Chromium	**73.6**	**75.0**	80.0	80.0	ND	**92**	**94**	75-125	2	20	
Copper	**79.8**	**79.8**	80.0	80.0	ND	**100**	**100**	75-125	0	20	
SPIKE BLANK											
Laboratory ID:	SB0712F1										
Chromium	**74.8**		80.0		N/A	**94**		85-115			
Copper	**80.4**		80.0		N/A	**101**		85-115			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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E - The value reported exceeds the quantitation range and is an estimate.

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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.

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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.

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Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, 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.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

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RPD - Relative Percent Difference

Chain of Custody

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Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect Consulting
Project Number: 210368
Project Name: Lignin OU MWA
Project Manager: Amy Tice
Sampled by: Bo Ward

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

Laboratory Number: 07-088

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	LW-MW101-20230712	7/12/23	15:45	Water	1
2	LW-MW102-20230712		14:45		
3	LW-MW103-20230712		13:50		
4	LW-MW104-20230712		11:45		
5	LW-MW105-20230712		10:30		

Lab ID	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	FP	Dissolved chromium + copper				% Moisture
1																		X				
2																		X				
3																		X				
4																		X				
5																		X				

	Signature	Company	Date	Time
Relinquished		Aspect Consulting	7/12/23	16:40
Received			7/13/23	1400
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

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

November 10, 2023

Amy Tice
Aspect Consulting
Dexter Horton Building
710 2nd Avenue, Suite 550
Seattle, WA 98104

Re: Analytical Data for Project 210368
Laboratory Reference No. 2311-003

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on November 1, 2023.

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,

David Baumeister
Project Manager

Enclosures

Date of Report: November 10, 2023
Samples Submitted: November 1, 2023
Laboratory Reference: 2311-003
Project: 210368

Case Narrative

Samples were collected on October 26 and 27, 2023 and received by the laboratory on November 1, 2023. 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. However the soil results for the QA/QC samples are reported on a wet-weight basis.

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: November 10, 2023
Samples Submitted: November 1, 2023
Laboratory Reference: 2311-003
Project: 210368

DISSOLVED METALS
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**LW-MW101-20231026**					
Laboratory ID:	11-003-01					
Chromium	**4.1**	1.0	EPA 200.8		11-7-23	
Copper	**ND**	1.0	EPA 200.8		11-7-23	
Client ID:	**LW-MW102-20231026**					
Laboratory ID:	11-003-02					
Chromium	**19**	1.0	EPA 200.8		11-7-23	
Copper	**ND**	1.0	EPA 200.8		11-7-23	
Client ID:	**LW-MW103-20231026**					
Laboratory ID:	11-003-03					
Chromium	**90**	1.0	EPA 200.8		11-7-23	
Copper	**ND**	1.0	EPA 200.8		11-7-23	
Client ID:	**LW-MW104-20231027**					
Laboratory ID:	11-003-04					
Chromium	**18**	1.0	EPA 200.8		11-7-23	
Copper	**ND**	1.0	EPA 200.8		11-7-23	
Client ID:	**LW-MW105-20231026**					
Laboratory ID:	11-003-05					
Chromium	**2.8**	1.0	EPA 200.8		11-7-23	
Copper	**ND**	1.0	EPA 200.8		11-7-23	

Date of Report: November 10, 2023
Samples Submitted: November 1, 2023
Laboratory Reference: 2311-003
Project: 210368

DISSOLVED METALS
EPA 200.8
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1107D1					
Chromium	**ND**	1.0	EPA 200.8		11-7-23	
Copper	**ND**	1.0	EPA 200.8		11-7-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	11-002-05										
	ORIG	DUP									
Chromium	**6.88**	**7.08**	NA	NA		NA		NA	3	20	
Copper	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	11-002-05										
	MS	MSD	MS	MSD		MS	MSD				
Chromium	**87.2**	**90.8**	80.0	80.0	6.88	**100**	**105**	75-125	4	20	
Copper	**74.2**	**75.0**	80.0	80.0	ND	**93**	**94**	75-125	1	20	
SPIKE BLANK											
Laboratory ID:	SB1107D1										
Chromium	**77.2**		80.0		N/A	**97**		85-115			
Copper	**76.0**		80.0		N/A	**95**		85-115			

OnSite Environmental Inc.

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.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, 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.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 210368
Project Name: Lignin OU MNA
Project Manager: Amy Tice
Sampled by: B. Wood

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number: 11-003

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Dissolved chromium + CU				% Moisture
1	LW-MW101-20231026	10/26	1330	Water	1																		X				
2	LW-MW102-20231026	10/26	1440		1																		X				
3	LW-MW103-20231026	10/26	1616		1																		X				
4	LW-MW104-20231027	10/27	0945		1																		X				
5	LW-MW105-20231026	10/26	1725	✓	1																		X				

	Signature	Company	Date	Time
Relinquished		Aspect	10/30	1600
Received		CDE	11/01/23	0825
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

January 12, 2024

Ms. Amy Tice
Aspect Consulting, LLC
710 - 2nd Ave, Suite 550
Seattle, WA 98104

Dear Ms. Tice,

On January 10th, 5 samples were received by our laboratory and assigned our laboratory project number EV24010052. The project was identified as your 210368 - Lignin OU MNA. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rob Greer
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE:	1/12/2024
		ALS JOB#:	EV24010052
		ALS SAMPLE#:	EV24010052-01
CLIENT CONTACT:	Amy Tice	DATE RECEIVED:	01/10/2024
CLIENT PROJECT:	210368 - Lignin OU MNA	COLLECTION DATE:	1/9/2024 10:15:00 AM
CLIENT SAMPLE ID	LW-MW10120240109	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	01/12/2024	EBS
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	01/12/2024	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE:	1/12/2024
		ALS JOB#:	EV24010052
		ALS SAMPLE#:	EV24010052-02
CLIENT CONTACT:	Amy Tice	DATE RECEIVED:	01/10/2024
CLIENT PROJECT:	210368 - Lignin OU MNA	COLLECTION DATE:	1/9/2024 11:05:00 AM
CLIENT SAMPLE ID	LW-MW10220240109	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved)	EPA-200.8	**8.6**	2.0	1	UG/L	01/12/2024	EBS
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	01/12/2024	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE:	1/12/2024
		ALS JOB#:	EV24010052
		ALS SAMPLE#:	EV24010052-03
CLIENT CONTACT:	Amy Tice	DATE RECEIVED:	01/10/2024
CLIENT PROJECT:	210368 - Lignin OU MNA	COLLECTION DATE:	1/9/2024 12:05:00 PM
CLIENT SAMPLE ID	LW-MW10320240109	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved)	EPA-200.8	**230**	2.0	1	UG/L	01/12/2024	EBS
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	01/12/2024	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE:	1/12/2024
		ALS JOB#:	EV24010052
		ALS SAMPLE#:	EV24010052-04
CLIENT CONTACT:	Amy Tice	DATE RECEIVED:	01/10/2024
CLIENT PROJECT:	210368 - Lignin OU MNA	COLLECTION DATE:	1/9/2024 1:30:00 PM
CLIENT SAMPLE ID	LW-MW10420240109	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved)	EPA-200.8	**3.2**	2.0	1	UG/L	01/12/2024	EBS
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	01/12/2024	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE: ALS JOB#: ALS SAMPLE#:	1/12/2024 EV24010052 EV24010052-05
CLIENT CONTACT:	Amy Tice	DATE RECEIVED:	01/10/2024
CLIENT PROJECT:	210368 - Lignin OU MNA	COLLECTION DATE:	1/9/2024 2:55:00 PM
CLIENT SAMPLE ID	LW-MW10520240109	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved)	EPA-200.8	**2.2**	2.0	1	UG/L	01/12/2024	EBS
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	01/12/2024	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE:	1/12/2024
		ALS SDG#:	EV24010052
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Amy Tice		
CLIENT PROJECT:	210368 - Lignin OU MNA		

LABORATORY BLANK RESULTS

MB-011024W - Batch 205885 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved)	EPA-200.8	U	UG/L	2.0	01/12/2024	EBS
Copper (Dissolved)	EPA-200.8	U	UG/L	2.0	01/12/2024	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Aspect Consulting, LLC 710 - 2nd Ave, Suite 550 Seattle, WA 98104	DATE:	1/12/2024
		ALS SDG#:	EV24010052
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Amy Tice		
CLIENT PROJECT:	210368 - Lignin OU MNA		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 205885 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chromium (Dissolved) - BS	EPA-200.8	**94.3**			86.2	107	01/12/2024	EBS
Chromium (Dissolved) - BSD	EPA-200.8	**94.2**	**0**		86.2	107	01/12/2024	EBS
Copper (Dissolved) - BS	EPA-200.8	**97.1**			85.4	109	01/12/2024	EBS
Copper (Dissolved) - BSD	EPA-200.8	**98.7**	**2**		85.4	109	01/12/2024	EBS

APPROVED BY

Rob Greer
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

Chain of Custody

EV24010052

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 210368
Project Name: Lagoon OU MNA
Project Manager: Amy Tice
Sampled by: BJ Ward

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☒ 2 Days
- ☐ 3 Days
- ☐ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Dissolved chromium + Cr				% Moisture
1	LW-MW101 20240109	1/9	1015	Water	1																		X				
2	LW-MW102 20240109	↓	1105	↓	1																		X				
3	LW-MW103 20240109		1205		1																		X				
4	LW-MW104 20240109		1330		1																		X				
5	LW-MW105 20240109	↓	1455	✓	1																		X				

	Signature	Company	Date	Time
Relinquished	[signature]	Aspect	1/9	1600
Received	[signature]	ANSE	1/10	0935
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Aspect ALS Job#: EV2401005 2

Project: 210368

Login Date: 1/10/24 Login Time: 0935 Login By: ne

Type of Shipping Container: Cooler X Box ___ Other ___

Shipped via: FedEx Ground ___ UPS ___ Courier ___ Hand Delivered X ALS Courier ___
FedEx Express ___

	Yes	No	N/A
Were custody seals on outside of shipping container? If yes, how many? ___ Where? ___ Custody seal date: ___ Seal name: ___	___	___	X
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X	___	___
Did all bottles have labels?	X	___	___
Did all bottle labels and tags agree with Chain of Custody?	X	___	___
Were samples received within hold time?	X	___	___
Did all bottles arrive in good condition (unbroken, etc.)?	X	___	___
Was sufficient amount of sample sent for the tests indicated?	X	___	___
Was correct preservation added to samples?	X	___	___
Subcontract test containers added to Subcontract Bin?	___	___	X
Wetchem test containers marked with required Tests?	___	___	X
Short hold time test containers delivered to analysts?	___	___	X
Were VOA vials checked for absence of air bubbles?	___	___	X
Bubbles present in sample #: ___			
5035A kits received? # Low Kits: ___ # High Kits: ___	___	___	X
5035A kits returned? # Low Kits: ___ # High Kits: ___			
Temperature of cooler upon receipt: 2.4 °C On ice?	X	___	___

Explain any discrepancies:

Was client contacted? ___ Who was called? ___ By whom? ___ Date: ___

Outcome of call:

APPENDIX C

IDW Disposal Manifest

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
None Required	1	(800) 337-7455	POB-IDW-52423-01

GENERATOR

5. Generator's Name and Mailing Address

Port of Bellingham
300 W Laurel St
Bellingham, WA 98225
Attn:

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: DH Environmental, Inc. — U.S. EPA ID Number: WAH000047217

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address

Cargill North America
5400 W Marginal Way SW
Seattle, WA 98106
(206) 983-5618

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Material Not Regulated by DDT (non-regulated IDW soil)	01	DM	200	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

1) DH-ASPCT-POB-IDW-SOIL

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: On Behalf of Generator Jake Heatherly — Signature — Month: 05 — Day: 24 — Year: 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jake Heatherly — Signature — Month: 05 — Day: 24 — Year: 23

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month: 5 — Day: 24 — Year: 23