HALEY ALDRICH

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REPORT ON

CUSTOM PLYWOOD GROUNDWATER MONITORING ANACORTES, WASHINGTON

by
Haley & Aldrich, Inc.
Seattle, Washington

for
Washington State Department of Ecology, Toxics Cleanup Program
Shoreline, Washington

File No. 0209325-000
14 November 2024

HALEY & ALDRICH, INC.
3131 Elliott Avenue
Suite 600
Seattle, WA 98121
206.324.9530

14 November 2024
File No. 0209325-000

Washington State Department of Ecology, Toxics Cleanup Program
300 Desmond Drive SE
Lacey, Washington 98503

Attention: Josh Morman
Environmental Specialist, Toxics Cleanup Program

Subject: Custom Plywood Groundwater Monitoring
Anacortes, Washington

Dear Josh:

This groundwater monitoring report provides groundwater quality data on the upland portion of the Custom Plywood site (Site), located in the wetland mitigation area along Fidalgo Bay in Anacortes, Washington (Cleanup Site ID Number 4533, Facility Site ID Number 2685). The project location is shown on Figure 1. This report provides results of the two groundwater sampling events conducted in 2024.

Site Summary

The Site is one of several Anacortes-area, bay-wide priority sites for Fidalgo and Padilla Bays being addressed by the Toxics Cleanup Program (TCP) under the Puget Sound Initiative (PSI). The Site consists of a 6.6-acre upland portion of the larger former Custom Plywood Cleanup. This property is owned by GBH Investments and includes an additional 34 acres of intertidal and subtidal areas.

Custom Plywood operated as a lumber and planning mill between 1900 until burning down some time between 1925 and 1937. Through the mid-1900s, the property changed owners several times, was ultimately rebuilt and expanded until Custom Plywood was again operating some time prior to 1991. The facility was used for sawmill and plywood manufacturing until another fire occurred November 1992 and all operations ceased. Milling activities over the course of its industrial life produced wood-related wastes and chemical contaminants that impacted the soil, sediment, and groundwater.

PREVIOUS AND ONGOING CLEANUP ACTIONS

Past limited interim remedial actions were conducted under Washington Administrative Code 173-340-515 (Independent Remedial Actions) on the upland portion of the site beginning in 1998. To date, three interim remedial actions have been completed at the Site. Phase I of the remedial actions, completed in fall 2011, consisted of upland remediation. Phase II, completed in fall 2013, consisted of shoreline

restoration and cleanup in intertidal and limited subtidal areas. Phase III is currently underway and has consisted of subtidal sediment dredging and capping and eelgrass transplanting and monitoring.

As part of the Phase I Upland Cleanup Action, in September 2011 six groundwater monitoring wells were installed along the northern section of the buffer area and along the western Site boundary to further investigate historic exceedances in diesel- and lube oil-range total petroleum hydrocarbons (TPH), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and heavy metals associated with petroleum-related contaminants.

Groundwater Sampling and Results

FIELD INVESTIGATION ACTIVITIES AND OBSERVATIONS

The purpose of the groundwater monitoring is to generate data of sufficient quality characterize the nature and extent of potential environmental impacts on the Site as part of compliance monitoring recommendations and the Periodic Review process described in the Final Cleanup Action Plan for Phase I Upland Remediation (September 2011).

It has been several years since any groundwater monitoring has been performed. The objective of the compliance monitoring is to evaluate current shallow groundwater quality at the Site. Prior to mobilizing for the groundwater monitoring, a sampling and analysis plan (SAP) detailing the proposed field efforts, sampling and analysis procedures, and relevant laboratory information was prepared. The SAP include a site-specific Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP) for the sampling effort (Haley & Aldrich, 2024).

Due to long period of inactivity at the Site, the monitoring wells were redeveloped over 12 hours prior to sampling by surging. Wells were redeveloped on 31 January and 1 February 2024. Details of the groundwater levels, development water characteristics, and development purge volumes can be found in Attachment A.

There were two sampling events involving the six compliance groundwater monitoring wells (MW-1 through MW-6), approximately six months apart. The two sampling events occurred 1 and 2 February and 12 August 2024. The locations of the wells are shown on Figure 2.

After depressurizing and accurately gauging the depth to groundwater, samples were collected from the wells using standard low-flow sampling techniques. Each well was purged until the field parameters of pH, temperature, and specific conductivity met the stability criteria (i.e., specific conductivity ± 10 percent, pH ± 0.1 pH units, and temperature ± 0.1 °C). Following stabilization, groundwater samples were collected for laboratory testing by directly filling laboratory-provided sample containers. The labeled sample containers were placed in coolers with ice. Samples were delivered under chain of custody protocol to OnSite Environmental, Inc. (OnSite) in Redmond, Washington, for laboratory analysis. During purging, visual and olfactory observations were recorded in addition to quantitative stabilization measurements. For each monitoring events, no visual or olfactory observations were noted that may signify impacted water quality.

GROUNDWATER SAMPLE CHEMICAL ANALYSIS AND RESULTS

Groundwater samples were collected and analyzed from six monitoring wells (MW-1 through MW-6) in each sampling event. The groundwater samples were submitted to OnSite and analyzed for TPH-D, TPH-O, cPAHs, and total and dissolved metals (arsenic, cadmium, chromium, lead, and mercury). Groundwater sample analytical results are summarized in Table 1 and the laboratory reports and data usability summary report (DUSR) are provided in Attachment B.

Cleanup levels are derived from the lowest concentration protective of human or ecological health from Model Toxics Control Act (MTCA) Method B, state surface water quality criteria (Chapter 173-201A WAC), Clean Water Act Section 304, or the National Toxics Rule (40 CFR 131). We compared results with Ecology's Groundwater Preliminary Cleanup Level (PCUL) that's protective of marine surface water, as updated in July 2024 (Table 1). Analytical results are summarized below and on Figure 3.

- TPH-D was detected in samples from MW-2 and MW-3 at concentrations up to 330 micrograms per liter (µg/L) between both sampling events, below the Groundwater PCUL of 500 µg/L. No other wells had detections of TPH-D at or above the laboratory reporting limit for either sampling event.
- TPH-O was detected in MW-1 and MW-3 in August, and MW-2 for both events at concentrations up to 350 µg/L, below the Groundwater PCUL of 500 µg/L. No other wells had detections of TPH-O at or above the laboratory reporting limit for either sampling event.
- TPH (the sum of TPH-D and TPH-O) was detected in MW-2 for both events at concentrations up to 680 µg/L, exceeding the Groundwater PCUL of 500 µg/L.
- cPAHs were not detected at any of the wells at or above laboratory reporting limits.
- Total and dissolved arsenic exceeded the Groundwater PCUL of 8 µg/L in well MW-1 in both events, and in MW-2 and MW-5 in the February event. This is discussed in more detail in the section below.
- Total and dissolved mercury also exceeded the PCUL of 0.025 µg/L in MW-1. This is discussed in more detail in the section below.
- MW-1 in the August sampling event had detections for all total and dissolved metals analyzed, and besides arsenic, were below the pertinent Groundwater PCULs for cadmium, chromium (tri-valent), lead, and mercury.
- Acenaphthene was detected in MW-2 and MW-5 and below the PCUL screening criteria (30 µg/L).
- A low-level (0.35 µg/L) of 1-methylnapthalene was detected in MW-5, however there is no applicable PCUL screening criteria.

Conclusions and Recommendations

Dissolved arsenic concentrations are generally within the range of anticipated Puget Sound groundwater background levels except for samples collected from MW-1. A 2022 study by Ecology's Toxics Cleanup Program (TCP) indicates that natural background levels for arsenic ranged from <1 to 150 µg/L across the state. In Island County, an area located near the Site with comparable tidal influences and demands on well water, the calculated arsenic background threshold value is 13.3 µg/L (Ecology, 2022). Mercury also exceeded the PCUL in well MW-1 during August 2024 sampling event.

Diesel- and oil-range hydrocarbons were also detected at concentrations slightly above the PCUL in well MW-2. There was no evidence of petroleum hydrocarbons encountered in the samples (no sheen or odor) and concentrations of PAHs, which are often associated with petroleum products, were not detected at concentrations exceeding PCULs. Review of sample chromatograms and discussion with the laboratory indicates that the detected TPH-D and TPH-O concentrations do not appear to be associated with petroleum products and are likely due to the presence of natural organics. We recommend that groundwater samples analyzed for TPH-D extended in future sampling events should include testing with and without silica gel cleanup.

While it is unlikely that the Site poses a threat to human health and the environment, additional groundwater monitoring may be warranted to assess PCUL exceedances observed in several of the wells. We appreciate the opportunity to provide environmental consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Samantha Fisher
Senior Environmental Scientist

Andrew Kaparos, P.E.
Senior Associate Engineer

Mike Ehlebracht, L.H.G.
Principal Geochemist

Enclosures:

- Table 1 - Summary of Groundwater Quality Data
- Figure 1 - Vicinity Map
- Figure 2 - Groundwater Monitoring Well Locations
- Figure 3 - Chemical Analysis

Attachment A - Completed Field Forms
Attachment B - Laboratory Reports and Data Usability Summary Report

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References

1. San Juan, Charles. 2022. Natural Background Arsenic Concentrations in Washington State. Washington State Department of Ecology. January.

2. Hart Crowser, 2012. Final Construction Completion Report, Phase I, Upland Interim Remedial Action, Custom Plywood Site, Anacortes Washington. Prepared by Hart Crowser under Direction and Contract with the Washington State Department of Ecology under Agreement with GBH Investments, LLC. 22 October.

3. Haley & Aldrich, Inc., 2024. Sampling and Analysis Plan / Quality Assurance Project Plan, Custom Plywood Site, Anacortes, Washington. Prepared by Haley & Aldrich, Inc. for the Washington State Department of Ecology. January.

TABLE

TABLE 1
SUMMARY OF GROUNDWATER QUALITY DATA
WASHINGTON STATE DEPARTMENT OF ECOLOGY
CUSTOM PLYWOOD
ANACORTES, WASHINGTON

Location Name		MW-1	MW-1	MW-2	MW-2	MW-3	MW-3	MW-4	MW-4	MW-5	MW-5	MW-6	MW-6
Sample Name	Groundwater	MW-1-20240201	MW-1-20240812	MW-2-20240202	MW-2-20240812	MW-3-20240201	MW-3-20240812	MW-4-20240202	MW-4-20240812	MW-5-20240202	MW-5-20240812	MW-6-20240202	MW-6-20240812
Sample Date	PCUL Protect	02/01/2024	08/12/2024	02/02/2024	08/12/2024	02/01/2024	08/12/2024	02/02/2024	08/12/2024	02/02/2024	08/12/2024	02/02/2024	08/12/2024
Lab Sample ID	Surface Water	2402-047-01	2408-148-05	2402-047-06	2408-148-03	2402-047-02	2408-148-02	2402-047-05	2408-148-01	2402-047-03	2408-148-04	2402-047-04	2408-148-06
Sample Depth (bgs)	Minimum	14.5 (ft)	14 (ft)	-	16 (ft)	14.5 (ft)	14 (ft)	13.5 (ft)	12 (ft)	13 (ft)	12 (ft)	13 (ft)	12 (ft)
Total Petroleum Hydrocarbons (ug/L)													
Diesel Range Organics	50/500(a)	220 U	230 U	**230**	**330**	**250**	**150 J-**	200 U	220 U	210 U	200 U	200 U	220 U
PHC as Lube Oil	500	220 U	**240**	**300**	**350**	210 U	**320 J-**	200 U	220 U	210 U	200 U	200 U	220 U
Diesel Range + Oil Range Organics	500	220 U	**240**	**530**	**680**	**250**	**470 J-**	200 U	220 U	210 U	200 U	200 U	220 U
Inorganic Compounds (ug/L)													
Arsenic, Dissolved	8 (b)	**20**	**27**	**7.8**	**3.6**	4.4 U	**1.4**	4.4 U	**2.4**	**7.7**	**0.67**	4.4 U	**2.1**
Cadmium, Dissolved	7.9	4.4 U	**0.31**	4.4 U	0.22 U	4.4 U	0.22 U	4 U	0.2 U	4 U	0.2 U	4 U	0.2 U
Chromium, Dissolved	27 (c)	11 U	**5.9**	11 U	**8.5**	11 U	**9.2**	10 U	1 U	10 U	1 U	10 U	1 U
Lead, Dissolved	8.1	4.4 U	**0.87**	4.4 U	0.44 U	4.4 U	0.44 U	4 U	0.4 U	4 U	0.4 U	4 U	0.4 U
Mercury, Dissolved	0.025	0.5 U	**0.16**	0.5 U	0.13 U	0.5 U	0.13 U	0.5 U	0.13 U	0.5 U	0.13 U	0.5 U	0.13 U
Arsenic, Total	8 (b)	**21**	**27**	**8.1**	**6.4**	4.4 U	**2.3**	4.4 U	**3.2**	**8.7**	**0.68**	4.4 U	**2.6**
Cadmium, Total	7.9	4.4 U	**0.6**	4.4 U	0.22 U	4.4 U	0.22 U	4.4 U	0.22 U	4.4 U	0.22 U	4.4 U	0.22 U
Chromium, Total	27 (c)	11 U	**12**	11 U	**12**	11 U	**9.2**	11 U	1.1 U	11 U	1.1 U	11 U	1.1 U
Lead, Total	8.1	4.4 U	**3.3**	4.4 U	**1.3**	4.4 U	0.44 U	4.4 U	0.44 U	4.4 U	0.44 U	4.4 U	0.44 U
Mercury, Total	0.025	0.5 U	**1**	0.5 U	0.13 U	0.5 U	0.13 U	0.5 U	0.13 U	0.5 U	0.13 U	0.5 U	0.13 U
Semi-Volatile Organic Compounds (SIM) (ug/L)													
1-Methylnaphthalene	NA	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	**0.35**	0.095 U	0.095 U
2-Methylnaphthalene	NA	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Acenaphthene	30	0.095 U	0.1 U	**0.14**	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	**0.11**	0.095 U	0.095 U
Acenaphthylene	NA	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Anthracene	100	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Benzo(a)anthracene	0.00016	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Benzo(a)pyrene	0.000016	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Benzo(b)fluoranthene	0.00016	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Benzo(g,h,i)perylene	NA	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.012 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Benzo(j,k)fluoranthene	0.0013	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Chrysene	0.016	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Dibenz(a,h)anthracene	0.000016	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Fluoranthene	6	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Fluorene	10	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Indeno(1,2,3-cd)pyrene	0.00016	0.0095 U	0.01 U	0.0098 U	0.0095 U	0.0095 U	0.0098 U	0.0095 U	0.014 U	0.0098 U	0.0095 U	0.0095 U	0.0095 U
Naphthalene	1.4	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Phenanthrene	NA	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
Pyrene	8	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.098 U	0.095 U	0.1 U	0.098 U	0.095 U	0.095 U	0.095 U
cPAHs-TEQ (d)	0.000016	0.007 U	0.008 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.008 U	0.007 U	0.007 U	0.007 U	0.007 U
Field Parameters													
Temperature (Deg C)	NA	**9.1**	**16.1**	**10.6**	**14.6**	**11.3**	**12.8**	**9**	**13.4**	**10.1**	**13.2**	**8.6**	**12.9**
Oxidation Reduction Potential (ORP), Field (mv)	NA	**-91.6**	**-114.3**	**-200.4**	**-156**	**-259.4**	**-201.7**	**-66.8**	**-125**	**-150.7**	**-**	**-109.1**	**-127.8**
Turbidity, Field (NTU)	NA	**34.8**	**38.52**	**30.57**	**24.6**	**40.39**	**9.87**	**3.95**	**2.94**	**6.31**	**2.25**	**2.92**	**0.96**
pH, Field (pH units)	NA	**7.33**	**7.57**	**6.9**	**6.6**	**6.91**	**6.99**	**7.01**	**7.22**	**7.3**	**-**	**7.85**	**7.4**
Dissolved Oxygen, Field (mg/L)	NA	**2**	**0.44**	**1.1**	**0.09**	**2.4**	**0**	**2.7**	**0.32**	**2.3**	**0.05**	**2.6**	**0.2**
Conductivity, Field (uS/cm)	NA	**16094**	**5363**	**7271**	**11652**	**20194**	**19318**	**5587**	**4781**	**3824**	**6125**	**845**	**1579**

ABBREVIATIONS AND NOTES:
-: Not analyzed, probe malfunction 8/12/2024
bgs: below ground surface
Deg C: Degrees Celsius
ft: feet
J-: value is estimated, biased low
mg/L: milligrams per liter
mv: millvolts
NA: Not Available
NTU: Nephelometric Turbidity Units
PCUL: Preliminary Cleanup Level
U: not detected above the indicated laboratory reporting limit
ug/L: micrograms per liter
uS/cm: microSiemen per centimeter

Groundwater PCUL Protect Surface Water Minimum, July 2024
(a) 50 ug/L if fresh, 500 ug/L if weathered
(b) PCUL below background levels. Puget Sound background level of 8 ug/L as determined by Ecology used.
(c) PCUL of 27 ug/L for tri-valent chromium used; no suspected sources of hexavalent chromium at the site.
(d) Toxicity Equivalent using April 2015 (revised July 2021) Ecology's Implementation Memo No. 10: Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs), Publication No. 15-09-049. For non-detects (<RL), a value of one-half the RL has been used for TEQ calculation. cPAH calculated for samples with individual PAHs identified as a non-detect will be qualified with U.
Bold denotes a detected concentration.
Blue shading denotes a detected analyte concentration exceeding a Groundwater PCUL Protect Surface Water Minimum specific to the Lower Duwamish Waterway.

FIGURES

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CUSTOM PLYWOOD
ANACORTES, WASHINGTON

VICINITY MAP

MAP SOURCE: ESRI
SITE COORDINATES: 48°29'40"N, 122°36'01"W

APPROXIMATE SCALE: 1 IN = 2000 FT
OCTOBER 2024

FIGURE 1

GIS: \\haleyaldrich.com\share\sea_projects\Notebooks\196000_Custom_Plywood_Subtidal_Sediment_Cleanup\GIS\MGIS\0209325_CUSTOM_PLYWOOD_GW_MONITORING.aprx - mschweitzer - 10/18/2024 11:42 AM

LEGEND

- GROUNDWATER MONITORING WELL
- FENCE LINE
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 14 MAY 2024

N

0 100 200
SCALE IN FEET

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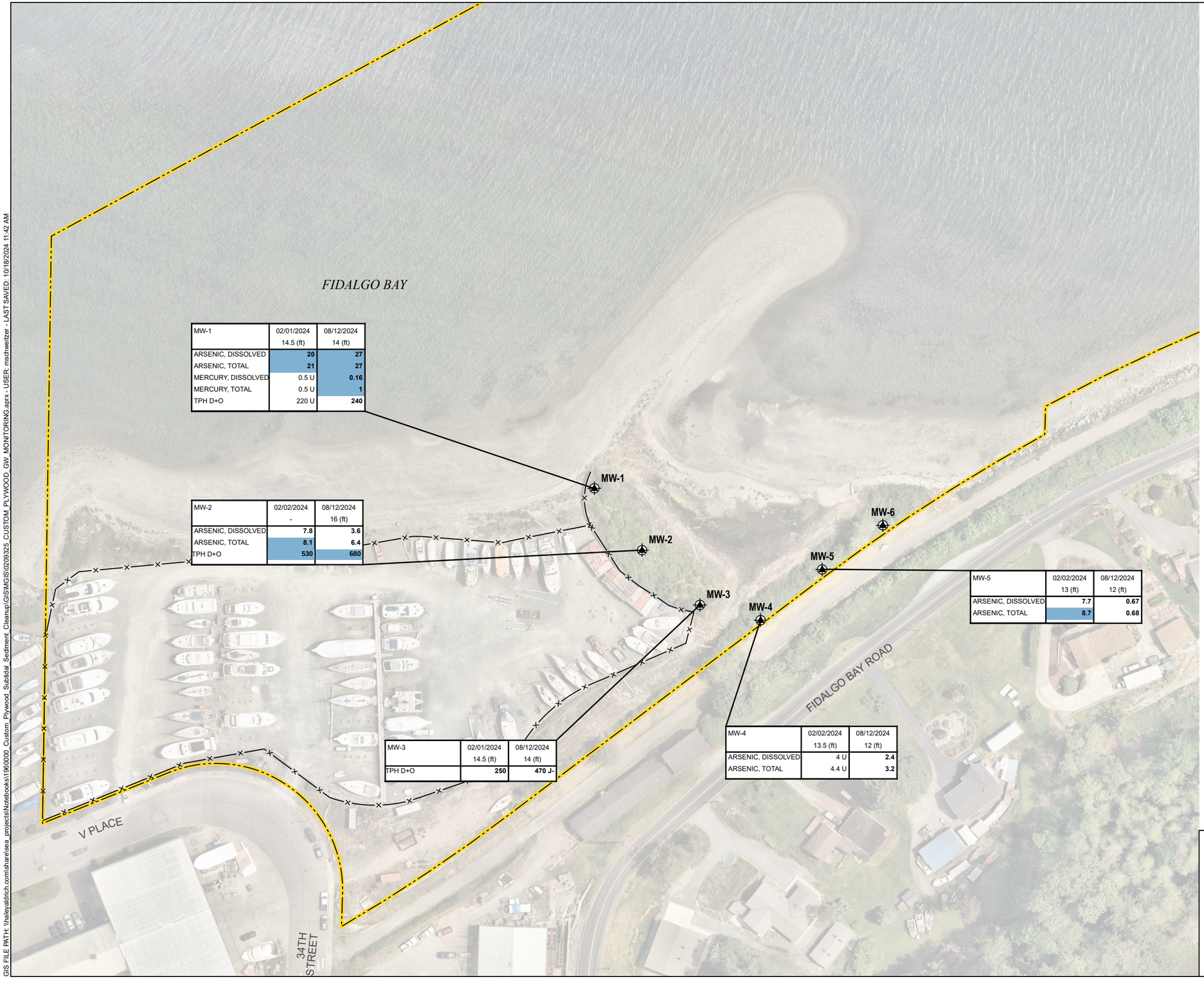
CUSTOM PLYWOOD
ANACORTES, WASHINGTON

GROUNDWATER MONITORING WELL LOCATIONS

OCTOBER 2024

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\sea_projects\Notebooks\119600000_Custom_Plywood_Subtidal_Sediment_Cleanup\GIS\MXD\GIS\0209325_CUSTOM_PLYWOOD_GW_MONITORING.aprx - USER: mschweitzer - LAST SAVED: 10/18/2024 11:25 AM



LEGEND

- GROUNDWATER MONITORING WELL
- FENCE LINE
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L)

3. DEFINITIONS:
FT = FEET
J = RESULT IS AN ESTIMATE
J- = RESULT IS AN ESTIMATE, BIASED LOW
TPH D+O = SUM OF DIESEL- AND OIL-RANGE TOTAL PETROLEUM HYDROCARBONS
U = NOT DETECTED ABOVE THE INIDCATED LABORATORY REPORTING LIMIT

4. VALUES IN **BOLD** DENOTES A DETECTED CONCENTRATION.

5. VALUES WITH **BLUE SHADING** DENOTES A DETECTED ANALYTE CONCENTRATION EXCEEDING A GROUNDWATER PCUL PROTECT SURFACE WATER MINIMUM SPECIFIC TO THE LOWER DUWAMISH WATERWAY, ECOLOGY (JULY 2024).

6. AERIAL IMAGERY SOURCE: NEARMAP, 14 MAY 2024

N

0 100 200
SCALE IN FEET

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CUSTOM PLYWOOD
ANACORTES, WASHINGTON

CHEMICAL ANALYSIS

OCTOBER 2024

FIGURE 3

GIS FILE PATH: \\haleyaldrich.com\share\sea_projects\Notebooks\1960000_Custom_Plywood_Subtidal_Sediment_Cleanup\GIS\MGIS\0209325_CUSTOM_PLYWOOD_GW_MONITORING.aprx - USER: mschweitzer - LAST SAVED: 10/18/2024 11:42 AM

APPENDIX A
Completed Field Forms

HALEY ALDRICH

GAUGING AND DEVELOPING FORM

orm FMG 5.1-01
Rev (06-09-09)

Project: CUSTOM PLYWOOD	Client: ECOLOGY	File Number: 0209325-000
Location: ANACORTES, WA	Weather:	Project Manager: A. KAPAROS
	Tidally influenced? YES	Field Representative: S. FISHER, C. DOUTHITT
Method: MONSOON PUMPS	Comments: ALL WELLS ADJACENT TO A WETLAND, SULFIDE	

Monitoring Well ID	Date	Time	Well Dry? (Y/N)	Depth to Water (ft)	Depth to Bottom (ft)	1 Well Casing Volume (gal)	Total purged (gal)	Purge Time Completion	Remarks
MW-1	1/31/24	1400	N	4.85	15.20	1.69	~17	1430	H_2S odors, SEDIMENT
MW-3	1/31/24	1515	N	4.50	15.18	1.74	~17.5	1545	H_2S odors
MW-5	2/1/24	0930	N	4.90	13.75	1.44	~15	1000	
MW-6	2/1/24	0940	N	6.02	13.85	1.25	~13	1000	H_2S odors
MW-4	2/1/24	1125	N	6.28	14.02	1.26	~13	1200	
MW-2	2/1/24	1130	N	4.50	17.60	2.04	~21	1150	☆ WASPS IN MONUMENT ☆

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LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	CUSTOM (PLYWOOD)	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	A. KAPAROS
CLIENT	ECOLOGY	FIELD REP.	S. FISHER
		SAMPLING DATE	2/1/24

Sampling Data:

Well ID:	MW-1	Well Depth:	~~15.20~~ 14.91 SLF ft	Initial Depth To Water:	4.91 ft	Purging Device:	PERI
Start time:	14:10	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	~14.5 ft	Tubing Present In Well:	YES
Finish Time:	15:45	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
14:10	5.36			0.1	8.7	7.05	23479	6.6	22.46	-18.2	TEA COLORED, RICH DARK
14:15	5.38			0.4	9.3	7.13	21962	4.2	23.55	-58.4	BROWN,
14:20											PERI PUMP DIED !!
15:10	5.38			0.6	9.9	7.51	21708	14.5	36.51	-0.7	
15:15	5.38			1.0	9.3	7.38	16330	3.8	36.61	-65.2	
15:20	5.38			1.3	9.1	7.35	15676	2.7	31.75	-80.4	
15:25	5.38			1.6	9.1	7.34	15808	2.4	31.19	-86.5	
15:30	5.38			2.0	9.1	7.33	15975	2.0	36.58	-90.8	
15:35	5.38			2.3	9.1	7.33	16094	2.0	34.80	-91.8	
											SAMPLED @ 15:40
											Sample ID: MW-1

Form 3010

LOW FLOW/MNA FIELD SAMPLING FORM

HALEY ALDRICH

PROJECT	CUSTOM PLYWOOD	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	A. KAPAROS
CLIENT	ECOLOGY	FIELD REP.	C. DOTTTTT
		SAMPLING DATE	2/1/24

Sampling Data:

Well ID:	MW-3	Well Depth:	~~[illegible]~~ 15.18 ft	Initial Depth To Water:	4.75 ft	Purging Device:	peri
Start time:	15:40	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	~14.5 ft	Tubing Present In Well:	yes
Finish Time:	16:20	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
1540	4.75				11.5	~~[illegible]~~ 7.01	22680	20.4	34.75	-192.3	Initial
1545	5.45				11.5	7.04	22796	7.1	29.07	-223.4	Dark water/blackish
1550	↓				11.5	7.05	22681	4.3	32.53	-236.8	ODOR
1555	↓				11.3	6.95	21350	3.4	37.32	-254.1	
1600	↓				11.3	6.91	20329	2.7	~~[illegible]~~	-256.1	NTU-35.63
1605	↓				11.3	6.91	20194	2.4	40.39	-259.4	
Sampled at 1610											
											Sample ID: MW-3

Form 3010

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	Custom Plywood	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	A. KATSAROS
CLIENT	ECOLOGY	FIELD REP.	C. DOUTHITT
		SAMPLING DATE	2/2/24

Sampling Data:

Well ID:	MW-5	Well Depth:	13.75 ft	Initial Depth To Water:	5.05 ft	Purging Device:	PERI
Start time:	0940	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	2 13 ft	Tubing Present In Well:	YES
Finish Time:	1025	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
0940	5.05				10.8	7.12	7821	7.6	56.25	-147.8	Initial Dark Color
0945	5.21				10.6	7.13	7641	4.8	29.31	-143.4	
0950					10.4	7.18	6635	3.6	22.18	-145.5	
0955					10.3	7.23	5201	3.0	12.75	-150.5	
1000					10.1	7.27	4802	2.7	9.5	-152.5	
1005					10.1	7.28	3964	2.4	5.98	-156.3	
1010					10.1	7.29	3946	2.3	5.79	-154.6	
1015					10.1	7.30	3824	2.3	6.31	-150.7	
	Sampled at 1020										
											Sample ID: MW-5

Form 3010

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	CUSTOM PLYWOOD	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	A. KAPAPOS
CLIENT	ECOLOGY	FIELD REP.	S. FISHER
		SAMPLING DATE	2/2/24

Sampling Data:

Well ID:	MW-6	Well Depth:	13.65 ft	Initial Depth To Water:	6.24 ft	Purging Device:	Peri
Start time:	9:50	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	~13 ft	Tubing Present In Well:	yes
Finish Time:	11:10	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	HDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
9:55	6.28			0.1	8.8	8.30	966	11.9	7.68	-23.4	NO ODOR OR SHEEN
10:00	6.26			0.3	8.7	7.94	860	6.6	5.03	-47.4	
10:05	6.26			0.6	8.7	7.90	850	4.9	3.21	-74.7	
											PERI DIED
10:15	6.20			0.7	9.2	7.88	854	5.6	3.86	-82.1	
10:20	6.20			1.0	8.6	7.87	851	4.1	3.38	-88.1	
10:25	6.20			1.4	8.6	7.86	841	3.3	3.02	-96.4	
10:30	6.20			1.8	8.6	7.86	845	2.9	2.82	-101.2	
10:35	6.20			2.2	8.6	7.86	840	2.8	2.87	-105.4	
10:40	6.20			2.6	8.6	7.85	845	2.6	2.92	-109.1	
											Sampled @ 10:45
											Sample ID: MW-6

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	CUSTOM PLYWOOD	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	A. KAPAROS
CLIENT	ECOLOGY	FIELD REP.	S FISHER
		SAMPLING DATE	2/2/24

Sampling Data:

Well ID:	MW-4	Well Depth:	14.02 ft	Initial Depth To Water:	6.33 ft	Purging Device:	Per.
Start time:	11:35	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	~13.5 ft	Tubing Present In Well:	yes
Finish Time:	12:20	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
11:40	6.40			0.4	9.9	7.22	11332	9.7	18.32	-55.4	NO ODOR OR SHEEN
11:45	6.38			0.6	9.5	7.24	8996	4.2	31.43	-85.7	
11:50	6.38			0.8	9.2	7.14	6324	3.2	10.10	-81.4	
11:55	6.38			1.0	9.0	7.05	5505	2.9	6.75	-72.7	
12:00	6.38			1.2	9.0	7.01	5235	2.7	4.75	-68.0	
12:05	6.38			1.4	9.0	7.00	5302	2.6	3.82	-66.3	
12:10	6.38			1.6	9.0	7.01	5587	2.7	3.95	-66.8	
											Sampled @ 12:15
											Sample ID: MW-4

Form 3010

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT: Custom Plywood
LOCATION: ANACORTES, WA
CLIENT: Ecology

H&A FILE NO. 0209725-000
PROJECT MGR. A. KAPAROS
FIELD REP. C. Douthitt
SAMPLING DATE 02/02/24

Sampling Data:

Well ID: MW-07 | Well Depth: ft | Initial Depth To Water: 4.55 ft | Purging Device: PERI
Start time: 1155 | Depth To Top Of Screen: ft | Depth Of Pump Intake: ft | Tubing Present In Well: YES
Finish Time: 1305 | Depth To Bottom Of Screer ft | Date Well Installed: | Tubing Type: LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
1155	4.55				11.1	6.70	2453	6.2	87.38	-139.8	Dark water initially
1200	4.78				11.0	6.63	18508	3.7	51.38	-179.0	
1205					10.7	6.66	14188	2.7	17.02	-177.9	
1210					10.6	6.79	10135	2.2	29.25	-191.3	
1215					10.5	6.88	7240	1.9	31.20	-194.5	
1220					10.5	6.90	6787	1.7	28.72	-197.1	
1225					10.6	6.89	7052	1.5	24.90	-199.5	
1230					10.7	6.84	9837	1.4	28.53	-200.6	
1235					10.6	6.86	7823	1.3	24.42	-200.8	
1240					10.6	6.89	7585	1.3	25.12	-201.6	
1245					10.7	6.90	7754	1.2	43.98	-203.6	
1250					10.6	6.90	7457	1.1	35.71	-202.9	
1255	↓				10.6	6.90	7271	1.1	30.57	-200.4	
											SAMPLED @ 1300
											Sample ID: MW-2

HALEY ALDRICH

GROUNDWATER GAUGING FORM

Form FMG 5.1-01
Rev (06-09-09)

Project: CUSTOM PLYWOOD	Client: ECOLOGY	File Number: 0209325
Location: ANACORTES, WA	Weather: OVERCAST, COOL	Project Manager: KAPAROS
	Tidally influenced? YES, EXTREMELY!	Field Representative: FISHER, BANGASSER
Method: *Waterline*	Comments:	

MonitoringWell ID	Date	Time	Well Dry? (Y/N)	Depth to Water (ft)	Depth to Product (ft)	Depth to Well bottom (ft)	Top of Riser Elevation (ft)	Calculated Water Elevation (ft)	Remarks
MW-6	8/12/24	8:49	N	~~9.39~~ 9.22	—	13.90			* BROKEN SENSOR ON GAUGE, DTW APPROXIMATED WITH MOISTURE ON TAPE
MW-5	8/12/24	9:22	N	6.37	—	13.93			
MW-4	8/12/24	9:36	N	5.79	—	14.23			
MW-3	8/12	11:00	N	8.68	—	15.35			
MW-2	8/12	11:08	N	10.31	—	17.20			
MW-1	8/12	11:12	N	8.21	—	15.48			

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	CUSTOM PLYWOOD	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	KAPAROS
CLIENT	ECOLOGY	FIELD REP.	FISHER
		SAMPLING DATE	8/12/24

Sampling Data:

Well ID:	MW-4	Well Depth:	14.23 ft	Initial Depth To Water:	5.79 ft @ 9:36	Purging Device:	PERI
Start time:	9:55	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	12 ft	Tubing Present In Well:	YES
Finish Time:	10:50	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	HDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
9:55				0	13.5	7.06	4852	2.76	28.42	-62.4	★ WM PROBE SENSOR MALFUNCTION, NO DTW READINGS POSSIBLE
10:00				0.3	13.6	7.15	4629	0.78	19.87	-92.3	NO ODOR OR SHEEN
10:05				0.7	13.9	6.71	4100	0.58	21.97	-93.6	OBSERVED
10:10				1.1	13.8	6.96	4385	0.38	5.87	-106.7	
10:15				1.6	13.7	7.08	4519	0.29	3.37	-117.1	
10:20				2.1	13.6	7.13	4565	0.27	3.09	-121.3	
10:25				2.6	13.6	7.18	4667	0.27	3.52	-124.1	
10:30				2.9	13.5	7.20	4710	0.30	3.50	-125.1	
10:35				3.4	13.4	7.22	4781	0.32	2.94	-125.0	
											Sampled @ 10:40
											Sample ID: MW-4

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT: Custom Plywood
LOCATION: Anacortes, WA
CLIENT: Ecology

H&A FILE NO.: 020925
PROJECT MGR.: KAPAROS
FIELD REP.: BANGASSER
SAMPLING DATE: 8/12/24

Sampling Data:

Well ID: MW-3
Start time: 1205
Finish Time: 1305

Well Depth: 15.35 ft
Depth To Top Of Screen: ft
Depth To Bottom Of Screer ft

Initial Depth To Water: 8.68 * ft
Depth Of Pump Intake: ~14 ft
Date Well Installed:

Purging Device: peristaltic pump
Tubing Present In Well: replaced
Tubing Type: LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
1205				0	14.3	6.93	17842	1.75	35.32	-91.1	
1210				0.2	13.2	6.95	18538	0.67	30.30	-113.7	
1215				0.6	12.9	6.97	18820	0.39	22.34	-130.3	
1220				1.0	12.9	6.98	18987	0.25	19.89	-142.6	
1225				1.4	12.8	6.97	19010	0.16	17.69	-158.2	
1230				1.8	12.8	6.98	19222	0.11	16.73	-169.4	
1235				2.0	12.8	6.98	19253	0.06	18.77	-180.4	
1240				2.4	12.8	6.99	19396	0.04	10.66	-188.0	
1245				2.6	12.7	6.99	19314	0.01	10.93	-195.8	
1250				2.8	12.8	6.99	19318	-0.00	9.87	-201.7	
1255											Sample taken @ ~~12:55~~ 12:50 SLF
											Sample ID: MW-3

Form 3010

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	Custom Plywood	H&A FILE NO.	0209325-000
LOCATION	Anacortes, WA	PROJECT MGR.	KAPAROS
CLIENT	Ecology	FIELD REP.	BANGASSER
		SAMPLING DATE	8/12/24

Sampling Data:

Well ID:	MW-2	Well Depth:	17.20	ft	Initial Depth To Water:	10.31 *@ 11:08	ft	Purging Device:	Peripump
Start time:	11:55	Depth To Top Of Screen:		ft	Depth Of Pump Intake:	~16	ft	Tubing Present In Well:	Y
Finish Time:	13:10	Depth To Bottom Of Screer		ft	Date Well Installed:			Tubing Type:	LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)*	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temperature (°C) +/- 10%	pH +/- 0.1	Conductivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
											*WM PROBE SENSOR MALFUNCTION, NO DTW READINGS POSSIBLE
1200					13.9	6.63	22916	0.64	41.97	-133.5	
1205					14.0	6.63	21980	0.36	60.91	-150.9	Hydrogen sulfide smell
1210					14.5	6.68	19940	0.90	62.5	-114	Tubing slipped to ~~dirt~~ SLF/ Sl emptied
1215					14.5	6.64	13603	1.17	37.8	-133.1	SEDIMENT
1220					14.7	6.61	12441	0.19	37.7	-150.2	
1225					14.7	6.60	12124	0.15	37.2	-152	
1230					14.7	6.60	11947	0.12	31.57	-154	
1235					14.7	6.60	11816	0.10	28.25	-155	
1240					14.6	6.60	11652	0.09	24.60	-156	
1245											
											Sampled @ 13:00
											Sample ID: MW-2

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	CUSTOM PLYWOOD	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	KAPAROS
CLIENT	ECOLOGY	FIELD REP.	FISHER
		SAMPLING DATE	8/12/24

Sampling Data:

Well ID:	MW-5	Well Depth:	13.93 ft	Initial Depth To Water:	6.37 @ 9:22 ft	Purging Device:	PERI
Start time:	14:45	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	~12 ft	Tubing Present In Well:	YES
Finish Time:	15:40	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
14:45	*			0	13.1	7.41	6291	1.39	29.57	-137.0	*WATER PROBE SENSOR ~~MALFUNCTION~~
14:50				0.2	13.1	7.37	8185	1.39	29.64	-120.4	MALFUNCTION
14:55				0.7	13.5	4.54	6124	2.32	40.10	774.3	
15:00				1.1	13.4	4.54	6109	2.28	26.33	1163.0	
15:05				1.5	13.6	4.54	6098	0.33	4.58	1185.5	
15:10				1.9	13.5	4.54	6111	0.13	2.98	1186.5	
1515				2.3	13.4	4.54	6118	0.09	2.63	1186.5	
15:20				2.5	13.3	4.55	6122	0.07	2.79	1186.5	
15:25				2.	13.2	4.55	6125	0.05	2.25	1186.5	NO ODOR OBSERVED, SLIGHT SHEEN
											Sampled @ 15:30
											Sample ID: MW-5

Form 3010

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT: Custom Plywood
LOCATION: Anacortes, WA
CLIENT: Ecology

H&A FILE NO.: 0209325
PROJECT MGR.: KAPAROS
FIELD REP.: BANGASSER
SAMPLING DATE: 8/12/24

Sampling Data:

Well ID: MW-1 | Well Depth: 15.48 ft | Initial Depth To Water: 8.21 * @ 11:12AM ft | Purging Device: Peristaltic pump
Start time: 1440 | Depth To Top Of Screen: ft | Depth Of Pump Intake: ~14 ft | Tubing Present In Well: Yes
Finish Time: 1540 | Depth To Bottom Of Screer ft | Date Well Installed: | Tubing Type: LDPE

Elapsed Time (min:sec)	Depth To Water From Casing (ft) *	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
1440				3/4	15.9	7.69	4460	2.10	59.47	22.2	* NW PROBE SENSOR MALFUNCTION, NO DTW READINGS POSSIBLE
1445				1	15.9	7.68	4128	1.96	43.85	14.6	
1450				1.5	15.9	7.66	4200	1.41	52.61	-7.6	
1455				1.6	15.9	7.62	4465	0.60	89.21	-44.0	
1500				2.0	15.9	7.60	4826	0.52	96.62	-67.7	
1505				2.4	16.0	7.58	5187	0.57	87.88	-90.2	
1510				2.7	16.1	7.57	5344	0.57	82.69	-100.4	
1515				2.8	16.1	7.57	5408	0.60	71.86	-104.1	
1520				3.2	16.0	7.57	5442	0.63	61.45	-106.1	
1525				3.4	16.1	7.57	5432	0.63	54.12	-108.2	
1530				3.6	16.1	7.57	5404	0.60	49.58	-109.6	
1535				3.8	16.1	7.57	5355	0.49	39.98	-112.9	
1540				4.0	16.1	7.57	5363	0.44	38.52	-114.3	Sample taken @ 1540
											Sample ID: NW-1

Form 3010

HALEY ALDRICH

LOW FLOW/MNA FIELD SAMPLING FORM

PROJECT	CUSTOM PLYWOOD	H&A FILE NO.	0209325-000
LOCATION	ANACORTES, WA	PROJECT MGR.	KAPAROS
CLIENT	ECOLOGY	FIELD REP.	FISHER
		SAMPLING DATE	8/12/24

Sampling Data: @ 8:45 AM

Well ID:	MW-6	Well Depth:	13.90 ft	Initial Depth To Water:	9.22* ft	Purging Device:	PERI
Start time:	16:20	Depth To Top Of Screen:	ft	Depth Of Pump Intake:	~12 ft	Tubing Present In Well:	YES
Finish Time:	17:15	Depth To Bottom Of Screer	ft	Date Well Installed:		Tubing Type:	HDPE

Elapsed Time (min:sec)	Depth To Water* From Casing (ft)	Pump Setting (sec/sec)	Purge Rate (ml/min)	Cumulative Purge Vol. (gal)	Temp-erature (°C) +/- 10%	pH +/- 0.1	Conduct-ivity (us/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mv) +/- 10 mv	Comments
16:20				0	13.1	7.63	2865	2.27	200.31	-66.7	* WM PROBE SENSOR MALFUNCTION, NO DTW READINGS POSSIBLE
16:25				0.2	13.0	7.57	2412	2.88	146.21	-73.9	
16:30				0.5	12.8	7.52	1985	2.00	39.01	-78.7	
16:35				1.0	12.8	7.48	1777	1.06	7.69	-91.5	NO ODOR OR SHEEN
16:40				1.5	12.9	7.42	1677	0.56	2.70	-100.8	OBSERVED THROUGHOUT
16:45				2.1	12.9	7.39	1619	0.31	1.60	-112.2	
16:50				2.5	12.9	7.40	1610	0.26	1.12	-116.7	
16:55				3.0	13.0	7.41	1609	0.21	1.27	-124.7	
17:00				3.5	12.9	7.40	1579	0.20	0.96	-127.8	
											Sampled @ 1705
											Sample ID: MW-6

Form 3010

APPENDIX B
Laboratory Reports and Data Usability Summary Report

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

March 5, 2024

Andrew Kaparos
Hart Crowser, Inc.
A Division of Haley & Aldrich, Inc.
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

Re: Analytical Data for Project 0209325-000
Laboratory Reference No. 2402-047

Dear Andrew:

Enclosed are the analytical results and associated quality control data for samples submitted on February 7, 2024.

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: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

Case Narrative

Samples were collected on February 1 and 2, 2024 and received by the laboratory on February 7, 2024. 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.

NWTPH-Dx Analysis

The surrogate percent recovery in sample MW-3 was below the control limit of 50% due to matrix effects. The sample was re-extracted with the same result. The percent recovery for the silica gel cleanup for this sample was within control limits due to the natural tendency for extracts to concentrate slightly during the cleanup process.

Dissolved Metals by EPA 200.8/7470A Analysis

The dissolved field filtered samples MW-1,MW-3 and MW-2 were received containing solid material. The samples were digested according to the OnSite Environmental standard operating procedure.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	02-047-01					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	2-6-24	2-6-24	
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	2-6-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*69*	*50-150*				
Client ID:	**MW-1**					
Laboratory ID:	02-047-01					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	2-6-24	2-6-24	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	2-6-24	2-6-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*70*	*50-150*				
Client ID:	**MW-3**					
Laboratory ID:	02-047-02					
Diesel Range Organics	**0.25**	0.21	NWTPH-Dx	2-6-24	2-7-24	
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	2-6-24	2-7-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*50*	*50-150*				Q
Client ID:	**MW-3**					
Laboratory ID:	02-047-02					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	2-6-24	2-7-24	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	2-6-24	2-7-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*52*	*50-150*				
Client ID:	**MW-5**					
Laboratory ID:	02-047-03					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	2-5-24	2-5-24	
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	2-5-24	2-5-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*70*	*50-150*				
Client ID:	**MW-5**					
Laboratory ID:	02-047-03					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	2-5-24	2-5-24	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	2-5-24	2-5-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*78*	*50-150*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6**					
Laboratory ID:	02-047-04					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*68*	*50-150*				
Client ID:	**MW-6**					
Laboratory ID:	02-047-04					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*67*	*50-150*				
Client ID:	**MW-4**					
Laboratory ID:	02-047-05					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				
Client ID:	**MW-4**					
Laboratory ID:	02-047-05					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	2-5-24	2-5-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**MW-2**					
Laboratory ID:	02-047-06					
Diesel Range Organics	**0.23**	0.23	NWTPH-Dx	2-6-24	2-6-24	
Lube Oil Range Organics	**0.30**	0.23	NWTPH-Dx	2-6-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*52*	*50-150*				
Client ID:	**MW-2**					
Laboratory ID:	02-047-06					
Diesel Range Organics	**ND**	0.23	NWTPH-Dx	2-6-24	2-6-24	X2
Lube Oil Range Organics	**ND**	0.23	NWTPH-Dx	2-6-24	2-6-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*55*	*50-150*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0205W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	2-5-24	2-5-24	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	2-5-24	2-5-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Laboratory ID:	MB0205W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	2-5-24	2-5-24	X2
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	2-5-24	2-5-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				
Laboratory ID:	MB0206W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	2-6-24	2-6-24	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	2-6-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*88*	*50-150*				
Laboratory ID:	MB0206W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	2-6-24	2-6-24	X2
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	2-6-24	2-6-24	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	SB0205W1									
	ORIG	DUP								
Diesel Fuel #2	**0.398**	**0.387**	NA	NA		NA	NA	3	40	
Surrogate:										
o-Terphenyl						*95* *91*	*50-150*			
Laboratory ID:	SB0205W1									
	ORIG	DUP								
Diesel Fuel #2	**0.401**	**0.373**	NA	NA		NA	NA	7	40	X2
Surrogate:										
o-Terphenyl						*99* *92*	*50-150*			
Laboratory ID:	SB0206W1									
	ORIG	DUP								
Diesel Fuel #2	**0.405**	**0.373**	NA	NA		NA	NA	8	40	
Surrogate:										
o-Terphenyl						*101* *100*	*50-150*			
Laboratory ID:	SB0206W1									
	ORIG	DUP								
Diesel Fuel #2	**0.474**	**0.366**	NA	NA		NA	NA	26	40	X2
Surrogate:										
o-Terphenyl						*116* *100*	*50-150*			

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK								
Laboratory ID:	SB0205W1							
Diesel Fuel #2	**0.398**	0.500	NA	**80**	53-126	NA	NA	
Surrogate:								
o-Terphenyl				*95*	*50-150*			
Laboratory ID:	SB0205W1 SG							
Diesel Fuel #2	**0.401**	0.500	NA	**80**	53-126	NA	NA	X2
Surrogate:								
o-Terphenyl				*99*	*50-150*			
Laboratory ID:	SB0206W1							
Diesel Fuel #2	**0.405**	0.500	NA	**81**	53-126	NA	NA	
Surrogate:								
o-Terphenyl				*101*	*50-150*			
Laboratory ID:	SB0206W1 SG							
Diesel Fuel #2	**0.474**	0.500	NA	**95**	53-126	NA	NA	X2
Surrogate:								
o-Terphenyl				*116*	*50-150*			

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	02-047-01					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
1-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*55*	*26-106*				
Pyrene-d10	*72*	*45-104*				
Terphenyl-d14	*93*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-3**					
Laboratory ID:	02-047-02					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
1-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	2-5-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*49*	*26-106*				
Pyrene-d10	*52*	*45-104*				
Terphenyl-d14	*65*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5**					
Laboratory ID:	02-047-03					
Naphthalene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
2-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
1-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthylene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Fluorene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Phenanthrene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Anthracene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Fluoranthene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Pyrene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]anthracene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Chrysene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[g,h,i]perylene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*44*	*26-106*				
Pyrene-d10	*61*	*45-104*				
Terphenyl-d14	*70*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6**					
Laboratory ID:	02-047-04					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
1-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Acenaphthene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*56*	*26-106*				
Pyrene-d10	*60*	*45-104*				
Terphenyl-d14	*63*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	02-047-05					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
1-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Acenaphthene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	2-7-24	2-7-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*67*	*26-106*				
Pyrene-d10	*75*	*45-104*				
Terphenyl-d14	*83*	*43-114*				

Date of Report: March 5, 2024
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Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2**					
Laboratory ID:	02-047-06					
Naphthalene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
2-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
1-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthylene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthene	**0.14**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Fluorene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Phenanthrene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Anthracene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Fluoranthene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Pyrene	**ND**	0.098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]anthracene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Chrysene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[g,h,i]perylene	**ND**	0.0098	EPA 8270E/SIM	2-5-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*52*	*26-106*				
Pyrene-d10	*71*	*45-104*				
Terphenyl-d14	*92*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0205W1					
Naphthalene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	2-5-24	2-6-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*63*	*26-106*				
Pyrene-d10	*75*	*45-104*				
Terphenyl-d14	*74*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0207W1					
Naphthalene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	2-7-24	2-7-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*51*	*26-106*				
Pyrene-d10	*66*	*45-104*				
Terphenyl-d14	*65*	*43-114*				

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0205W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.268**	**0.304**	0.500	0.500	54	61	35 - 84	13	34	
Acenaphthylene	**0.297**	**0.352**	0.500	0.500	59	70	44 - 97	17	29	
Acenaphthene	**0.274**	**0.327**	0.500	0.500	55	65	40 - 93	18	29	
Fluorene	**0.279**	**0.333**	0.500	0.500	56	67	46 - 97	18	24	
Phenanthrene	**0.295**	**0.342**	0.500	0.500	59	68	49 - 102	15	21	
Anthracene	**0.296**	**0.355**	0.500	0.500	59	71	50 - 99	18	21	
Fluoranthene	**0.312**	**0.345**	0.500	0.500	62	69	53 - 107	10	21	
Pyrene	**0.317**	**0.376**	0.500	0.500	63	75	52 - 111	17	23	
Benzo[a]anthracene	**0.320**	**0.387**	0.500	0.500	64	77	51 - 119	19	20	
Chrysene	**0.311**	**0.358**	0.500	0.500	62	72	52 - 113	14	21	
Benzo[b]fluoranthene	**0.387**	**0.459**	0.500	0.500	77	92	50 - 116	17	24	
Benzo(j,k)fluoranthene	**0.292**	**0.345**	0.500	0.500	58	69	54 - 113	17	22	
Benzo[a]pyrene	**0.339**	**0.399**	0.500	0.500	68	80	52 - 110	16	21	
Indeno(1,2,3-c,d)pyrene	**0.373**	**0.423**	0.500	0.500	75	85	55 - 114	13	21	
Dibenz[a,h]anthracene	**0.340**	**0.405**	0.500	0.500	68	81	55 - 111	17	19	
Benzo[g,h,i]perylene	**0.334**	**0.395**	0.500	0.500	67	79	52 - 111	17	20	
Surrogate:										
2-Fluorobiphenyl					*58*	*68*	*26-106*			
Pyrene-d10					*70*	*79*	*45-104*			
Terphenyl-d14					*69*	*77*	*43-114*			

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Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0207W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.343**	**0.358**	0.500	0.500	69	72	35 - 84	4	34	
Acenaphthylene	**0.414**	**0.375**	0.500	0.500	83	75	44 - 97	10	29	
Acenaphthene	**0.368**	**0.339**	0.500	0.500	74	68	40 - 93	8	29	
Fluorene	**0.393**	**0.365**	0.500	0.500	79	73	46 - 97	7	24	
Phenanthrene	**0.385**	**0.374**	0.500	0.500	77	75	49 - 102	3	21	
Anthracene	**0.414**	**0.391**	0.500	0.500	83	78	50 - 99	6	21	
Fluoranthene	**0.464**	**0.437**	0.500	0.500	93	87	53 - 107	6	21	
Pyrene	**0.442**	**0.436**	0.500	0.500	88	87	52 - 111	1	23	
Benzo[a]anthracene	**0.480**	**0.438**	0.500	0.500	96	88	51 - 119	9	20	
Chrysene	**0.479**	**0.436**	0.500	0.500	96	87	52 - 113	9	21	
Benzo[b]fluoranthene	**0.527**	**0.445**	0.500	0.500	105	89	50 - 116	17	24	
Benzo(j,k)fluoranthene	**0.484**	**0.460**	0.500	0.500	97	92	54 - 113	5	22	
Benzo[a]pyrene	**0.513**	**0.453**	0.500	0.500	103	91	52 - 110	12	21	
Indeno(1,2,3-c,d)pyrene	**0.540**	**0.464**	0.500	0.500	108	93	55 - 114	15	21	
Dibenz[a,h]anthracene	**0.514**	**0.460**	0.500	0.500	103	92	55 - 111	11	19	
Benzo[g,h,i]perylene	**0.510**	**0.456**	0.500	0.500	102	91	52 - 111	11	20	
Surrogate:										
2-Fluorobiphenyl					*83*	*73*	*26-106*			
Pyrene-d10					*90*	*85*	*45-104*			
Terphenyl-d14					*90*	*85*	*43-114*			

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Laboratory Reference: 2402-047
Project: 0209325-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	02-047-01					
Arsenic	**21**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	
Client ID:	**MW-3**					
Laboratory ID:	02-047-02					
Arsenic	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	
Client ID:	**MW-5**					
Laboratory ID:	02-047-03					
Arsenic	**8.7**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	
Client ID:	**MW-6**					
Laboratory ID:	02-047-04					
Arsenic	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	02-047-05					
Arsenic	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	
Client ID:	**MW-2**					
Laboratory ID:	02-047-06					
Arsenic	**8.1**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	

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TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0226WM1					
Arsenic	**ND**	3.3	EPA 200.8	2-26-24	2-26-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	2-26-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	2-26-24	
Lead	**ND**	1.1	EPA 200.8	2-26-24	2-26-24	
Laboratory ID:	MB0215W1					
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	01-067-08									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	02-186-01									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	

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Project: 0209325-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-067-08										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**113**	**112**	111	111	ND	**102**	**101**	75-125	1	20	
Cadmium	**111**	**109**	111	111	ND	**100**	**98**	75-125	2	20	
Chromium	**112**	**111**	111	111	ND	**101**	**100**	75-125	1	20	
Lead	**109**	**109**	111	111	ND	**99**	**98**	75-125	0	20	
Laboratory ID:	02-186-01										
Mercury	**11.9**	**12.1**	12.5	12.5	ND	**95**	**97**	75-125	1	20	
SPIKE BLANK											
Laboratory ID:	SB0226WM1										
Arsenic	**112**		111		N/A	**101**		85-115			
Cadmium	**111**		111		N/A	**100**		85-115			
Chromium	**110**		111		N/A	**99**		85-115			
Lead	**112**		111		N/A	**101**		85-115			
Laboratory ID:	SB0221W1										
Mercury	**11.9**		12.5		N/A	**95**		80-120			

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Laboratory Reference: 2402-047
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	02-047-01					
Arsenic	**20**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A		2-15-24	
Client ID:	**MW-3**					
Laboratory ID:	02-047-02					
Arsenic	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A		2-15-24	
Client ID:	**MW-5**					
Laboratory ID:	02-047-03					
Arsenic	**7.7**	4.0	EPA 200.8		3-5-24	
Cadmium	**ND**	4.0	EPA 200.8		3-5-24	
Chromium	**ND**	10	EPA 200.8		3-5-24	
Lead	**ND**	4.0	EPA 200.8		3-5-24	
Mercury	**ND**	0.50	EPA 7470A		2-15-24	
Client ID:	**MW-6**					
Laboratory ID:	02-047-04					
Arsenic	**ND**	4.0	EPA 200.8		3-5-24	
Cadmium	**ND**	4.0	EPA 200.8		3-5-24	
Chromium	**ND**	10	EPA 200.8		3-5-24	
Lead	**ND**	4.0	EPA 200.8		3-5-24	
Mercury	**ND**	0.50	EPA 7470A		2-15-24	

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	02-047-05					
Arsenic	**ND**	4.0	EPA 200.8		3-5-24	
Cadmium	**ND**	4.0	EPA 200.8		3-5-24	
Chromium	**ND**	10	EPA 200.8		3-5-24	
Lead	**ND**	4.0	EPA 200.8		3-5-24	
Mercury	**ND**	0.50	EPA 7470A		2-15-24	
Client ID:	**MW-2**					
Laboratory ID:	02-047-06					
Arsenic	**7.8**	4.4	EPA 200.8	2-26-24	3-5-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	3-5-24	
Lead	**ND**	4.4	EPA 200.8	2-26-24	3-5-24	
Mercury	**ND**	0.50	EPA 7470A		2-15-24	

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0226WM1					
Arsenic	**ND**	3.3	EPA 200.8	2-26-24	2-26-24	
Cadmium	**ND**	4.4	EPA 200.8	2-26-24	2-26-24	
Chromium	**ND**	11	EPA 200.8	2-26-24	2-26-24	
Lead	**ND**	1.1	EPA 200.8	2-26-24	2-26-24	
Laboratory ID:	MB0215D1					
Mercury	**ND**	0.50	EPA 7470A	2-15-24	2-15-24	
Laboratory ID:	MB0305D1					
Arsenic	**ND**	3.0	EPA 200.8		3-5-24	
Cadmium	**ND**	4.0	EPA 200.8		3-5-24	
Chromium	**ND**	10	EPA 200.8		3-5-24	
Lead	**ND**	1.0	EPA 200.8		3-5-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	01-067-08									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	02-047-01									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	02-045-02									
	ORIG	DUP								
Arsenic	**6.78**	**6.36**	NA	NA		NA	NA	6	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	

Date of Report: March 5, 2024
Samples Submitted: February 7, 2024
Laboratory Reference: 2402-047
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-067-08										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**113**	**112**	111	111	ND	**102**	**101**	75-125	1	20	
Cadmium	**111**	**109**	111	111	ND	**100**	**98**	75-125	2	20	
Chromium	**112**	**111**	111	111	ND	**101**	**100**	75-125	1	20	
Lead	**109**	**109**	111	111	ND	**99**	**98**	75-125	0	20	
Laboratory ID:	02-047-01										
Mercury	**12.1**	**12.1**	12.5	12.5	ND	**97**	**97**	75-125	0	20	
Laboratory ID:	02-045-02										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**89.6**	**90.8**	80.0	80.0	6.78	**104**	**105**	75-125	1	20	
Cadmium	**76.2**	**77.2**	80.0	80.0	ND	**95**	**97**	75-125	1	20	
Chromium	**80.4**	**79.8**	80.0	80.0	ND	**101**	**100**	75-125	1	20	
Lead	**63.2**	**64.4**	80.0	80.0	ND	**79**	**81**	75-125	2	20	
SPIKE BLANK											
Laboratory ID:	SB0226WM1										
Arsenic	**112**		111		N/A	**101**		85-115			
Cadmium	**111**		111		N/A	**100**		85-115			
Chromium	**110**		111		N/A	**99**		85-115			
Lead	**112**		111		N/A	**101**		85-115			
Laboratory ID:	SB0215D1										
Mercury	**12.0**		12.5		N/A	**96**		80-120			
Laboratory ID:	SB0305D1										
Arsenic	**79.8**		80.0		N/A	**100**		85-115			
Cadmium	**81.2**		80.0		N/A	**102**		85-115			
Chromium	**81.2**		80.0		N/A	**102**		85-115			
Lead	**80.8**		80.0		N/A	**101**		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

Page 1 of 1

Company: HALEY & ALDRICH
Project Number: 0209325-000
Project Name: CUSTOM PLYWOOD
Project Manager: A. KAPAROS
Sampled by: C. DOTHITT, S. FISHER

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

Laboratory Number: 02-047

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	MW-1	2/1/24	15:40	GW	6
2	MW-3	2/1/24	16:10	GW	6
3	MW-5	2/2/24	10:20	GW	6
4	MW-6	2/2/24	10:45	GW	6
5	MW-4	2/2/24	12:15	GW	6
6	MW-2	2/2/24	13:00	GW	6

Lab ID	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☒) WITH & WITHOUT	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level) cPAHs	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 METALS *				% Moisture
1				X					X						X			X				
2				X					X						X			X				
3				X					X						X			X				
4				X					X						X			X				
5				X					X						X			X				
6				X					X						X			X				

SEE

	Signature	Company	Date	Time
Relinquished	AFisher	HALEY & ALDRICH	2/2/24	15:42
Received		CORE	2/2/24	1542
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* DISSOLVED METALS FIELD FILTERED
• Please send results to akaparos@haleyaldrich.com AND upeheiran@haleyaldrich.com

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

August 23, 2024

Andrew Kaparos
Hart Crowser, Inc.
A Division of Haley & Aldrich, Inc.
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

Re: Analytical Data for Project 0209325-000
Laboratory Reference No. 2408-148

Dear Andrew:

Enclosed are the analytical results and associated quality control data for samples submitted on August 13, 2024.

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: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

Case Narrative

Samples were collected on August 12, 2024 and received by the laboratory on August 13, 2024. 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.

NWTPH Dx Analysis

The surrogate percent recovery in sample MW-3 was below the control limit of 50% due to matrix effects. The sample was re-extracted with the same result.

PAHs EPA 8270E/SIM Analysis

Sample MW-1 had one surrogate recovery outside of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Dissolved Metals EPA 200.8/7470A Analysis

The dissolved field filter samples MW-3, MW-2, and MW-1 were received containing solid material. The samples were digested according to OnSite Environmental standard operating procedure.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	08-148-01					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	8-16-24	8-16-24	
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	8-16-24	8-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**MW-3**					
Laboratory ID:	08-148-02					
Diesel Range Organics	**0.15**	0.14	NWTPH-Dx	8-16-24	8-16-24	
Lube Oil Range Organics	**0.32**	0.22	NWTPH-Dx	8-16-24	8-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*33*	*50-150*				Q
Client ID:	**MW-2**					
Laboratory ID:	08-148-03					
Diesel Range Organics	**0.33**	0.21	NWTPH-Dx	8-16-24	8-17-24	
Lube Oil Range Organics	**0.35**	0.21	NWTPH-Dx	8-16-24	8-17-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5**					
Laboratory ID:	08-148-04					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	8-16-24	8-16-24	
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	8-16-24	8-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**MW-1**					
Laboratory ID:	08-148-05					
Diesel Range Organics	**ND**	0.23	NWTPH-Dx	8-16-24	8-16-24	
Lube Oil Range Organics	**0.24**	0.23	NWTPH-Dx	8-16-24	8-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				
Client ID:	**MW-6**					
Laboratory ID:	08-148-06					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	8-16-24	8-16-24	
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	8-16-24	8-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0816W1					
Diesel Range Organics	**ND**	0.10	NWTPH-Dx	8-16-24	8-16-24	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	8-16-24	8-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	SB0816W1										
	ORIG	DUP									
Diesel Fuel #2	**0.552**	**0.533**	NA	NA		NA		NA	4	40	
Surrogate:											
o-Terphenyl						*125*	*128*	*50-150*			
SPIKE BLANK											
Laboratory ID:	SB0816W1										
Diesel Fuel #2	**0.552**		0.500		NA	**110**		50-129	NA	NA	
Surrogate:											
o-Terphenyl						*125*		*50-150*			

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	08-148-01					
Naphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.014	EPA 8270E/SIM	8-19-24	8-20-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[g,h,i]perylene	**ND**	0.012	EPA 8270E/SIM	8-19-24	8-20-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*51*	*27-106*				
Pyrene-d10	*76*	*37-125*				
Terphenyl-d14	*75*	*37-110*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-3**					
Laboratory ID:	08-148-02					
Naphthalene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
2-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
1-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthylene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Fluorene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Phenanthrene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Anthracene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Fluoranthene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Pyrene	**ND**	0.098	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]anthracene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Chrysene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[g,h,i]perylene	**ND**	0.0098	EPA 8270E/SIM	8-19-24	8-20-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*59*	*27-106*				
Pyrene-d10	*64*	*37-125*				
Terphenyl-d14	*77*	*37-110*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2**					
Laboratory ID:	08-148-03					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
1-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*27*	*27-106*				
Pyrene-d10	*54*	*37-125*				
Terphenyl-d14	*65*	*37-110*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5**					
Laboratory ID:	08-148-04					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
1-Methylnaphthalene	**0.35**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthene	**0.11**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*53*	*27-106*				
Pyrene-d10	*69*	*37-125*				
Terphenyl-d14	*77*	*37-110*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	08-148-05					
Naphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-20-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*68*	*27-106*				
Pyrene-d10	*74*	*37-125*				
Terphenyl-d14	*155*	*37-110*				Q

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6**					
Laboratory ID:	08-148-06					
Naphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
2-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
1-Methylnaphthalene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthylene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Acenaphthene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Fluorene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Phenanthrene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Anthracene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Fluoranthene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Pyrene	**ND**	0.095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Chrysene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270E/SIM	8-19-24	8-20-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*27-106*				
Pyrene-d10	*82*	*37-125*				
Terphenyl-d14	*78*	*37-110*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0819W1					
Naphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	8-19-24	8-19-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	8-19-24	8-19-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*55*	*27-106*				
Pyrene-d10	*67*	*37-125*				
Terphenyl-d14	*67*	*37-110*				

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0819W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.281**	**0.292**	0.500	0.500	56	58	36-95	4	34	
Acenaphthylene	**0.330**	**0.365**	0.500	0.500	66	73	51-103	10	26	
Acenaphthene	**0.312**	**0.341**	0.500	0.500	62	68	47-97	9	25	
Fluorene	**0.340**	**0.374**	0.500	0.500	68	75	51-105	10	23	
Phenanthrene	**0.422**	**0.458**	0.500	0.500	84	92	52-110	8	24	
Anthracene	**0.360**	**0.388**	0.500	0.500	72	78	55-104	7	24	
Fluoranthene	**0.427**	**0.403**	0.500	0.500	85	81	59-111	6	24	
Pyrene	**0.404**	**0.433**	0.500	0.500	81	87	59-110	7	22	
Benzo[a]anthracene	**0.442**	**0.443**	0.500	0.500	88	89	55-116	0	22	
Chrysene	**0.388**	**0.405**	0.500	0.500	78	81	59-111	4	23	
Benzo[b]fluoranthene	**0.445**	**0.442**	0.500	0.500	89	88	62-115	1	27	
Benzo(j,k)fluoranthene	**0.397**	**0.409**	0.500	0.500	79	82	59-117	3	23	
Benzo[a]pyrene	**0.434**	**0.444**	0.500	0.500	87	89	64-109	2	24	
Indeno(1,2,3-c,d)pyrene	**0.483**	**0.476**	0.500	0.500	97	95	58-114	1	22	
Dibenz[a,h]anthracene	**0.503**	**0.509**	0.500	0.500	101	102	63-114	1	24	
Benzo[g,h,i]perylene	**0.409**	**0.421**	0.500	0.500	82	84	61-110	3	24	
Surrogate:										
2-Fluorobiphenyl					*59*	*63*	*27-106*			
Pyrene-d10					*83*	*86*	*37-125*			
Terphenyl-d14					*82*	*84*	*37-110*			

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	08-148-01					
Arsenic	**3.2**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**ND**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A	8-22-24	8-22-24	
Client ID:	**MW-3**					
Laboratory ID:	08-148-02					
Arsenic	**2.3**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**9.2**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A	8-22-24	8-22-24	
Client ID:	**MW-2**					
Laboratory ID:	08-148-03					
Arsenic	**6.4**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**12**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**1.3**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A	8-22-24	8-22-24	
Client ID:	**MW-5**					
Laboratory ID:	08-148-04					
Arsenic	**0.68**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**ND**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A	8-22-24	8-22-24	

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	08-148-05					
Arsenic	**27**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**0.60**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**12**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**3.3**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**1.0**	0.13	EPA 7470A	8-22-24	8-22-24	
Client ID:	**MW-6**					
Laboratory ID:	08-148-06					
Arsenic	**2.6**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**ND**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A	8-22-24	8-22-24	

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0819WM1					
Arsenic	**ND**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**ND**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Laboratory ID:	MB0822W1					
Mercury	**ND**	0.13	EPA 7470A	8-22-24	8-22-24	

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-028-05										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-140-02										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	08-028-05										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**113**	**119**	111	111	ND	**102**	**108**	75-125	5	20	
Cadmium	**115**	**121**	111	111	ND	**104**	**109**	75-125	5	20	
Chromium	**114**	**121**	111	111	ND	**103**	**109**	75-125	6	20	
Lead	**113**	**118**	111	111	ND	**102**	**107**	75-125	4	20	
Laboratory ID:	08-140-02										
Mercury	**12.2**	**12.2**	12.5	12.5	ND	**97**	**97**	75-125	0	20	
SPIKE BLANK											
Laboratory ID:	SB0819WM1										
Arsenic	**115**		111		N/A	**103**		85-115			
Cadmium	**117**		111		N/A	**105**		85-115			
Chromium	**115**		111		N/A	**103**		85-115			
Lead	**111**		111		N/A	**100**		85-115			
Laboratory ID:	SB0822W1										
Mercury	**12.3**		12.5		N/A	**99**		80-120			

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	08-148-01					
Arsenic	**2.4**	0.50	EPA 200.8		8-20-24	
Cadmium	**ND**	0.20	EPA 200.8		8-20-24	
Chromium	**ND**	1.0	EPA 200.8		8-20-24	
Lead	**ND**	0.40	EPA 200.8		8-20-24	
Mercury	**ND**	0.13	EPA 7470A		8-22-24	
Client ID:	**MW-3**					
Laboratory ID:	08-148-02					
Arsenic	**1.4**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**9.2**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A		8-22-24	
Client ID:	**MW-2**					
Laboratory ID:	08-148-03					
Arsenic	**3.6**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**ND**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**8.5**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**ND**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**ND**	0.13	EPA 7470A		8-22-24	
Client ID:	**MW-5**					
Laboratory ID:	08-148-04					
Arsenic	**0.67**	0.50	EPA 200.8		8-20-24	
Cadmium	**ND**	0.20	EPA 200.8		8-20-24	
Chromium	**ND**	1.0	EPA 200.8		8-20-24	
Lead	**ND**	0.40	EPA 200.8		8-20-24	
Mercury	**ND**	0.13	EPA 7470A		8-22-24	

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1**					
Laboratory ID:	08-148-05					
Arsenic	**27**	0.56	EPA 200.8	8-19-24	8-20-24	
Cadmium	**0.31**	0.22	EPA 200.8	8-19-24	8-20-24	
Chromium	**5.9**	1.1	EPA 200.8	8-19-24	8-20-24	
Lead	**0.87**	0.44	EPA 200.8	8-19-24	8-20-24	
Mercury	**0.16**	0.13	EPA 7470A		8-22-24	
Client ID:	**MW-6**					
Laboratory ID:	08-148-06					
Arsenic	**2.1**	0.50	EPA 200.8		8-20-24	
Cadmium	**ND**	0.20	EPA 200.8		8-20-24	
Chromium	**ND**	1.0	EPA 200.8		8-20-24	
Lead	**ND**	0.40	EPA 200.8		8-20-24	
Mercury	**ND**	0.13	EPA 7470A		8-22-24	

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0819D1					
Arsenic	**ND**	0.50	EPA 200.8		8-19-24	
Cadmium	**ND**	0.20	EPA 200.8		8-19-24	
Chromium	**ND**	1.0	EPA 200.8		8-19-24	
Lead	**ND**	0.40	EPA 200.8		8-19-24	
Laboratory ID:	MB0822D1					
Mercury	**ND**	0.13	EPA 7470A		8-22-24	
Laboratory ID:	MB0819WM1					
Arsenic	**ND**	0.56	EPA 200.8		8-19-24	
Cadmium	**ND**	0.22	EPA 200.8		8-19-24	
Chromium	**ND**	1.1	EPA 200.8		8-19-24	
Lead	**ND**	0.44	EPA 200.8		8-19-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	08-140-02								
	ORIG	DUP							
Arsenic	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Chromium	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Lead	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Laboratory ID:	08-140-02								
Mercury	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Laboratory ID:	08-028-05								
	ORIG	DUP							
Arsenic	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Chromium	**ND**	**ND**	NA	NA	NA	NA	NA	20	
Lead	**ND**	**ND**	NA	NA	NA	NA	NA	20	

Date of Report: August 23, 2024
Samples Submitted: August 13, 2024
Laboratory Reference: 2408-148
Project: 0209325-000

DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-140-02										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**85.4**	**88.0**	80.0	80.0	ND	**107**	**110**	75-125	3	20	
Cadmium	**75.8**	**78.8**	80.0	80.0	ND	**95**	**99**	75-125	4	20	
Chromium	**73.8**	**75.0**	80.0	80.0	ND	**92**	**94**	75-125	2	20	
Lead	**76.0**	**76.8**	80.0	80.0	ND	**95**	**96**	75-125	1	20	
Laboratory ID:	08-140-02										
Mercury	**11.9**	**12.2**	12.5	12.5	ND	**95**	**97**	75-125	2	20	
Laboratory ID:	08-028-05										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**113**	**119**	80.0	80.0	ND	**142**	**149**	75-125	5	20	
Cadmium	**115**	**121**	80.0	80.0	ND	**144**	**152**	75-125	5	20	
Chromium	**114**	**121**	80.0	80.0	ND	**143**	**151**	75-125	6	20	
Lead	**113**	**118**	80.0	80.0	ND	**141**	**148**	75-125	4	20	
SPIKE BLANK											
Laboratory ID:	SB0819D1										
Arsenic	**79.4**		80.0		N/A	**99**		85-115			
Cadmium	**80.2**		80.0		N/A	**100**		85-115			
Chromium	**80.4**		80.0		N/A	**101**		85-115			
Lead	**81.6**		80.0		N/A	**102**		85-115			
Laboratory ID:	SB0822D1										
Mercury	**12.1**		12.5		N/A	**97**		80-120			
Laboratory ID:	SB0819WM1										
Arsenic	**115**		80.0		N/A	**143**		85-115			
Cadmium	**117**		80.0		N/A	**146**		85-115			
Chromium	**115**		80.0		N/A	**143**		85-115			
Lead	**111**		80.0		N/A	**138**		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

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: HALEY & ALDRICH
Project Number: 020932 5 -000
Project Name: CUSTOM PLYWOOD
Project Manager: A. KAPAROS
Sampled by: S. FISHER, M. BANGASSER

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

Laboratory Number: 08-148

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	MW-4	8/12/24	10:40	GW	6
2	MW-3	8/12/24	12:50	GW	6
3	MW-2	8/12/24	13:00	GW	6
4	MW-5	8/12/24	15:30	GW	6
5	MW-1	8/12/24	15:40	GW	6
6	MW-6	8/12/24	17:05	GW	6

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	*DISSOLVED METALS				% Moisture
1				X					X						X			X				
2				X					X						X			X				
3				X					X						X			X				
4				X					X						X			X				
5				X					X						X			X				
6				X					X						X			X				

	Signature	Company	Date	Time
Relinquished	S Fisher	HALEY & ALDRICH	8/13/24	16:02
Received		ORE	8/13/24	1602
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* DISSOLVED METALS FIELD FILTERED
- Please send results to
skaparos@haleyaldrich.com
vpehlivan@haleyaldrich.com

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

Data Usability Summary Report

Project Name: Custom Plywood

Project Description: Groundwater Samples

Sample Date(s): February and August 2024

Analytical Laboratory: OnSite Environmental, Inc. – Redmond, WA

Validation Performed by: Eric Hitchens

Validation Reviewed by: Gabrielle Davis

Validation Date: 3 September 2024

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for Sample Delivery Group(s) (SDGs) listed. This DUSR is organized into the following sections:

1. **Sample Delivery Group Numbers**
2. **Precision and Accuracy [for SDG(s) above]**
3. **Explanations**
4. **Glossary**
5. **Abbreviations**
6. **Qualifiers**

References

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- National Functional Guidelines (NFG) for Inorganic Data Review.
- National Functional Guidelines (NFG) for Organic Data Review.

Data reported in this sampling event were reported to the laboratory reporting limit (RL).

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOPs). The results presented in each laboratory report were found to be compliant with the data quality objectives (DQOs) for the project and are therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Numbers

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers:

- 2408-148; and
- 2402-047.

Samples were collected, preserved, and shipped following standard chain of custody (COC) protocols. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Both reports initially reported TPH analysis with silica gel treatment when it was not requested; revisions were issued to remove the unnecessary analysis from the final reports.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
MW-1-20240201	N	2402-047-01	02/01/2024	WG	A, B, C, D
MW-3-20240201	N	2402-047-02	02/01/2024	WG	A, B, C, D
MW-5-20240202	N	2402-047-03	02/02/2024	WG	A, B, C, D
MW-6-20240202	N	2402-047-04	02/02/2024	WG	A, B, C, D
MW-4-20240202	N	2402-047-05	02/02/2024	WG	A, B, C, D
MW-2-20240202	N	2402-047-06	02/02/2024	WG	A, B, C, D
MW-4-20240812	N	2408-148-01	08/12/2024	WG	A, B, C, D
MW-3-20240812	N	2408-148-02	08/12/2024	WG	A, B, C, D
MW-2-20240812	N	2408-148-03	08/12/2024	WG	A, B, C, D
MW-5-20240812	N	2408-148-04	08/12/2024	WG	A, B, C, D
MW-1-20240812	N	2408-148-05	08/12/2024	WG	A, B, C, D
MW-6-20240812	N	2408-148-06	08/12/2024	WG	A, B, C, D

Method Holding Times			
A.	E200.8	Metals (by Mass Spectrometer)	180 days for liquid, preserved
B.	NWTPH-DX	Total Petroleum Hydrocarbons (TPH) Diesel Range Organics	14 days for liquid, preserved 7 days for liquid, unpreserved
C.	SW7470A	Mercury (in Liquids)	28 days extraction for liquid, preserved
D.	SW8270ESIM	Polycyclic Aromatic Hydrocarbons (PAHs)	7 days extraction / 40 days analysis for liquid, unpreserved

1.2 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol, with the following exceptions:

- SDG 2402-047: Mercury was analyzed outside of analytical holding time; qualify data UJ.

1.3 REPORTING LIMITS AND SAMPLE DILUTIONS

All sample dilutions were reviewed and found to be justified.

1.4 SURROGATE RECOVERY COMPLIANCE

Refer to Section E 1.2. The percent recovery (%R) for each surrogate compound added to each project sample were determined to be within the laboratory-specified quality control (QC) limits, with the following exceptions:

SDG	Sample ID	Surrogate	Dilution	%R	Qualification
2408-148	MW-3	o-Terphenyl	1X	33	J- target compounds
2408-148	MW-1	Terphenyl-d14	1X	155	None, sample is ND

** o-Terphenyl targets the following compounds: Diesel-Range Organics, Lube Oil-Range Organics*

1.5 LABORATORY CONTROL SAMPLES

Refer to Section E 1.3. Compounds associated with the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses associated with client samples exhibited recoveries and relative percent differences (RPDs) within the specified limits.

1.6 MATRIX SPIKE SAMPLES

Refer to Section E 1.4. The sample(s) below were used for matrix spike/matrix spike duplicate (MS/MSD):

Lab Sample Number	Matrix Spike/Matrix Spike Duplicate Sample Client ID	Method(s)
MW-1-20240201MS/MSD	MW-1-20240201	USEPA 7470A

The MS/MSD recoveries and the relative percent difference (RPD) between the MS and MSD results were within the specified limits.

1.7 BLANK SAMPLE ANALYSIS

Refer to Section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred.

1.8 DUPLICATE SAMPLE ANALYSIS

Refer to Section E 1.6. The following sample(s) were used for laboratory duplicate analysis and the RPDs were all below 20 percent (or the absolute difference rule was satisfied if detects were less than 5 times the RL):

Lab Sample Number	Laboratory Duplicate Sample Client ID	Method(s)
MW-1-20240201LR	MW-1-20240201	EPA 7470A

1.9 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the DQOs for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable as no data was rejected. A summary of qualifiers applied to this dataset is shown in Table 1.

2. Precision and Accuracy [for SDG(s) above]

Refer to Section E 1.7. Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

3. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.2 Surrogate Recovery Compliance
  - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determining the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds.
- E 1.3 Laboratory Control Samples
  - The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
- E 1.4 Matrix Spike Samples
  - Matrix spike/matrix spike duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
  - For inorganic methods, when a matrix spike recovery falls outside of the control limits and the sample result is less than four times the spike added, a post-digestion spike (PDS) is performed.
- E 1.5 Blank Sample Analysis
  - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
- E 1.6 Laboratory Duplicate Sample Analysis
  - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
- E 1.7 Precision and Accuracy
  - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
  - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%R) of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.

4. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
  - EB Equipment Blank Sample
  - FB Field Blank Sample
  - FD Field Duplicate Sample
  - N Primary Sample
  - TB Trip Blank Sample
- Units:
  - µg/kg micrograms per kilogram
  - µg/L micrograms per liter
  - µg/m^3 micrograms per cubic meter
  - mg/kg milligrams per kilogram
  - mg/L milligrams per liter
  - ppb v/v parts per billion volume/volume
  - pCi/L picocuries per liter
  - pg/g picograms per gram
  - pg/L picograms per liter
- Matrices:
  - AA Ambient Air
  - GS Soil Gas
  - GW/WG Groundwater
  - QW Water Quality
  - IA Indoor Air
  - SE Sediment
  - SO Soil
  - SSV Sub-slab Vapor
  - WQ Water Quality control matrix
  - WS Surface Water
- Table Footnotes:
  - NA Not applicable
  - ND Non-detect
  - NR Not reported
- Common Symbols:
  - % percent
  - < less than
  - ≤ less than or equal to
  - > greater than
  - ≥ greater than or equal to
  - = equal
  - °C degrees Celsius
  - ± plus or minus
  - ~ approximately
  - x times (multiplier)

- Fractions:
  - N Normal (method cannot be filtered)
  - D Dissolved (filtered)
  - T Total (unfiltered)

5. Abbreviations

%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
%v/v	Percent volume by volume
2s	2 sigma
4,4-DDT	4 4-dichlorodiphenyltrichloroethane
Abs Diff	Absolute Difference
amu	atomic mass unit
BPJ	Best Professional Judgement
BS	Blank Spike
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CCVL	Continuing Calibration Verification Low
COC	Chain of Custody
COM	Combined Isotope Calculation
Cr (VI)	Hexavalent Chromium
CRI	Collision Reaction Interface
DoD	Department of Defense
DQO	data quality objective
DUSR	Data Usability Summary Report
EIS	Extraction Internal Standard
EMPC	Estimated Maximum Possible Concentration
FBK	Field Blank Contamination
FDP	Field Duplicate
GC	Gas Chromatograph
GC/MS	Gas Chromatography/Mass Spectrometry
GPC	Gel Permeation Chromatography
H_2	Hydrogen gas
HCl	Hydrochloric Acid
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP/MS	Inductively Coupled Plasma/Mass Spectrometry
ICV	Initial Calibration Verification
ICVL	Initial Calibration Verification Low
IPA	Isopropyl Alcohol
LC	Laboratory Control
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MBK	Method Blank Contamination
MDC	Minimum Detectable Concentration
MDL	Laboratory Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	not applicable
ND	Non-Detect
NFG	National Functional Guidelines
NH_3	Ammonia
NYSDEC	New York State Department of Environmental Conservation
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PDS	Post-Digestion Spike
PEM	Performance Evaluation Mixture
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorbutanoic Acid
PFD	Perfluorodecalin
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane sulfonate
PFPeA	Perfluoropentanoic Acid
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
R^2	R-squared value
Ra-226	Radium-226
Ra-228	Radium-228
RESC	Resolution Check Measure
RL	Laboratory Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SAP	Sampling Analysis Plan
SDG	Sample Delivery Group
SIM	Selected ion monitoring
SOP	Standard Operating Procedure
SPE	Solid-Phase Extraction
SVOC	Semi-Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TPH	Total Petroleum Hydrocarbon
TPU	Total Propagated Uncertainty
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound
WP	Work Plan

6. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and the data in the DUSR may contain these qualifiers:

- Concentration (C) Qualifiers:

  U The compound was analyzed for but not detected. The associated value is either the compound quantitation limit if not detected by the analytical instrument or could be the reported or blank concentration if qualified by blank contamination. This can also be displayed as less than the associated compound quantitation limit (<RL or <MDL), or "ND".

  B The compound was found in the sample and its associated blank. Its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers:

  E The compound was quantitated above the calibration range.

  D The concentration is based on a diluted sample analysis.

- Validation Qualifiers:

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  J+ The result is an estimated quantity, but the result may be biased high.

  J- The result is an estimated quantity, but the result may be biased low.

  J/UJ as listed in exception tables J applies to detected data and UJ applies to non-detected data as reported by the laboratory.

  UJ The compound was not detected. The reported sample quantitation limit is approximate.

  NJ The analysis indicated the presence of a compound for which there is presumptive evidence to make a tentative identification; the associated numerical value is an estimated concentration only.

  R The sample results were rejected as unusable; the compound may or may not be present in the sample.

  S Result is suspect. See DUSR for details.

References

1. United States Environmental Protection Agency, 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November.
2. United States Environmental Protection Agency, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November.

Attachments:

Table 1 – System Performance Summary

TABLE

TABLE 1
SYSTEM PERFORMANCE SUMMARY
CUSTOM PLYWOOD

SDG	Method	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
2408-148	NWTPH-DX	MW-3-20240812	2408-148-02	Diesel Range Organics	Not Applicable	Yes	0.15	0.15 J-	SUR
2408-148	NWTPH-DX	MW-3-20240812	2408-148-02	Petroleum Hydrocarbons as Lube Oil	Not Applicable	Yes	0.32	0.32 J-	SUR

Notes:

SUR = Surrogate percent recovery outside the specified limits.

J- = The result is an estimated quantity, but the result may be biased low.