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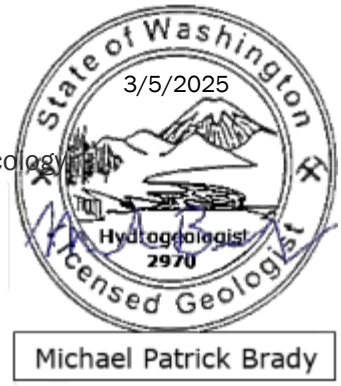
Technical Memorandum



DATE: March 5, 2025
TO: Luke Lemond, LHG, Washington State Department of Ecology
FROM: Mike Brady, LHG
SUBJECT: 4Q 2024 MTCA Sampling - AO # DE21624
CC: Ian Sutton, PE ,DTG Recycling
Steven Newchurch, REHS, Yakima Health District
PROJECT NUMBER: 553-8472-006 09.04
PROJECT NAME: Rocky Top Environmental (Anderson) Limited Purpose Landfill

Introduction

This technical memorandum summarizes the results of Model Toxics Control Act (MTCA)-related groundwater sampling for the Agreed Order (AO) # DE21624 during the fourth quarter of 2024 at the Rocky Top Environmental (formerly Anderson) Limited Purpose Landfill (LPL) located at 41 Rocky Top Road in Yakima, Washington (Facility) on behalf of DTG Recycling (DTG). The Facility includes a rock quarry, PCS Remediation Area, a materials recovery facility (MRF), the unlined Phase 1 portion of the LPL, a temporary fill area south of Phase 1, and the Phase 2 lined cell of the LPL. Figure 1 displays the overall location of the Facility and surrounding Group B and domestic drinking water wells. Figure 2 displays the details of the Facility (Figure 2).

The Washington State Department of Ecology (Ecology) and Yakima Health District (YHD) have requested DTG sample Shallow Aquifer (SA) monitoring wells for additional chemicals of potential concern (COPCs) as part of the MTCA investigation. The first MTCA sampling event occurred during the third quarter of 2024 and included analysis for dioxins and furans and per- and polyfluoroalkyl substances (PFAS). The fourth quarter 2024 sampling event included analysis of dioxins and furans, PFAS, and semi-volatile organic compounds (SVOCs) including carcinogenic polycyclic aromatic hydrocarbons (cPAHs). Environmental Protection Agency (EPA) priority pollutant metals will be sampled in 2025 in the SA under the AO (Parametrix 2025a) following the revised Sampling and Analysis Plan (SAP, Parametrix 2025b).

Hydrogeology

Three groundwater zones/aquifers have been observed below the LPL including a SA, Interflow Zone (IZ), and a Deep Aquifer (DA) (Parametrix 2024a). The SA occurs near the Vantage Interbed. It is comprised of the fractured and porous flow bottom zone of the Wanapum Basalt, the sandy portions of the Vantage Interbed, and the fractured and porous flow top zone of the Grande Ronde Basalt. The SA pinches out to the south around elevation 1,820 to 1,830 feet above mean sea level (AMSL) near where the Vantage Interbed outcrops at land surface close to the east-west alignment with Rocky Top Road and south of Phase 1.

Five monitoring wells are completed in the SA. MW-2S and MW-3S were completed between 2005 and 2007 and background monitoring events were conducted in 2008 and 2009. MW-4S was completed in July 2022 and background monitoring events are being evaluated in the 2024 annual report (Parametrix 2025c). MW-5S and MW-6S were completed in June 2024 and were initially sampled in the second quarter of 2024. In addition to the MTCA investigation, these wells are being

used for compliance monitoring related to the unlined Phase 1, the temporary fill area, and future lined phases in the northern portion of the facility where the Vantage Interbed is present.

The IZ is an intermediate water bearing zone occurring within the Grande Ronde Basalt above the DA. The IZ is a planar feature with a slope similar to the Vantage Interbed (Parametrix 2024a). The IZ is comprised of minor fractures of basalt varying to larger fractures, vesicular basalt, and true interflow zones containing palagonite and pyrite mineralization. Four wells were completed in the IZ in 2024 (Parametrix 2024a), and background monitoring is currently being conducted (Parametrix 2025c). These wells are being used for compliance monitoring for the Phase 2 lined cell in the southern portion of the facility south of the Vantage outcrop.

The DA is located several hundred feet below the Vantage Interbed (where present) within the Grande Ronde Basalt and is estimated to occur approximately 700 to 1,000 feet below the LPL. There are several domestic wells in the LPL vicinity completed within the DA at elevations of around 1,100 to 1,250 feet including the Bertheas ’95 well that was sampled for four quarters by DTG prior to being decommissioned in September 2024 (Parametrix 2024a).

History of Monitoring

Groundwater monitoring for the LPL is completed quarterly for compliance with Washington Administrative Code (WAC) 173-350-500 and permit requirements, as described in the SAP (Parametrix 2024b). Monitoring wells are constructed to evaluate groundwater within the SA and the IZ. Figure 2 displays the location of the monitoring wells. There are downgradient domestic and Group B wells completed in the SA outside of the monitoring well network (Figures 1 and 2).

In addition to the WAC 173-350-500 parameters which include volatile organic compounds (VOCs), quarterly samples from SA wells have been analyzed for total petroleum hydrocarbons (TPH) using Ecology test methods NWTPH-Gx (gasoline-range) and NWTPH-Dx/Dx Extended (diesel- and oil-range) since 2022. No TPH or VOCs have been verified in monitoring wells in the SA downgradient of the LPL (Parametrix 2024c).

Nitrate has been confirmed at wells MW-3S and MW-4S at concentrations above Chapter 173-200 WAC groundwater quality standards (GWQS). Downgradient of MW-4S, the results within the existing monitoring well network show nitrate concentrations are below the GWQS (Parametrix 2024c; 2025a). There are no monitoring wells currently downgradient of MW-3S (Figure 2).

MTCA groundwater sampling of the SA wells is completed quarterly concurrent with the routine detection monitoring (Parametrix 2025a). The SAP for the MTCA-related groundwater sampling was updated in 2025 (Parametrix 2025b). Table A1 of the SAP summarizes the analytical parameters, methods, quantitation limits, and MTCA cleanup levels (CULs)/Maximum Cleanup Levels (MCLs) to which the data are being compared.

PFAS were detected in MW-3S above MTCA Method B CULs and the MCL in the third quarter of 2024 (Parametrix 2024d). The PFAS signature appears to match leachate collected from other LPLs (Ecology 2022) being predominantly Perfluoroalkyl Carboxylic Acids (PFCAs) with a high percentage of Perfluorooctanoic acid (PFOA) and does not appear to match PFAS suspected from the Yakima Training Center (Parametrix 2024d). PFCAs were also detected in MW-4S and MW-6S but at concentrations below CULs. Unlike at MW-3S, PFOA was not detected in the MW-4S and MW-6S samples.

Dioxins and furans were initially detected in MW-4S during the third quarter 2024 sampling event and the total toxicity equivalency concentration (TEQ) of 2,3,7,8-Tetrachlorodibenzodioxin (TCDD) was above the MTCA CUL (Parametrix 2024d). Low levels below CULs were also detected in MW-2S, MW-3S, MW-5S, and MW-6S. The fourth quarter event is the confirming event for dioxins and furans.

Groundwater Sampling

The fourth quarter 2024 MTCA groundwater monitoring was conducted in accordance with the SAP (Parametrix 2025b). Routine detection monitoring was completed concurrently and will be reported in the 2024 annual report (Parametrix 2025c). The sampling procedures included the following:

- Samples were collected with QED Well Wizard P1101M/HM- Zero dedicated bladder pumps and dual bonded polyethylene tubing.
- Water levels were measured with a PFAS-free Solinst water level meter.
- Samples were collected using low flow sampling techniques.
- PFAS samples were collected first to prevent cross contamination.
- The PFAS samples were placed in Ziploc® bags and kept in a special cooler specific for those samples.

Samples from the SA wells were collected on December 11 and 12, 2024, using low flow purging techniques by Chris Bourgeois, Licensed Geologist (LG). The samples were logged on a chain of custody form and delivered to Onsite Environmental Inc. (Onsite) on December 13, 2024. Onsite shipped the samples for SVOCs using EPA Method 8270E/SIM and PFAS analysis to ALS Environmental for analysis using EPA Method 1633 and the samples for dioxins and furans analysis to Enthalpy Analytical for analysis using EPA Method 1613B. Copies of the field sampling sheets, and chain of custody forms are included in Attachment A, and the laboratory reports are presented in Attachment B.

Groundwater Levels and Gradient

Figure 3 displays the historical water levels across the LPL for the entire period of monitoring. Groundwater levels follow the seasonal pattern of precipitation.

Figure 4 displays the gradient within the SA using data for monitoring wells measured during the 2024 fourth quarter event. Groundwater was calculated to have a northerly gradient of 0.27 feet/feet, or 1,426 feet per mile. This is identical to the gradient observed during the third quarter 2024 event.

Results

A data validation technical memorandum was completed by Katie Burke, Geologist-in-Training (GIT). She was not involved in the sampling effort. A copy of the data validation is attached in Attachment C. Tables 1 through 4 summarize the laboratory results for dioxins and furans, PFAS, cPAHs, and SVOCs.

Dioxins and Furans

Table 1 summarizes the dioxin and furan results. During the fourth quarter dioxins and furans were not detected except for 1,2,3,4,6,7,8-Heptachloro dibenzo-p-dioxin (HpCDD) in MW-3S at an estimated concentration below the reporting limit and below the CUL. The previous detections in well MW-4S of 2,3,7,8-TCDD above CULs were not confirmed.

PFAS

Table 2 summarizes the PFAS results. PFAS were detected in wells MW-3S, MW-4S, and MW-6S and its duplicate (MW-13S). The concentration of PFOA in well MW-3S at 21 nanograms per liter (ng/L) was above the MCL of 4 ng/L, and four other PFCAs were detected at concentrations similar to the

third quarter 2024 event. PFOA was not detected in any other samples, although the detection limit was slightly greater than the MCL ranging from 4.8 to 5.4 ng/L.

PFAS results were also compared to a hazard index calculation of 1.0. Copies of the hazard index calculations are included in Attachment D. MW-3S was calculated to have a hazard index of 0.3 using the Ecology PFAS Hazard Index MCL calculation tool for the fourth quarter, with a running average of 0.5 from the two sampling events thus far. The calculated hazard index for MW-4S was 0.2 for the fourth quarter with a running average of 0.2. The calculated hazardous index for MW-6S was 0.2 for the fourth quarter with a running average of 0.2. The results confirm PFAS as COPCs related to the MTCA site and therefore PFAS will continue to be analyzed in groundwater.

Semi-Volatile Organic Compounds

Table 3 summarizes the cPAH results and Table 4 summarizes the results for the remaining semi-volatiles. As noted in Table 3, cPAHs were non-detected in all wells sampled and the total TEQ of benzo(a)pyrene were below the MTCA Method A CUL.

As shown in Table 4, all semi-volatiles were non-detect except for bis(2-Ethylhexyl)phthalate (DEHP) in MW-3S. DEHP was detected at 2.8 micrograms per liter (µg/L) below the MTCA Method B cancer CUL of 6.3 µg/L and the MCL of 6 µg/L. DEHP is a plasticizer common in tubing and PVC and therefore may be related to the materials present in the well and/or sampling equipment. These results will be confirmed in the first quarter of 2025.

Some laboratory reporting limits (practical quantitation limits) for the EPA Method 8270E analytes were above the CULs as shown in Table 4.

Discussion

Dioxins and furans were initially detected in the third quarter of 2024 in well MW-4S at concentrations above CULs. These results were not verified in the fourth quarter of 2024. Samples for dioxins and furans will be tested again in the first quarter of 2025 and will be removed as COPCs unless directed by Ecology if they are not detected or are detected at concentrations below CULs.

PFAS were initially detected in the third quarter of 2024 and confirmed during this event. The PFAS present in groundwater appear to resemble typical landfill leachate being predominantly PFCAs including PFOA. PFOA concentrations at MW-3S were above CULs during both the third and fourth quarter 2024 events. There are currently no monitoring points between MW-3S and downgradient water users. A work plan to install two additional monitoring wells has been submitted to Ecology that will assist with characterizing the extent of PFAS.

No SVOCs and cPAHs were detected except for a low concentration of DEHP in MW-3S. However, DEHP may be related to the materials in the well or sampling equipment. SVOCs and cPAHs will be sampled again in the first quarter of 2025 to verify whether they are COPCs related to the site.

EPA priority pollutant metals will also be analyzed in the first quarter of 2025 and results will be confirmed in the second quarter of 2025. Results from additional testing will be summarized in brief technical memoranda that will include the following:

- One Page Cover Sheet / Summary
- Tabulated Results
- Data Validation Technical Memorandum
- Laboratory Reports
- Field Data Sheets

The detailed reporting regarding confirmed COPCs and details regarding analysis will be included in the Limited Remedial Investigation Report that will be submitted as part of the AO.

Closing

Groundwater within the SA was sampled and analyzed for dioxins and furans using EPA Method 1613B, PFAS using EPA Method 1633, and SVOCs/cPAHs using EPA method 8270E/SIM as part of the AO in December 2024.

The dioxins and furans previously detected in well MW-4S during the third quarter were not confirmed in the fourth quarter 2024 event; dioxins and furans will be retested in the first quarter 2025 event to evaluate if they are COPCs. PFAS concentrations above CULs were confirmed in MW--3S and PFAS analyses will continue to be included in the ongoing testing program. No SVOCs and cPAHs were detected except for DEHP below the CUL in MW-3S that is suspected to be related to well materials and will be retested in the first quarter 2025 event. EPA priority pollutant metals will be tested for two quarters in 2025.

Based on the PFAS results, two additional monitoring wells (MW-1S and MW-11S) are planned to be installed downgradient of MW-3S as part of the AO (Figure 2).

Figures

Tables

Attachments

References

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Parametrix. 2024c. Third Quarter 2024 Groundwater Monitoring Report, Rocky Top Environmental Limited Purpose Landfill, Yakima, Washington. Prepared for DTG Recycling. December 2024.

Parametrix. 2024d. 3Q 2024 MTCA Sampling – AO#DE21624, Rocky Top Environmental Limited Purpose Landfill Technical Memorandum, December 10, 2024.

Parametrix. 2025a. Limited Remedial Investigation Work Plan for the Rocky Top Environmental Limited Purpose Landfill. January 2025.

Parametrix. 2025b. Groundwater Sampling and Analysis Plan – MTCA Sampling for the DTG Rocky Top Environmental Limited Purpose Landfill, Yakima, Washington. January 2025.

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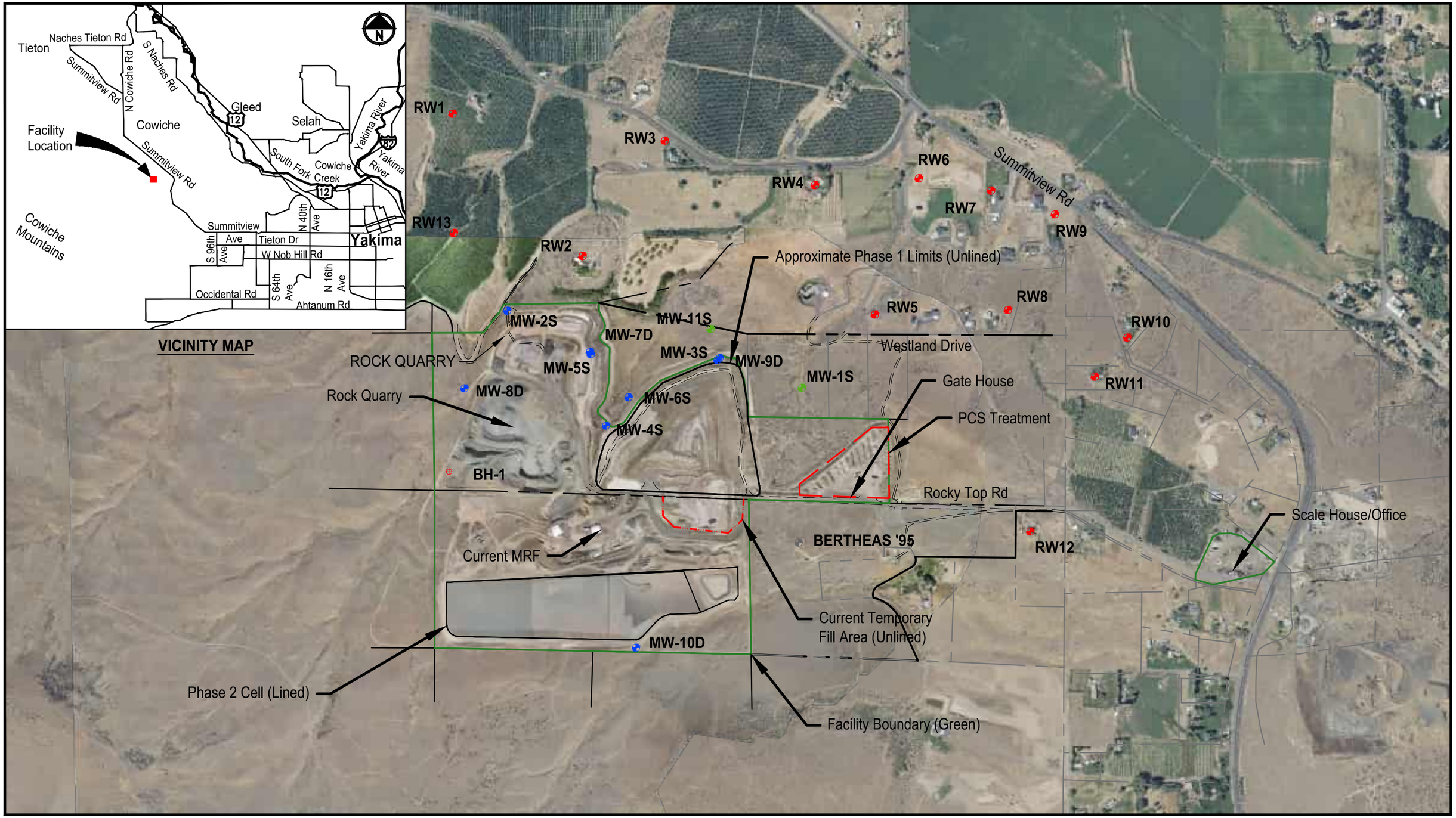
Figures



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DATE: March 7, 2025

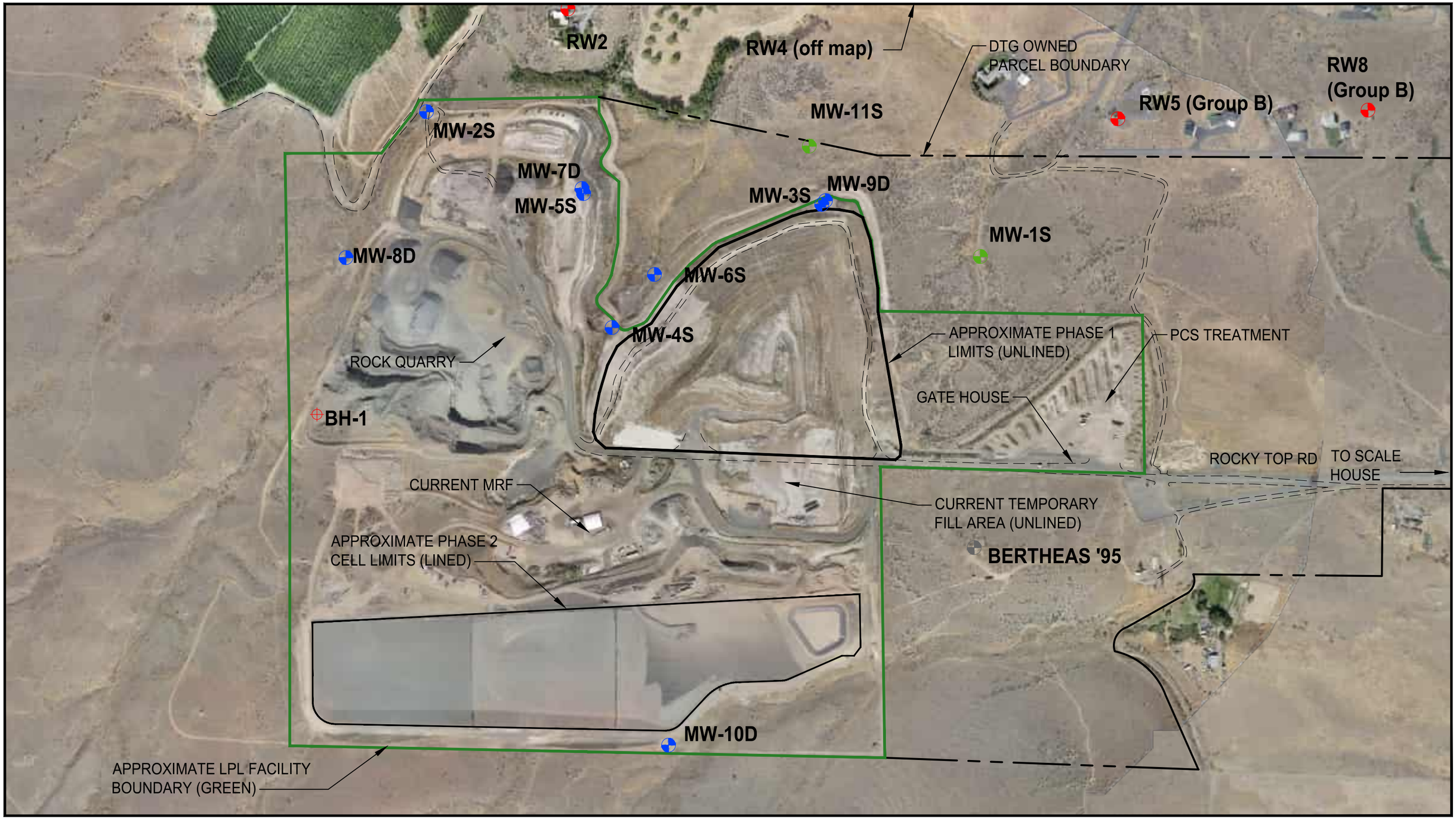
FILE: PS8472008–FIGURE 1 – VICINITY MAP

0 N 750

SCALE: 1"=750'

- Monitoring Well
- Proposed Monitoring Well
- Borehole
- Domestic Well
- Decommissioned Well

Figure 1
Facility Vicinity Map
Rocky Top Environmental Limited Purpose Landfill



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DATE: March 7, 2025

FILE: PS8472008–FIGURE 1 – VICINITY MAP

0 N 400

1 INCH = 400 FT.

- Monitoring Well
- Proposed Monitoring Well
- Borehole
- Domestic Well
- Decommissioned Well

Figure 2
Well Location Map
Rocky Top Environmental Limited Purpose Landfill

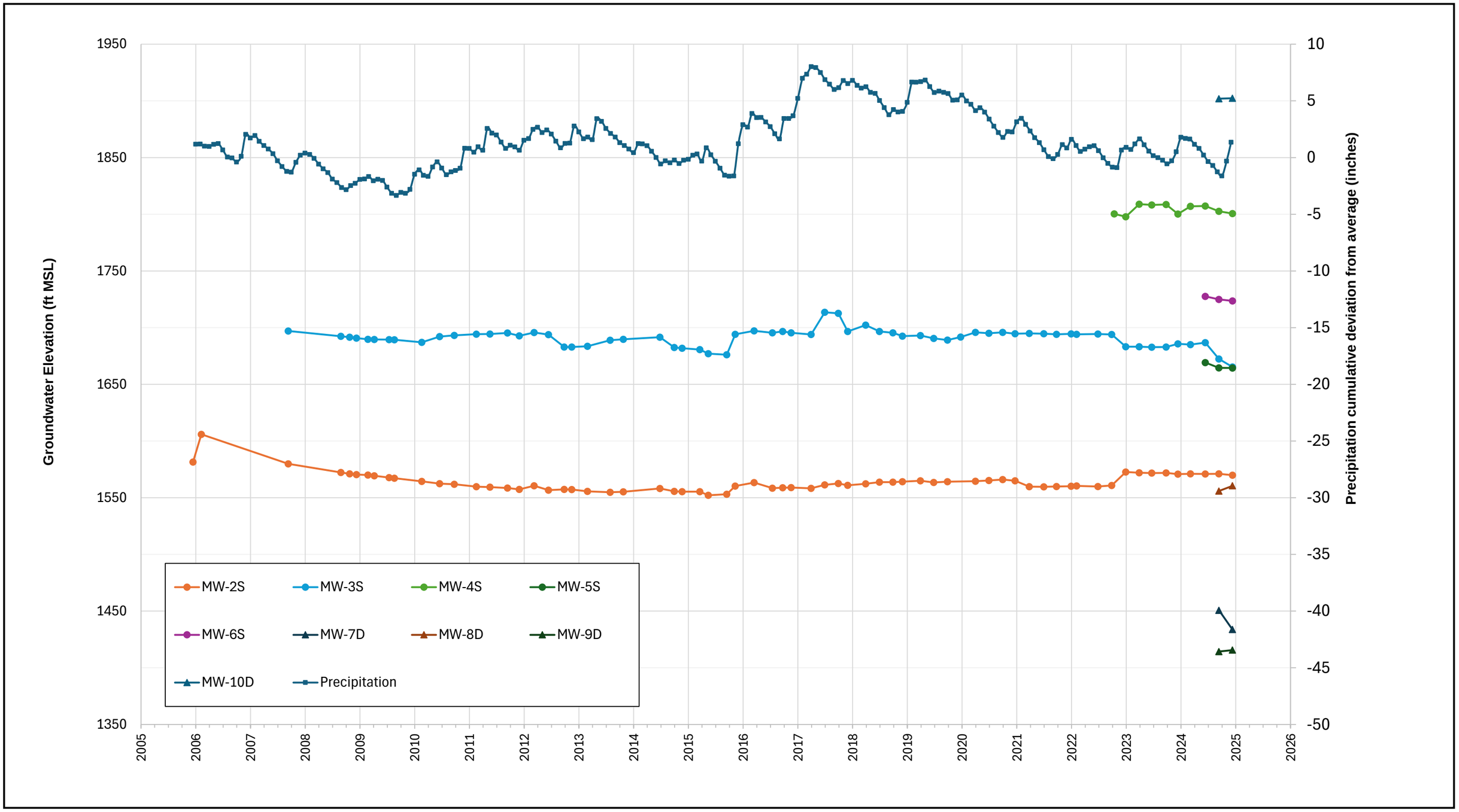

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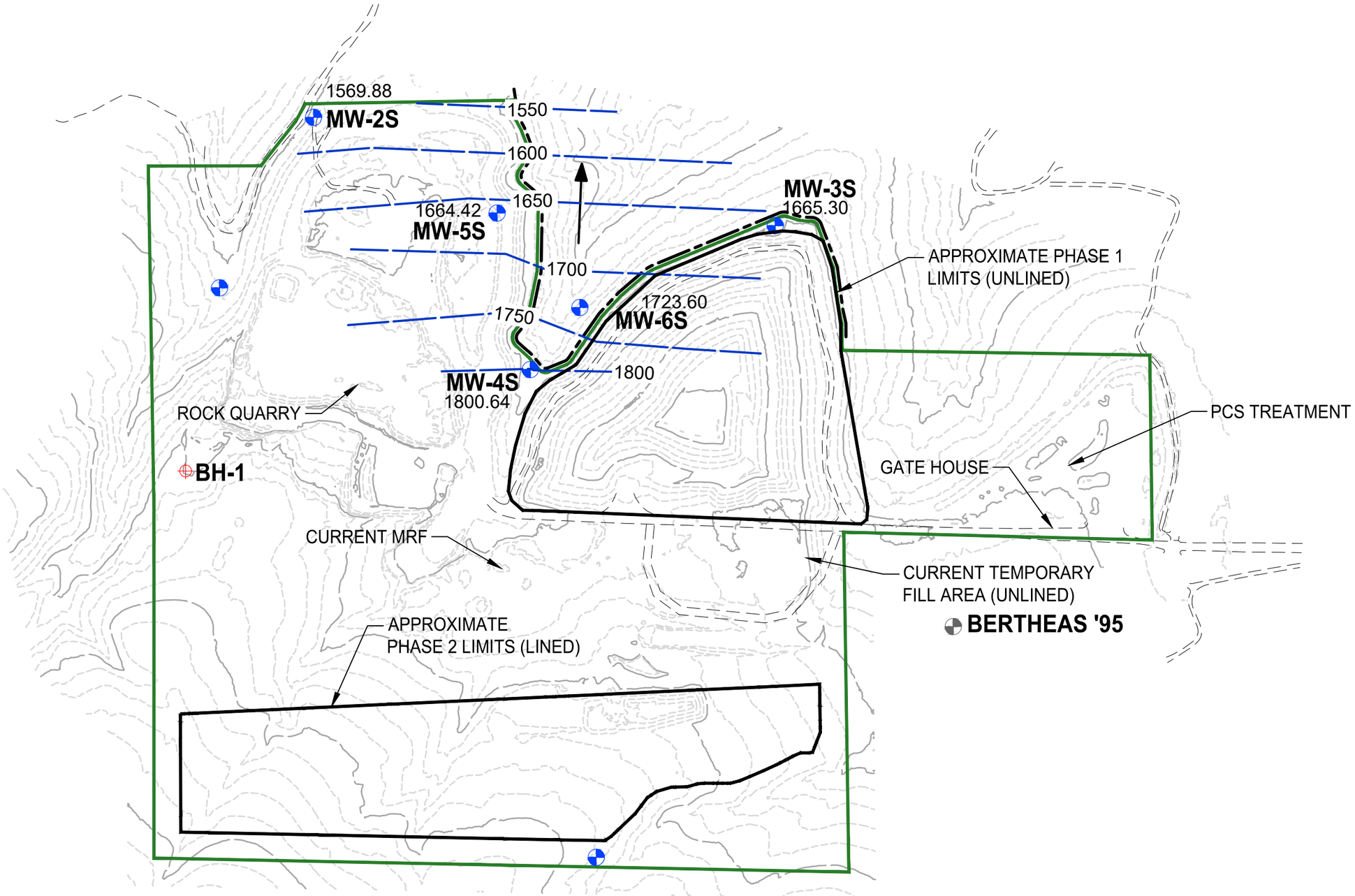
Figure 3
Water Level Summary
Rocky Top Environmental Limited Purpose Landfill



Parametrix DATE: March 7, 2025 FILE: QUARTERLY REPORT FIGURE Q4–2024

0 N 400
1 INCH = 400 FT.

1807.34 Monitoring Well with Water Level Elevation in feet measured on December 10, 2024

Decommissioned Well

Borehole

Approximate Groundwater flow direction

1700 Groundwater Elevation Contour (ft)

LPL Facility Boundary

Figure 4
Fourth Quarter 2024
Shallow Aquifer Potentiometric Surface
Rocky Top Environmental Limited Purpose Landfill

Tables

Table 1. Dioxin and Furan Results, December 2024, Rocky Top Environmental Limited Purpose Landfill

Parameter	Units	MTCA Method B Cancer CUL	MTCA Method B Non-Cancer CUL	TEF	MW-2S 9/12/2024	Calculated TEF	MW-2S 12/11/2024	Calculated TEF	MW-3S 9/12/2024	Calculated TEF	MW-3S 12/11/2024	Calculated TEF	MW-4S 9/12/2024	Calculated TEF	MW-4S 12/12/2024	Calculated TEF	MW-5S 9/12/2024	Calculated TEF	MW-5S 12/11/2024	Calculated TEF	MW-6S 9/12/2024	Calculated TEF	MW-6S 12/12/2024
Dioxin Congeners																							
2,3,7,8-Tetrachloro dibenzo-p-dioxin	pg/L	0.34	5.60	1	<0.797	--	<1.46	--	<1.92	--	<1.81	--	<1.18	--	<2.64	--	<1.57	--	<1.07	--	<1.22	--	<0.926
1,2,3,7,8-Pentachloro dibenzo-p-dioxin	pg/L			1	<0.959	--	<1.10	--	<2.10	--	<1.05	--	<2.00	--	<0.840	--	<1.87	--	<1.01	--	<1.91	--	<1.05
1,2,3,4,7,8-Hexachloro dibenzo-p-dioxin	pg/L			0.1	<1.28	--	<2.11	--	<1.72	--	<1.83	--	<1.60	--	<1.86	--	<2.07	--	<2.45	--	<1.98	--	<1.65
1,2,3,6,7,8-Hexachloro dibenzo-p-dioxin	pg/L			0.1	<1.30	--	<2.28	--	<2.20	--	<1.91	--	<1.93	--	<1.99	--	<2.40	--	<2.75	--	<1.99	--	<1.76
1,2,3,7,8,9-Hexachloro dibenzo-p-dioxin	pg/L			0.1	<1.44	--	<2.40	--	<2.55	--	<1.86	--	<1.81	--	<2.01	--	<2.42	--	<2.50	--	<2.05	--	<1.77
1,2,3,4,6,7,8-Heptachloro dibenzo-p-dioxin	pg/L			0.01	<1.90	--	<3.30	--	3.83 J	0.0383 J	1.34 J	0.0134 J	73.7	0.737	<2.17	--	<3.53	--	<1.71	--	<2.23	--	<1.71
1,2,3,4,6,7,8,9-Octachloro dibenzo-p-dioxin	pg/L			3E-04	2.60	0.000780	<2.96	--	21.7 J	0.00651 J	<10.2	--	<4.11	--	<3.42	--	12.6 J	0.00378 J	<5.66	--	13.4 J	0.00402 J	<3.37
Furan Congeners																							
2,3,7,8-Tetrachloro dibenzofuran	pg/L			0.1	<0.652	--	<0.801	--	<1.31	--	<0.853	--	<0.875	--	<0.704	--	<1.27	--	<0.840	--	1.1	--	<0.822
1,2,3,7,8-Pentachloro dibenzofuran	pg/L			0.03	<0.585	--	<0.750	--	<1.27	--	<0.551	--	<1.25	--	<0.652	--	<1.42	--	<0.812	--	<1.25	--	<0.776
2,3,4,7,8-Pentachloro dibenzofuran	pg/L			0.3	<0.548	--	<0.660	--	<1.25	--	<0.507	--	<1.38	--	<0.504	--	<1.04	--	<0.612	--	<1.19	--	<0.705
1,2,3,4,7,8-Hexachloro dibenzofuran	pg/L			0.1	<0.685	--	<0.819	--	<1.36	--	<0.826	--	1.59 J	0.159 J	<0.634	--	<1.55	--	<0.805	--	<1.26	--	<0.819
1,2,3,6,7,8-Hexachloro dibenzofuran	pg/L			0.1	<0.736	--	<0.876	--	<1.47	--	<0.882	--	1.4 J	0.14 J	<0.691	--	<1.55	--	<0.892	--	<1.28	--	<0.867
1,2,3,7,8,9-Hexachloro dibenzofuran	pg/L			0.1	<0.743	--	<1.30	--	<1.59	--	<1.33	--	1.94 J	0.194 J	<1.25	--	<1.51	--	<1.30	--	<1.38	--	<1.35
2,3,4,6,7,8-Hexachloro dibenzofuran	pg/L			0.1	<1.05	--	<0.827	--	<2.09	--	<0.965	--	<1.58	--	<0.689	--	<1.94	--	<0.882	--	<1.66	--	<0.907
1,2,3,4,6,7,8-Heptachloro dibenzofuran	pg/L			0.01	<0.835	--	<1.01	--	<1.59	--	<1.05	--	17.7 J	0.177 J	<0.806	--	<2.07	--	<0.836	--	<1.53	--	<1.22
1,2,3,4,7,8,9-Heptachloro dibenzofuran	pg/L			0.01	<1.33	--	<1.34	--	<1.78	--	<1.39	--	2.68 J	0.0268 J	<1.54	--	<2.72	--	<1.25	--	<2.11	--	<1.60
1,2,3,4,6,7,8,9-Octachloro dibenzofuran	pg/L			3E-04	<1.83	--	<2.14	--	4.02 J	0.001206 J	<2.73	--	104 J	0.0312 J	<3.46	--	<7.13	--	<2.67	--	<3.02	--	<2.65
Totals TEQ	pg/L	0.34	5.60			0.00078		0		0.046016 J		0.0134 J		**1.465 J**		0		0.00378 J		0		0.00402 J	

Notes:

CUL = Clean Up Level
MTCA = Model Toxics Control Act (WAC 173-340)
TEQ = Toxicity Equivalency Quotient
TEF = Toxic Equivalency Factor
J = Estimated value
< = Not Detected
-- = Not calculated
Bold = Above MTCA

Table 1. Dioxin and Furan Results, December 2024, Rocky Top Environmental Limited Purpose Landfill

Parameter	Units	MTCA Method B Cancer CUL	MTCA Method B Non-Cancer CUL	TEF	Calculated TEF	MW-13S 9/12/2024	Calculated TEF	MW-13S (MW-6S Dup) 12/12/2024	Calculated TEF
Dioxin Congeners									
2,3,7,8-Tetrachloro dibenzo-p-dioxin	pg/L	0.34	5.60	1	--	<0.895	--	<2.50	--
1,2,3,7,8-Pentachloro dibenzo-p-dioxin	pg/L			1	--	<1.65	--	<1.13	--
1,2,3,4,7,8-Hexachloro dibenzo-p-dioxin	pg/L			0.1	--	<2.08	--	<2.05	--
1,2,3,6,7,8-Hexachloro dibenzo-p-dioxin	pg/L			0.1	--	<2.29	--	<2.55	--
1,2,3,7,8,9-Hexachloro dibenzo-p-dioxin	pg/L			0.1	--	<2.37	--	<2.42	--
1,2,3,4,6,7,8-Heptachloro dibenzo-p-dioxin	pg/L			0.01	--	<3.11	--	<2.23	--
1,2,3,4,6,7,8,9-Octachloro dibenzo-p-dioxin	pg/L			3E-04	--	<6.67	--	<4.03	--
Furan Congeners									
2,3,7,8-Tetrachloro dibenzofuran	pg/L			0.1	--	<0.683	--	<0.715	--
1,2,3,7,8-Pentachloro dibenzofuran	pg/L			0.03	--	<1.06	--	<0.736	--
2,3,4,7,8-Pentachloro dibenzofuran	pg/L			0.3	--	<0.854	--	<0.548	--
1,2,3,4,7,8-Hexachloro dibenzofuran	pg/L			0.1	--	<1.03	--	<0.782	--
1,2,3,6,7,8-Hexachloro dibenzofuran	pg/L			0.1	--	<1.09	--	<0.886	--
1,2,3,7,8,9-Hexachloro dibenzofuran	pg/L			0.1	--	<1.15	--	<1.26	--
2,3,4,6,7,8-Hexachloro dibenzofuran	pg/L			0.1	--	<1.48	--	<0.953	--
1,2,3,4,6,7,8-Heptachloro dibenzofuran	pg/L			0.01	--	<1.59	--	<0.697	--
1,2,3,4,7,8,9-Heptachloro dibenzofuran	pg/L			0.01	--	<2.14	--	<1.01	--
1,2,3,4,6,7,8,9-Octachloro dibenzofuran	pg/L			3E-04	--	<5.06	--	<2.37	--
Totals TEQ	pg/L	0.34	5.60		0		0		0

Notes:

CUL = Clean Up Level
MTCA = Model Toxics Control Act (WAC 173-340)
TEQ = Toxicity Equivalency Quotient
TEF = Toxic Equivalency Factor
J = Estimated value
< = Not Detected
-- = Not calculated
Bold = Above MTCA

Table 2. 2024 Per- and Poly-fluoroalkyl Substances (PFAS) Results, December 2024, Rocky Top Environmental Limited Purpose Landfill

Parameter	Units	Cleanup Level CUL MTCA MTCA B Non-Cancer	MTCA B Cancer	MCL	MW-2S 9/12/2024	MW-2S 12/11/2024	MW-3S 9/12/2024	MW-3S 12/11/2024	MW-4S 9/12/2024	MW-4S 12/12/2024	MW-5S 9/12/2024	MW-13S (MW-5S Dup) 9/12/2024	MW-5S 12/11/2024	MW-6S 9/12/2024	MW-6S 12/12/2024	MW-13S (MW-6S Dup) 12/12/2024
Perfluoroalkyl Sulfonic Acids (PFSAs)																
Perfluorobutane sulfonic acid (PFBS)	ng/L	4800			<4.5	<5.3	13	8.1	4.8	<5.3	<4.6	<4.9	<5.3	6.6	5.1	<4.9
Perfluoropentane sulfonic acid (PFPeS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorohexane sulfonic acid (PFHxS)	ng/L	160		10	<4.5	<5.3	6.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoroheptane sulfonic acid (PFHpS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorooctane sulfonic acid (PFOS)	ng/L	1.6	2.2	4	<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorononane sulfonic acid (PFNS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorodecane sulfonic acid (PFDS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorododecane sulfonic acid (PFDoS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoroalkyl Carboxylic Acids (PFCAs)																
Perfluorobutanoic acid (PFBA)	ng/L	8000			<4.5	<5.3	33	31	23	17	<4.6	<4.9	<5.3	9.1	8.5	7.9
Perfluoropentanoic acid (PFPeA)	ng/L				<4.5	<5.3	74	49	21	7.9	<4.6	<4.9	<5.3	<4.3	5.5	5.4
Perfluorohexanoic acid (PFHxA)	ng/L	8000			<4.5	<5.3	43	34	8.6	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoroheptanoic acid (PFHpA)	ng/L				<4.5	<5.3	25	17	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorooctanoic acid (PFOA)	ng/L	0.48	0.003	4	<4.5	<5.3	**29**	**21**	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorononanoic acid (PFNA)	ng/L	40		10	<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorodecanoic acid (PFDA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoroundecanoic acid (PFUnDA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorododecanoic acid (PFDOA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorotridecanoic acid (PFTrDA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluorotetradecanoic acid (PFTDA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoroalkyl Sulfonamido Substances																
Perfluorooctane sulfonamide (PFOSAm)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
N-Methylperfluorooctane sulfonamide (MeFOSA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ng/L				<180	<210	<190	<220	<180	<210	<190	<190	<210	<170	<190	<200
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ng/L				<180	<210	<190	<220	<180	<210	<190	<190	<210	<170	<190	<200
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ng/L				<180	<210	<190	<220	<180	<210	<190	<190	<210	<170	<190	<200
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoro-3-methoxypropanoic acid (PFMPA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Perfluoro-4-methoxybutanoic acid (PFMBA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ng/L	24		10	<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ng/L				<4.5	<5.3	<4.7	<5.4	<4.5	<5.3	<4.6	<4.9	<5.3	<4.3	<4.8	<4.9
MCL Hazard Index for Mixtures of HFPO-DA, PFBS, PFHxS, and PFNA	unitless			1	--	--	0.7	0.3	0.2	0.2	--	--	--	0.2	0.2	--
Running Annual Average Hazard Index				1	--		0.5		0.2		--			0.2		

Notes:

CUL = Cleanup level
MTCA = Model Toxics Control Act (WAC 173-340)
MCL = Maximum contaminant level, compliance is currently established using the MCL
< = Not detected
-- = Not calculated
Bold = Does not meet CUL MTCA Method B or MCL

Table 3. Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs), December 2024, Rocky Top Environmental Limited Purpose Landfill

		Cleanup Level			MW-2S		MW-3S		MW-4S		MW-5S		MW-6S		MW-13S	
					12/11/2024		12/11/2024		12/12/2024		12/11/2024		12/12/2024		12/12/2024	
Analyte	Units	MTCA Method A	MCL	TEF[1]	Result	TEQ	Result	TEQ	Result	TEQ	Result	TEQ	Result	TEQ	Result	TEQ
Benzo(a)anthracene	µg/L	0.1		0.1	<0.0098	<0.00098	<0.0096	<0.00096	<0.0100	<0.0010	<0.0096	<0.00096	<0.0100	<0.0010	<0.0100	<0.0010
Benzo(a)pyrene	µg/L	0.1	0.2	1	<0.0098	<0.0098	<0.0096	<0.00960	<0.0100	<0.0100	<0.0096	<0.00960	<0.0100	<0.0100	<0.0100	<0.0100
Benzo(b)fluoranthene	µg/L	0.1		0.1	<0.0098	<0.00098	<0.0096	<0.00096	<0.0100	<0.0010	<0.0096	<0.00096	<0.0100	<0.0010	<0.0100	<0.0010
Benzo(j,k)fluoranthene	µg/L	0.1		0.1	<0.0098	<0.00098	<0.0096	<0.00096	<0.0100	<0.0010	<0.0096	<0.00096	<0.0100	<0.0010	<0.0100	<0.0010
Chrysene	µg/L	0.1		0.01	<0.0098	<0.000098	<0.0096	<0.000096	<0.0100	<0.0001	<0.0096	<0.000096	<0.0100	<0.0001	<0.0100	<0.0001
Dibenzo(a,h)anthracene	µg/L	0.1		0.1	<0.0098	<0.00098	<0.0096	<0.00096	<0.0100	<0.0010	<0.0096	<0.00096	<0.0100	<0.0010	<0.0100	<0.0010
Indeno(1,2,3-cd)pyrene	µg/L	0.1		0.1	<0.0098	<0.00098	<0.0096	<0.00096	<0.0100	<0.0010	<0.0096	<0.00096	<0.0100	<0.0010	<0.0100	<0.0010
Total cPAH TEQ	µg/L	0.1				<0.0148		<0.0145		<0.0151		<0.0145		<0.0151		<0.0151

Notes:

[1] TEF is unitless

TEF = Toxicity Equivalency Factor for cPAHs using MTCA Table 708-2 and Chapter 173-340-708 WAC

TEQ = Toxicity Equivalency Quotient Concentration for benzo(a)pyrene

MTCA Model Toxics Control Act

MCL Maximium Contamination Limit

Table 4. Semi-Volatile Organic Compounds, December 2024, Rocky Top Environmental Limited Purpose Landfill

Analyte	Units	Cleanup Level MTCA B Cancer	Cleanup Level MTCA B Non-Cancer	Cleanup Level MCL	MW-2S 12/11/2024	MW-3S 12/11/2024	MW-4S 12/12/2024	MW-5S 12/12/2024	MW-6S 12/11/2024	MW-13S (MW-6S Dup) 12/11/2024
(3+4)-Methylphenol (m,p-Cresol)	µg/L		1600 / 800		<0.98	<0.96	<1	<0.96	<1	<1
1,2,4-Trichlorobenzene	µg/L	1.5	80	70	<0.98	<0.96	<1	<0.96	<1	<1
1,2-Dichlorobenzene	µg/L		720	600	<0.98	<0.96	<1	<0.96	<1	<1
1,2-Dinitrobenzene	µg/L		1.6		<0.98	<0.96	<1	<0.96	<1	<1
1,2-Diphenylhydrazine	µg/L	0.11 A			<0.98	<0.96	<1	<0.96	<1	<1
1,3-Dichlorobenzene	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
1,3-Dinitrobenzene	µg/L		1.6		<0.98	<0.96	<1	<0.96	<1	<1
1,4-Dichlorobenzene	µg/L	8.1	560	75	<0.98	<0.96	<1	<0.96	<1	<1
1,4-Dinitrobenzene	µg/L		1.6		<0.98	<0.96	<1	<0.96	<1	<1
1-Methylnaphthalene	µg/L	0.86	560		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
2,3,4,6-Tetrachlorophenol	µg/L		480		<0.98	<0.96	<1	<0.96	<1	<1
2,3,5,6-Tetrachlorophenol	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
2,3-Dichloroaniline	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
2,4,5-Trichlorophenol	µg/L		1600		<0.98	<0.96	<1	<0.96	<1	<1
2,4,6-Trichlorophenol	µg/L	8	16		<0.98	<0.96	<1	<0.96	<1	<1
2,4-Dichlorophenol	µg/L		48		<0.98	<0.96	<1	<0.96	<1	<1
2,4-Dimethylphenol	µg/L		320		<0.98	<0.96	<1	<0.96	<1	<1
2,4-Dinitrophenol	µg/L		32		<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
2,4-Dinitrotoluene	µg/L	0.28 A	32		<0.98	<0.96	<1	<0.96	<1	<1
2,6-Dinitrotoluene	µg/L	0.058 A	4.8		<0.98	<0.96	<1	<0.96	<1	<1
2-Chloronaphthalene	µg/L		640		<0.98	<0.96	<1	<0.96	<1	<1
2-Chlorophenol	µg/L		40		<0.98	<0.96	<1	<0.96	<1	<1
2-Methylnaphthalene	µg/L		32		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
2-Methylphenol (o-Cresol)	µg/L		800		<0.98	<0.96	<1	<0.96	<1	<1
2-Nitroaniline	µg/L		160		<0.98	<0.96	<1	<0.96	<1	<1
2-Nitrophenol	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
3,3-Dichlorobenzidine	µg/L	0.19 A			<0.98	<0.96	<1	<0.96	<1	<1
3-Nitroaniline	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
4,6-Dinitro-2-methylphenol	µg/L		1.3 A		<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
4-Bromophenyl-phenylether	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
4-Chloro-3-methylphenol	µg/L		1600		<0.98	<0.96	<1	<0.96	<1	<1
4-Chloroaniline	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
4-Chlorophenyl-phenylether	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
4-Nitroaniline	µg/L	4.4	64		<0.98	<0.96	<1	<0.96	<1	<1
4-Nitrophenol	µg/L				<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Acenaphthylene	µg/L				<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Acenaphthene	µg/L		480		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Aniline	µg/L	15	110		<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Anthracene	µg/L		2400		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Benzyl alcohol	µg/L		1600		<0.98	<0.96	<1	<0.96	<1	<1
bis(2-Chloroethoxy)methane	µg/L		48		<0.98	<0.96	<1	<0.96	<1	<1
bis(2-Chloroethyl)ether	µg/L	0.04 A			<0.98	<0.96	<1	<0.96	<1	<1
bis(2-Chloroisopropyl)ether	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
bis(2-Ethylhexyl)phthalate	µg/L	6.3	320	6	<0.98	2.8	<1	<0.96	<1	<1
bis-2-Ethylhexyladipate	µg/L	73	9600	400	<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Butylbenzylphthalate	µg/L	46	3200		<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Carbazole	µg/L				<0.98	<0.96	<1	<0.96	<1	<1
Dibenzofuran	µg/L		8		<0.98	<0.96	<1	<0.96	<1	<1
Diethylphthalate	µg/L		13000		<0.98	<0.96	<1	<0.96	<1	<1
Dimethylphthalate	µg/L				<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Di-n-butylphthalate	µg/L		1600		<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Di-n-octylphthalate	µg/L		160		<0.98	<0.96	<1	<0.96	<1	<1
Fluoranthene	µg/L		640		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Fluorene	µg/L		320		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Hexachlorobenzene	µg/L	0.027 A	6.4	1	<0.98	<0.96	<1	<0.96	<1	<1
Hexachlorobutadiene	µg/L	0.56 A	8		<0.98	<0.96	<1	<0.96	<1	<1
Hexachlorocyclopentadiene	µg/L		48	50	<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Hexachloroethane	µg/L	1.1	5.6		<0.98	<0.96	<1	<0.96	<1	<1
Isophorone	µg/L	92	3200		<0.98	<0.96	<1	<0.96	<1	<1
Naphthalene	µg/L	160			<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Nitrobenzene	µg/L		16		<0.98	<0.96	<1	<0.96	<1	<1
n-Nitrosodimethylamine	µg/L	0.00023 A	0.064 A		<0.98	<0.96	<1	<0.96	<1	<1
n-Nitroso-di-n-propylamine	µg/L	0.013 A			<0.98	<0.96	<1	<0.96	<1	<1
n-Nitrosodiphenylamine	µg/L		18		<0.98	<0.96	<1	<0.96	<1	<1
Pentachlorophenol	µg/L	0.22 A	80	0.042 A	<4.9	<4.8	<5.2	<4.8	<5.1	<5.2
Phenanthrene	µg/L				<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Phenol	µg/L		4800		<0.98	<0.96	<1	<0.96	<1	<1
Pyrene	µg/L		4800		<0.098	<0.096	<0.1	<0.096	<0.1	<0.1
Pyridine	µg/L		8		<0.98	<0.96	<1	<0.96	<1	<1

Notes:

A Reporting Limit (practical quantitation limite) is above the Cleanup Level

MTCA Model Toxics Control Act

MCL Maximium Contamination Limit

Cleanup levels as published in Cleanup Levels and Risk Calculations (Ecology, January 2025)

Attachment A

Fourth Quarter 2024
Field Data Sheets

Water Level Measurement Field Report

DATE 12/10/24	JOB NO. 553 8472 005		
PROJECT: Yakima LPL	COMPANY NAME DMX		
LOCATION: Rocky Top			
WEATHER cold, overcast	TEMP mid 30's	at 1030 at 1145	AM AM PM
PERSONNEL C. Bourgeois			

THE FOLLOWING WAS NOTED:

WELL NUMBER	Time	Depth to Water (ft below top of casing)	Measuring Point	Screen Interval (ft bgs)
MW-2S	1117	208.48	TOC * *	310-330
MW-3S	1075	180.62	TOC * *	188-198
MW-4S	1055	44.95	TOC *	49.5 – 69.5
MW-5S	1110	219.48	TOC	222-243
MW-6S	1105	114.75	TOC * *	110-130
MW-7D	—	—	TOC	475-495
MW-8D	—	—	TOC	375-405
MW-9D	—	—	TOC	420-440
MW-10D	—	—	TOC	150-170

* bolt cap.

* * QED top

MW-6S had very weak signal.

CBV

Groundwater Sampling Field Data Sheet

Well #: MW-2S

Project Number:	553 8472 005	Date:	12/11/24
Project Name:	Yakima LPL	Company Name:	PMN
Project Address:	Rocky Top	Sampled By:	Chris Bourgeois

Casing Diameter: 2" _ 4" ✓ 6" ____ Other ____

Initial Depth to Water (feet below TOC):	288.22	Purge Rate Measurement Method:	graduated cylinder
Top of Screen (feet bgs):	310	Date Purged:	12/10/24
Bottom of Screen (feet bgs)	330	Purge Time (from/to):	1030 - 1100
Reference Point (surveyor's notch, etc.):	N pvc	Time Sampled:	1105

TIME (2400 hr)	DEPTH TO WATER (ft)	pH (units)	Ec (umhos/cm 25°C)	TEMP °C	Redox (mv)	Dissolved Oxygen mg/L	TURBIDITY (visual)	PUMP SETTING
Initial								MW - 30/30
1030	288.38	8.78	161.7	10.0	-192.6	6.98	0.00	" 176 psi
1035	288.54	8.67	160.8	11.7	-199.3	4.25	0.00	"
1040	288.75	8.51	160.7	12.5	-198.8	5.12	0.00	"
1045	288.66	8.44	162.5	12.4	-194.8	6.99	0.00	"
1050	288.6	8.44	162.8	12.9	-194.1	6.76	0.00	"
1055	288.4	8.41	161.2	13.1	-194.2	6.80	0.00	"
1100	288.0	8.36	161.4	13.0	-186.0	6.93	0.00	"
Stabilization Criteria		±0.1	3%	3%	±10 mv	10% or if <2 mg/L ±0.5	10% if >5 NTU	

Purge Equipment: dedicated bladder Flow Rate: 330 ml/min

Laboratory:	On Site	Date Sent to Lab:	12/13/24
Shipment Method	In person	Field QC Sample Number:	- —

Remarks: Top of WEP well head / pvc.

15 bottles

Signature: Chris

Groundwater Sampling Field Data Sheet

Well # MW-3S

Project Number	553 8492 005	Date:	12/11/24
Project Name:	Yakima LPL	Company Name:	PMX
Project Address:	Rocky Top	Sampled By:	Chris Bourgeois

Casing Diameter: 2" _ 4" ✓ 6" _____ Other _____

Initial Depth to Water (feet below TOC):	180.50	Purge Rate Measurement Method:	graduated cylinder
Top of Screen (feet bgs):	188	Date Purged:	~~12/10~~ 12/11/24
Bottom of Screen (feet bgs)	198	Purge Time (from/to):	1446 – 1505
Reference Point (surveyor's notch, etc.):	N PVC	Time Sampled:	1510

TIME (2400 hr)	DEPTH TO WATER (ft)	pH (units)	Ec (µmhos/cm 25°C)	TEMP °C	Redox (mv)	Dissolved Oxygen mg/L	TURBIDITY (visual)	PUMP SETTING
Initia	180.50							40/20 150 psi
1450	180.77	8.25	569	13.2	-177.4	8.42	0.00	"
1455	180.81	7.92	565	13.6	-182.7	~~8.52~~ 4.55	0.06	"
1500	180.87	7.91	563	13.5	-184.9	4.65	1.49	"
1505	180.90	7.90	563	13.6	-185.4	4.65	0.49	"
Stabilization Criteria		±0.1	3%	3%	±10 mv	10% or 3 <0.5	10% or ≤5.0	

Purge Equipment: disposable bailer Flow Rate: 400 mL/min.

Laboratory:	~~Test~~ Eurofins	Date Sent to Lab:	12/12/24
Shipment Method	In-person	Field QC Sample Number:	—

Remarks:

Signature: Chris B

Groundwater Sampling Field Data Sheet

Well #: MW-45

Project Number:	553 8472.005	Date:	12/12/24
Project Name:	Yakima LPL	Company Name:	Dmx
Project Address:	Rocky Top	Sampled By:	Chris Bourgeois

Casing Diameter: 2" _ 4" ✓ 6" _____ Other _____

Initial Depth to Water (feet below TOC):	49.33	Purge Rate Measurement Method:	graduated cylinder
Top of Screen (feet bgs):	49.5	Date Purged:	12/12/24
Bottom of Screen (feet bgs)	69.5	Purge Time (from/to):	747-805
Reference Point (surveyor's notch, etc.):	N TOC	Time Sampled:	810

TIME (2400 hr)	DEPTH TO WATER (ft)	pH (units)	Ec (µmhos/cm 25°C)	TEMP °C	Redox (mv)	Dissolved Oxygen mg/L	TURBIDITY (visual)	PUMP SETTING 10/5
initia	49.33							
750	49.50	8.01	797	11.1	-169.6	4.69	2.39	64 Hz
755	49.50	8.08	787	11.6	-176.9	4.73	1.72	"
800	49.50	8.10	783	12.8	-180.7	4.90	1.14	"
805	49.50	8.17	786	10.8	-181.2	4.33	0.59	"
Stabilization Criteria		>0.1	3%	3%	±10 mv	10%, or 3 <0.5	10%, or <10.0	

Purge Equipment: Masterflex Variable Flow Rate: 310 ml/min

Laboratory:	On Site	Date Sent to Lab:	12/13/24
Shipment Method	In-person	Field QC Sample Number:	— —

Remarks: DTW measured from bottom of GEO cap. Top

Signature: Chris

Groundwater Sampling Field Data Sheet

Well #: MW-5S

Project Number:	553 8427 005	Date:	12/11/24
Project Name:	Yakima LPL	Company Name:	DMX
Project Address:	Rocky Top	Sampled By:	Chris Bourgeois

Casing Diameter: 2" _ 4" ✓ 6" _____ Other _____

Initial Depth to Water (feet below TOC):	219.05	Purge Rate Measurement Method:	Peristaltic Pump
Top of Screen (feet bgs):	222	Date Purged:	12/11/24
Bottom of Screen (feet bgs)	243	Purge Time (from/to):	1247 - 1340
Reference Point (surveyor's notch, etc.):	N PVC	Time Sampled:	1345

TIME (2400 hr)	DEPTH TO WATER (ft)	pH (units)	Ec (µmhos/cm 25°C)	TEMP °C	Redox (mv)	Dissolved Oxygen mg/L	TURBIDITY (visual)	PUMP SETTING
initial	219.05							40/20
1255	219.05	8.20	298.6	13.6	-177.6	7.20	0.72	152 PSI
1300	219.05	8.35	4579	13.8	-200.6	1.26	1.23	"
1305	219.05	8.47	497.4	13.7	-210.3	0.38	1.52	"
1310	219.05	8.47	501	13.8	-213.4	0.22	0.62	"
1315	219.05	8.49	490.7	13.7	-212.9	0.17	1.50	"
1320	219.05	8.44	374.9	13.9	-212.6	0.13	1.91	"
1325	219.05	8.45	367.1	13.8	-214.4	0.11	1.93	"
1330	219.05	8.51	361.9	13.8	-215.8	0.12	2.37	"
1340	219.05	8.46	362.3	13.9	-218.1	0.10	2.14	"
Stabilization Criteria		±0.1	3%	3%	±10mv	10% or 3 mg/L	10%, or 2<x<3	

Purge Equipment:	Dedicated Bladder	Flow Rate:	340 ml/min
Laboratory:	On Site	Date Sent to Lab:	12/13/24
Shipment Method	In-person	Field QC Sample Number:	____

Remarks: Sampled @ 1345

Signature: Chris B

Groundwater Sampling Field Data Sheet

Well #: MW-6S

Project Number:	553 8427 005	Date:	12/12/24
Project Name:	Yakima LPI	Company Name:	PMX
Project Address:	Rocky Top	Sampled By:	Chris Bourgeois

Casing Diameter: 2" _ 4" ✓ 6" _____ Other _____

Initial Depth to Water (feet below TOC):	101.71	Purge Rate Measurement Method:	graduated cylinder
Top of Screen (feet bgs):	110	Date Purged:	12/13/24
Bottom of Screen (feet bgs):	130	Purge Time (from/to):	953 - 1010
Reference Point (surveyor's notch, etc.):	NE PVC	Time Sampled:	1015

TIME (2400 hr)	DEPTH TO WATER (ft)	pH (units)	Ec (µmhos/cm 25°C)	TEMP °C	Redox (mv)	Dissolved Oxygen mg/L	TURBIDITY (visual)	PUMP SETTING
Initial	101.71							4/9
955	—	8.63	481	9.6	-178.7	9.64	—	30 PSI
1000	102.32	8.31	504	11.8	-189.8	4.30	2.52	"
1005	102.19	8.35	502	11.6	-192.2	7.31	1.17	"
1010	102.68	8.38	504	11.5	-194.5	4.19	1.78	"
Stabilization Criteria		+0.1	3%	3%	+10 mv	10%, or 2 <0.5	10%, or 2<5.0	

Purge Equipment: disposable bladder Flow Rate: 300 ml/min

Laboratory:	onsite	Date Sent to Lab:	12/13/24
Shipment Method	in-person	Field QC Sample Number:	see below

Remarks: DUP, MW-13S- 1212 collected here, at: 1100

+ MS/MSD & extra PFAS QC sample

Signature: _____

Attachment B

Laboratory Analytical Report

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

December 31, 2024

Michael Brady
Parametrix, Inc.
719 2nd Avenue, Suite 200
Seattle, WA 98104

Re: Analytical Data for Project 553-8472-006 09.04
Laboratory Reference No. 2412-198

Dear Michael:

Enclosed are the analytical results and associated quality control data for samples submitted on December 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: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

Case Narrative

Samples were collected on December 11 and 12, 2024 and received by the laboratory on December 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.

Semivolatiles EPA 8270E/SIM Analysis

The RPD for n-Nitrosodimethylamine, 1,3-Dichlorobenzene, and 1,4-Dichlorobenzene is outside the control limits for the Spike Blank/Spike Blank Duplicate. The percent recoveries on both spike blanks are within recovery limits. The method allows for a percentage of the compounds to fall outside of the control limits due to the large number of analytes being spiked.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2S-1211**					
Laboratory ID:	12-198-01					
n-Nitrosodimethylamine	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Pyridine	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Phenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Aniline	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethyl)ether	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2-Chlorophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,3-Dichlorobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,4-Dichlorobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Benzyl alcohol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,2-Dichlorobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2-Methylphenol (o-Cresol)	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroisopropyl)ether	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
n-Nitroso-di-n-propylamine	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Hexachloroethane	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Nitrobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Isophorone	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2-Nitrophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,4-Dimethylphenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethoxy)methane	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,4-Dichlorophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,2,4-Trichlorobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Naphthalene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
4-Chloroaniline	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Hexachlorobutadiene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
4-Chloro-3-methylphenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
1-Methylnaphthalene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
Hexachlorocyclopentadiene	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
2,4,6-Trichlorophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,3-Dichloroaniline	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,4,5-Trichlorophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2-Chloronaphthalene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2-Nitroaniline	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,4-Dinitrobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Dimethylphthalate	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
1,3-Dinitrobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,6-Dinitrotoluene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,2-Dinitrobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Acenaphthylene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
3-Nitroaniline	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2S-1211**					
Laboratory ID:	12-198-01					
2,4-Dinitrophenol	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
Acenaphthene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
4-Nitrophenol	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
2,4-Dinitrotoluene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Dibenzofuran	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,3,5,6-Tetrachlorophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
2,3,4,6-Tetrachlorophenol	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Diethylphthalate	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
4-Chlorophenyl-phenylether	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
4-Nitroaniline	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Fluorene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
4,6-Dinitro-2-methylphenol	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
n-Nitrosodiphenylamine	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
1,2-Diphenylhydrazine	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
4-Bromophenyl-phenylether	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Hexachlorobenzene	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Pentachlorophenol	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
Phenanthrene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
Anthracene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
Carbazole	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Di-n-butylphthalate	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
Fluoranthene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
Pyrene	**ND**	0.098	EPA 8270E/SIM	12-17-24	12-17-24	
Butylbenzylphthalate	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
bis-2-Ethylhexyladipate	**ND**	4.9	EPA 8270E	12-17-24	12-17-24	
3,3'-Dichlorobenzidine	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Benzo[a]anthracene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Chrysene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
bis(2-Ethylhexyl)phthalate	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Di-n-octylphthalate	**ND**	0.98	EPA 8270E	12-17-24	12-17-24	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[g,h,i]perylene	**ND**	0.0098	EPA 8270E/SIM	12-17-24	12-17-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*50*	*11 - 82*				
Phenol-d6	*37*	*10 - 85*				
Nitrobenzene-d5	*86*	*26 - 106*				
2-Fluorobiphenyl	*91*	*35 - 106*				
2,4,6-Tribromophenol	*91*	*32 - 134*				
Terphenyl-d14	*107*	*37 - 116*				

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-3S-1211**					
Laboratory ID:	12-198-02					
n-Nitrosodimethylamine	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Pyridine	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Phenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Aniline	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethyl)ether	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2-Chlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,3-Dichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,4-Dichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Benzyl alcohol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,2-Dichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2-Methylphenol (o-Cresol)	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroisopropyl)ether	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
n-Nitroso-di-n-propylamine	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Hexachloroethane	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Nitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Isophorone	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2-Nitrophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,4-Dimethylphenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethoxy)methane	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,4-Dichlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,2,4-Trichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Naphthalene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
4-Chloroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Hexachlorobutadiene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
4-Chloro-3-methylphenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2-Methylnaphthalene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
1-Methylnaphthalene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
Hexachlorocyclopentadiene	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
2,4,6-Trichlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,3-Dichloroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,4,5-Trichlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2-Chloronaphthalene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2-Nitroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,4-Dinitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Dimethylphthalate	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
1,3-Dinitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,6-Dinitrotoluene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,2-Dinitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Acenaphthylene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
3-Nitroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-3S-1211**					
Laboratory ID:	12-198-02					
2,4-Dinitrophenol	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
Acenaphthene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
4-Nitrophenol	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
2,4-Dinitrotoluene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Dibenzofuran	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,3,5,6-Tetrachlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
2,3,4,6-Tetrachlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Diethylphthalate	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
4-Chlorophenyl-phenylether	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
4-Nitroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Fluorene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
4,6-Dinitro-2-methylphenol	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
n-Nitrosodiphenylamine	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
1,2-Diphenylhydrazine	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
4-Bromophenyl-phenylether	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Hexachlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Pentachlorophenol	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
Phenanthrene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
Anthracene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
Carbazole	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Di-n-butylphthalate	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
Fluoranthene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
Pyrene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-17-24	
Butylbenzylphthalate	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
bis-2-Ethylhexyladipate	**ND**	4.8	EPA 8270E	12-17-24	12-17-24	
3,3'-Dichlorobenzidine	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Chrysene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
bis(2-Ethylhexyl)phthalate	**2.8**	0.96	EPA 8270E	12-17-24	12-17-24	
Di-n-octylphthalate	**ND**	0.96	EPA 8270E	12-17-24	12-17-24	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-17-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*41*	*11 - 82*				
Phenol-d6	*32*	*10 - 85*				
Nitrobenzene-d5	*87*	*26 - 106*				
2-Fluorobiphenyl	*91*	*35 - 106*				
2,4,6-Tribromophenol	*92*	*32 - 134*				
Terphenyl-d14	*106*	*37 - 116*				

Date of Report: December 31, 2024
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Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4S-1212**					
Laboratory ID:	12-198-03					
n-Nitrosodimethylamine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Pyridine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Phenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Aniline	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroethyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Chlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,3-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,4-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Benzyl alcohol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Methylphenol (o-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroisopropyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
n-Nitroso-di-n-propylamine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Hexachloroethane	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Nitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Isophorone	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Nitrophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,4-Dimethylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroethoxy)methane	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,4-Dichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2,4-Trichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Naphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
4-Chloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Hexachlorobutadiene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Chloro-3-methylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Hexachlorocyclopentadiene	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
2,4,6-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,3-Dichloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,4,5-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Chloronaphthalene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,4-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Dimethylphthalate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
1,3-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,6-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
3-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4S-1212**					
Laboratory ID:	12-198-03					
2,4-Dinitrophenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
4-Nitrophenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
2,4-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Dibenzofuran	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,3,5,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,3,4,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Diethylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Chlorophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
4,6-Dinitro-2-methylphenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
n-Nitrosodiphenylamine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2-Diphenylhydrazine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Bromophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Hexachlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Pentachlorophenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Carbazole	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Di-n-butylphthalate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Butylbenzylphthalate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
bis-2-Ethylhexyladipate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
3,3'-Dichlorobenzidine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Di-n-octylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*51*	*11 - 82*				
Phenol-d6	*38*	*10 - 85*				
Nitrobenzene-d5	*72*	*26 - 106*				
2-Fluorobiphenyl	*79*	*35 - 106*				
2,4,6-Tribromophenol	*80*	*32 - 134*				
Terphenyl-d14	*103*	*37 - 116*				

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5S-1211**					
Laboratory ID:	12-198-04					
n-Nitrosodimethylamine	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Pyridine	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Phenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Aniline	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroethyl)ether	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2-Chlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,3-Dichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,4-Dichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Benzyl alcohol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,2-Dichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2-Methylphenol (o-Cresol)	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroisopropyl)ether	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
n-Nitroso-di-n-propylamine	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Hexachloroethane	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Nitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Isophorone	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2-Nitrophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,4-Dimethylphenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroethoxy)methane	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,4-Dichlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,2,4-Trichlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Naphthalene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
4-Chloroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Hexachlorobutadiene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
4-Chloro-3-methylphenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2-Methylnaphthalene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
1-Methylnaphthalene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
Hexachlorocyclopentadiene	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
2,4,6-Trichlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,3-Dichloroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,4,5-Trichlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2-Chloronaphthalene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2-Nitroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,4-Dinitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Dimethylphthalate	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
1,3-Dinitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,6-Dinitrotoluene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,2-Dinitrobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Acenaphthylene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
3-Nitroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5S-1211**					
Laboratory ID:	12-198-04					
2,4-Dinitrophenol	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
Acenaphthene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
4-Nitrophenol	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
2,4-Dinitrotoluene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Dibenzofuran	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,3,5,6-Tetrachlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
2,3,4,6-Tetrachlorophenol	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Diethylphthalate	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
4-Chlorophenyl-phenylether	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
4-Nitroaniline	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Fluorene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
4,6-Dinitro-2-methylphenol	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
n-Nitrosodiphenylamine	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
1,2-Diphenylhydrazine	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
4-Bromophenyl-phenylether	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Hexachlorobenzene	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Pentachlorophenol	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
Phenanthrene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
Anthracene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
Carbazole	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Di-n-butylphthalate	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
Fluoranthene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
Pyrene	**ND**	0.096	EPA 8270E/SIM	12-17-24	12-18-24	
Butylbenzylphthalate	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
bis-2-Ethylhexyladipate	**ND**	4.8	EPA 8270E	12-17-24	12-18-24	
3,3'-Dichlorobenzidine	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Chrysene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
bis(2-Ethylhexyl)phthalate	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Di-n-octylphthalate	**ND**	0.96	EPA 8270E	12-17-24	12-18-24	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270E/SIM	12-17-24	12-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*51*	*11 - 82*				
Phenol-d6	*37*	*10 - 85*				
Nitrobenzene-d5	*74*	*26 - 106*				
2-Fluorobiphenyl	*81*	*35 - 106*				
2,4,6-Tribromophenol	*88*	*32 - 134*				
Terphenyl-d14	*98*	*37 - 116*				

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6S-1212**					
Laboratory ID:	12-198-05					
n-Nitrosodimethylamine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Pyridine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Phenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Aniline	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Chlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,3-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,4-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Benzyl alcohol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Methylphenol (o-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroisopropyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
n-Nitroso-di-n-propylamine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Hexachloroethane	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Nitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Isophorone	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Nitrophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,4-Dimethylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethoxy)methane	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,4-Dichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2,4-Trichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Naphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
4-Chloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Hexachlorobutadiene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Chloro-3-methylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Hexachlorocyclopentadiene	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
2,4,6-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,3-Dichloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,4,5-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Chloronaphthalene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,4-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Dimethylphthalate	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
1,3-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,6-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
3-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6S-1212**					
Laboratory ID:	12-198-05					
2,4-Dinitrophenol	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
4-Nitrophenol	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
2,4-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Dibenzofuran	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,3,5,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,3,4,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Diethylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Chlorophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
4,6-Dinitro-2-methylphenol	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
n-Nitrosodiphenylamine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2-Diphenylhydrazine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Bromophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Hexachlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Pentachlorophenol	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Carbazole	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Di-n-butylphthalate	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Butylbenzylphthalate	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
bis-2-Ethylhexyladipate	**ND**	5.1	EPA 8270E	12-17-24	12-17-24	
3,3'-Dichlorobenzidine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Di-n-octylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*59*	*11 - 82*				
Phenol-d6	*43*	*10 - 85*				
Nitrobenzene-d5	*80*	*26 - 106*				
2-Fluorobiphenyl	*90*	*35 - 106*				
2,4,6-Tribromophenol	*93*	*32 - 134*				
Terphenyl-d14	*103*	*37 - 116*				

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-13S-1212**					
Laboratory ID:	12-198-06					
n-Nitrosodimethylamine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Pyridine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Phenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Aniline	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroethyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Chlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,3-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,4-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Benzyl alcohol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Methylphenol (o-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroisopropyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
n-Nitroso-di-n-propylamine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Hexachloroethane	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Nitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Isophorone	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Nitrophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,4-Dimethylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
bis(2-Chloroethoxy)methane	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,4-Dichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2,4-Trichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Naphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
4-Chloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Hexachlorobutadiene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Chloro-3-methylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Hexachlorocyclopentadiene	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
2,4,6-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,3-Dichloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,4,5-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Chloronaphthalene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,4-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Dimethylphthalate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
1,3-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,6-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
3-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-13S-1212**					
Laboratory ID:	12-198-06					
2,4-Dinitrophenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
4-Nitrophenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
2,4-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Dibenzofuran	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,3,5,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
2,3,4,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Diethylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Chlorophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
4,6-Dinitro-2-methylphenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
n-Nitrosodiphenylamine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
1,2-Diphenylhydrazine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
4-Bromophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Hexachlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Pentachlorophenol	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Carbazole	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Di-n-butylphthalate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-18-24	
Butylbenzylphthalate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
bis-2-Ethylhexyladipate	**ND**	5.2	EPA 8270E	12-17-24	12-18-24	
3,3'-Dichlorobenzidine	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Di-n-octylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-18-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*51*	*11 - 82*				
Phenol-d6	*38*	*10 - 85*				
Nitrobenzene-d5	*71*	*26 - 106*				
2-Fluorobiphenyl	*81*	*35 - 106*				
2,4,6-Tribromophenol	*87*	*32 - 134*				
Terphenyl-d14	*95*	*37 - 116*				

Date of Report: December 31, 2024
Samples Submitted: December 13, 2024
Laboratory Reference: 2412-198
Project: 553-8472-006 09.04

SEMIVOLATILE ORGANICS EPA 8270E/SIM
QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1217W1					
n-Nitrosodimethylamine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Pyridine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Phenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Aniline	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Chlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,3-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,4-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Benzyl alcohol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2-Dichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Methylphenol (o-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroisopropyl)ether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
n-Nitroso-di-n-propylamine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Hexachloroethane	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Nitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Isophorone	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Nitrophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,4-Dimethylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
bis(2-Chloroethoxy)methane	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,4-Dichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2,4-Trichlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Naphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
4-Chloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Hexachlorobutadiene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Chloro-3-methylphenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
1-Methylnaphthalene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Hexachlorocyclopentadiene	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
2,4,6-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,3-Dichloroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,4,5-Trichlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Chloronaphthalene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,4-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Dimethylphthalate	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
1,3-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,6-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2-Dinitrobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Acenaphthylene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
3-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1217W1					
2,4-Dinitrophenol	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
Acenaphthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
4-Nitrophenol	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
2,4-Dinitrotoluene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Dibenzofuran	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,3,5,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
2,3,4,6-Tetrachlorophenol	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Diethylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Chlorophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Nitroaniline	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Fluorene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
4,6-Dinitro-2-methylphenol	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
n-Nitrosodiphenylamine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
1,2-Diphenylhydrazine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
4-Bromophenyl-phenylether	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Hexachlorobenzene	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Pentachlorophenol	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
Phenanthrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Anthracene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Carbazole	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Di-n-butylphthalate	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
Fluoranthene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Pyrene	**ND**	0.10	EPA 8270E/SIM	12-17-24	12-17-24	
Butylbenzylphthalate	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
bis-2-Ethylhexyladipate	**ND**	5.0	EPA 8270E	12-17-24	12-17-24	
3,3'-Dichlorobenzidine	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Benzo[a]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Chrysene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Di-n-octylphthalate	**ND**	1.0	EPA 8270E	12-17-24	12-17-24	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[a]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Indeno[1,2,3-cd]pyrene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270E/SIM	12-17-24	12-17-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*45*	*11 - 82*				
Phenol-d6	*33*	*10 - 85*				
Nitrobenzene-d5	*58*	*26 - 106*				
2-Fluorobiphenyl	*66*	*35 - 106*				
2,4,6-Tribromophenol	*69*	*32 - 134*				
Terphenyl-d14	*79*	*37 - 116*				

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Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1217W1									
	SB	SBD	SB	SBD	SB	SBD				
n-Nitrosodimethylamine	**12.0**	**9.29**	20.0	20.0	60	46	35 - 80	25	22	L
Pyridine	**5.96**	**4.75**	20.0	20.0	30	24	20 - 80	23	27	
Phenol	**7.81**	**7.17**	20.0	20.0	39	36	20 - 80	9	21	
Aniline	**12.8**	**11.4**	20.0	20.0	64	57	35 - 101	12	31	
bis(2-Chloroethyl)ether	**15.1**	**12.5**	20.0	20.0	76	63	47 - 97	19	30	
2-Chlorophenol	**14.7**	**12.7**	20.0	20.0	74	64	51 - 92	15	23	
1,3-Dichlorobenzene	**9.13**	**6.66**	20.0	20.0	46	33	29 - 90	31	30	L
1,4-Dichlorobenzene	**9.26**	**6.83**	20.0	20.0	46	34	34 - 100	30	27	L
Benzyl alcohol	**15.4**	**14.6**	20.0	20.0	77	73	48 - 100	5	20	
1,2-Dichlorobenzene	**9.62**	**7.48**	20.0	20.0	48	37	34 - 90	25	28	
2-Methylphenol (o-Cresol)	**14.7**	**13.8**	20.0	20.0	74	69	48 - 95	6	19	
bis(2-Chloroisopropyl)ether	**16.1**	**13.7**	20.0	20.0	81	69	50 - 97	16	26	
(3+4)-Methylphenol (m,p-Cresol)	**14.4**	**14.0**	20.0	20.0	72	70	46 - 91	3	19	
n-Nitroso-di-n-propylamine	**17.3**	**16.6**	20.0	20.0	87	83	45 - 103	4	23	
Hexachloroethane	**7.81**	**5.69**	20.0	20.0	39	28	25 - 90	31	33	
Nitrobenzene	**16.4**	**14.5**	20.0	20.0	82	73	53 - 100	12	24	
Isophorone	**18.1**	**17.9**	20.0	20.0	91	90	54 - 109	1	23	
2-Nitrophenol	**16.6**	**15.6**	20.0	20.0	83	78	52 - 106	6	22	
2,4-Dimethylphenol	**15.5**	**15.6**	20.0	20.0	78	78	35 - 121	1	19	
bis(2-Chloroethoxy)methane	**16.8**	**16.1**	20.0	20.0	84	81	54 - 101	4	25	
2,4-Dichlorophenol	**17.3**	**17.1**	20.0	20.0	87	86	52 - 107	1	20	
1,2,4-Trichlorobenzene	**11.8**	**9.84**	20.0	20.0	59	49	41 - 93	18	26	
Naphthalene	**13.9**	**12.3**	20.0	20.0	70	62	45 - 98	12	21	
4-Chloroaniline	**16.7**	**16.2**	20.0	20.0	84	81	44 - 114	3	37	
Hexachlorobutadiene	**9.18**	**7.07**	20.0	20.0	46	35	31 - 94	26	31	
4-Chloro-3-methylphenol	**18.9**	**19.0**	20.0	20.0	95	95	59 - 108	1	20	
2-Methylnaphthalene	**17.2**	**16.3**	20.0	20.0	86	82	51 - 100	5	22	
1-Methylnaphthalene	**15.4**	**14.5**	20.0	20.0	77	73	52 - 101	6	20	
Hexachlorocyclopentadiene	**9.82**	**9.72**	20.0	20.0	49	49	20 - 98	1	25	
2,4,6-Trichlorophenol	**18.5**	**19.1**	20.0	20.0	93	96	61 - 117	3	20	
2,3-Dichloroaniline	**17.5**	**18.4**	20.0	20.0	88	92	53 - 106	5	19	
2,4,5-Trichlorophenol	**18.2**	**19.7**	20.0	20.0	91	99	61 - 113	8	20	
2-Chloronaphthalene	**16.3**	**16.6**	20.0	20.0	82	83	55 - 103	2	20	
2-Nitroaniline	**19.3**	**20.5**	20.0	20.0	97	103	56 - 126	6	20	
1,4-Dinitrobenzene	**20.1**	**21.5**	20.0	20.0	101	108	54 - 124	7	21	
Dimethylphthalate	**19.0**	**19.7**	20.0	20.0	95	99	58 - 115	4	20	
1,3-Dinitrobenzene	**19.8**	**20.7**	20.0	20.0	99	104	57 - 121	4	23	
2,6-Dinitrotoluene	**19.1**	**20.1**	20.0	20.0	96	101	58 - 117	5	20	
1,2-Dinitrobenzene	**18.9**	**19.7**	20.0	20.0	95	99	52 - 126	4	22	
Acenaphthylene	**16.9**	**17.7**	20.0	20.0	85	89	55 - 109	5	18	
3-Nitroaniline	**18.1**	**18.8**	20.0	20.0	91	94	55 - 116	4	23	

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Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1217W1									
	SB	SBD	SB	SBD	SB	SBD				
2,4-Dinitrophenol	**20.3**	**22.9**	20.0	20.0	102	115	20 - 152	12	24	
Acenaphthene	**18.3**	**19.3**	20.0	20.0	92	97	56 - 103	5	20	
4-Nitrophenol	**11.1**	**11.9**	20.0	20.0	56	60	20 - 90	7	20	
2,4-Dinitrotoluene	**19.9**	**20.4**	20.0	20.0	100	102	52 - 119	2	21	
Dibenzofuran	**18.1**	**19.0**	20.0	20.0	91	95	56 - 110	5	19	
2,3,5,6-Tetrachlorophenol	**19.0**	**20.2**	20.0	20.0	95	101	58 - 113	6	20	
2,3,4,6-Tetrachlorophenol	**19.1**	**19.9**	20.0	20.0	96	100	53 - 111	4	24	
Diethylphthalate	**19.9**	**20.8**	20.0	20.0	100	104	58 - 118	4	21	
4-Chlorophenyl-phenylether	**18.5**	**19.6**	20.0	20.0	93	98	57 - 114	6	22	
4-Nitroaniline	**18.3**	**19.7**	20.0	20.0	92	99	56 - 116	7	21	
Fluorene	**19.2**	**20.4**	20.0	20.0	96	102	58 - 113	6	18	
4,6-Dinitro-2-methylphenol	**17.0**	**18.1**	20.0	20.0	85	91	20 - 132	6	19	
n-Nitrosodiphenylamine	**18.6**	**18.6**	20.0	20.0	93	93	56 - 114	0	20	
1,2-Diphenylhydrazine	**19.2**	**18.7**	20.0	20.0	96	94	58 - 113	3	18	
4-Bromophenyl-phenylether	**18.4**	**18.3**	20.0	20.0	92	92	56 - 115	1	20	
Hexachlorobenzene	**18.3**	**17.9**	20.0	20.0	92	90	53 - 117	2	20	
Pentachlorophenol	**17.8**	**18.6**	20.0	20.0	89	93	22 - 139	4	24	
Phenanthrene	**19.5**	**19.3**	20.0	20.0	98	97	55 - 115	1	18	
Anthracene	**20.0**	**19.7**	20.0	20.0	100	99	56 - 117	2	18	
Carbazole	**19.4**	**20.4**	20.0	20.0	97	102	54 - 120	5	18	
Di-n-butylphthalate	**21.7**	**21.7**	20.0	20.0	109	109	57 - 123	0	20	
Fluoranthene	**20.4**	**20.9**	20.0	20.0	102	105	57 - 120	2	18	
Pyrene	**20.3**	**21.4**	20.0	20.0	102	107	60 - 110	5	18	
Butylbenzylphthalate	**21.1**	**22.2**	20.0	20.0	106	111	57 - 122	5	21	
bis-2-Ethylhexyladipate	**21.8**	**22.9**	20.0	20.0	109	115	54 - 124	5	20	
3,3'-Dichlorobenzidine	**19.6**	**20.5**	20.0	20.0	98	103	50 - 113	4	25	
Benzo[a]anthracene	**19.7**	**20.5**	20.0	20.0	99	103	60 - 112	4	20	
Chrysene	**19.7**	**20.3**	20.0	20.0	99	102	58 - 116	3	21	
bis(2-Ethylhexyl)phthalate	**21.1**	**22.1**	20.0	20.0	106	111	54 - 132	5	21	
Di-n-octylphthalate	**21.0**	**22.2**	20.0	20.0	105	111	57 - 128	6	20	
Benzo[b]fluoranthene	**19.6**	**20.5**	20.0	20.0	98	103	56 - 117	4	20	
Benzo(j,k)fluoranthene	**19.6**	**20.1**	20.0	20.0	98	101	56 - 121	3	23	
Benzo[a]pyrene	**19.6**	**20.3**	20.0	20.0	98	102	56 - 119	4	19	
Indeno[1,2,3-cd]pyrene	**20.2**	**20.5**	20.0	20.0	101	103	66 - 120	1	22	
Dibenz[a,h]anthracene	**20.0**	**20.7**	20.0	20.0	100	104	58 - 123	3	21	
Benzo[g,h,i]perylene	**19.4**	**20.2**	20.0	20.0	97	101	57 - 119	4	20	
Surrogate:										
2-Fluorophenol					*50*	*40*	*11 - 82*			
Phenol-d6					*39*	*36*	*10 - 85*			
Nitrobenzene-d5					*74*	*65*	*26 - 106*			
2-Fluorobiphenyl					*83*	*87*	*35 - 106*			
2,4,6-Tribromophenol					*92*	*93*	*32 - 134*			
Terphenyl-d14					*96*	*100*	*37 - 116*			

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

December 31, 2024

Enthalpy Analytical - El Dorado Hills
Work Order No. 2412108

Mr. David Baumeister
OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

Dear Mr. Baumeister,

Enclosed are the results for the sample set received at Enthalpy Analytical - EDH on December 17, 2024 under your Project Name '553-8472-006'.

Enthalpy Analytical - EDH is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at kathy.zipp@enthalpy.com.

Thank you for choosing Enthalpy Analytical - EDH as part of your analytical support team.

Sincerely,

Kathy Zipp
Project Manager

Enthalpy Analytical - EDH Work Order No. 2412108
Case Narrative

Sample Condition on Receipt:

Six water samples were received and stored securely in accordance with Enthalpy Analytical - EDH standard operating procedures and EPA methodology. The samples were received in good condition and within the method temperature requirements.

Analytical Notes:

EPA Method 1613B

The samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-DIOXIN GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "MW-6S-1212". The MS/MSD recoveries and RPDs were within acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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Sample Inventory Report

Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2412108-01	MW-2S-1211	11-Dec-24 11:05	17-Dec-24 10:09	Amber Glass NM Bottle, 1L
2412108-02	MW-3S-1211	11-Dec-24 15:10	17-Dec-24 10:09	Amber Glass NM Bottle, 1L
2412108-03	MW-4S-1212	12-Dec-24 08:10	17-Dec-24 10:09	Amber Glass NM Bottle, 1L
2412108-04	MW-5S-1211	11-Dec-24 13:45	17-Dec-24 10:09	Amber Glass NM Bottle, 1L
2412108-05	MW-6S-1212	12-Dec-24 10:15	17-Dec-24 10:09	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
2412108-06	MW-13S-1212	12-Dec-24 11:00	17-Dec-24 10:09	Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

Sample ID: Method Blank

EPA Method 1613B

Client Data
Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: Aqueous

Laboratory Data
Lab Sample: B24L206-BLK1
QC Batch: B24L206
Sample Size: 1.00 L
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.53			27-Dec-24 15:06	1
1,2,3,7,8-PeCDD	ND	2.94			27-Dec-24 15:06	1
1,2,3,4,7,8-HxCDD	ND	2.04			27-Dec-24 15:06	1
1,2,3,6,7,8-HxCDD	ND	2.34			27-Dec-24 15:06	1
1,2,3,7,8,9-HxCDD	ND	2.29			27-Dec-24 15:06	1
1,2,3,4,6,7,8-HpCDD	ND		1.28		27-Dec-24 15:06	1
OCDD	2.99			J	27-Dec-24 15:06	1
2,3,7,8-TCDF	ND	0.936			27-Dec-24 15:06	1
1,2,3,7,8-PeCDF	ND	0.825			27-Dec-24 15:06	1
2,3,4,7,8-PeCDF	ND	0.884			27-Dec-24 15:06	1
1,2,3,4,7,8-HxCDF	ND	1.02			27-Dec-24 15:06	1
1,2,3,6,7,8-HxCDF	ND	1.13			27-Dec-24 15:06	1
2,3,4,6,7,8-HxCDF	ND	1.17			27-Dec-24 15:06	1
1,2,3,7,8,9-HxCDF	ND	1.70			27-Dec-24 15:06	1
1,2,3,4,6,7,8-HpCDF	ND	1.40			27-Dec-24 15:06	1
1,2,3,4,7,8,9-HpCDF	ND	1.93			27-Dec-24 15:06	1
OCDF	ND	2.62			27-Dec-24 15:06	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.000897					
Totals						
Total TCDD	ND	1.12				
Total PeCDD	ND	2.94				
Total HxCDD	ND	2.34				
Total HpCDD	ND		1.28			
Total TCDF	ND	0.936				
Total PeCDF	ND	0.884				
Total HxCDF	ND	1.70				
Total HpCDF	ND	1.93				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	81.1	25 - 164		27-Dec-24 15:06	1
13C-1,2,3,7,8-PeCDD	IS	77.2	25 - 181		27-Dec-24 15:06	1
13C-1,2,3,4,7,8-HxCDD	IS	79.2	32 - 141		27-Dec-24 15:06	1
13C-1,2,3,6,7,8-HxCDD	IS	77.7	28 - 130		27-Dec-24 15:06	1
13C-1,2,3,7,8,9-HxCDD	IS	79.2	32 - 141		27-Dec-24 15:06	1
13C-1,2,3,4,6,7,8-HpCDD	IS	78.8	23 - 140		27-Dec-24 15:06	1
13C-OCDD	IS	76.2	17 - 157		27-Dec-24 15:06	1
13C-2,3,7,8-TCDF	IS	77.5	24 - 169		27-Dec-24 15:06	1
13C-1,2,3,7,8-PeCDF	IS	78.9	24 - 185		27-Dec-24 15:06	1
13C-2,3,4,7,8-PeCDF	IS	76.6	21 - 178		27-Dec-24 15:06	1
13C-1,2,3,4,7,8-HxCDF	IS	83.9	26 - 152		27-Dec-24 15:06	1
13C-1,2,3,6,7,8-HxCDF	IS	80.6	26 - 123		27-Dec-24 15:06	1
13C-2,3,4,6,7,8-HxCDF	IS	81.0	28 - 136		27-Dec-24 15:06	1
13C-1,2,3,7,8,9-HxCDF	IS	81.4	29 - 147		27-Dec-24 15:06	1
13C-1,2,3,4,6,7,8-HpCDF	IS	78.6	28 - 143		27-Dec-24 15:06	1
13C-1,2,3,4,7,8,9-HpCDF	IS	82.6	26 - 138		27-Dec-24 15:06	1
13C-OCDF	IS	82.8	17 - 157		27-Dec-24 15:06	1
37Cl-2,3,7,8-TCDD	CRS	98.5	35 - 197		27-Dec-24 15:06	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

Sample ID: OPR **EPA Method 1613B**

Client Data
Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: Aqueous

Laboratory Data
Lab Sample: B24L206-BS1
QC Batch: B24L206 Date Extracted: 23-Dec-24 09:01
Sample Size: 1.00 L Column: ZB-DIOXIN

Analyte	Amt Found (pg/L)	Spike Amt	% Recovery	Limits	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	205	200	103	67-158		27-Dec-24 12:49	1
1,2,3,7,8-PeCDD	1040	1000	104	70-142		27-Dec-24 12:49	1
1,2,3,4,7,8-HxCDD	1050	1000	105	70-164		27-Dec-24 12:49	1
1,2,3,6,7,8-HxCDD	1100	1000	110	76-134		27-Dec-24 12:49	1
1,2,3,7,8,9-HxCDD	1110	1000	111	64-162		27-Dec-24 12:49	1
1,2,3,4,6,7,8-HpCDD	1040	1000	104	70-140		27-Dec-24 12:49	1
OCDD	2090	2000	104	78-144	B	27-Dec-24 12:49	1
2,3,7,8-TCDF	212	200	106	75-158		27-Dec-24 12:49	1
1,2,3,7,8-PeCDF	1080	1000	108	80-134		27-Dec-24 12:49	1
2,3,4,7,8-PeCDF	1100	1000	110	68-160		27-Dec-24 12:49	1
1,2,3,4,7,8-HxCDF	1060	1000	106	72-134		27-Dec-24 12:49	1
1,2,3,6,7,8-HxCDF	1100	1000	110	84-130		27-Dec-24 12:49	1
2,3,4,6,7,8-HxCDF	1010	1000	101	70-156		27-Dec-24 12:49	1
1,2,3,7,8,9-HxCDF	1090	1000	109	78-130		27-Dec-24 12:49	1
1,2,3,4,6,7,8-HpCDF	1070	1000	107	82-122		27-Dec-24 12:49	1
1,2,3,4,7,8,9-HpCDF	1020	1000	102	78-138		27-Dec-24 12:49	1
OCDF	2080	2000	104	63-170		27-Dec-24 12:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	89.5	20-175		27-Dec-24 12:49	1
13C-1,2,3,7,8-PeCDD	IS	87.2	21-227		27-Dec-24 12:49	1
13C-1,2,3,4,7,8-HxCDD	IS	89.1	21-193		27-Dec-24 12:49	1
13C-1,2,3,6,7,8-HxCDD	IS	84.3	25-163		27-Dec-24 12:49	1
13C-1,2,3,7,8,9-HxCDD	IS	87.1	21-193		27-Dec-24 12:49	1
13C-1,2,3,4,6,7,8-HpCDD	IS	83.2	26-166		27-Dec-24 12:49	1
13C-OCDD	IS	82.4	13-199		27-Dec-24 12:49	1
13C-2,3,7,8-TCDF	IS	88.7	22-152		27-Dec-24 12:49	1
13C-1,2,3,7,8-PeCDF	IS	87.3	21-192		27-Dec-24 12:49	1
13C-2,3,4,7,8-PeCDF	IS	88.2	13-328		27-Dec-24 12:49	1
13C-1,2,3,4,7,8-HxCDF	IS	91.1	19-202		27-Dec-24 12:49	1
13C-1,2,3,6,7,8-HxCDF	IS	88.0	21-159		27-Dec-24 12:49	1
13C-2,3,4,6,7,8-HxCDF	IS	93.4	22-176		27-Dec-24 12:49	1
13C-1,2,3,7,8,9-HxCDF	IS	87.2	17-205		27-Dec-24 12:49	1
13C-1,2,3,4,6,7,8-HpCDF	IS	84.6	21-158		27-Dec-24 12:49	1
13C-1,2,3,4,7,8,9-HpCDF	IS	96.0	20-186		27-Dec-24 12:49	1
13C-OCDF	IS	85.9	13-199		27-Dec-24 12:49	1
37Cl-2,3,7,8-TCDD	CRS	97.3	31-191		27-Dec-24 12:49	1

Sample ID: MW-2S-1211 **EPA Method 1613B**

Client Data
Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: WATER
Date Collected: 11-Dec-24 11:05

Laboratory Data
Lab Sample: 2412108-01
QC Batch: B24L206
Sample Size: 0.997 L
Date Received: 17-Dec-24 10:09
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND		1.46		27-Dec-24 16:39	1
1,2,3,7,8-PeCDD	ND	1.10			27-Dec-24 16:39	1
1,2,3,4,7,8-HxCDD	ND	2.11			27-Dec-24 16:39	1
1,2,3,6,7,8-HxCDD	ND	2.28			27-Dec-24 16:39	1
1,2,3,7,8,9-HxCDD	ND	2.40			27-Dec-24 16:39	1
1,2,3,4,6,7,8-HpCDD	ND	3.30			27-Dec-24 16:39	1
OCDD	ND	2.96			27-Dec-24 16:39	1
2,3,7,8-TCDF	ND	0.801			27-Dec-24 16:39	1
1,2,3,7,8-PeCDF	ND	0.750			27-Dec-24 16:39	1
2,3,4,7,8-PeCDF	ND	0.660			27-Dec-24 16:39	1
1,2,3,4,7,8-HxCDF	ND	0.819			27-Dec-24 16:39	1
1,2,3,6,7,8-HxCDF	ND	0.876			27-Dec-24 16:39	1
2,3,4,6,7,8-HxCDF	ND	0.827			27-Dec-24 16:39	1
1,2,3,7,8,9-HxCDF	ND	1.30			27-Dec-24 16:39	1
1,2,3,4,6,7,8-HpCDF	ND	1.01			27-Dec-24 16:39	1
1,2,3,4,7,8,9-HpCDF	ND	1.34			27-Dec-24 16:39	1
OCDF	ND	2.14			27-Dec-24 16:39	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.00					
Totals						
Total TCDD	ND		1.46			
Total PeCDD	ND	1.10				
Total HxCDD	ND	2.40				
Total HpCDD	ND	3.30				
Total TCDF	ND	0.801				
Total PeCDF	ND	0.750				
Total HxCDF	ND	1.30				
Total HpCDF	ND	1.34				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	88.6	25 - 164		27-Dec-24 16:39	1
13C-1,2,3,7,8-PeCDD	IS	88.6	25 - 181		27-Dec-24 16:39	1
13C-1,2,3,4,7,8-HxCDD	IS	90.9	32 - 141		27-Dec-24 16:39	1
13C-1,2,3,6,7,8-HxCDD	IS	90.2	28 - 130		27-Dec-24 16:39	1
13C-1,2,3,7,8,9-HxCDD	IS	89.9	32 - 141		27-Dec-24 16:39	1
13C-1,2,3,4,6,7,8-HpCDD	IS	90.7	23 - 140		27-Dec-24 16:39	1
13C-OCDD	IS	88.1	17 - 157		27-Dec-24 16:39	1
13C-2,3,7,8-TCDF	IS	89.8	24 - 169		27-Dec-24 16:39	1
13C-1,2,3,7,8-PeCDF	IS	91.3	24 - 185		27-Dec-24 16:39	1
13C-2,3,4,7,8-PeCDF	IS	89.7	21 - 178		27-Dec-24 16:39	1
13C-1,2,3,4,7,8-HxCDF	IS	91.7	26 - 152		27-Dec-24 16:39	1
13C-1,2,3,6,7,8-HxCDF	IS	88.0	26 - 123		27-Dec-24 16:39	1
13C-2,3,4,6,7,8-HxCDF	IS	94.5	28 - 136		27-Dec-24 16:39	1
13C-1,2,3,7,8,9-HxCDF	IS	87.6	29 - 147		27-Dec-24 16:39	1
13C-1,2,3,4,6,7,8-HpCDF	IS	90.4	28 - 143		27-Dec-24 16:39	1
13C-1,2,3,4,7,8,9-HpCDF	IS	94.6	26 - 138		27-Dec-24 16:39	1
13C-OCDF	IS	97.0	17 - 157		27-Dec-24 16:39	1
37Cl-2,3,7,8-TCDD	CRS	101	35 - 197		27-Dec-24 16:39	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

Sample ID: MW-3S-1211 **EPA Method 1613B**

Client Data
Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: WATER
Date Collected: 11-Dec-24 15:10

Laboratory Data
Lab Sample: 2412108-02
QC Batch: B24L206
Sample Size: 1.02 L
Date Received: 17-Dec-24 10:09
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND		1.81		27-Dec-24 17:25	1
1,2,3,7,8-PeCDD	ND	1.05			27-Dec-24 17:25	1
1,2,3,4,7,8-HxCDD	ND	1.83			27-Dec-24 17:25	1
1,2,3,6,7,8-HxCDD	ND	1.91			27-Dec-24 17:25	1
1,2,3,7,8,9-HxCDD	ND	1.86			27-Dec-24 17:25	1
1,2,3,4,6,7,8-HpCDD	1.34			J	27-Dec-24 17:25	1
OCDD	ND	10.2			27-Dec-24 17:25	1
2,3,7,8-TCDF	ND	0.853			27-Dec-24 17:25	1
1,2,3,7,8-PeCDF	ND	0.551			27-Dec-24 17:25	1
2,3,4,7,8-PeCDF	ND	0.507			27-Dec-24 17:25	1
1,2,3,4,7,8-HxCDF	ND	0.826			27-Dec-24 17:25	1
1,2,3,6,7,8-HxCDF	ND	0.882			27-Dec-24 17:25	1
2,3,4,6,7,8-HxCDF	ND	0.965			27-Dec-24 17:25	1
1,2,3,7,8,9-HxCDF	ND	1.33			27-Dec-24 17:25	1
1,2,3,4,6,7,8-HpCDF	ND	1.05			27-Dec-24 17:25	1
1,2,3,4,7,8,9-HpCDF	ND	1.39			27-Dec-24 17:25	1
OCDF	ND	2.73			27-Dec-24 17:25	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.0134					
Totals						
Total TCDD	ND		1.81			
Total PeCDD	ND	1.05				
Total HxCDD	ND	1.91				
Total HpCDD	1.34			J		
Total TCDF	ND	0.853				
Total PeCDF	ND	0.551				
Total HxCDF	ND	1.33				
Total HpCDF	ND	1.39				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	85.4	25 - 164		27-Dec-24 17:25	1
13C-1,2,3,7,8-PeCDD	IS	82.8	25 - 181		27-Dec-24 17:25	1
13C-1,2,3,4,7,8-HxCDD	IS	83.0	32 - 141		27-Dec-24 17:25	1
13C-1,2,3,6,7,8-HxCDD	IS	80.3	28 - 130		27-Dec-24 17:25	1
13C-1,2,3,7,8,9-HxCDD	IS	83.4	32 - 141		27-Dec-24 17:25	1
13C-1,2,3,4,6,7,8-HpCDD	IS	83.1	23 - 140		27-Dec-24 17:25	1
13C-OCDD	IS	62.7	17 - 157		27-Dec-24 17:25	1
13C-2,3,7,8-TCDF	IS	87.1	24 - 169		27-Dec-24 17:25	1
13C-1,2,3,7,8-PeCDF	IS	84.1	24 - 185		27-Dec-24 17:25	1
13C-2,3,4,7,8-PeCDF	IS	86.0	21 - 178		27-Dec-24 17:25	1
13C-1,2,3,4,7,8-HxCDF	IS	85.3	26 - 152		27-Dec-24 17:25	1
13C-1,2,3,6,7,8-HxCDF	IS	81.9	26 - 123		27-Dec-24 17:25	1
13C-2,3,4,6,7,8-HxCDF	IS	85.0	28 - 136		27-Dec-24 17:25	1
13C-1,2,3,7,8,9-HxCDF	IS	80.6	29 - 147		27-Dec-24 17:25	1
13C-1,2,3,4,6,7,8-HpCDF	IS	79.4	28 - 143		27-Dec-24 17:25	1
13C-1,2,3,4,7,8,9-HpCDF	IS	85.5	26 - 138		27-Dec-24 17:25	1
13C-OCDF	IS	86.4	17 - 157		27-Dec-24 17:25	1
37Cl-2,3,7,8-TCDD	CRS	99.8	35 - 197		27-Dec-24 17:25	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

Sample ID: MW-4S-1212

EPA Method 1613B

Client Data

Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: WATER
Date Collected: 12-Dec-24 08:10

Laboratory Data

Lab Sample: 2412108-03
QC Batch: B24L206
Sample Size: 0.964 L
Date Received: 17-Dec-24 10:09
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND		2.64		30-Dec-24 12:53	1
1,2,3,7,8-PeCDD	ND	0.840			30-Dec-24 12:53	1
1,2,3,4,7,8-HxCDD	ND	1.86			30-Dec-24 12:53	1
1,2,3,6,7,8-HxCDD	ND	1.99			30-Dec-24 12:53	1
1,2,3,7,8,9-HxCDD	ND	2.01			30-Dec-24 12:53	1
1,2,3,4,6,7,8-HpCDD	ND	2.17			30-Dec-24 12:53	1
OCDD	ND	3.42			30-Dec-24 12:53	1
2,3,7,8-TCDF	ND	0.704			30-Dec-24 12:53	1
1,2,3,7,8-PeCDF	ND	0.652			30-Dec-24 12:53	1
2,3,4,7,8-PeCDF	ND	0.504			30-Dec-24 12:53	1
1,2,3,4,7,8-HxCDF	ND	0.634			30-Dec-24 12:53	1
1,2,3,6,7,8-HxCDF	ND	0.691			30-Dec-24 12:53	1
2,3,4,6,7,8-HxCDF	ND	0.689			30-Dec-24 12:53	1
1,2,3,7,8,9-HxCDF	ND	1.25			30-Dec-24 12:53	1
1,2,3,4,6,7,8-HpCDF	ND	0.806			30-Dec-24 12:53	1
1,2,3,4,7,8,9-HpCDF	ND	1.54			30-Dec-24 12:53	1
OCDF	ND	3.46			30-Dec-24 12:53	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.00					
Totals						
Total TCDD	ND		2.64			
Total PeCDD	ND	0.840				
Total HxCDD	ND	2.01				
Total HpCDD	ND	2.17				
Total TCDF	ND		0.768			
Total PeCDF	ND	0.652				
Total HxCDF	ND	1.25				
Total HpCDF	ND	1.54				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	85.1	25 - 164		30-Dec-24 12:53	1
13C-1,2,3,7,8-PeCDD	IS	81.8	25 - 181		30-Dec-24 12:53	1
13C-1,2,3,4,7,8-HxCDD	IS	80.9	32 - 141		30-Dec-24 12:53	1
13C-1,2,3,6,7,8-HxCDD	IS	81.8	28 - 130		30-Dec-24 12:53	1
13C-1,2,3,7,8,9-HxCDD	IS	80.9	32 - 141		30-Dec-24 12:53	1
13C-1,2,3,4,6,7,8-HpCDD	IS	77.3	23 - 140		30-Dec-24 12:53	1
13C-OCDD	IS	62.3	17 - 157		30-Dec-24 12:53	1
13C-2,3,7,8-TCDF	IS	89.2	24 - 169		30-Dec-24 12:53	1
13C-1,2,3,7,8-PeCDF	IS	83.0	24 - 185		30-Dec-24 12:53	1
13C-2,3,4,7,8-PeCDF	IS	83.5	21 - 178		30-Dec-24 12:53	1
13C-1,2,3,4,7,8-HxCDF	IS	93.5	26 - 152		30-Dec-24 12:53	1
13C-1,2,3,6,7,8-HxCDF	IS	97.0	26 - 123		30-Dec-24 12:53	1
13C-2,3,4,6,7,8-HxCDF	IS	92.5	28 - 136		30-Dec-24 12:53	1
13C-1,2,3,7,8,9-HxCDF	IS	78.0	29 - 147		30-Dec-24 12:53	1
13C-1,2,3,4,6,7,8-HpCDF	IS	92.2	28 - 143		30-Dec-24 12:53	1
13C-1,2,3,4,7,8,9-HpCDF	IS	70.8	26 - 138		30-Dec-24 12:53	1
13C-OCDF	IS	58.1	17 - 157		30-Dec-24 12:53	1
37Cl-2,3,7,8-TCDD	CRS	97.8	35 - 197		30-Dec-24 12:53	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

Sample ID: MW-5S-1211 **EPA Method 1613B**

Client Data
Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: WATER
Date Collected: 11-Dec-24 13:45

Laboratory Data
Lab Sample: 2412108-04
QC Batch: B24L206
Sample Size: 1.01 L
Date Received: 17-Dec-24 10:09
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.07			27-Dec-24 18:58	1
1,2,3,7,8-PeCDD	ND	1.01			27-Dec-24 18:58	1
1,2,3,4,7,8-HxCDD	ND	2.45			27-Dec-24 18:58	1
1,2,3,6,7,8-HxCDD	ND	2.75			27-Dec-24 18:58	1
1,2,3,7,8,9-HxCDD	ND	2.50			27-Dec-24 18:58	1
1,2,3,4,6,7,8-HpCDD	ND	1.71			27-Dec-24 18:58	1
OCDD	ND	5.66			27-Dec-24 18:58	1
2,3,7,8-TCDF	ND	0.840			27-Dec-24 18:58	1
1,2,3,7,8-PeCDF	ND	0.812			27-Dec-24 18:58	1
2,3,4,7,8-PeCDF	ND	0.612			27-Dec-24 18:58	1
1,2,3,4,7,8-HxCDF	ND	0.805			27-Dec-24 18:58	1
1,2,3,6,7,8-HxCDF	ND	0.892			27-Dec-24 18:58	1
2,3,4,6,7,8-HxCDF	ND	0.882			27-Dec-24 18:58	1
1,2,3,7,8,9-HxCDF	ND	1.30			27-Dec-24 18:58	1
1,2,3,4,6,7,8-HpCDF	ND	0.836			27-Dec-24 18:58	1
1,2,3,4,7,8,9-HpCDF	ND	1.25			27-Dec-24 18:58	1
OCDF	ND	2.67			27-Dec-24 18:58	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.00					
Totals						
Total TCDD	ND	1.07				
Total PeCDD	ND	1.01				
Total HxCDD	ND	2.75				
Total HpCDD	ND	1.71				
Total TCDF	ND	0.840				
Total PeCDF	ND	0.812				
Total HxCDF	ND	1.30				
Total HpCDF	ND	1.25				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	88.6	25 - 164		27-Dec-24 18:58	1
13C-1,2,3,7,8-PeCDD	IS	87.9	25 - 181		27-Dec-24 18:58	1
13C-1,2,3,4,7,8-HxCDD	IS	87.0	32 - 141		27-Dec-24 18:58	1
13C-1,2,3,6,7,8-HxCDD	IS	84.6	28 - 130		27-Dec-24 18:58	1
13C-1,2,3,7,8,9-HxCDD	IS	87.2	32 - 141		27-Dec-24 18:58	1
13C-1,2,3,4,6,7,8-HpCDD	IS	86.3	23 - 140		27-Dec-24 18:58	1
13C-OCDD	IS	82.8	17 - 157		27-Dec-24 18:58	1
13C-2,3,7,8-TCDF	IS	91.3	24 - 169		27-Dec-24 18:58	1
13C-1,2,3,7,8-PeCDF	IS	90.3	24 - 185		27-Dec-24 18:58	1
13C-2,3,4,7,8-PeCDF	IS	90.6	21 - 178		27-Dec-24 18:58	1
13C-1,2,3,4,7,8-HxCDF	IS	89.7	26 - 152		27-Dec-24 18:58	1
13C-1,2,3,6,7,8-HxCDF	IS	84.8	26 - 123		27-Dec-24 18:58	1
13C-2,3,4,6,7,8-HxCDF	IS	89.6	28 - 136		27-Dec-24 18:58	1
13C-1,2,3,7,8,9-HxCDF	IS	86.4	29 - 147		27-Dec-24 18:58	1
13C-1,2,3,4,6,7,8-HpCDF	IS	88.4	28 - 143		27-Dec-24 18:58	1
13C-1,2,3,4,7,8,9-HpCDF	IS	88.2	26 - 138		27-Dec-24 18:58	1
13C-OCDF	IS	89.9	17 - 157		27-Dec-24 18:58	1
37Cl-2,3,7,8-TCDD	CRS	102	35 - 197		27-Dec-24 18:58	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

Sample ID: MW-6S-1212 **EPA Method 1613B**

Client Data
Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: WATER
Date Collected: 12-Dec-24 10:15

Laboratory Data
Lab Sample: 2412108-05
QC Batch: B24L206
Sample Size: 1.01 L
Date Received: 17-Dec-24 10:09
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.926			27-Dec-24 19:47	1
1,2,3,7,8-PeCDD	ND	1.05			27-Dec-24 19:47	1
1,2,3,4,7,8-HxCDD	ND	1.65			27-Dec-24 19:47	1
1,2,3,6,7,8-HxCDD	ND	1.76			27-Dec-24 19:47	1
1,2,3,7,8,9-HxCDD	ND	1.77			27-Dec-24 19:47	1
1,2,3,4,6,7,8-HpCDD	ND	1.71			27-Dec-24 19:47	1
OCDD	ND	3.37			27-Dec-24 19:47	1
2,3,7,8-TCDF	ND	0.822			27-Dec-24 19:47	1
1,2,3,7,8-PeCDF	ND	0.776			27-Dec-24 19:47	1
2,3,4,7,8-PeCDF	ND	0.705			27-Dec-24 19:47	1
1,2,3,4,7,8-HxCDF	ND	0.819			27-Dec-24 19:47	1
1,2,3,6,7,8-HxCDF	ND	0.867			27-Dec-24 19:47	1
2,3,4,6,7,8-HxCDF	ND	0.907			27-Dec-24 19:47	1
1,2,3,7,8,9-HxCDF	ND	1.35			27-Dec-24 19:47	1
1,2,3,4,6,7,8-HpCDF	ND	1.22			27-Dec-24 19:47	1
1,2,3,4,7,8,9-HpCDF	ND	1.60			27-Dec-24 19:47	1
OCDF	ND	2.65			27-Dec-24 19:47	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.00					
Totals						
Total TCDD	ND	0.926				
Total PeCDD	ND	1.05				
Total HxCDD	ND	1.77				
Total HpCDD	ND	1.71				
Total TCDF	ND	0.822				
Total PeCDF	ND	0.776				
Total HxCDF	ND	1.35				
Total HpCDF	ND	1.60				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	86.1	25 - 164		27-Dec-24 19:47	1
13C-1,2,3,7,8-PeCDD	IS	89.5	25 - 181		27-Dec-24 19:47	1
13C-1,2,3,4,7,8-HxCDD	IS	90.7	32 - 141		27-Dec-24 19:47	1
13C-1,2,3,6,7,8-HxCDD	IS	86.8	28 - 130		27-Dec-24 19:47	1
13C-1,2,3,7,8,9-HxCDD	IS	91.9	32 - 141		27-Dec-24 19:47	1
13C-1,2,3,4,6,7,8-HpCDD	IS	89.2	23 - 140		27-Dec-24 19:47	1
13C-OCDD	IS	80.4	17 - 157		27-Dec-24 19:47	1
13C-2,3,7,8-TCDF	IS	88.7	24 - 169		27-Dec-24 19:47	1
13C-1,2,3,7,8-PeCDF	IS	87.2	24 - 185		27-Dec-24 19:47	1
13C-2,3,4,7,8-PeCDF	IS	86.2	21 - 178		27-Dec-24 19:47	1
13C-1,2,3,4,7,8-HxCDF	IS	92.0	26 - 152		27-Dec-24 19:47	1
13C-1,2,3,6,7,8-HxCDF	IS	89.7	26 - 123		27-Dec-24 19:47	1
13C-2,3,4,6,7,8-HxCDF	IS	91.2	28 - 136		27-Dec-24 19:47	1
13C-1,2,3,7,8,9-HxCDF	IS	87.6	29 - 147		27-Dec-24 19:47	1
13C-1,2,3,4,6,7,8-HpCDF	IS	89.6	28 - 143		27-Dec-24 19:47	1
13C-1,2,3,4,7,8,9-HpCDF	IS	92.5	26 - 138		27-Dec-24 19:47	1
13C-OCDF	IS	96.1	17 - 157		27-Dec-24 19:47	1
37Cl-2,3,7,8-TCDD	CRS	100	35 - 197		27-Dec-24 19:47	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

Sample ID: MW-6S-1212 **EPA Method 1613B**

Name:	OnSite Environmental Inc.		
Project:	553-8472-006	Lab Sample:	B24L206-MSD1
Matrix:	Aqueous	QC Batch:	B24L206
Date Analyzed:	30-Dec-24 14:25	Samp Size:	0.934/0.935 L
	30-Dec-24 13:39		

Source Lab Sample:	2412108-05		
Date Extracted:	23-Dec-24		
Column:	ZB-DIOXIN		

Analyte	Sample (pg/L)	MS (pg/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (pg/L)	MSD Spike Amt	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits
2,3,7,8-TCDD	ND	257	214	120		261	214	122	1.65		50- 150	25
1,2,3,7,8-PeCDD	ND	1200	1070	112		1190	1070	111	0.897		50- 150	25
1,2,3,4,7,8-HxCDD	ND	1210	1070	113		1230	1070	115	1.75		50- 150	25
1,2,3,6,7,8-HxCDD	ND	1220	1070	114		1310	1070	123	7.59		50- 150	25
1,2,3,7,8,9-HxCDD	ND	1230	1070	115		1270	1070	119	3.42		50- 150	25
1,2,3,4,6,7,8-HpCDD	ND	1220	1070	114		1240	1070	116	1.74		50- 150	25
OCDD	ND	2570	2140	120	B	2660	2140	124	3.28	B	50- 150	25
2,3,7,8-TCDF	ND	251	214	117		263	214	123	5		50- 150	25
1,2,3,7,8-PeCDF	ND	1210	1070	113		1240	1070	116	2.62		50- 150	25
2,3,4,7,8-PeCDF	ND	1210	1070	113		1200	1070	112	0.889		50- 150	25
1,2,3,4,7,8-HxCDF	ND	1240	1070	116		1250	1070	117	0.858		50- 150	25
1,2,3,6,7,8-HxCDF	ND	1320	1070	123		1270	1070	119	3.31		50- 150	25
2,3,4,6,7,8-HxCDF	ND	1240	1070	116		1210	1070	113	2.62		50- 150	25
1,2,3,7,8,9-HxCDF	ND	1250	1070	117		1230	1070	115	1.72		50- 150	25
1,2,3,4,6,7,8-HpCDF	ND	1280	1070	119		1310	1070	123	3.31		50- 150	25
1,2,3,4,7,8,9-HpCDF	ND	1210	1070	113		1260	1070	118	4.33		50- 150	25
OCDF	ND	2520	2140	118		2450	2140	114	3.45		50- 150	25

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits
13C-2,3,7,8-TCDD	IS	92.9		95.0		25 - 164
13C-1,2,3,7,8-PeCDD	IS	88.6		89.5		25 - 181
13C-1,2,3,4,7,8-HxCDD	IS	88.4		88.7		32 - 141
13C-1,2,3,6,7,8-HxCDD	IS	91.5		87.4		28 - 130
13C-1,2,3,7,8,9-HxCDD	IS	94.6		90.3		32 - 141
13C-1,2,3,4,6,7,8-HpCDD	IS	87.5		84.9		23 - 140
13C-OCDD	IS	64.0		56.1		17 - 157
13C-2,3,7,8-TCDF	IS	91.2		91.2		24 - 169
13C-1,2,3,7,8-PeCDF	IS	89.2		86.8		24 - 185
13C-2,3,4,7,8-PeCDF	IS	86.8		83.7		21 - 178
13C-1,2,3,4,7,8-HxCDF	IS	102		102		26 - 152
13C-1,2,3,6,7,8-HxCDF	IS	101		103		26 - 123
13C-2,3,4,6,7,8-HxCDF	IS	102		103		28 - 136
13C-1,2,3,7,8,9-HxCDF	IS	88.0		87.3		29 - 147
13C-1,2,3,4,6,7,8-HpCDF	IS	100		98.1		28 - 143
13C-1,2,3,4,7,8,9-HpCDF	IS	81.5		75.0		26 - 138
13C-OCDF	IS	69.1		61.6		17 - 157
37Cl-2,3,7,8-TCDD	CRS	101		102		35 - 197

Sample ID: MW-13S-1212

EPA Method 1613B

Client Data

Name: OnSite Environmental Inc.
Project: 553-8472-006
Matrix: WATER
Date Collected: 12-Dec-24 11:00

Laboratory Data

Lab Sample: 2412108-06
QC Batch: B24L206
Sample Size: 0.964 L
Date Received: 17-Dec-24 10:09
Date Extracted: 23-Dec-24
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND		2.50		27-Dec-24 20:33	1
1,2,3,7,8-PeCDD	ND	1.13			27-Dec-24 20:33	1
1,2,3,4,7,8-HxCDD	ND	2.05			27-Dec-24 20:33	1
1,2,3,6,7,8-HxCDD	ND	2.55			27-Dec-24 20:33	1
1,2,3,7,8,9-HxCDD	ND	2.42			27-Dec-24 20:33	1
1,2,3,4,6,7,8-HpCDD	ND	2.23			27-Dec-24 20:33	1
OCDD	ND	4.03			27-Dec-24 20:33	1
2,3,7,8-TCDF	ND	0.715			27-Dec-24 20:33	1
1,2,3,7,8-PeCDF	ND	0.736			27-Dec-24 20:33	1
2,3,4,7,8-PeCDF	ND	0.548			27-Dec-24 20:33	1
1,2,3,4,7,8-HxCDF	ND	0.782			27-Dec-24 20:33	1
1,2,3,6,7,8-HxCDF	ND	0.886			27-Dec-24 20:33	1
2,3,4,6,7,8-HxCDF	ND	0.953			27-Dec-24 20:33	1
1,2,3,7,8,9-HxCDF	ND	1.26			27-Dec-24 20:33	1
1,2,3,4,6,7,8-HpCDF	ND	0.697			27-Dec-24 20:33	1
1,2,3,4,7,8,9-HpCDF	ND	1.01			27-Dec-24 20:33	1
OCDF	ND	2.37			27-Dec-24 20:33	1
Toxic Equivalent						
TEQMinWHO2005Dioxin	0.00					
Totals						
Total TCDD	ND		2.50			
Total PeCDD	ND	1.13				
Total HxCDD	ND	2.55				
Total HpCDD	ND	2.23				
Total TCDF	ND	0.715				
Total PeCDF	ND	0.736				
Total HxCDF	ND	1.26				
Total HpCDF	ND	1.01				

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	86.3	25 - 164		27-Dec-24 20:33	1
13C-1,2,3,7,8-PeCDD	IS	87.7	25 - 181		27-Dec-24 20:33	1
13C-1,2,3,4,7,8-HxCDD	IS	92.6	32 - 141		27-Dec-24 20:33	1
13C-1,2,3,6,7,8-HxCDD	IS	88.1	28 - 130		27-Dec-24 20:33	1
13C-1,2,3,7,8,9-HxCDD	IS	91.5	32 - 141		27-Dec-24 20:33	1
13C-1,2,3,4,6,7,8-HpCDD	IS	88.7	23 - 140		27-Dec-24 20:33	1
13C-OCDD	IS	85.7	17 - 157		27-Dec-24 20:33	1
13C-2,3,7,8-TCDF	IS	91.4	24 - 169		27-Dec-24 20:33	1
13C-1,2,3,7,8-PeCDF	IS	88.7	24 - 185		27-Dec-24 20:33	1
13C-2,3,4,7,8-PeCDF	IS	89.6	21 - 178		27-Dec-24 20:33	1
13C-1,2,3,4,7,8-HxCDF	IS	93.4	26 - 152		27-Dec-24 20:33	1
13C-1,2,3,6,7,8-HxCDF	IS	90.4	26 - 123		27-Dec-24 20:33	1
13C-2,3,4,6,7,8-HxCDF	IS	95.1	28 - 136		27-Dec-24 20:33	1
13C-1,2,3,7,8,9-HxCDF	IS	91.6	29 - 147		27-Dec-24 20:33	1
13C-1,2,3,4,6,7,8-HpCDF	IS	90.8	28 - 143		27-Dec-24 20:33	1
13C-1,2,3,4,7,8,9-HpCDF	IS	94.3	26 - 138		27-Dec-24 20:33	1
13C-OCDF	IS	97.6	17 - 157		27-Dec-24 20:33	1
37Cl-2,3,7,8-TCDD	CRS	96.0	35 - 197		27-Dec-24 20:33	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Enthalpy Analytical - EDH Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	2211390
Nevada Division of Environmental Protection	CA00413
New Hampshire Environmental Accreditation Program	207721
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-021
Texas Commission on Environmental Quality	T104704189-22-13
Vermont Department of Health	VT-4042
Virginia Department of General Services	11276
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters can be found at Enthalpy.com/Resources/Accreditations.

2412108 2.4°C

OnSite Environmental Inc.

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

Laboratory Reference #: 12-198

Laboratory: Enthalpy Analytical - El Dorado Hills

Turnaround Request

Project Manager: David Baumeister

Attention: Jennifer Miller

1 Day | 2 Day | 3 Day

email: dbaumeister@onsite-env.com

Address: 1104 Windfield Way, El Dorado Hills, CA 95762

Standard

Project Number: 553-8472-006

Phone Number: (916) 673-1520

Other: _____

Project Name: _____

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analyses
	MW-2S-1211	12/11/24	11:05	W	1	Dioxins/Furans
	MW-3S-1211	12/11/24	15:10	W	1	Dioxins/Furans
	MW-4S-1212	12/12/24	8:10	W	1	Dioxins/Furans
	MW-5S-1211	12/11/24	13:45	W	1	Dioxins/Furans
	MW-6S-1212	12/12/24	10:15	W	3	Dioxins/Furans - MS/MSD
	MW-13S-1212	12/12/24	11:00	W	1	Dioxins/Furans

Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by:	OE	12/16/24	1600	PLEASE RETURN COOLER, FOAM & BLUE ICE
Received by:	UPS			
Relinquished by:	UPS			
Received by:	EA-EDH	12/17/24	1009	
Relinquished by:				
Received by:				

CoC/Label Reconciliation Report WO# 2412108

LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	Basis	Sample Comments
2412108-01	A MW-25-1211	☑		11-Dec-24 11:05	☑	Amber Glass NM Bottle, 1L	Aqueous	
2412108-02	A MW-35-1211	☑		11-Dec-24 15:10	☑	Amber Glass NM Bottle, 1L	Aqueous	
2412108-03	A MW-65-1212	☑		12-Dec-24 08:10	☑	Amber Glass NM Bottle, 1L	Aqueous	
2412108-04	A MW-35-1211	☑		11-Dec-24 13:45	☑	Amber Glass NM Bottle, 1L	Aqueous	
2412108-05	A MW-65-1212	☑		12-Dec-24 10:15	☑	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2412108-05	B MW-65-1212	☑		12-Dec-24 10:15	☑	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2412108-05	C MW-65-1212	☑		12-Dec-24 10:15	☑	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2412108-06	A MW-139-1212	☑		12-Dec-24 11:00	☑	Amber Glass NM Bottle, 1L	Aqueous	

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		

Comments:

Preservation Documented: Na2S2O3 Trizma NH4Cl3CO2 (None) Other

Verified by/Date: XAO 12/17/24
KA 12/17/24

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

Laboratory Number: 12-198

Company: ~~DTG Yakima LPL~~ Parametrix
Project Number: ~~MW 12/13/24~~ 0046 953-8472-~~09.04~~ 09.04
Project Name: DTG Yakima LPL
Project Manager: Mike Brady
Sampled by: Chris Bourgeois

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

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021) ☐ 8260 ☐	NWTPH-Gx	NWTPH-Dx (EC 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	SVOCs (+PAH list)	Dioxins & Furans			% Moisture
1	MW-25-1211	12/11/24	1105	H2O	2																		X	X			
2	MW-35-1211	12/11/24	1510	H2O	2																		X	X			
3	MW-45-1212	12/12/24	910	H2O	2																		X	X			
4	MW-55-1211	12/11/24	1345	H2O	2																		X	X			
5	MW-65-1212	12/12/24	1015	H2O	6																		X	X			
6	MW-135-1212	12/12/24	1101	H2O	2																		X	X			

	Signature	Company	Date	Time
Relinquished	Chris V	PMX	12/13/24	0850
Received	Nichelle Bylin	OSE	12/13/24	0850
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
MW-65-1212 extra volume for MS/MSD

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

January 2, 2025

Michael Brady
Parametrix, Inc.
719 2nd Avenue, Suite 200
Seattle, WA 98104

Re: Analytical Data for Project 553-8472-006 09.04
Laboratory Reference No. 2412-200

Dear Michael:

Enclosed are the analytical results and associated quality control data for samples submitted on December 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

December 31, 2024 Service Request No:K2413289

Nichelle Biffin
Onsite Environmental Incorporated
14648 Northeast 95th Street
Redmond, WA 98052

Laboratory Results for: Yakima LPL

Dear Nichelle,

Enclosed are the results of the sample(s) submitted to our laboratory December 17, 2024
For your reference, these analyses have been assigned our service request number **K2413289.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at Mark.Harris@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Mark Harris
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Onsite Environmental Incorporated
Project: Yakima LPL
Sample Matrix: Water

Service Request: K2413289
Date Received: 12/17/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Six water samples were received for analysis at ALS Environmental on 12/17/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Organic LC:

Method 1633, 12/25/2024:The upper control criterion was exceeded for 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) and 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)in Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analytes in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

Method 1633, 12/25/2024:Manual integration of one or more chromatographic peaks in one or more samples was required to correct the integration performed by the automated data processing program. The manual integration was performed in accordance with ALS policy, which is consistent with the National Environmental Laboratory Accreditation Program (NELAP), Department of Defense (DOD), and other certifying agencies. Refer to the raw data for the compounds impacted by the manual integration.

Approved by Noe D. Diaz Date 12/31/2024

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: MW-3S-1211			Lab ID: K2413289-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Perfluorobutane sulfonic acid (PFBS)	8.1			5.4	ng/L	Draft EPA Method 1633
Perfluorobutanoic acid (PFBA)	31			5.4	ng/L	Draft EPA Method 1633
Perfluoroheptanoic acid (PFHpA)	17			5.4	ng/L	Draft EPA Method 1633
Perfluorohexanoic acid (PFHxA)	34			5.4	ng/L	Draft EPA Method 1633
Perfluorooctanoic acid (PFOA)	21			5.4	ng/L	Draft EPA Method 1633
Perfluoropentanoic acid (PFPeA)	49			5.4	ng/L	Draft EPA Method 1633

CLIENT ID: MW-6S-1212			Lab ID: K2413289-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Perfluorobutane sulfonic acid (PFBS)	5.1			4.8	ng/L	Draft EPA Method 1633
Perfluorobutanoic acid (PFBA)	8.5			4.8	ng/L	Draft EPA Method 1633
Perfluoropentanoic acid (PFPeA)	5.5			4.8	ng/L	Draft EPA Method 1633

CLIENT ID: MW-4S-1212			Lab ID: K2413289-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Perfluorobutanoic acid (PFBA)	17			5.3	ng/L	Draft EPA Method 1633
Perfluoropentanoic acid (PFPeA)	7.9			5.3	ng/L	Draft EPA Method 1633

CLIENT ID: MW-13S-1212			Lab ID: K2413289-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Perfluorobutanoic acid (PFBA)	7.9			4.9	ng/L	Draft EPA Method 1633
Perfluoropentanoic acid (PFPeA)	5.4			4.9	ng/L	Draft EPA Method 1633

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Onsite Environmental Incorporated **Service Request:**K2413289

Project: Yakima LPL/553-8472-006 09.04

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2413289-001	MW-2S-1211	12/11/2024	1105
K2413289-002	MW-3S-1211	12/11/2024	1510
K2413289-003	MW-4S-1212	12/12/2024	0810
K2413289-004	MW-5S-1211	12/11/2024	1345
K2413289-005	MW-6S-1212	12/12/2024	1015
K2413289-006	MW-13S-1212	12/12/2024	1100

ALS Environmental

141865

CHAIN OF CUSTODY

141865

001

SR# 12913289

COC Set____of____

COC#_____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

12-200

Project Name	Yakima LPL
Project Number	503.8472-006 69.04
Project Manager	Mike Brady & Laura Lee (Phase)
Company	Parametrix
Address, City, State	719 2nd Ave #200 Seattle, WA 98104
Phone #	206-519-5781
email	mbrady@parametrix.com
Sampler Signature	
Sampler Printed Name	Chris Bourgeois

CLIENT SAMPLE ID	LABID	SAMPLING Date Time State	Matrix	NUMBER OF CONTAINERS	21D SM 2540 D Modified / 1633	28D 1633 / PFAS_DOD5.4	28D 1633 / PFAS_SCREEN	1	2	3	4	5	Remarks
1. MW25-1211		12/11/24 1105 WA	H2O	3	X	X	X						
2. MW-35-1211		12/11/24 1510 WA	H2O	3	X	X	X						
3. MW-45-1212		12/12/24 810 WA	H2O	3	X	X	X						
4. MW-55-1211		12/11/24 1345 WA	H2O	3	X	X	X						
5. MW-65-1212		12/12/24 1015 WA	H2O	9	X	X	X						MS/MSD & QC
6. MW-135-1212		12/12/24 1100 WA	H2O	3	X	X	X						
7.													
8.													
9.													
10.													

PLEASE RETURN BLUE ICE

Report Requirements

- __ I. Routine Report: Method Blank, Surrogate, as required
- __ II. Report Dup., MS, MSD as required
- __ III. CLP Like Summary (no raw data)
- __ IV. Data Validation Report
- X V. EDD EIM

Invoice Information

P.O.#_____

Bill To:_____

Turnaround Requirements

__ 24 hr. __ 48 hr.
__ 5 Day
X Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature NBiffin	Signature	Signature	Signature	Signature
Printed Name	Printed Name Nichelle Biffin	Printed Name MINOUN	Printed Name Andreana Carpenter	Printed Name	Printed Name
Firm	Firm OSE	Firm OSE	Firm ALS	Firm	Firm
Date/Time	Date/Time 12/13/24 0850	Date/Time 12/16/24 1600	Date/Time 12/17/24 0915	Date/Time	Date/Time

PM MH

Cooler Receipt and Preservation Form

Client Paramchrix Service Request K24 13289

Received: 12/17/24 Opened: 12/17/24 By: MR Unloaded: 12/17/24 By: MR

1. Samples were received via? *USPS* *Fed Ex* (*UPS*) *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	2.6	IR-02				1Z684E1W0190180363	

4. Was a Temperature Blank present in cooler? NA Y (N) If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value over the calibration range.
J	The result is an estimated value between the MDL and the MRL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Onsite Environmental Incorporated
Project: Yakima LPL/553-8472-006 09.04
Service Request: K2413289

Sample Name: MW-2S-1211
Lab Code: K2413289-001
Sample Matrix: Water
Date Collected: 12/11/24
Date Received: 12/17/24

Analysis Method	Extracted/Digested By	Analyzed By
1633	ASERVICE	PSALYARDS
1633	IVHERNANDEZ	GOSEGUERA

Sample Name: MW-3S-1211
Lab Code: K2413289-002
Sample Matrix: Water
Date Collected: 12/11/24
Date Received: 12/17/24

Analysis Method	Extracted/Digested By	Analyzed By
1633	IVHERNANDEZ	GOSEGUERA
1633	ASERVICE	PSALYARDS

Sample Name: MW-4S-1212
Lab Code: K2413289-003
Sample Matrix: Water
Date Collected: 12/12/24
Date Received: 12/17/24

Analysis Method	Extracted/Digested By	Analyzed By
1633	ASERVICE	PSALYARDS
1633	IVHERNANDEZ	GOSEGUERA

Sample Name: MW-5S-1211
Lab Code: K2413289-004
Sample Matrix: Water
Date Collected: 12/11/24
Date Received: 12/17/24

Analysis Method	Extracted/Digested By	Analyzed By
1633	ASERVICE	PSALYARDS
1633	IVHERNANDEZ	GOSEGUERA

Client: Onsite Environmental Incorporated
Project: Yakima LPL/553-8472-006 09.04
Service Request: K2413289

Sample Name: MW-6S-1212
Lab Code: K2413289-005
Sample Matrix: Water
Date Collected: 12/12/24
Date Received: 12/17/24

Analysis Method	Extracted/Digested By	Analyzed By
1633	IVHERNANDEZ	GOSEGUERA
1633	ASERVICE	PSALYARDS

Sample Name: MW-13S-1212
Lab Code: K2413289-006
Sample Matrix: Water
Date Collected: 12/12/24
Date Received: 12/17/24

Analysis Method	Extracted/Digested By	Analyzed By
1633	ASERVICE	PSALYARDS
1633	IVHERNANDEZ	GOSEGUERA

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Organic Compounds by HPLC/MS/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 11:05
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-2S-1211	**Units:**	ng/L
Lab Code:	K2413289-001	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoropentanoic acid (PFPeA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorohexanoic acid (PFHxA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoroheptanoic acid (PFHpA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorooctanoic acid (PFOA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	5.3	1	12/24/24 22:42	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	5.3	1	12/24/24 22:42	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	5.3	1	12/24/24 22:42	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	5.3	1	12/24/24 22:42	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	5.3	1	12/24/24 22:42	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 11:05
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-2S-1211	**Units:**	ng/L
Lab Code:	K2413289-001	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	210	1	12/24/24 22:42	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	210	1	12/24/24 22:42	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	210	1	12/24/24 22:42	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	5.3	1	12/24/24 22:42	12/23/24	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	5.3	1	12/24/24 22:42	12/23/24	*
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	5.3	1	12/24/24 22:42	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	5.3	1	12/24/24 22:42	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	5.3	1	12/24/24 22:42	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 11:05
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-2S-1211	**Units:**	ng/L
Lab Code:	K2413289-001	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	86	40 - 135	12/24/24 22:42	
13C3-PFHxS	92	40 - 130	12/24/24 22:42	
13C8-PFOS	87	40 - 130	12/24/24 22:42	
13C4-PFBA	92	5 - 130	12/24/24 22:42	
13C5-PFPeA	60	40 - 130	12/24/24 22:42	
13C5-PFHxA	96	40 - 130	12/24/24 22:42	
13C4-PFHpA	86	40 - 130	12/24/24 22:42	
13C8-PFOA	86	40 - 130	12/24/24 22:42	
13C9-PFNA	85	40 - 130	12/24/24 22:42	
13C6-PFDA	77	40 - 130	12/24/24 22:42	
13C7-PFUnDA	94	30 - 130	12/24/24 22:42	
13C2-PFDoDA	80	10 - 130	12/24/24 22:42	
13C2-PFTeDA	89	10 - 130	12/24/24 22:42	
13C8-FOSA	84	40 - 130	12/24/24 22:42	
D3-MeFOSA	65	10 - 130	12/24/24 22:42	
D5-EtFOSA	72	10 - 130	12/24/24 22:42	
D7-MeFOSE	74	10 - 130	12/24/24 22:42	
D9-EtFOSE	75	10 - 130	12/24/24 22:42	
D3-MeFOSAA	70	40 - 170	12/24/24 22:42	
D5-EtFOSAA	90	25 - 135	12/24/24 22:42	
13C2-4:2 FTS	87	40 - 200	12/24/24 22:42	
13C2-6:2 FTS	95	40 - 200	12/24/24 22:42	
13C2-8:2 FTS	74	40 - 300	12/24/24 22:42	
13C3-HFPO-DA	69	40 - 130	12/24/24 22:42	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 15:10
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-3S-1211	**Units:**	ng/L
Lab Code:	K2413289-002	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	**8.1**	5.4	1	12/24/24 23:05	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	**31**	5.4	1	12/24/24 23:05	12/23/24	
Perfluoropentanoic acid (PFPeA)	**49**	5.4	1	12/24/24 23:05	12/23/24	
Perfluorohexanoic acid (PFHxA)	**34**	5.4	1	12/24/24 23:05	12/23/24	
Perfluoroheptanoic acid (PFHpA)	**17**	5.4	1	12/24/24 23:05	12/23/24	
Perfluorooctanoic acid (PFOA)	**21**	5.4	1	12/24/24 23:05	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	5.4	1	12/24/24 23:05	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	5.4	1	12/24/24 23:05	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	5.4	1	12/24/24 23:05	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	5.4	1	12/24/24 23:05	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	5.4	1	12/24/24 23:05	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 15:10
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-3S-1211	**Units:**	ng/L
Lab Code:	K2413289-002	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	220	1	12/24/24 23:05	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	220	1	12/24/24 23:05	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	220	1	12/24/24 23:05	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	5.4	1	12/24/24 23:05	12/23/24	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	5.4	1	12/24/24 23:05	12/23/24	*
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	5.4	1	12/24/24 23:05	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	5.4	1	12/24/24 23:05	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	5.4	1	12/24/24 23:05	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 15:10
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-3S-1211	**Units:**	ng/L
Lab Code:	K2413289-002	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	94	40 - 135	12/24/24 23:05	
13C3-PFHxS	83	40 - 130	12/24/24 23:05	
13C8-PFOS	76	40 - 130	12/24/24 23:05	
13C4-PFBA	89	5 - 130	12/24/24 23:05	
13C5-PFPeA	64	40 - 130	12/24/24 23:05	
13C5-PFHxA	90	40 - 130	12/24/24 23:05	
13C4-PFHpA	85	40 - 130	12/24/24 23:05	
13C8-PFOA	88	40 - 130	12/24/24 23:05	
13C9-PFNA	81	40 - 130	12/24/24 23:05	
13C6-PFDA	82	40 - 130	12/24/24 23:05	
13C7-PFUnDA	88	30 - 130	12/24/24 23:05	
13C2-PFDoDA	82	10 - 130	12/24/24 23:05	
13C2-PFTeDA	87	10 - 130	12/24/24 23:05	
13C8-FOSA	77	40 - 130	12/24/24 23:05	
D3-MeFOSA	63	10 - 130	12/24/24 23:05	
D5-EtFOSA	68	10 - 130	12/24/24 23:05	
D7-MeFOSE	70	10 - 130	12/24/24 23:05	
D9-EtFOSE	70	10 - 130	12/24/24 23:05	
D3-MeFOSAA	64	40 - 170	12/24/24 23:05	
D5-EtFOSAA	85	25 - 135	12/24/24 23:05	
13C2-4:2 FTS	100	40 - 200	12/24/24 23:05	
13C2-6:2 FTS	99	40 - 200	12/24/24 23:05	
13C2-8:2 FTS	89	40 - 300	12/24/24 23:05	
13C3-HFPO-DA	69	40 - 130	12/24/24 23:05	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 08:10
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-4S-1212	**Units:**	ng/L
Lab Code:	K2413289-003	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	**17**	5.3	1	12/25/24 00:17	12/23/24	
Perfluoropentanoic acid (PFPeA)	**7.9**	5.3	1	12/25/24 00:17	12/23/24	
Perfluorohexanoic acid (PFHxA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoroheptanoic acid (PFHpA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorooctanoic acid (PFOA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	5.3	1	12/25/24 00:17	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	5.3	1	12/25/24 00:17	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	5.3	1	12/25/24 00:17	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	5.3	1	12/25/24 00:17	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	5.3	1	12/25/24 00:17	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 08:10
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-4S-1212	**Units:**	ng/L
Lab Code:	K2413289-003	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	210	1	12/25/24 00:17	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	210	1	12/25/24 00:17	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	210	1	12/25/24 00:17	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	5.3	1	12/25/24 00:17	12/23/24	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	5.3	1	12/25/24 00:17	12/23/24	*
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	5.3	1	12/25/24 00:17	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	5.3	1	12/25/24 00:17	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	5.3	1	12/25/24 00:17	12/23/24	

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 08:10
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-4S-1212	**Units:**	ng/L
Lab Code:	K2413289-003	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	83	40 - 135	12/25/24 00:17	
13C3-PFHxS	83	40 - 130	12/25/24 00:17	
13C8-PFOS	80	40 - 130	12/25/24 00:17	
13C4-PFBA	86	5 - 130	12/25/24 00:17	
13C5-PFPeA	72	40 - 130	12/25/24 00:17	
13C5-PFHxA	95	40 - 130	12/25/24 00:17	
13C4-PFHpA	94	40 - 130	12/25/24 00:17	
13C8-PFOA	90	40 - 130	12/25/24 00:17	
13C9-PFNA	82	40 - 130	12/25/24 00:17	
13C6-PFDA	78	40 - 130	12/25/24 00:17	
13C7-PFUnDA	88	30 - 130	12/25/24 00:17	
13C2-PFDoDA	73	10 - 130	12/25/24 00:17	
13C2-PFTeDA	79	10 - 130	12/25/24 00:17	
13C8-FOSA	78	40 - 130	12/25/24 00:17	
D3-MeFOSA	60	10 - 130	12/25/24 00:17	
D5-EtFOSA	67	10 - 130	12/25/24 00:17	
D7-MeFOSE	68	10 - 130	12/25/24 00:17	
D9-EtFOSE	69	10 - 130	12/25/24 00:17	
D3-MeFOSAA	65	40 - 170	12/25/24 00:17	
D5-EtFOSAA	82	25 - 135	12/25/24 00:17	
13C2-4:2 FTS	89	40 - 200	12/25/24 00:17	
13C2-6:2 FTS	97	40 - 200	12/25/24 00:17	
13C2-8:2 FTS	82	40 - 300	12/25/24 00:17	
13C3-HFPO-DA	68	40 - 130	12/25/24 00:17	

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 13:45
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-5S-1211	**Units:**	ng/L
Lab Code:	K2413289-004	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoropentanoic acid (PFPeA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorohexanoic acid (PFHxA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoroheptanoic acid (PFHpA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorooctanoic acid (PFOA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	5.3	1	12/25/24 00:40	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	5.3	1	12/25/24 00:40	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	5.3	1	12/25/24 00:40	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	5.3	1	12/25/24 00:40	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	5.3	1	12/25/24 00:40	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 13:45
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-5S-1211	**Units:**	ng/L
Lab Code:	K2413289-004	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	210	1	12/25/24 00:40	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	210	1	12/25/24 00:40	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	210	1	12/25/24 00:40	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	5.3	1	12/25/24 00:40	12/23/24	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	5.3	1	12/25/24 00:40	12/23/24	*
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	5.3	1	12/25/24 00:40	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	5.3	1	12/25/24 00:40	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	5.3	1	12/25/24 00:40	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/11/24 13:45
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-5S-1211	**Units:**	ng/L
Lab Code:	K2413289-004	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	86	40 - 135	12/25/24 00:40	
13C3-PFHxS	87	40 - 130	12/25/24 00:40	
13C8-PFOS	79	40 - 130	12/25/24 00:40	
13C4-PFBA	88	5 - 130	12/25/24 00:40	
13C5-PFPeA	64	40 - 130	12/25/24 00:40	
13C5-PFHxA	90	40 - 130	12/25/24 00:40	
13C4-PFHpA	84	40 - 130	12/25/24 00:40	
13C8-PFOA	85	40 - 130	12/25/24 00:40	
13C9-PFNA	81	40 - 130	12/25/24 00:40	
13C6-PFDA	82	40 - 130	12/25/24 00:40	
13C7-PFUnDA	88	30 - 130	12/25/24 00:40	
13C2-PFDoDA	78	10 - 130	12/25/24 00:40	
13C2-PFTeDA	81	10 - 130	12/25/24 00:40	
13C8-FOSA	87	40 - 130	12/25/24 00:40	
D3-MeFOSA	72	10 - 130	12/25/24 00:40	
D5-EtFOSA	76	10 - 130	12/25/24 00:40	
D7-MeFOSE	70	10 - 130	12/25/24 00:40	
D9-EtFOSE	74	10 - 130	12/25/24 00:40	
D3-MeFOSAA	65	40 - 170	12/25/24 00:40	
D5-EtFOSAA	92	25 - 135	12/25/24 00:40	
13C2-4:2 FTS	75	40 - 200	12/25/24 00:40	
13C2-6:2 FTS	94	40 - 200	12/25/24 00:40	
13C2-8:2 FTS	76	40 - 300	12/25/24 00:40	
13C3-HFPO-DA	65	40 - 130	12/25/24 00:40	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 10:15
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-6S-1212	**Units:**	ng/L
Lab Code:	K2413289-005	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	**5.1**	4.8	1	12/25/24 01:04	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	**8.5**	4.8	1	12/25/24 01:04	12/23/24	
Perfluoropentanoic acid (PFPeA)	**5.5**	4.8	1	12/25/24 01:04	12/23/24	
Perfluorohexanoic acid (PFHxA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluoroheptanoic acid (PFHpA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorooctanoic acid (PFOA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	4.8	1	12/25/24 01:04	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	4.8	1	12/25/24 01:04	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	4.8	1	12/25/24 01:04	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	4.8	1	12/25/24 01:04	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	4.8	1	12/25/24 01:04	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 10:15
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-6S-1212	**Units:**	ng/L
Lab Code:	K2413289-005	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	190	1	12/25/24 01:04	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	190	1	12/25/24 01:04	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	190	1	12/25/24 01:04	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	4.8	1	12/25/24 01:04	12/23/24	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	4.8	1	12/25/24 01:04	12/23/24	*
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	4.8	1	12/25/24 01:04	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	4.8	1	12/25/24 01:04	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	4.8	1	12/25/24 01:04	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 10:15
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-6S-1212	**Units:**	ng/L
Lab Code:	K2413289-005	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	87	40 - 135	12/25/24 01:04	
13C3-PFHxS	80	40 - 130	12/25/24 01:04	
13C8-PFOS	86	40 - 130	12/25/24 01:04	
13C4-PFBA	83	5 - 130	12/25/24 01:04	
13C5-PFPeA	64	40 - 130	12/25/24 01:04	
13C5-PFHxA	91	40 - 130	12/25/24 01:04	
13C4-PFHpA	84	40 - 130	12/25/24 01:04	
13C8-PFOA	86	40 - 130	12/25/24 01:04	
13C9-PFNA	85	40 - 130	12/25/24 01:04	
13C6-PFDA	86	40 - 130	12/25/24 01:04	
13C7-PFUnDA	91	30 - 130	12/25/24 01:04	
13C2-PFDoDA	78	10 - 130	12/25/24 01:04	
13C2-PFTeDA	81	10 - 130	12/25/24 01:04	
13C8-FOSA	82	40 - 130	12/25/24 01:04	
D3-MeFOSA	67	10 - 130	12/25/24 01:04	
D5-EtFOSA	71	10 - 130	12/25/24 01:04	
D7-MeFOSE	74	10 - 130	12/25/24 01:04	
D9-EtFOSE	77	10 - 130	12/25/24 01:04	
D3-MeFOSAA	69	40 - 170	12/25/24 01:04	
D5-EtFOSAA	89	25 - 135	12/25/24 01:04	
13C2-4:2 FTS	90	40 - 200	12/25/24 01:04	
13C2-6:2 FTS	106	40 - 200	12/25/24 01:04	
13C2-8:2 FTS	86	40 - 300	12/25/24 01:04	
13C3-HFPO-DA	64	40 - 130	12/25/24 01:04	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 11:00
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-13S-1212	**Units:**	ng/L
Lab Code:	K2413289-006	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	**7.9**	4.9	1	12/25/24 02:15	12/23/24	
Perfluoropentanoic acid (PFPeA)	**5.4**	4.9	1	12/25/24 02:15	12/23/24	
Perfluorohexanoic acid (PFHxA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoroheptanoic acid (PFHpA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorooctanoic acid (PFOA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	4.9	1	12/25/24 02:15	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	4.9	1	12/25/24 02:15	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	4.9	1	12/25/24 02:15	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	4.9	1	12/25/24 02:15	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	4.9	1	12/25/24 02:15	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 11:00
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-13S-1212	**Units:**	ng/L
Lab Code:	K2413289-006	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	200	1	12/25/24 02:15	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	200	1	12/25/24 02:15	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	200	1	12/25/24 02:15	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	4.9	1	12/25/24 02:15	12/23/24	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	4.9	1	12/25/24 02:15	12/23/24	*
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	4.9	1	12/25/24 02:15	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	4.9	1	12/25/24 02:15	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	4.9	1	12/25/24 02:15	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24 11:00
Sample Matrix:	Water	**Date Received:**	12/17/24 09:15
Sample Name:	MW-13S-1212	**Units:**	ng/L
Lab Code:	K2413289-006	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	88	40 - 135	12/25/24 02:15	
13C3-PFHxS	79	40 - 130	12/25/24 02:15	
13C8-PFOS	81	40 - 130	12/25/24 02:15	
13C4-PFBA	87	5 - 130	12/25/24 02:15	
13C5-PFPeA	72	40 - 130	12/25/24 02:15	
13C5-PFHxA	95	40 - 130	12/25/24 02:15	
13C4-PFHpA	93	40 - 130	12/25/24 02:15	
13C8-PFOA	87	40 - 130	12/25/24 02:15	
13C9-PFNA	81	40 - 130	12/25/24 02:15	
13C6-PFDA	83	40 - 130	12/25/24 02:15	
13C7-PFUnDA	90	30 - 130	12/25/24 02:15	
13C2-PFDoDA	75	10 - 130	12/25/24 02:15	
13C2-PFTeDA	76	10 - 130	12/25/24 02:15	
13C8-FOSA	79	40 - 130	12/25/24 02:15	
D3-MeFOSA	63	10 - 130	12/25/24 02:15	
D5-EtFOSA	68	10 - 130	12/25/24 02:15	
D7-MeFOSE	70	10 - 130	12/25/24 02:15	
D9-EtFOSE	71	10 - 130	12/25/24 02:15	
D3-MeFOSAA	62	40 - 170	12/25/24 02:15	
D5-EtFOSAA	87	25 - 135	12/25/24 02:15	
13C2-4:2 FTS	91	40 - 200	12/25/24 02:15	
13C2-6:2 FTS	92	40 - 200	12/25/24 02:15	
13C2-8:2 FTS	77	40 - 300	12/25/24 02:15	
13C3-HFPO-DA	74	40 - 130	12/25/24 02:15	

QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
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Organic Compounds by HPLC/MS/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Onsite Environmental Incorporated **Service Request:** K2413289
Project: Yakima LPL/553-8472-006 09.04
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Extraction Method: Method

Surrogate	Control Limits	MW-2S-1211 K2413289-001	MW-3S-1211 K2413289-002	MW-4S-1212 K2413289-003
13C3-PFBS	40-135	86	94	83
13C3-PFHxS	40-130	92	83	83
13C8-PFOS	40-130	87	76	80
13C4-PFBA	5-130	92	89	86
13C5-PFPeA	40-130	60	64	72
13C5-PFHxA	40-130	96	90	95
13C4-PFHpA	40-130	86	85	94
13C8-PFOA	40-130	86	88	90
13C9-PFNA	40-130	85	81	82
13C6-PFDA	40-130	77	82	78
13C7-PFUnDA	30-130	94	88	88
13C2-PFDoDA	10-130	80	82	73
13C2-PFTeDA	10-130	89	87	79
13C8-FOSA	40-130	84	77	78
D3-MeFOSA	10-130	65	63	60
D5-EtFOSA	10-130	72	68	67
D7-MeFOSE	10-130	74	70	68
D9-EtFOSE	10-130	75	70	69
D3-MeFOSAA	40-170	70	64	65
D5-EtFOSAA	25-135	90	85	82
13C2-4:2 FTS	40-200	87	100	89
13C2-6:2 FTS	40-200	95	99	97
13C2-8:2 FTS	40-300	74	89	82
13C3-HFPO-DA	40-130	69	69	68

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with an pound (#) indicate the control criteria is not acceptable.

Client: Onsite Environmental Incorporated **Service Request:** K2413289
Project: Yakima LPL/553-8472-006 09.04
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Extraction Method: Method

Surrogate	Control Limits	MW-5S-1211 K2413289-004	MW-6S-1212 K2413289-005	MW-13S-1212 K2413289-006
13C3-PFBS	40-135	86	87	88
13C3-PFHxS	40-130	87	80	79
13C8-PFOS	40-130	79	86	81
13C4-PFBA	5-130	88	83	87
13C5-PFPeA	40-130	64	64	72
13C5-PFHxA	40-130	90	91	95
13C4-PFHpA	40-130	84	84	93
13C8-PFOA	40-130	85	86	87
13C9-PFNA	40-130	81	85	81
13C6-PFDA	40-130	82	86	83
13C7-PFUnDA	30-130	88	91	90
13C2-PFDoDA	10-130	78	78	75
13C2-PFTeDA	10-130	81	81	76
13C8-FOSA	40-130	87	82	79
D3-MeFOSA	10-130	72	67	63
D5-EtFOSA	10-130	76	71	68
D7-MeFOSE	10-130	70	74	70
D9-EtFOSE	10-130	74	77	71
D3-MeFOSAA	40-170	65	69	62
D5-EtFOSAA	25-135	92	89	87
13C2-4:2 FTS	40-200	75	90	91
13C2-6:2 FTS	40-200	94	106	92
13C2-8:2 FTS	40-300	76	86	77
13C3-HFPO-DA	40-130	65	64	74

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with an pound (#) indicate the control criteria is not acceptable.

Client: Onsite Environmental Incorporated **Service Request:** K2413289
Project: Yakima LPL/553-8472-006 09.04
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Extraction Method: Method

Surrogate	Control Limits	Method Blank KQ2420626-05	Lab Control Sample KQ2420626-03	MW-6S-1212 KQ2420626-01
13C3-PFBS	40-135	77	82	87
13C3-PFHxS	40-130	76	85	85
13C8-PFOS	40-130	83	90	90
13C4-PFBA	5-130	85	88	87
13C5-PFPeA	40-130	72	72	80
13C5-PFHxA	40-130	89	96	103
13C4-PFHpA	40-130	89	92	102
13C8-PFOA	40-130	82	91	92
13C9-PFNA	40-130	86	83	86
13C6-PFDA	40-130	81	86	90
13C7-PFUnDA	30-130	87	87	92
13C2-PFDoDA	10-130	88	87	80
13C2-PFTeDA	10-130	83	88	83
13C8-FOSA	40-130	77	89	96
D3-MeFOSA	10-130	62	81	79
D5-EtFOSA	10-130	67	68	80
D7-MeFOSE	10-130	71	84	87
D9-EtFOSE	10-130	71	82	86
D3-MeFOSAA	40-170	74	82	79
D5-EtFOSAA	25-135	94	106	100
13C2-4:2 FTS	40-200	72	94	97
13C2-6:2 FTS	40-200	95	103	104
13C2-8:2 FTS	40-300	81	73	79
13C3-HFPO-DA	40-130	84	84	76

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with an pound (#) indicate the control criteria is not acceptable.

Client: Onsite Environmental Incorporated **Service Request:** K2413289
Project: Yakima LPL/553-8472-006 09.04
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Extraction Method: Method

Surrogate	Control Limits	MW-6S-1212 KQ2420626-02	Low Level Lab Control Sample KQ2420626-04
13C3-PFBS	40-135	82	82
13C3-PFHxS	40-130	81	84
13C8-PFOS	40-130	90	82
13C4-PFBA	5-130	89	85
13C5-PFPeA	40-130	68	74
13C5-PFHxA	40-130	94	91
13C4-PFHpA	40-130	86	90
13C8-PFOA	40-130	80	89
13C9-PFNA	40-130	86	89
13C6-PFDA	40-130	88	98
13C7-PFUnDA	30-130	92	100
13C2-PFDoDA	10-130	83	97
13C2-PFTeDA	10-130	82	99
13C8-FOSA	40-130	92	83
D3-MeFOSA	10-130	79	72
D5-EtFOSA	10-130	79	63
D7-MeFOSE	10-130	81	78
D9-EtFOSE	10-130	80	76
D3-MeFOSAA	40-170	75	80
D5-EtFOSAA	25-135	97	98
13C2-4:2 FTS	40-200	76	86
13C2-6:2 FTS	40-200	88	106
13C2-8:2 FTS	40-300	78	77
13C3-HFPO-DA	40-130	67	81

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with an pound (#) indicate the control criteria is not acceptable.

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24
Sample Matrix:	Water	**Date Received:**	12/17/24
		Date Analyzed:	12/25/24
		Date Extracted:	12/23/24

Duplicate Matrix Spike Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Sample Name:	MW-6S-1212	**Units:**	ng/L
Lab Code:	K2413289-005	**Basis:**	NA
Analysis Method:	Draft EPA Method 1633		
Prep Method:	Method		

		Matrix Spike KQ2420626-01			**Duplicate Matrix Spike** KQ2420626-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perfluorobutane sulfonic acid (PFBS)	5.1	21.3	17.4	93	19.5	17.1	84	60-145	9	30
Perfluoropentane sulfonic acid (PFPeS)	ND U	19.5	18.5	105	17.3	18.1	96	65-140	12	30
Perfluorohexane sulfonic acid (PFHxS)	ND U	16.1	18.0	90	16.5	17.6	94	65-145	3	30
Perfluoroheptane sulfonic acid (PFHpS)	ND U	21.6	18.7	116	21.2	18.4	115	70-150	2	30
Perfluorooctane sulfonic acid (PFOS)	ND U	17.5	18.2	96	17.1	17.9	96	55-150	2	30
Perfluorononane sulfonic acid (PFNS)	ND U	14.5	18.9	77	16.9	18.6	91	65-145	15	30
Perfluorodecane sulfonic acid (PFDS)	ND U	16.1	19.0	85	15.4	18.6	83	60-145	4	30
Perfluorododecane sulfonic acid (PFDoS)	ND U	15.5	19.1	81	14.5	18.7	78	50-145	6	30
Perfluorobutanoic acid (PFBA)	8.5	28.9	19.6	103	27.2	19.3	97	70-140	6	30
Perfluoropentanoic acid (PFPeA)	5.5	24.8	19.6	98	25.1	19.3	102	65-135	1	30
Perfluorohexanoic acid (PFHxA)	ND U	20.1	19.6	102	22.0	19.3	114	70-145	9	30
Perfluoroheptanoic acid (PFHpA)	ND U	18.9	19.6	96	18.4	19.3	95	70-150	3	30
Perfluorooctanoic acid (PFOA)	ND U	21.6	19.6	110	23.5	19.3	122	70-140	8	30
Perfluorononanoic acid (PFNA)	ND U	20.7	19.6	105	21.0	19.3	109	70-150	2	30
Perfluorodecanoic acid (PFDA)	ND U	20.8	19.6	106	21.9	19.3	114	70-140	5	30
Perfluoroundecanoic acid (PFUnDA)	ND U	18.4	19.6	94	18.5	19.3	96	70-145	<1	30
Perfluorododecanoic acid (PFDOA)	ND U	17.7	19.6	90	19.0	19.3	98	70-140	7	30
Perfluorotridecanoic acid (PFTrDA)	ND U	16.6	19.6	85	18.2	19.3	94	65-140	9	30
Perfluorotetradecanoic acid (PFTDA)	ND U	17.2	19.6	87	17.2	19.3	89	60-140	<1	30
Perfluorooctane sulfonamide (PFOSAm)	ND U	17.9	19.6	91	17.5	19.3	91	70-145	2	30
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	16.6	19.6	85	15.2	19.3	79	60-150	9	30
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	11.9	19.6	61 *	11.9	19.3	61 *	65-145	<1	30
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	19.2	19.6	98	20.1	19.3	104	70-145	4	30
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	16.1	19.6	82	16.3	19.3	85	70-135	1	30
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	15.0 I	19.6	76	22.9	19.3	119	50-140	41*	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	12/12/24
Sample Matrix:	Water	**Date Received:**	12/17/24
		Date Analyzed:	12/25/24
		Date Extracted:	12/23/24

Duplicate Matrix Spike Summary

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Sample Name:	MW-6S-1212	**Units:**	ng/L
Lab Code:	K2413289-005	**Basis:**	NA
Analysis Method:	Draft EPA Method 1633		
Prep Method:	Method		

		Matrix Spike KQ2420626-01			Duplicate Matrix Spike KQ2420626-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	19.1	19.6	97	18.6	19.3	96	70-145	3	30
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	16.8	18.4	91	22.9	18.1	127	70-145	31*	30
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	19.0	18.7	102	20.5	18.3	112	65-155	8	30
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	16.5	18.9	87	18.6	18.5	100	60-150	12	30
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	389	393	99	381	386	99	65-130	2	30
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	344	393	88	311	386	81	70-135	10	30
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	331	393	84	309	386	80	50-145	7	30
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	14.2	17.5	81	14.2	17.2	83	70-140	<1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	25.6	18.3	139	24.2	18.0	135	70-155	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	19.4	18.5	105	19.6	18.2	108	55-160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	17.1	19.6	87	18.2	19.3	94	55-140	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	18.8	19.6	96	19.5	19.3	101	60-150	4	30
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	21.4	19.6	109	19.8	19.3	103	70-140	8	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	15.9	19.6	81	14.6	19.3	76	50-150	8	30
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	22.0	18.6	119	22.0	18.2	120	65-145	<1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ2420626-05	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkyl Sulfonic Acids (PFSAs)						
Perfluorobutane sulfonic acid (PFBS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoropentane sulfonic acid (PFPeS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorohexane sulfonic acid (PFHxS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorooctane sulfonic acid (PFOS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorononane sulfonic acid (PFNS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorodecane sulfonic acid (PFDS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorododecane sulfonic acid (PFDoS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoroalkyl Carboxylic Acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoropentanoic acid (PFPeA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorohexanoic acid (PFHxA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoroheptanoic acid (PFHpA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorooctanoic acid (PFOA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorononanoic acid (PFNA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorodecanoic acid (PFDA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoroundecanoic acid (PFUnDA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorododecanoic acid (PFDOA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorotridecanoic acid (PFTrDA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluorotetradecanoic acid (PFTDA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoroalkyl Sulfonamido Substances						
Perfluorooctane sulfonamide (PFOSAm)	ND U	5.0	1	12/24/24 17:57	12/23/24	
N-Methylperfluorooctane sulfonamide (MeFOSA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	ND U	5.0	1	12/24/24 17:57	12/23/24	
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	ND U	5.0	1	12/24/24 17:57	12/23/24	
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	ND U	5.0	1	12/24/24 17:57	12/23/24	
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	ND U	5.0	1	12/24/24 17:57	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ2420626-05	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Analyte Name	Result	LOQ	Dil.	Date Analyzed	Date Extracted	Q
Fluorotelomer Sulfonic Acids (FTSAs)						
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Fluorotelomer Carboxylic Acids (FTCAs)						
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	ND U	200	1	12/24/24 17:57	12/23/24	
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND U	200	1	12/24/24 17:57	12/23/24	
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ND U	200	1	12/24/24 17:57	12/23/24	
Perfluoroalkyl Ether Sulfonic Acids (PFESAs)						
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoroalkyl Ether Carboxylic Acids (PFECAs)						
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	ND U	5.0	1	12/24/24 17:57	12/23/24	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND U	5.0	1	12/24/24 17:57	12/23/24	
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND U	5.0	1	12/24/24 17:57	12/23/24	

Analytical Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ2420626-05	**Basis:**	NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method: Draft EPA Method 1633
Prep Method: Method

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C3-PFBS	77	40 - 135	12/24/24 17:57	
13C3-PFHxS	76	40 - 130	12/24/24 17:57	
13C8-PFOS	83	40 - 130	12/24/24 17:57	
13C4-PFBA	85	5 - 130	12/24/24 17:57	
13C5-PFPeA	72	40 - 130	12/24/24 17:57	
13C5-PFHxA	89	40 - 130	12/24/24 17:57	
13C4-PFHpA	89	40 - 130	12/24/24 17:57	
13C8-PFOA	82	40 - 130	12/24/24 17:57	
13C9-PFNA	86	40 - 130	12/24/24 17:57	
13C6-PFDA	81	40 - 130	12/24/24 17:57	
13C7-PFUnDA	87	30 - 130	12/24/24 17:57	
13C2-PFDoDA	88	10 - 130	12/24/24 17:57	
13C2-PFTeDA	83	10 - 130	12/24/24 17:57	
13C8-FOSA	77	40 - 130	12/24/24 17:57	
D3-MeFOSA	62	10 - 130	12/24/24 17:57	
D5-EtFOSA	67	10 - 130	12/24/24 17:57	
D7-MeFOSE	71	10 - 130	12/24/24 17:57	
D9-EtFOSE	71	10 - 130	12/24/24 17:57	
D3-MeFOSAA	74	40 - 170	12/24/24 17:57	
D5-EtFOSAA	94	25 - 135	12/24/24 17:57	
13C2-4:2 FTS	72	40 - 200	12/24/24 17:57	
13C2-6:2 FTS	95	40 - 200	12/24/24 17:57	
13C2-8:2 FTS	81	40 - 300	12/24/24 17:57	
13C3-HFPO-DA	84	40 - 130	12/24/24 17:57	

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Analyzed:**	12/24/24
Sample Matrix:	Water	**Date Extracted:**	12/23/24

Lab Control Sample Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method:	Draft EPA Method 1633	**Units:**	ng/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	865478

Lab Control Sample
KQ2420626-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	17.5	18.9	93	55-160
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	20.6	19.2	107	60-150
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	17.1	18.7	91	70-145
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	19.8	19.0	104	65-155
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	327	400	82	50-145
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	350	400	87	70-135
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	395	400	99	65-130
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	16.8	18.9	89	65-145
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	20.4	18.7	110	70-155
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	20.6	20.0	103	70-140
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	18.6	20.0	93	70-145
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	17.9	20.0	90	70-135
N-Methylperfluorooctane sulfonamide (MeFOSA)	17.2	20.0	86	60-150
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	22.3	20.0	112	50-140
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	21.1	20.0	106	70-145
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	15.7	20.0	78	50-150
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	14.2	17.8	80	70-140
Perfluoro-3-methoxypropanoic acid (PFMPA)	18.7	20.0	93	55-140
Perfluoro-4-methoxybutanoic acid (PFMBA)	19.9	20.0	99	60-150
Perfluorobutane sulfonic acid (PFBS)	17.0	17.7	96	60-145
Perfluorobutanoic acid (PFBA)	20.0	20.0	100	70-140
Perfluorodecane sulfonic acid (PFDS)	19.3	19.3	100	60-145
Perfluorodecanoic acid (PFDA)	20.9	20.0	105	70-140
Perfluorododecane sulfonic acid (PFDoS)	17.6	19.4	91	50-145
Perfluorododecanoic acid (PFDOA)	20.3	20.0	102	70-140
Perfluoroheptane sulfonic acid (PFHpS)	21.5	19.1	113	70-150
Perfluoroheptanoic acid (PFHpA)	18.3	20.0	92	70-150
Perfluorohexane sulfonic acid (PFHxS)	19.5	18.3	106	65-145
Perfluorohexanoic acid (PFHxA)	17.5	20.0	88	70-145
Perfluorononane sulfonic acid (PFNS)	19.9	19.2	104	65-145
Perfluorononanoic acid (PFNA)	20.4	20.0	102	70-150

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Analyzed:**	12/24/24
Sample Matrix:	Water	**Date Extracted:**	12/23/24

Lab Control Sample Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method:	Draft EPA Method 1633	**Units:**	ng/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	865478

Lab Control Sample
KQ2420626-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Perfluorooctane sulfonamide (PFOSAm)	18.7	20.0	93	70-145
Perfluorooctane sulfonic acid (PFOS)	17.8	18.6	96	55-150
Perfluorooctanoic acid (PFOA)	22.3	20.0	111	70-150
Perfluoropentane sulfonic acid (PFPeS)	17.8	18.8	94	65-140
Perfluoropentanoic acid (PFPeA)	19.5	20.0	97	65-135
Perfluorotetradecanoic acid (PFTDA)	17.5	20.0	87	60-140
Perfluorotridecanoic acid (PFTrDA)	16.6	20.0	83	65-140
Perfluoroundecanoic acid (PFUnDA)	19.7	20.0	98	70-145

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Analyzed:**	12/29/24
Sample Matrix:	Water	**Date Extracted:**	12/23/24

Lab Control Sample Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method:	Draft EPA Method 1633	**Units:**	ng/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	865827

Lab Control Sample
KQ2420626-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	14.3	20.0	71	65-145

QA/QC Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Analyzed:**	12/24/24
Sample Matrix:	Water	**Date Extracted:**	12/23/24

Lab Control Sample Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method:	Draft EPA Method 1633	**Units:**	ng/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	865478

Low Level Lab Control Sample
KQ2420626-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	9.54	9.43	101	55-160
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	9.57	9.60	100	60-150
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	8.73	9.37	93	70-145
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	10.2	9.51	108	65-155
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	267	300	89	50-145
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	277	300	92	70-135
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	314	300	105	65-130
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	10.8	9.45	114	65-145
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	10.3	9.33	111	70-155
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	10.2	10.0	102	70-140
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	10.4	10.0	104	70-145
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	9.53	10.0	95	70-135
N-Methylperfluorooctane sulfonamide (MeFOSA)	8.29	10.0	83	60-150
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	10.4	10.0	104	50-140
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	9.59	10.0	96	70-145
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.92	10.0	89	50-150
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	7.45	8.90	84	70-140
Perfluoro-3-methoxypropanoic acid (PFMPA)	9.36	10.0	94	55-140
Perfluoro-4-methoxybutanoic acid (PFMBA)	9.79	10.0	98	60-150
Perfluorobutane sulfonic acid (PFBS)	7.68	8.87	87	60-145
Perfluorobutanoic acid (PFBA)	10.2	10.0	102	70-140
Perfluorodecane sulfonic acid (PFDS)	9.51	9.65	99	60-145
Perfluorodecanoic acid (PFDA)	9.25	10.0	93	70-140
Perfluorododecane sulfonic acid (PFDoS)	9.10	9.70	94	50-145
Perfluorododecanoic acid (PFDOA)	10.6	10.0	106	70-140
Perfluoroheptane sulfonic acid (PFHpS)	12.2	9.53	128	70-150
Perfluoroheptanoic acid (PFHpA)	9.69	10.0	97	70-150
Perfluorohexane sulfonic acid (PFHxS)	9.39	9.14	103	65-145
Perfluorohexanoic acid (PFHxA)	9.46	10.0	95	70-145
Perfluorononane sulfonic acid (PFNS)	9.64	9.62	100	65-145
Perfluorononanoic acid (PFNA)	10.3	10.0	103	70-150

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Analyzed:**	12/24/24
Sample Matrix:	Water	**Date Extracted:**	12/23/24

Lab Control Sample Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method:	Draft EPA Method 1633	**Units:**	ng/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	865478

Low Level Lab Control Sample
KQ2420626-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Perfluorooctane sulfonamide (PFOSAm)	9.31	10.0	93	70-145
Perfluorooctane sulfonic acid (PFOS)	9.24	9.28	100	55-150
Perfluorooctanoic acid (PFOA)	8.81	10.0	88	70-150
Perfluoropentane sulfonic acid (PFPeS)	9.70	9.41	103	65-140
Perfluoropentanoic acid (PFPeA)	10.2	10.0	102	65-135
Perfluorotetradecanoic acid (PFTDA)	8.79	10.0	88	60-140
Perfluorotridecanoic acid (PFTrDA)	9.63	10.0	96	65-140
Perfluoroundecanoic acid (PFUnDA)	9.80	10.0	98	70-145

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Onsite Environmental Incorporated	**Service Request:**	K2413289
Project:	Yakima LPL/553-8472-006 09.04	**Date Analyzed:**	12/30/24
Sample Matrix:	Water	**Date Extracted:**	12/23/24

Lab Control Sample Summary
Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS Compliant with Table B-24 of DOD QSM 5.4

Analysis Method:	Draft EPA Method 1633	**Units:**	ng/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	865830

Low Level Lab Control Sample
KQ2420626-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	7.06	10.0	71	65-145

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SR#_____

COC Set____of____

COC#_____

12-200

Project Name: pinYakima LPL | Project Number: 553-8472-006 09.09

Project Manager: Mike Brady & Laura Lee

Company: Parametrix

Address, City, State: 719 2nd Ave #200 Seattle, WA 98104

Phone #: 206-519-5751 | email: mbrady@parametrix.com

Sampler Signature: Chris | Sampler Printed Name: Chris Bourgeois

CLIENT SAMPLE ID	LABID	SAMPLING Date Time State	Matrix	NUMBER OF CONTAINERS	21D	28D							Remarks
					SM 2540 D Nonfiltered / 1633	1633 / PFAS_SOPA 4	1633 / PFAS_SCREEN						
1. MW25-1211		12/11/24 1105 WA	H2O	3	X	X	X						
2. MW-35-1211		12/11/24 1540 WA	H2O	3	X	X	X						
3. MW-45-1212		12/12/24 910 WA	H2O	3	X	X	X						
4. MW-5C-1211		12/11/24 1745 WA	H2O	3	X	X	X						
5. MW-65-1212		12/12/24 1015 WA	H2O	9	X	X	X						MS/MSD & QC
6. MW-135-1212		12/12/24 1100 WA	H2O	3	X	X	X						
7.													
8.													
9.													
10.													

Report Requirements

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. CLP Like Summary (no raw data)

___ IV. Data Validation Report

X V. EDD EIM

Invoice Information

P.O.#_____

Bill To:_____

Turnaround Requirements

___ 24 hr ___ 48 hr.

___ 5 Day

X Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature NBiffin	Signature	Signature	Signature	Signature
Printed Name	Printed Name Nichelle Biffin	Printed Name	Printed Name	Printed Name	Printed Name
Firm	Firm OSE	Firm	Firm	Firm	Firm
Date/Time	Date/Time 12/13/24 0850	Date/Time	Date/Time	Date/Time	Date/Time

Attachment C

Data Validation Memorandum

Parametrix
let's create tomorrow, together

Memorandum

DATE:	January 27, 2025
TO:	Project File
FROM:	Katie Burke
SUBJECT:	Fourth Quarter 2024 MTCA Data Quality Evaluation
CC:	Mike Brady
PROJECT NUMBER:	553-8472-006 09.04
PROJECT NAME:	Rocky Top Environmental Limited Purpose Landfill

A data quality evaluation was conducted for the fourth quarter 2024 MTCA sampling event at the Rocky Top Environmental Limited Purpose Landfill (LPL). Samples were collected at wells MW-2S, MW-3S, MW-4S, MW-5S, MW-6S, MW-13S between December 11 and December 12, 2024, by Parametrix under contract to Rocky Top Environmental. The samples were submitted to OnSite Environmental. Onsite conducted the analyses for semivolatiles and subcontracted dioxins and furans to Entropy Analytical and PFAS to ALS Environmental. The results were reported under two OnSite work orders:

- Work Order 2412-198 (semivolatiles and dioxins/furans)
- Work Order 2412-200 (PFAS)

The data were evaluated in accordance with EPA guidance (EPA 2020a, 2020b, 2020c, and 2009) at a Stage 2A level. Sample MW-13S is a field duplicate of MW-6S.

Field Narrative

Groundwater sampling field data sheets were provided by Parametrix. There are multiple work orders for this sampling event to accommodate the various analyses required for the project.

Laboratory Case Narrative

Work Order 2412-198

Samples collected on December 11 and 12, 2024 were received by the laboratory on December 13, 2024. They were maintained at the laboratory at a temperature of 2C to 6C.

Semi-volatiles EPA 8270E/SIM Analysis

The RPDs for n-Nitrosodimethylamine, 1,3-Dichlorobenzene, and 1,4-Dichlorobenzene were outside the control limits for the Spike Blank/Spike Blank Duplicate. The percent recoveries on both spike blanks were within recovery limits. This method allows for a percentage of the compounds to fall outside of the control limits due to the large number of analytes being spiked.

Dioxins/Furans EPA Method 1613B

Six water samples were received and stored securely in accordance with Enthalpy Analytical - EDH standard operating procedures and EPA methodology. The samples were received in good condition and within the method temperature requirements.

The samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-DIOXIN GC column.

The samples were extracted and analyzed within the method hold times.

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

Method Blank and Ongoing Precision and Recovery (OPR) samples were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The following analytes were detected in the method blank: **OCDD** (2.99 pg/L). Since the results were ND no qualifier will be added.

1,2,3,4,6,7,8-HpCDD was qualified "J" on sample MW-3S-1211 indicating a concentration below the reporting limit.

As requested, a MS/MSD was performed on sample "MW-6S-1212". The MS/MSD recoveries and RPDs were within acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

Work Order 2412-200

Samples collected on December 11 and 12, 2024 were received by the laboratory on December 17, 2024. The samples were stored in accordance with the analytical method requirements.

Organic LC - EPA Method 1633

The upper control criterion was exceeded for 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9- Cl-PF3ONS) and 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analytes in question. Since the apparent problem indicated a potentially high bias, the data quality was not affected. No further corrective action was required.

Manual integration of one or more chromatographic peaks in one or more samples was required to correct the integration performed by the automated data processing program. The manual integration was performed in accordance with ALS policy, which is consistent with the National Environmental Laboratory Accreditation Program (NELAP), Department of Defense (DOD), and other certifying agencies. Refer to the raw data for the compounds impacted by the manual integration.

Field Duplicate Evaluation

Relative Percent Differences (RPDs) were calculated for the results of sample MW-6S and duplicate MW-13S. Field Duplicate Relative Percent Difference Calculations are included in Appendix A.

The duplicate percent RPDs were within control limits for all analytes.

Data Qualification

- No additional qualifiers are required.

References

EPA (U.S. Environmental Protection Agency). 2002. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA240R-02/004.

EPA. 2020a. National Functional Guidelines for Inorganic Superfund Data Review. EPA 540R- 2017-001. November.

EPA. 2020b. National Functional Guidelines for Organic Superfund Data Review. EPA 542-R-20-006. November.

EPA. 2020c. National Functional Guidelines for High Resolution Superfund Methods Data Review. EPA 542-R-20-007. November.

Appendix A

Fourth Quarter 2024 Field Duplicate Relative Percent Difference Calculations

Rocky Top Environmental LPL Field Duplicate Relative Percent Difference Calculations
553-8472-006

Fourth Quarter 2024
Sample Dates: 12/11/2024, 12/12/2024
Sample numbers: On-Site Environmental 2412-200: MW-2S, MW-3S, MW-4S, MW-5S, MW-6S
Enthalpy Analytical 2412108
ALS Environmental K2413289

DUP MW-13S collected at MW-6S
Completed by: Katie Burke 1/28/2025

Groundwater	sample	duplicate	avg	diff	RPD	LOQ	=/<30%?	[1]w/in LOQ?
units = ng/L	**MW-6S**	**MW-13S**						
Perfluorobutane sulfonic acid (PFBS)	5.1	<4.9	5.1	n/a	n/a	4.8/4.9		y
Perfluoropentane sulfonic acid (PFPeS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorohexane sulfonic acid (PFHxS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluoroheptane sulfonic acid (PFHpS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorooctane sulfonic acid (PFOS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorononane sulfonic acid (PFNS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorodecane sulfonic acid (PFDS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorododecane sulfonic acid (PFDoS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorobutanoic acid (PFBA)	8.5	7.9	8.2	0.6	7.3	4.8/4.9	y	
Perfluoropentanoic acid (PFPeA)	5.5	5.4	5.5	0.1	1.8	4.8/4.9	y	
Perfluorohexanoic acid (PFHxA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluoroheptanoic acid (PFHpA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorooctanoic acid (PFOA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorononanoic acid (PFNA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorodecanoic acid (PFDA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluoroundecanoic acid (PFUnDA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorododecanoic acid (PFDOA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorotridecanoic acid (PFTrDA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorotetradecanoic acid (PFTDA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluorooctane sulfonamide (PFOSAm)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
N-Methylperfluorooctane sulfonamide (MeFOSA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
4,4,5,5,6,6,6-Heptafluorohexanoic acid (3:3 FTCA)	<190	<200	n/a	n/a	n/a	4.8/4.9		y
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	<190	<200	n/a	n/a	n/a	4.8/4.9		y
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	<190	<200	n/a	n/a	n/a	4.8/4.9		y
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluoro-3-methoxypropanoic acid (PFMPA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Perfluoro-4-methoxybutanoic acid (PFMBA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Hexafluoropropyleneoxide dimer acid (HFPO-DA) (GenX)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	<4.8	<4.9	n/a	n/a	n/a	4.8/4.9		y

Semi-volatile organic compounds - none detected in MW-6S or MW-13S

Dioxins and Furans - none detected in MW-6S or MW-13S

Comments: No data qualified.

Notes

[1] = Secondary comparison. When a RPD calculation is not available or is above limits, a reportling limit comparison is done.

RPD = Relative percent difference

LOQ = Limit of Quantitation

n/a = Not applicable

Attachment D

Hazard Index Calculations

PFAS Hazard Index MCL Calculation Tool

Enter Site Information

Date:	December 11, 2024
Site Name:	Rocky Top Environmental LPL
Sample Name:	MW-3S

Data Input

PFAS Chemical	PFAS Concentration at Water Source[1] (ppt or ng/L)	Composition Ratio of the PFAS Mixture (percent)	Health-Based Water Concentration (HBWC) (ppt or ng/L)		Hazard Index[2] (HI) (Eq. 1)	Percent Contribution to the Hazard Index
HFPO-DA	0	0.0%	10	a	0.00E+00	0.0%
PFBS	8.1	75.0%	2,000	b	4.05E-03	1.5%
PFHxS	2.7	25.0%	10	a	2.70E-01	98.5%
PFNA	0	0.0%	10	a	0.00E+00	0.0%
Totals	**11**	**100.0%**	---		**0.3**	**100.0%**

Notes:

a - HBWCs for PFHxS, PFNA, and HFPO-DA are also individually applied as MCLGs and MCLs.

b - EPA derived a HBWC of 2,000 ng/L for PFBS but did not establish an MCLG or MCL. Although PFBS is not regulated individually (i.e., with an individual MCL), it must be included in the hazard index MCL calculation for the PFAS mixture (i.e., sum of HQs for HFPO-DA, PFBS, PFHxS, and PFNA).

[1] This calculator applies to any current or potential future source of drinking water including groundwater and surface water sources. For the HI evaluation, each sample analyses should include results for all four PFAS chemicals (i.e., HFPO-DA, PFBS, PFHxS, and PFNA).

[2] It's recommeded to consult with a toxicologist within Ecology's TCP Policy and Technical Support Unit for assistence in developing PFAS cleanup levels for mixtures that exceed an HI MCL of 1 (360-407-7170).

Acronyms

HBWC = Health-Based Water Concentration.
HI = Hazard index
HQ = Hazard quotient
MCL = Maximum contaminant level
MCLG = Maximum contaminant level goal
MDL = Method detection limit
MTCA = Model Toxics Control Act
NPDWR = National Primary Drinking Water Regulation
ng/L = Nanogram per liter; same as ppt
PFAS = per- and polyfluoroalkyl substances
ppt = part per trillion; same as ng/L
PQL = Practical quantitation limit

Remark:

Equation 1

$$\textbf{Hazard Index} = \left(\frac{PFHxS_{ppt}}{10\ ppt}\right) + \left(\frac{PFNA_{ppt}}{10\ ppt}\right) + \left(\frac{HFPO-DA_{ppt}}{10\ ppt}\right) + \left(\frac{PFBS_{ppt}}{2,000\ ppt}\right)$$

Note: Each individual fraction is called a Hazard Quotient or HQ.

PFAS Hazard Index MCL Calculation Tool

Enter Site Information

Date:	December 12, 2024
Site Name:	Rocky Top Environmental LPL
Sample Name:	MW-4S

Data Input

PFAS Chemical	PFAS Concentration at Water Source[1] (ppt or ng/L)	Composition Ratio of the PFAS Mixture (percent)	Health-Based Water Concentration (HBWC) (ppt or ng/L)		Hazard Index[2] (HI) (Eq. 1)	Percent Contribution to the Hazard Index
HFPO-DA	0	0.0%	10	a	0.00E+00	0.0%
PFBS	2.65	54.1%	2,000	b	1.33E-03	0.6%
PFHxS	2.25	45.9%	10	a	2.25E-01	99.4%
PFNA	0	0.0%	10	a	0.00E+00	0.0%
Totals	**5**	**100.0%**	**---**		**0.2**	**100.0%**

Notes:

a - HBWCs for PFHxS, PFNA, and HFPO-DA are also individually applied as MCLGs and MCLs.

b - EPA derived a HBWC of 2,000 ng/L for PFBS but did not establish an MCLG or MCL. Although PFBS is not regulated individually (i.e., with an individual MCL), it must be included in the hazard index MCL calculation for the PFAS mixture (i.e., sum of HQs for HFPO-DA, PFBS, PFHxS, and PFNA).

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Note: Each individual fraction is called a Hazard Quotient or HQ.

PFAS Hazard Index MCL Calculation Tool

Enter Site Information

Date:	December 12, 2024
Site Name:	Rocky Top Environmental LPL
Sample Name:	MW-6S

Data Input

PFAS Chemical	PFAS Concentration at Water Source[1] (ppt or ng/L)	Composition Ratio of the PFAS Mixture (percent)	Health-Based Water Concentration (HBWC) (ppt or ng/L)		Hazard Index[2] (HI) (Eq. 1)	Percent Contribution to the Hazard Index
HFPO-DA	0	0.0%	10	a	0.00E+00	0.0%
PFBS	5.1	68.0%	2,000	b	2.55E-03	1.1%
PFHxS	2.4	32.0%	10	a	2.40E-01	98.9%
PFNA	0	0.0%	10	a	0.00E+00	0.0%
Totals	**8**	**100.0%**	---		**0.2**	**100.0%**

Notes:

a - HBWCs for PFHxS, PFNA, and HFPO-DA are also individually applied as MCLGs and MCLs.

b - EPA derived a HBWC of 2,000 ng/L for PFBS but did not establish an MCLG or MCL. Although PFBS is not regulated individually (i.e., with an individual MCL), it must be included in the hazard index MCL calculation for the PFAS mixture (i.e., sum of HQs for HFPO-DA, PFBS, PFHxS, and PFNA).

[1] This calculator applies to any current or potential future source of drinking water including groundwater and surface water sources. For the HI evaluation, each sample analyses should include results for all four PFAS chemicals (i.e., HFPO-DA, PFBS, PFHxS, and PFNA).

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Note: Each individual fraction is called a Hazard Quotient or HQ.