FIRST AND SECOND QUARTER 2023 GROUNDWATER MONITORING AND TREATMENT SYSTEM OPERATION AND MAINTENANCE REPORT

CHS AUBURN SITE
AUBURN, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 301-004

For:
CHS Inc.
763 Willoughby Lane
Stevensville, Montana 59870

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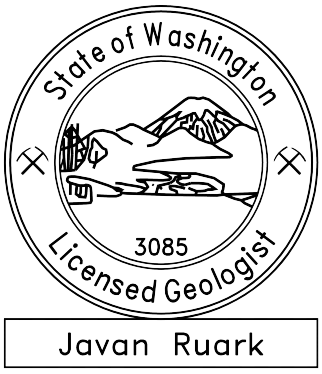
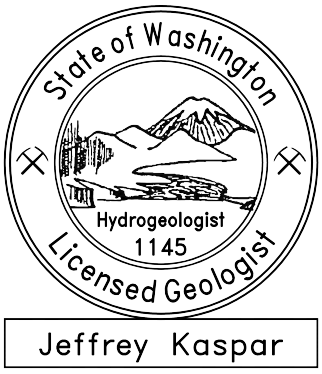
Prepared by:

Javan Ruark, L.G.
Associate Geologist



Reviewed by:

Jeff Kaspar, L.G., L.H.G.
Principal Geologist



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1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this report on behalf of CHS Inc. (CHS) to document air sparge (AS) and soil vapor extraction (SVE) system routine operation and maintenance (O&M) and optimization activities for the period from December 17, 2022 through July 12, 2023 (herein referred to as the reporting period) for the central portion of the CHS Auburn site in Auburn, Washington (herein referred to as the Site), and groundwater monitoring activities conducted on May 30 and 31, 2023 at the Site. For the purpose of this report, the groundwater monitoring and sampling activities conducted on May 30 and 31, 2023 are referred to herein as the May 2023 monitoring event. A Site vicinity map is provided on Figure 1, and a Site plan is provided on Figure 2. The Site is listed in the Washington State Department of Ecology (Ecology) Confirmed and Suspected Contaminated Sites List database as Cenex Valley Supply Coop and has been assigned Site Identification No. 2487.

A Remedial Investigation/Feasibility Study for the Site was conducted in accordance with the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code, and pursuant to the requirements of Agreed Order No. 4033 entered into between CHS and Ecology on June 12, 2007. The Remedial Investigation Report was submitted to Ecology on July 20, 2011 (Farallon 2011). A Feasibility Study for the Site was submitted to Ecology on August 6, 2014 (Farallon 2014). A working draft of the Draft Cleanup Action Plan was submitted for Ecology review on May 28, 2015 (Farallon 2015). The public review and comment period for the Draft Cleanup Action Plan and for Draft Consent Decree No. 18-2-15430-8 issued by Ecology was completed on May 7, 2018. The *Final Cleanup Action Plan, CHS Auburn Site, 238 8th Street Southeast and Contiguous Areas, Auburn, Washington, Agreed Order No. 4033, Facility Site No. 2487* dated May 8, 2018 (Ecology 2018) (Final Cleanup Action Plan) was included as Exhibit B of Consent Decree No. 18-2-15430-8 between Ecology and CHS, with an effective date of June 20, 2018.

The scope of work for the May 2023 monitoring event and the AS/SVE system O&M and optimization activities was conducted in accordance with the *Performance Monitoring Plan, CHS Auburn Site, Auburn, Washington, Facility Site No. 2487, Consent Decree No. 18-2-15430-8* dated February 15, 2019 (Farallon 2019) (Performance Monitoring Plan) that was approved by Ecology in January 2019.

This report is organized into the following sections:

Section 2, Treatment System Operation, Maintenance, and Optimization, provides details on the operation, maintenance, and optimization of the AS/SVE system.

Section 3, Groundwater Monitoring Methods, describes the sampling protocols and the selected monitoring wells and analyses for the May 2023 monitoring event.

Section 4, Groundwater Monitoring Results, presents groundwater elevations and Site-wide analytical results from the May 2023 monitoring event, and the data validation conducted.

Section 5, Discussion, presents a summary of contaminant distribution in groundwater at the Site prior to and after start-up of the reconfigured AS/SVE system in June 2019. Also included is a discussion on the assessment for natural attenuation at the Site.

Section 6, Ongoing and Planned Activities, discusses planned activities for the second semiannual 2023 groundwater monitoring event scheduled for November 2023 at the Site.

Section 7, References, provides a list of the documents cited in this report.

2.0 TREATMENT SYSTEM OPERATION, MAINTENANCE, AND OPTIMIZATION

This section provides details regarding the O&M and optimization of the AS/SVE system in the central area of the Site during the reporting period (Figure 3). A summary of AS/SVE system operational parameters from July 9, 2022 through December 16, 2022 was included in the Third and Fourth Quarter 2022 Groundwater Monitoring, and Treatment System Operation and Maintenance Report (Farallon 2023).

As detailed in the Final Cleanup Action Plan, the purpose of the AS/SVE system is to reduce concentrations of total petroleum hydrocarbons as diesel-range organics (DRO), as oil-range organics (ORO), and as gasoline-range organics (GRO); and benzene, toluene, ethylbenzene, and xylenes (BTEX) (collectively referred to herein as the constituents of concern [COCs]) in groundwater that is down-gradient and beyond the area of influence of the AS wells in the central area of the Site to less than MTCA Method A cleanup levels within a reasonable restoration time frame.

2.1 AS/SVE SYSTEM OPERATION, MAINTENANCE, AND OPTIMIZATION

Routine O&M of the AS/SVE system was conducted bimonthly or in response to AS/SVE system shut-downs to optimize system performance. O&M parameters typically consisted of the following:

- AS compressor motor frequency, amperage, and total run time;
- SVE blower motor frequency, amperage, and total run time;
- SVE system total vacuum and flow rate;
- SVE system exhaust temperature;
- SVE well air flow, vacuum, and vapor volatile organic compound concentration measured by a photoionization detector;
- AS system pressure and temperature from the pre- and post-cooling piping array; and
- AS well airflow and pressure.

A summary of AS/SVE system operational parameters is provided in Tables 1 and 2. Based on the flow rates from or to individual AS and SVE wells and the pressure to individual AS wells, AS/SVE system operational settings were adjusted periodically to optimize flow and

pressure to treat COCs in the subsurface more efficiently. The current operating AS wells include CAS-1, CAS-2, and CAS-14 through CAS-20. AS/SVE system operational parameters for the reporting period are summarized as follows:

- Operating time (run time) totaled approximately 2,694 hours for the AS compressor and 3,516 for the SVE blower (December 17, 2022 to July 12, 2023);
- Total vacuum for the SVE system ranged from 13.9 to 32.5 inches of water;
- The total flow rate for the SVE system ranged from 57.5 to 99 standard cubic feet per minute;
- Total AS system pressure ranged from 15.5 to 20 pounds per square inch; and
- The total AS system flow rate ranged from 27.2 to 33.8 standard cubic feet per minute.

During the reporting period, the following repairs and maintenance were conducted to optimize operation of the AS/SVE system:

- January 6, 2023 – A Site visit was conducted to evaluate the AS/SVE system following notifications of blower and compressor drive fault alarm conditions on January 3, 2023. The SVE blower and AS compressor were not able to be restarted following the Site visit.
- January 26, 2023 – A Site visit was conducted to evaluate SVE blower and AS compressor control panel components. The electrical components of the AS/SVE system were inspected by an electrician from ChemE Solutions Process Engineering of Lake Stevens, Washington. It was determined that the AS compressor variable frequency drive (VFD) had failed and would need to be replaced. The SVE component of the AS/SVE system was turned on and continued operation; however, the AS component of the AS/SVE system remained shut off until repairs could be made to the AS compressor VFD.
- March 10, 2023 – AS well head repairs for AS well AS-2 were completed by Rivers Edge Environmental Services, Inc of Covington, Washington.
- March 17, 2023 – The AS compressor VFD was replaced and the AS component of the AS/SVE system was turned on.

- April 10, 2023 – A Site visit was conducted to evaluate the AS/SVE system. Intermittent high-temperature alarm notifications were received from March 10 through April 9, 2023. Based on the troubleshooting of the cooling system inside the treatment building, the exhaust fans and control panel temperature switch were not functioning properly and required replacement.
- April 11, 2023 – Exhaust fan replacement was completed by Glacier Environmental Services, Inc. of Lynnwood, Washington. Following replacement of the exhaust fans, the AS/SVE system was restarted and the temperature threshold for the exhaust fans to initiate operation was tested to ensure proper operation of the AS/SVE system under typical temperatures.

Automatic shut-down of the AS/SVE system occurred periodically during the reporting period, which was attributed to power outages and high-temperature alarms inside the treatment building. Each time the AS/SVE system shut down, Farallon personnel were alerted via the telemetry system, and if the AS/SVE system could not be restarted remotely, trained personnel mobilized to the Site in a reasonable time frame to inspect the system, diagnose the alarm condition, and restart the system, when appropriate.

SVE system effluent air samples were collected during the March 10, May 11, and July 12, 2023 O&M Site visits. The air samples were collected from the SVE system exhaust stack for each event using a 1-liter Summa canister and were delivered under standard chain-of-custody protocols to Friedman and Bruya, Inc. of Seattle, Washington for analysis of COCs by U.S. Environmental Protection Agency (EPA) Method TO-15. Analytical results from the SVE system effluent air sampling are provided in Table 3. The laboratory analytical reports are provided in Appendix A. SVE system effluent air sampling data and the amount of benzene removed by the SVE system during the reporting period are summarized as follows:

- GRO was detected at concentrations ranging from 0.65 to 9.5 nanoliters per microliter in the effluent air samples collected on March 10, May 11, and July 12, 2023.
- Benzene was detected at a concentration of 0.0017 nanoliters per microliter in the effluent air sample collected on March 10, 2023. Benzene was not detected at concentrations exceeding laboratory reporting limits in the remaining effluent air samples.

- Total xylenes were detected at concentrations of 0.0015 and 0.0077 nanoliters per microliter in the effluent air samples collected on May 11 and July 12, 2023, respectively. Total xylenes were not detected at concentrations exceeding laboratory reporting limits in the remaining effluent air sample.
- Ethylbenzene was detected at a concentration of 0.0012 nanoliters per microliter in the effluent air sample collected on July 12, 2023. Ethylbenzene was not detected at concentrations exceeding laboratory reporting limits in the remaining effluent air samples.
- Toluene was not detected at a concentration exceeding laboratory reporting limit.
- The calculated amount of benzene removed during this period is estimated at 0.004 pound for an estimated total benzene removal of 2.84 pounds since starting up the AS/SVE system on May 29, 2019 (Table 1).
- The calculated amount of GRO removed during this period is estimated at 0.004 pound for an estimated total GRO removal of 12.07 pounds since starting up the AS/SVE system on May 29, 2019 (Table 1).

3.0 GROUNDWATER MONITORING METHODS

This section summarizes the sampling protocols and the selected monitoring wells and analyses for the May 2023 monitoring event conducted at the Site.

3.1 SAMPLING PROTOCOLS

Groundwater samples were collected on May 30 and 31, 2023 using low-flow sampling methods as described in the Performance Monitoring Plan. Before sampling was initiated, groundwater elevations and dissolved-oxygen content in groundwater were measured at select well locations on May 30 and 31, 2023. The groundwater elevation at each monitoring well was also measured during sampling. The depth to groundwater in each monitoring well was measured to the nearest 0.01 foot using an electronic water-level measuring device from the surveyed location on the top of the well casing. Measurements of dissolved-oxygen levels in groundwater were obtained using an InsiteIG Model 3100 dissolved-oxygen analyzer and optical fluorescence down-hole probe. Depth-to-groundwater measurements and the water-level elevations obtained prior to sampling for the groundwater monitoring events conducted from January 2018 through May 2023 are presented in Table 4 and the May 2023 elevations are shown on Figure 4.

Before the monitoring wells were purged, the intake of the dedicated polyethylene tubing was placed in the approximate middle of the saturated portion of the well screen. Before sampling was initiated, groundwater was purged from each monitoring well at flow rates ranging from 120 to 200 milliliters per minute. Field measurements for pH, temperature, specific conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) were recorded during purging using a YSI Model ProDSS water-quality analyzer equipped with a flow-through cell. Water-quality parameter geochemical measurements are summarized in Table 5. Groundwater samples were collected after the pH, temperature, and specific conductivity measurements stabilized. Stabilization was determined for pH as a change of +/-0.1 pH unit between readings for three consecutive measurements, and for temperature and specific conductivity as a relative percent difference of less than 3 percent between readings for three consecutive measurements.

Following stabilization of the water-quality parameters, samples were collected by pumping groundwater directly from each monitoring well through dedicated polyethylene tubing into

laboratory-prepared containers, with care taken to minimize turbulence. Care was taken to not handle the container seal or lid when the samples were placed into the containers. The containers were filled to eliminate headspace, and the seal and the lid were secured. The samples were placed on ice in a cooler under standard chain-of-custody protocols, and delivered to OnSite Environmental Inc. of Redmond, Washington (OnSite) for laboratory analysis. Wastewater generated during purging of the monitoring wells is temporarily stored in a labeled 55-gallon drum in a secure area of the Site.

3.2 SELECTED MONITORING WELLS AND ANALYSES

Groundwater samples were collected from monitoring wells CMW-2, CMW-8, CMW-10, CMW-12, CMW-13, CMW-25 through CMW-31, HMW-9 through HMW-11, and HMW-13, and were analyzed for the following:

- DRO and ORO by Northwest Method NWTPH-Dx with and without silica gel cleanup procedure. Sulfuric acid was not used as part of the silica gel cleanup procedure.
- GRO by Northwest Method NWTPH-Gx.
- BTEX constituents by EPA Method 8021B.

On October 20, 2021, Ecology stated that DRO and ORO groundwater samples collected during future monitoring events could be analyzed both with and without using the silica gel cleanup procedure in accordance with recent Ecology (2021) guidance. Details of the Ecology request were provided in the email regarding CHS Quarterly Progress Report 7/1 through 9/30/2021 dated October 20, 2021 from Jerome Cruz of Ecology to Javan Ruark of Farallon (Ecology 2021). The purpose of the silica gel cleanup procedure is to evaluate whether polar metabolites resulting from biodegradation of the dissolved DRO plume are present and contributing to the DRO values in the analysis conducted without the silica gel cleanup procedure. Groundwater samples collected for DRO and ORO during the May 2023 monitoring event were analyzed both with and without using the silica gel cleanup procedure. The silica gel cleanup procedure did not include use of sulfuric acid in the preparation method.

As outlined in the email regarding natural attenuation evaluation dated October 20, 2021, from Vance Atkins of Ecology to Javan Ruark of Farallon (Ecology 2023), groundwater samples

collected from monitoring wells CMW-26, CMW-27, CMW-31, HMW-10, and HMW-11 were analyzed for the following additional analytes:

- Sulfate by American Society for Testing Materials Method D516-11;
- Nitrate by EPA Method 353.2;
- Ferrous iron by SM3500-Fe B;
- Dissolved manganese by Standards Method (SM) 3500-Fe B;
- Dissolved methane Risk Based Standards Method 175; and
- Total alkalinity by SM 2320B.

Field duplicate groundwater samples were collected from monitoring wells CMW-12 and CMW-27 for quality assurance/quality control (QA/QC) purposes.

4.0 GROUNDWATER MONITORING RESULTS

This section presents groundwater elevations, geochemical parameters and data, and analytical results from the May 2023 monitoring event, and the data validation conducted.

4.1 GROUNDWATER ELEVATIONS

Groundwater elevations measured in the Site monitoring wells on May 30 and 31, 2023, ranged from 66.89 feet above mean sea level in monitoring well CMW-8 to 68.27 feet above mean sea level in monitoring well CMW-30 (Figure 4; Table 4). The groundwater flow direction was northeast, with an average horizontal hydraulic gradient of 0.002 foot per foot, which is consistent with the historical groundwater flow direction. Groundwater elevations measured on May 30 and 31, 2023 were approximately 2.00 foot lower on average than those measured during the previous monitoring event, conducted on November 29 and 30, 2022 (Table 4).

4.2 SITE-WIDE MONITORING ANALYTICAL RESULTS

The analytical results from the May 2023 monitoring event are discussed in the following sections. Comparison of analytical results for DRO, ORO, GRO, and BTEX constituents to MTCA Method A groundwater cleanup levels is shown in Table 6. Comparison of analytical results for DRO and ORO with and without the silica gel cleanup procedure to MTCA Method A groundwater cleanup levels is shown in Table 7. Groundwater geochemical data as part of the natural attenuation evaluation is shown in Table 8 and presented on Figure 5. Analytical results for DRO, ORO, GRO, and BTEX constituents for the May 2023 monitoring event are presented on Figure 6. Analytical results for DRO and ORO with and without the silica gel cleanup procedure for the May 2023 monitoring event are presented on Figure 7. The laboratory analytical reports are provided in Appendix A.

4.2.1 Diesel-Range Organics

For the samples analyzed without the silica gel cleanup procedure, DRO was detected at concentrations exceeding the MTCA Method A cleanup level of 0.5 milligrams per liter (mg/l) in groundwater samples collected from nine of the 16 monitoring wells sampled (Tables 6 and 7) and in the QA/QC samples collected from monitoring well CMW-12 and CMW-27. Concentrations of DRO exceeding the MTCA Method A cleanup level ranged from 0.64 mg/l

in the groundwater sample collected from monitoring well CMW-8 to 3.5 mg/l in the groundwater sample collected from monitoring well HMW-11.

For the samples analyzed using the silica gel cleanup procedure, DRO was not detected at a concentration exceeding the MTCA Method A cleanup level of 0.5 mg/l during the May 2023 monitoring event (Table 7).

4.2.2 Oil-Range Organics

For the samples analyzed without the silica gel cleanup procedure, ORO was detected at concentrations exceeding the MTCA Method A cleanup level of 0.5 mg/l in groundwater samples collected from 10 of the 16 monitoring wells sampled (Tables 6 and 7) and in the QA/QC samples collected from monitoring well CMW-12 and CMW-27. Concentrations of ORO exceeding the MTCA Method A cleanup level ranged from 0.64 mg/l in the groundwater sample collected from monitoring well CMW-2 to 4.5 mg/l in the groundwater sample collected from monitoring well CMW-10.

For the samples analyzed using the silica gel cleanup procedure, ORO was not detected at a concentration exceeding the MTCA Method A cleanup level of 0.5 mg/l during the May 2023 monitoring event (Table 7).

4.2.3 Gasoline-Range Organics and Benzene, Toluene, Ethylbenzene, and Xylenes

GRO and BTEX constituents were not detected at concentrations exceeding the MTCA Method A cleanup level (Table 6).

4.2.4 Groundwater Geochemical Parameters and Data

An assessment of the potential for natural attenuation to reduce the concentrations of residual petroleum hydrocarbon constituents in groundwater via biodegradation processes was conducted during the May 2023 monitoring event. The assessment included laboratory analyses and measurement of field parameters that provide data to assess if and by what processes biodegradation is occurring. The laboratory analyses and field measurements for the assessment included the following:

- Primary electron receptors that are potential energy sources for native bacteria capable of biodegradation of petroleum compounds, and indicators of groundwater geochemistry:

- Dissolved oxygen;
- Nitrate; and
- Sulfate.

- Metabolic by-products of biodegradation and indicators of groundwater geochemistry:
  - Total alkalinity (carbon dioxide generation);
  - Ferrous iron;
  - Dissolved manganese; and
  - Dissolved Methane.
- Geochemical indicators of whether the subsurface environment is amenable to biodegradation of petroleum compounds:
  - ORP;
  - Temperature; and
  - pH.

The results for these geochemical parameters and data are presented in Tables 5 and 8 and summarized in the following sections.

4.2.4.1 pH

The pH measurements for groundwater samples ranged from 5.78 pH units at monitoring well CMW-27 to 6.45 pH units at monitoring well CMW-8 (Table 5). These pH values are within the range 6 and 9 pH unit (National Center for Biotechnology Information 2023), which is amenable to the bacteria capable of petroleum hydrocarbon biodegradation. pH measurements from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were consistent with pH measurements from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.2 Temperature

Groundwater temperature measurements ranged from 13.9 to 16 degrees Celsius. Biodegradation processes occur at these temperatures but typically are accelerated at temperatures approaching 20 degrees Celsius or higher. Groundwater measurements from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were consistent with groundwater temperature measurements from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.3 Oxidation-Reduction Potential

ORP readings in groundwater ranged from -53.8 millivolts at monitoring well HMW-9 to 305.0 millivolts at monitoring well CMW-25, which indicates an overall aerobic environment (Table 5). These results correlate well with the other natural attenuation parameters, which indicate that aerobic processes are predominant at the Site. ORP readings from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were lower than ORP readings from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.4 Dissolved Oxygen

Measurements of less than 1 mg/l of available oxygen within a petroleum hydrocarbon plume indicate that groundwater is trending toward more anaerobic conditions. Dissolved oxygen readings ranged from 1.07 mg/l at monitoring well CMW-27 to 6.04 mg/l at monitoring well CMW-28 (Table 8). Sufficient oxygen is present for use as an electron receptor to promote aerobic biodegradation processes. Dissolved oxygen readings from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were lower than ORP readings from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.5 Nitrate

The anaerobic respiratory process reduces nitrate during biodegradation of petroleum hydrocarbon constituents. Nitrate concentrations ranged from 0.46 mg/l at monitoring

well CMW-31 to 2.9 mg/l at monitoring well CMW-26 (Table 8). The consistent presence of nitrate indicates that this electron receptor is available to support biodegradation processes. Concentrations of nitrate from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were consistent with concentrations of nitrate from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.6 Sulfate

Concentrations of sulfate greater than 1 mg/l indicate a favorable environment for sulfate-reducing conditions. Sulfate concentrations ranged from 9.6 mg/l at monitoring well CMW-31 to 12 mg/l at monitoring wells CMW-26 and CMW-27 (Table 8). The presence of dissolved oxygen and nitrate indicates that use of sulfate as an electron receptor is unlikely since the subsurface is primarily aerobic. Concentrations of sulfate from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were consistent with concentrations of sulfate from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.7 Ferrous Iron

Ferrous iron is formed by anaerobic microbial ferric iron reduction during the biodegradation of petroleum hydrocarbon constituents. Ferrous iron concentrations ranged from 1.42 mg/l at monitoring well CMW-27 to 8 mg/l at monitoring well HMW-11 (Table 8). Concentrations of ferrous iron from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were higher than those monitoring wells located outside the plume area (CMW-26 and CMW-31) indicating that ferric iron is being used as an electron receptor for biodegradation.

4.2.4.8 Dissolved Manganese

Manganese II is formed by anaerobic microbial reduction of manganese IV during the biodegradation of petroleum hydrocarbon constituents. Manganese II concentrations ranged from 0.29 mg/l at monitoring well CMW-27 to 0.55 mg/l at monitoring wells

HMW-10 and HMW-11 (Table 8). Concentrations of manganese II from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were higher than concentrations outside the plume area (CMW-26 and CMW-31) indicating that manganese IV is being used as an electron receptor for biodegradation.

4.2.4.9 Dissolved Methane

Methane is a metabolic by-product of biodegradation of petroleum hydrocarbon constituents but can also be a naturally occurring gas associated with degradation of organic materials in the soil matrix. Dissolved methane concentrations ranged from 230 micrograms per liter (µg/l) at monitoring well HMW-10 to 460 µg/l at monitoring well HMW-11 (Table 8). Concentrations of dissolved methane from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were significantly higher than concentrations of dissolved methane from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.2.4.10 Total Alkalinity

Total alkalinity provides an estimate of carbon dioxide generated by biodegradation processes. Total alkalinity concentrations ranged from 52 mg/l at monitoring well CMW-27 to 84 mg/l at monitoring well CMW-31 (Table 8). Concentrations of total alkalinity from monitoring wells located inside the petroleum hydrocarbon-contaminated groundwater plume (CMW-27, HMW-10, and HMW-11) were consistent with concentrations of total alkalinity from monitoring wells located outside the petroleum hydrocarbon-contaminated groundwater plume (CMW-26 and CMW-31).

4.3 DATA VALIDATION

Farallon reviewed the analytical data package provided by OnSite for sample delivery 2305-321 and 2306-001. The groundwater samples from this group were analyzed for DRO, ORO, GRO, BTEX constituents, nitrate, sulfate, ferrous iron, dissolved manganese, dissolved methane, and total alkalinity by the methods cited in Section 3.2, Selected Monitoring Wells and Analyses, within the prescribed method holding times. The QA/QC testing performed by OnSite included evaluation of surrogate recoveries and matrix spike/matrix spike duplicates.

Results from the QA/QC testing were within established laboratory control limits. Based on Farallon's review of the QA/QC data generated during the May 2023 monitoring event, the groundwater analytical results are acceptable for use in characterizing groundwater quality at the Site relative to the groundwater quality cleanup levels used for comparative purposes in this report. The laboratory analytical reports for the samples analyzed by OnSite are provided in Appendix A.

5.0 DISCUSSION

This section provides a summary of the distribution of DRO, ORO, GRO, and BTEX constituents detected in groundwater at the Site during the May 2023 monitoring event relative to the monitoring event in November 2022 and the pre-AS/SVE system start-up monitoring event conducted in January 2019. Trends in COC concentrations relative to groundwater elevation changes since 2018 also are discussed where trends appear evident. Data trends of select COC concentrations in groundwater for key monitoring wells are shown on Charts 1 through 8. Note that the DRO and ORO results provided in the discussion and used to construct the charts are for samples analyzed without the silica gel cleanup procedure.

Also included in this section is the assessment of the potential for natural attenuation to reduce the concentrations of residual petroleum hydrocarbon constituents in groundwater via biodegradation processes.

In summary, GRO and BTEX constituents were not detected at concentrations exceeding MTCA Method A cleanup levels in any of the monitoring wells sampled during the May 2023 monitoring event. The expanded area of influence of the reconfigured AS/SVE system appears to continue to mobilize some dissolved-phase DRO and ORO from the smear zone soil as shown by increases in several monitoring wells, most notably CMW-10, CMW-13, CMW-27, CMW-28, and HMW-11. Following start-up of the reconfigured AS/SVE system in June 2019, concentrations of DRO and ORO have fluctuated through May 2023 at the monitoring wells sampled at the Site (Charts 1 through 8). Elevated concentrations of DRO and ORO in monitoring wells CMW-12 and CMW-13 generally have correlated with seasonally higher groundwater elevations since reconfigured system start-up (Charts 3 and 4). Except for intermittent shut-downs, the current configuration of the AS/SVE system has operated continuously from start-up in June 2019 through July 12, 2023 and has removed a total of 2.84 pounds of benzene and 143.23 pounds of GRO from the vadose zone at the Site. The removal rate of benzene has decreased to asymptotic levels since June 2019 and demonstrates that the AS/SVE system no longer is removing significant benzene mass from the vadose zone at the Site (Table 1; Chart 9). However, mass removal of GRO has shown increased removal rates from March 2021 to July 2023 (Chart 9).

An assessment was conducted of the potential for natural attenuation of petroleum hydrocarbons at the Site. The results indicate that groundwater conditions are generally aerobic and that sufficient electron receptors (dissolved oxygen, nitrate, ferric iron, and manganese II) are present to support natural attenuation processes in groundwater. Natural attenuation via aerobic processes appears to be a technically feasible alternative for remediation of residual petroleum contamination in groundwater.

The DRO and ORO analytical results from the May 2023 monitoring event suggest dissolved-phased DRO and ORO is highly weathered. DRO and/or ORO were detected at concentrations slightly exceeding the laboratory reporting limits but less than the MTCA Method A cleanup levels in the groundwater samples analyzed from monitoring wells CMW-10, CMW-27, HMW-9 and/or HMW-11 using the silica gel cleanup procedure. DRO and ORO were not detected at concentrations exceeding the laboratory reporting limits in any of the remaining groundwater samples analyzed using the silica gel cleanup procedure.

6.0 ONGOING AND PLANNED ACTIVITIES

As detailed in Table 3 in the Final Cleanup Action Plan, quarterly performance groundwater monitoring and routine O&M of the AS/SVE system were conducted for the first four quarters following start-up of the AS/SVE system and were to be conducted semiannually thereafter. The May 2023 monitoring event was the sixth semiannual groundwater monitoring event; the seventh is scheduled for November 2023. Following the November 2023 semiannual groundwater monitoring event, Ecology will be contacted to discuss a path forward.

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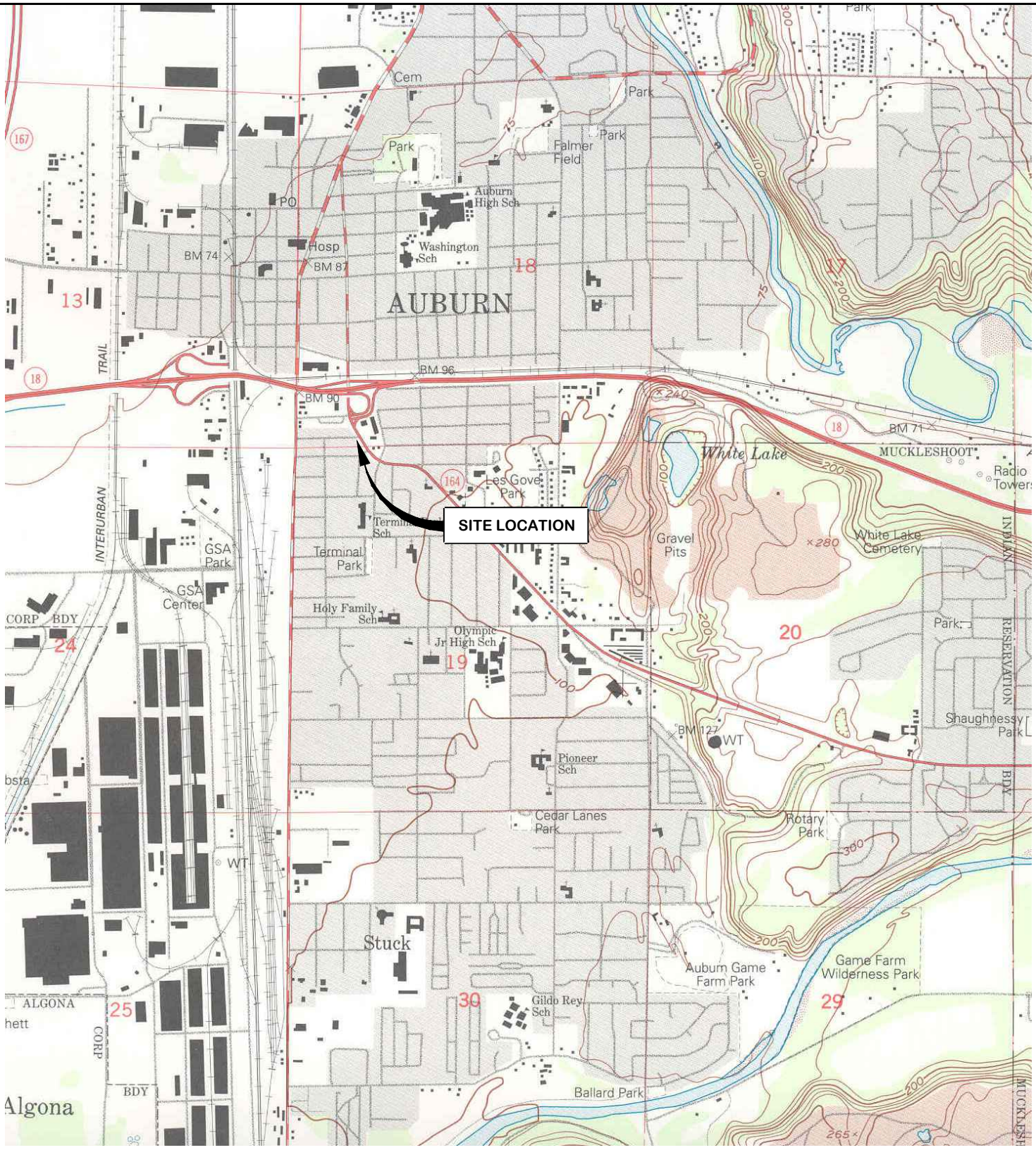
FIGURES

FIRST AND SECOND QUARTER 2023
GROUNDWATER MONITORING AND TREATMENT SYSTEM
OPERATION AND MAINTENANCE REPORT
CHS Auburn Site
Auburn, Washington

Farallon PN: 301-004



REFERENCE: 7.5 MINUTE USGS QUADRANGLE AUBURN, WASHINGTON. DATED 1949 AND PHOTOREVISED 1994

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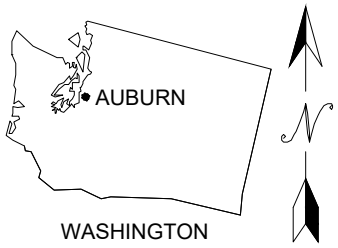

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FIGURE 1

SITE VICINITY MAP
CHS AUBURN SITE
AUBURN, WASHINGTON

FARALLON PN: 301-004

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STATE ROUTE - 18

AUBURN WAY SOUTH

6th STREET SOUTHEAST

7th STREET SOUTHEAST

8th STREET SOUTHEAST

FIRE HOUSE SQUARE

D STREET SOUTHEAST

C STREET SOUTHEAST

SCHUCKS

MCDONALD'S

THAI RESTAURANT

AS/SVE EQUIPMENT BUILDING

CSVE-9 WSIADA

BIG-O TIRES

CHS AUBURN FACILITY

CHS MAIN BUILDING

CMW-20 CMW-23 CMW-22 CMW-19 DAS-13 DAS-14 DSVE-15 DSVE-16 CMW-32 CMW-14 CMW-17 CMW-21 CMW-9 CMW-15 CMW-8 CMW-31 CMW-5 HMW-12 HMW-9 HMW-5 HMW-6 HMW-8 HMW-10 CMW-12 CRW-2 HMW-11 CMW-7 CAS-14 CAS-15 CMW-27 CAS-17 CAS-16 CAS-18 CAS-20 CMW-6 CMW-13 CMW-2 CAS-19 CAS-3 CAS-21 CAS-1 CSVE-1 CSVE-10 CMW-10 CAS-2 CRW-1 CMW-11 CSVE-7 CAS-12 CAS-22 CAS-4 CSVE-8 CAS-10 CAS-11 CAS-13 CSVE-4 CAS-5 CMW-25 CAS-8 CMW-28 CSVE-6 CAS-9 CAS-7 CSVE-5 HMW-13 CMW-4 CMW-29 CMW-26 CMW-3 CMW-1 CMW-30 CMW-24 HMW-14

0 100

APPROXIMATE SCALE IN FEET

LEGEND

CMW-25	CHS MONITORING WELL
CRW-2	CHS RECOVERY WELL
HMW-13	HILLMAN MONITORING WELL
CAS-13	AS WELL AS/SVE CENTRAL SYSTEM
DAS-13	AS WELL AS/SVE DOWN-GRADIENT SYSTEM (LOST)
CSVE-3	SVE WELL AS/SVE CENTRAL SYSTEM
DSVE-16	SVE WELL AS/SVE DOWN-GRADIENT SYSTEM (LOST)
CMW-9	LOST OR ABANDONED MONITORING WELL
RED	NON-OPERATIONAL WELL

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FIGURE 2

SITE PLAN
CHS AUBURN SITE
AUBURN, WASHINGTON

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7th STREET SOUTHEAST

CRW–2
HMW–11
CAS–14
CAS–15
CAS–17
CAS–16
CAS–18
CMW–27
CSVE–9
AUBURN WAY SOUTH
CMW–13
WSIADA
CAS–20
CAS–19
CSVE–10
CAS–21
CMW–2
CAS–1
CSVE–1
CAS–2
CAS–3
CMW–10
CMW–11
CRW–1
CAS–22
CAS–12
CSVE–7
CAS–4
CAS–10
CSVE–8
CAS–11
CSVE–4
CAS–5
AS/SVE EQUIPMENT BUILDING
CAS–13
CMW–28
THAI RESTAURANT
CMW–25
CAS–8
CAS–7
CSVE–5
CSVE–6
CAS–9

8th STREET SOUTHEAST

LEGEND

CMW–25	CHS MONITORING WELL
CRW–2	CHS RECOVERY WELL
HMW–13	HILLMAN MONITORING WELL
CAS–13	AS WELL AS/SVE CENTRAL SYSTEM
CSVE–3	SVE WELL AS/SVE CENTRAL SYSTEM
CAS–12 CSVE–7	DUAL COMPLETION SVE AND AS SYSTEM WELL
RED	NON-OPERATIONAL WELL

0 30
APPROXIMATE SCALE IN FEET

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FIGURE 3

SITE PLAN SHOWING DETAIL OF THE
CENTRAL AREA OF THE SITE
CHS AUBURN SITE
AUBURN, WASHINGTON

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STATE ROUTE - 18

AUBURN WAY SOUTH

6th STREET SOUTHEAST

7th STREET SOUTHEAST

8th STREET SOUTHEAST

D STREET SOUTHEAST

C STREET SOUTHEAST

FIRE HOUSE SQUARE

SCHUCKS

MCDONALD'S

WSIADA

THAI RESTAURANT

AS/SVE EQUIPMENT BUILDING

BIG-O TIRES

CHS AUBURN FACILITY

CHS MAIN BUILDING

CMW-19
CMW-32
CMW-17
CMW-21
CMW-15
CMW-8 (66.89)
CMW-31 (66.98)
CMW-5
HMW-9 (67.10)
HMW-10 (67.32)
CMW-12 (67.47)
HMW-11
CMW-6
CMW-13 (67.52)
(67.64) CMW-27
CMW-2
CMW-10
CMW-11
CMW-25
CMW-28 (67.78)
HMW-13 (68.03)
CMW-29 (68.07)
CMW-26 (68.03)
CMW-4
CMW-3
CMW-30 (68.27)
CMW-24
HMW-14

67.00
67.25
67.50
67.75
68.00

LEGEND

CMW-26 CHS MONITORING WELL
HMW-13 HILLMAN MONITORING WELL
(68.27) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
68.22 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED
APPROXIMATE DIRECTION OF GROUNDWATER FLOW

0 100
APPROXIMATE SCALE IN FEET

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FIGURE 4

GROUNDWATER ELEVATION CONTOUR MAP
MAY 2023
CHS AUBURN SITE
AUBURN, WASHINGTON

FARALLON PN: 301-004

Drawn By: RB Checked By: JR Date: 09/01/2023 Disk Reference: 301-004

STATE ROUTE - 18

AUBURN WAY SOUTH

6th STREET SOUTHEAST

7th STREET SOUTHEAST

8th STREET SOUTHEAST

C STREET SOUTHEAST

D STREET SOUTHEAST

FIRE HOUSE SQUARE

SCHUCKS

MCDONALD'S

THAI RESTAURANT

AS/SVE EQUIPMENT BUILDING

BIG-O TIRES

CHS AUBURN FACILITY

CHS MAIN BUILDING

CMW-20

CMW-23

CMW-19

CMW-32

CMW-17

CMW-21

CMW-15

CMW-8

CMW-31

CMW-5

HMW-9

HMW-10

CMW-12

HMW-11

CMW-6

CMW-27

CMW-13

CMW-2

CMW-10

CMW-11

CMW-25

CMW-28

HMW-13

CMW-29

CMW-4

CMW-26

CMW-3

CMW-30

CMW-24

HMW-14

TEMP	pH	ORP	DO	NITRATE	SULFATE	FERROUS IRON	DISSOLVED MANGANESE	DISSOLVED METHANE	TOTAL ALKALINITY
14.4	6.12	162.7	1.99	0.46	9.6	<0.150	<0.011	<0.55	84

TEMP	pH	ORP	DO	NITRATE	SULFATE	FERROUS IRON	DISSOLVED MANGANESE	DISSOLVED METHANE	TOTAL ALKALINITY
14.1	6.21	4.6	1.35	<0.050	<5.0	3.70	0.55	230	78

TEMP	pH	ORP	DO	NITRATE	SULFATE	FERROUS IRON	DISSOLVED MANGANESE	DISSOLVED METHANE	TOTAL ALKALINITY
14.1	6.03	11.7	1.64	0.55	<5.0	8.00	0.55	460	56

TEMP	pH	ORP	DO	NITRATE	SULFATE	FERROUS IRON	DISSOLVED MANGANESE	DISSOLVED METHANE	TOTAL ALKALINITY
15.7	5.78	85.5	1.07	0.95	12	1.42	0.29	360	52

TEMP	pH	ORP	DO	NITRATE	SULFATE	FERROUS IRON	DISSOLVED MANGANESE	DISSOLVED METHANE	TOTAL ALKALINITY
14.1	6.16	184.1	4.52	2.9	12	<0.150	<0.011	<0.55	60

0 100

APPROXIMATE SCALE IN FEET

LEGEND

CMW-26 CHS MONITORING WELL

HMW-13 HILLMAN MONITORING WELL

ESTIMATED EXTENT OF THE CONSTITUENT OF CONCERN CONCENTRATIONS EXCEEDING CLEANUP LEVELS IN GROUNDWATER

NOTES:

TEMPERATURE MEASURED IN DEGREES CELSIUS

ORP MEASURED IN MILLIVOLTS

NITRATE, SULFATE, FERROUS IRON, AND DISSOLVED MANGANESE ANALYTICAL RESULTS REPORTED IN MILLIGRAMS PER LITER.

DISSOLVED METHANE ANALYTICAL RESULTS REPORTED IN MICROGRAMS PER LITER.

TOTAL ALKALINITY ANALYTICAL RESULTS REPORTED IN MILLIGRAMS PER LITER AS CALCIUM CARBONATE.

< = DENOTES ANALYTED NOT DETECTED AT OR EXCEEDING THE LABORATORY REPORTING LIMIT LISTED.

DO = DISSOLVED OXYGEN

ORP = OXIDATION-REDUCTION POTENTIAL

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FIGURE 5

MAY 2023 GEOCHEMICAL PARAMETERS AND DATA
CHS AUBURN SITE
AUBURN, WASHINGTON

FARALLON PN: 301-004

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STATE ROUTE - 18

AUBURN WAY SOUTH

6th STREET SOUTHEAST

7th STREET SOUTHEAST

8th STREET SOUTHEAST

C STREET SOUTHEAST

D STREET SOUTHEAST

FIRE HOUSE SQUARE

SCHUCKS

MCDONALD'S

WSIADA

THAI RESTAURANT

AS/SVE EQUIPMENT BUILDING

BIG-O TIRES

CHS AUBURN FACILITY

CHS MAIN BUILDING

CMW-19

CMW-15

CMW-8

CMW-20

CMW-23

CMW-32

CMW-17

CMW-21

CMW-31

CMW-5

HMW-9

HMW-10

CMW-12

HMW-11

CMW-6

CMW-27

CMW-13

CMW-2

CMW-10

CMW-11

CMW-25

CMW-28

HMW-13

CMW-29

CMW-26

CMW-4

CMW-3

CMW-30

CMW-24

HMW-14

DRO	ORO	GRO	B	T	E	X
0.64	**0.71**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
<0.21	0.27	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
1.0	**1.1**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
0.96	**1.3**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
1.0	**0.75**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
3.5	**2.5**	770	1.7	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
2.5	**3.0**	710	1.2	<1.0	1.7	<2.0

DRO	ORO	GRO	B	T	E	X
1.5	**1.2**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
0.43	**0.64**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
3.0	**4.5**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
1.5	**1.1**	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
<0.21	<0.15	<400	<4.0	<4.0	<4.0	<8.0

DRO	ORO	GRO	B	T	E	X
<0.21	<0.15	<400	<4.0	<4.0	<4.0	<8.0

DRO	ORO	GRO	B	T	E	X
<0.22	<0.17	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
0.48	0.46	<100	<1.0	<1.0	<1.0	<2.0

DRO	ORO	GRO	B	T	E	X
0.33	0.21	<100	<1.0	<1.0	<1.0	<2.0

LEGEND

CMW-26 CHS MONITORING WELL

HMW-13 HILLMAN MONITORING WELL

ESTIMATED EXTENT OF THE CONSTITUENT OF CONCERN CONCENTRATIONS EXCEEDING CLEANUP LEVELS IN GROUNDWATER

NOTES:

ANALYTICAL UNITS FOR DRO AND ORO ARE IN MILLIGRAMS PER LITER.

ANALYTICAL UNITS FOR GRO AND BTEX ARE IN MICROGRAMS PER LITER

< = DENOTES ANALYTED NOT DETECTED AT OR EXCEEDING THE LABORATORY REPORTING LIMIT LISTED.

BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE WASHINGTON STATE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL.

DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS

ORO = TPH AS OIL-RANGE ORGANICS

GRO = TPH AS GASOLINE-RANGE ORGANICS

B = BENZENE E = ETHYLBENZENE

T = TOLUENE X = XYLENES

0 100

APPROXIMATE SCALE IN FEET

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FIGURE 6

MAY 2023 GROUNDWATER ANALYTICAL RESULTS
FOR DRO, ORO, GRO, AND BTEX
CHS AUBURN SITE
AUBURN, WASHINGTON

FARALLON PN: 301-004

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STATE ROUTE - 18

AUBURN WAY SOUTH

6th STREET SOUTHEAST

7th STREET SOUTHEAST

8th STREET SOUTHEAST

C STREET SOUTHEAST

D STREET SOUTHEAST

FIRE HOUSE SQUARE

SCHUCKS

MCDONALD'S

WSIADA

THAI RESTAURANT

AS/SVE EQUIPMENT BUILDING

BIG-O

CHS AUBURN FACILITY

CMW-19

CMW-20

CMW-23

CMW-32

CMW-17

CMW-21

CMW-15

CMW-8

CMW-31

CMW-5

HMW-9

HMW-10

CMW-12

CRW-2

HMW-11

CMW-6

CMW-27

CMW-13

CMW-2

CMW-10

CMW-11

CMW-25

CMW-28

HMW-13

CMW-29

CMW-26

CMW-3

CMW-30

CMW-24

HMW-14

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
0.64	**0.71**	<0.20	<0.20

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
<0.21	0.27	<0.21	<0.21

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
0.96	**1.3**	<0.20	0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
1.0	**0.75**	<0.22	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
1.0	**1.1**	<0.20	<0.20

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
3.5	**2.5**	0.42	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
1.5	**1.2**	<0.20	<0.20

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
2.5	**3.0**	0.23	<0.20

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
0.43	**0.64**	<0.22	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
3.0	**4.5**	0.28	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
1.5	**1.1**	<0.20	<0.20

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
<0.21	<0.15	<0.21	<0.21

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
<0.22	<0.17	<0.22	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
0.48	0.46	<0.22	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
0.33	0.21	<0.22	<0.22

WITHOUT SILICA GEL		WITH SILICA GEL	
DRO	ORO	DRO	ORO
<0.21	<0.15	<0.21	<0.21

LEGEND

CMW-26 CHS MONITORING WELL

HMW-13 HILLMAN MONITORING WELL

ESTIMATED EXTENT OF THE CONSTITUENT OF CONCERN CONCENTRATIONS EXCEEDING CLEANUP LEVELS IN GROUNDWATER

NOTES:

ANALYTICAL UNITS FOR DRO AND ORO ARE IN MILLIGRAMS PER LITER.

< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE LABORATORY REPORTING LIMIT LISTED.

BOLD = INDICATES CONCENTRATION EXCEEDS WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION (MTCA) METHOD A CLEANUP LEVEL

DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS

ORO = TPH AS OIL-RANGE ORGANICS

0 100

APPROXIMATE SCALE IN FEET

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FIGURE 7

MAY 2023 GROUNDWATER ANALYTICAL RESULTS FOR DRO AND ORO WITH AND WITHOUT SILICA GEL CLEANUP PROCEDURE
CHS AUBURN SITE
AUBURN, WASHINGTON

FARALLON PN: 301-004

Drawn By: RB Checked By: JR Date: 09/01/2023 Disk Reference: 301-004

TABLES

FIRST AND SECOND QUARTER 2023
GROUNDWATER MONITORING AND TREATMENT SYSTEM
OPERATION AND MAINTENANCE REPORT
CHS Auburn Site
Auburn, Washington

Farallon PN: 301-004

Table 1
SVE System and Well Data
Cenex Auburn Site
Auburn, Washington
Farallon PN: 301-004

Date	Time	System Vacuum, pre-KO (IOW)	System Vacuum, post-KO (IOW)	System Flow Rate, Stack (dp)	System Flow Rate, Stack (SCFM)	Total Blower Run Time (hours)	Blower Running (Amps)	Blower Frequency (Hz)	Blower Effluent Temperature (F)	VOC Concentration, Vent Stack (ppm)
5/29/2019	1210	6.0	--	0.32	133	--	--	--	--	130
5/29/2019	1240	6.0	--	0.32	133	--	--	--	--	32
5/29/2019	1400	5.8	--	0.306	130	--	--	--	--	18.5
5/29/2019	1500	5.9	--	0.32	133	--	--	--	--	23
6/13/2019	1415	--	0.1	--	--	87	2.7	50	--	14
6/24/2019	--	--	--	--	130[1]	351	--	--	--	--
7/16/2019	--	--	--	--	--	440	--	--	--	--
7/18/2019	1540	3.8	--	0.31	131	498	2.7	50	95	44
8/23/2019	1130	4.4	--	0.32	128	643	2.8	50	95	21
9/18/2019	945	4.2	--	0.25	114	769	2.7	50	--	3.7
9/23/2019	930	4.8	--	0.26	117	887	2.7	50	90	71.9
10/22/2019	1120	13.1	--	0.29	122	1585	2.9	50	90	23.8
11/27/2019	1045	17.4	--	0.18	97	2237	3.0	50	80	1.3
12/18/2019	1010	10.2	--	0.17	95	2280	2.3	40	--	0.6
2/4/2020	1000	16.8	--	0.12	82	3432	2.4	40	--	--
2/21/2020	1200	--	--	--	--	3842	2.7	40	--	--
2/26/2020	930	28.8	--	0.06	57	3842	2.7	40	80	0.1
4/1/2020	910	11.9	--	0.14	85	4680	2.3	40	75	0.2
5/7/2020	820	7.8	--	0.19	101	5450	2.2	40	80.5	0.0
6/2/2020	852	5.9	--	0.20	102	6011	2.2	40	--	0.0
7/31/2020	1200	5.0	--	0.20	102	7175	2.2	40	--	0.0
8/5/2020	1100	4.8	--	0.20	103	7179	2.2	40	--	--
10/2/2020	1245	5.1	--	0.21	105	8293	2.2	40	85	1.9
11/6/2020	900	11.7	--	0.17	94	9129	2.3	40	78	0.9
12/9/2020	1309	13.5	--	0.15	90	9775	2.4	40	77.9	0.7
1/7/2021	1049	14.9	--	0.185	99	10314	2.4	40	--	0.1
3/2/2021	1400	18.9	--	0.077	64	11602	2.5	40	--	0.0
4/7/2021	930	10.1	--	0.112	80	12460	2.3	40	63.4	0.0
5/17/2021	930	8.1	--	0.115	78	13393	2.2	40	69	0.0
6/15/2021	1100	7.9	--	0.111	77	13834	2.2	40	75.1	0.1
8/25/2021	1240	7.9	--	0.133	85	14237	2.2	40	--	1.3
10/13/2021	1205	11.4	--	0.135	85	15268	2.3	40	80.9	2.0
1/3/2022	1330	16.5	--	0.119	79	16682	2.4	40	77.1	0.0
2/23/2022	1135	12.6	--	0.157	97	17904	2.3	40	72	0.0
5/12/2022	915	9.2	--	0.167	94	19747	2.2	40	81.5	0.1
5/26/2022	1404	8.2	--	0.18	98	19943	2.3	40	83	--
8/10/2022	1020	8	--	0.172	94	21485	2.2	40	95	0.0
10/10/2022	1420	8.1	--	0.133	83	22868	2.2	40	94	0.5
12/16/2022	1200	15.5	--	0.126	88	24186	2.4	40	77	16.3
12/29/2023	11:30	--	--	--	--	24421	2.4	40	--	--
1/6/2023	1320	--	--	--	--	24553	--	--	--	--
1/26/2023	1153	16.8	--	0.165	99	24553	2.5	40	67.9	--
2/27/2023	1200	--	--	--	--	24946	2.4	40	--	--
3/10/2023	903	15.6	--	0.136	86	25207	2.4	40	70	0.0
3/17/2023	1345	13.9	--	0.136	88	25376	2.4	40	--	--
4/10/2023	1439	--	--	--	--	25891	--	--	--	--
5/11/2023	1315	14.7	14.7	0.119	80	26631	2.3	40	92	0.0
5/22/2023	1200	--	--	--	--	26670	--	--	--	--
7/12/2023	1150	32.5	--	0.064	57.5	27702	2.7	40	96.8	0.0

		CSVE-1					CSVE-5					CSVE-7				
Date	Time	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)
5/29/2019	1210	6.0	0.157		23.46	62	6.0	0.355		35.28	50	6.0	0.015		7.25	250
5/29/2019	1240	5.8	0.21		27.14	42	5.6	0.33		34.02	17.9	6.0	0.023		8.98	110
5/29/2019	1400	5.8	0.21		27.14	30.2	5.9	0.41		37.92	4.8	6.0	0.032		10.6	44
5/29/2019	1500	5.2	0.21		27.14	21	5.5	0.37		36.02	4	5.4	0.020		8.37	16
6/13/2019	1415	8.5	0.21		27.1	3.2	5.0	0.32		33.5	1.8	4.1	0.050		13.24	0.1
6/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/18/2019	1540	3.4	0.10		18.73	0.3	3.2	0.38		36.5	5.8	3.3	0.160		23.69	34.4
8/23/2019	1130	4.0	0.16		23.12	87.7	3.8	0.53		42.3	6.1	4.1	0.020		8.20	7.3
9/18/2019	945	3.8	0.16		23.35	19.2	3.6	0.44		39.11	0.9	3.9	0.025		9.32	1.0
9/23/2019	930	4.3	0.18		24.78	32.2	4.1	0.58		45.02	2.8	4.5	0.032		10.53	181
10/22/2019	1120	13.0	0.22		27.27	12.8	11.9	1.48		71.03	2.8	12.3	0.129		20.94	121
11/27/2019	1045	14.5	0.25		29.13	2.7	14.3	2.17		85.59	0.4	14.2	0.123		20.40	1.1
12/18/2019	1010	10.3	0.03		10.46	0.1	9.8	1.5		71.65	0.1	10.4	0.018		7.84	0.1
2/4/2020	1000	16.2	0.41		37.15	--	15.7	0.7		47.53	--	17.2	0.003		3.17	--
2/21/2020	1200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2/26/2020	930	24.8	0.27		29.84	0.0	27.3	0.021		8.29	0.0	27.5	0.070		15.14	0.0
4/1/2020	910	11.4	2.46		91.64	0.1	10.4	0.612		45.73	0.2	11.5	0.067		15.11	0.1
5/7/2020	820	7.2	0.26		29.93	0.3	7.1	1.03		59.57	0.2	7.0	0.003		3.22	0.3
6/2/2020	852	5.6	0.22		27.52	0.0	5.2	0.75		50.89	0.0	6.5	0.013		6.70	0.0
7/31/2020	1200	4.6	0.19		25.46	0.0	4.3	0.70		49.32	0.0	4.8	0.000		0.00	0.0
8/5/2020	1100	4.5	0.19		25.31	--	4.1	0.70		48.61	--	4.7	0.000		5.01	--
10/2/2020	1245	4.8	0.19		25.46	8.4	4.5	0.75		51.10	0.2	5.0	0.000		6.41	0.0
11/6/2020	900	10.9	0.09		16.95	2.5	9.7	1.44		69.87	0.0	10.9	0.000		12.98	0.0
12/9/2020	1309	13.9	0.06		14.38	0.1	12.3	1.66		76.28	0.5	12.8	0.000		14.61	0.1
1/7/2021	1049	13.8	0.14		21.78	1.1	13.2	1.66		75.05	0.0	14.4	0.000		--	0.0
3/2/2021	1400	17.8	0.22		26.91	0.0	17.0	0.61		45.31	0.0	18.3	0.000		18.53	0.0
4/7/2021	930	9.8	0.20		26.36	0.0	9.1	1.22		64.56	0.1	10.0	0.000		5.80	0.0
5/17/2021	930	7.5	0.32		33.19	0.0	7.1	1.02		59.28	0.0	7.8	0.000		4.78	0.0
6/15/2021	1100	7.4	0.32		32.93	0.0	7.0	1.02		59.14	0.0	7.7	0.000		4.66	0.0
8/25/2021	1240	7.3	0.33		33.86	3.2	6.9	1.07		60.85	0.2	7.7	0.000		--	0.0
10/13/2021	1205	10.9	0.12		20.07	3.9	10.1	1.41		69.46	0.0	11.1	0.000		17.00	0.0
1/3/2022	1330	16.2	0.05		12.71	0.2	14.7	1.55		72.45	0.2	15.5	0.000		16.22	0.2
2/23/2022	1135	12.6	0.25		29.20	0.1	11.7	0.89		55.18	0.0	12.9	0.000		11.65	0.0
5/12/2022	915	8.7	0.29		31.33	0.0	8.2	1.03		59.34	0.1	8.9	0.000		10.88	0.0
5/26/2022	1404	7.8	0.29		31.36	--	7.7	1.07		60.67	--	8.5	0.000		1.40	--
8/10/2022	1020	7.7	0.30		31.68	0.0	7.2	0.99		57.39	0.0	7.9	0.000		10.86	0.0
10/10/2022	1420	7.7	0.30		32.02	1.2	7.2	1.00		58.54	0.2	7.9	0.000		9.34	0.0
12/16/2022	1200	15.3	0.00		17.83	0.0	13.6	2.18		85.96	9.5	15.3	0.000		18.11	0.0
12/29/2023	11:30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/6/2023	1320	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/26/2023	1153	16.5	0.00		18.36	--	14.8	2.23		91.43	--	16.6	0.004		18.32	--
2/27/2023	1200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3/10/2023	903	15.3	0.00		18.19	0.0	13.7	1.99		82.18	0.0	15.4	0.000		21.24	0.0
3/17/2023	1345	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4/10/2023	1439	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/11/2023	1315	14.4	0.00	619	14.42	0.0	12.9	2.16	--	85.6	0.0	14.4	0.00	627	14.61	0.0
5/22/2023	1200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/12/2023	1150	31.7	0.0	544	12.68	0.0	5.2	0.845	2974	54.08	0.0	31.8	0.0	683	15.92	0.0

		CSVE-9					CSVE-10				
Date	Time	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)
5/29/2019	1210	6.0	0.204		26.75	35	5.6	0.315		33.23	1.2
5/29/2019	1240	6.0	0.210		27.14	24	6.0	0.340		34.53	1.0
5/29/2019	1400	6.0	0.190		25.81	19.5	5.2	0.320		33.50	1.3
5/29/2019	1500	5.7	0.200		26.48	95	6.0	0.330		34.02	1.4
6/13/2019	1415	4.7	0.200		26.50	56	5.0	0.320		33.50	1.4
6/24/2019	--	--	--	--	--	--	--	--	--	--	--
7/16/2019	--	--	--	--	--	--	--	--	--	--	--
7/18/2019	1540	3.5	0.110		19.64	165	3.4	0.160		23.69	48.1
8/23/2019	1130	4.2	0.143		21.92	12.5	4.0	0.239		28.35	0.0
9/18/2019	945	3.9	0.145		22.44	1.2	3.8	0.246		29.23	0.0
9/23/2019	930	4.5	0.166		23.99	235.2	4.5	0.165		23.92	33.9
10/22/2019	1120	12.5	0.039		11.51	20.7	13.1	0.004		3.68	0.4
11/27/2019	1045	17.3	0.004		3.66	0.8	16.7	0.022		8.60	0.4
12/18/2019	1010	10.9	0.003		3.20	0.1	10.2	0.005		4.13	0.1
2/4/2020	1000	16.4	0.000		0.00	--	17.1	0.003		3.17	--
2/21/2020	1200	--	--	--	--	--	--	--	--	--	--
2/26/2020	930	27.2	0.101		18.18	0.3	27.4	0.010		5.72	0.2
4/1/2020	910	11.5	0.832		53.24	0.1	11.7	0.081		16.61	0.1
5/7/2020	820	7.7	0.007		4.91	0.2	7.4	0.000		0.00	0.3
6/2/2020	852	5.8	0.113		19.76	0.2	6.0	0.003		3.22	0.0
7/31/2020	1200	4.7	0.182		25.12	0.0	4.8	0.000		0.00	0.0
8/5/2020	1100	4.6	0.19		25.30	--	4.7	0.000		4.78	--
10/2/2020	1245	4.9	0.17		24.41	0.1	5.0	0.000		6.06	0.1
11/6/2020	900	11.5	0.03		9.72	0.0	10.9	0.000		13.34	0.0
12/9/2020	1309	13.8	0.00		15.03	0.2	12.9	0.000		14.19	0.1
1/7/2021	1049	14.2	0.0		--	0.0	14.6	0.000		--	0.0
3/2/2021	1400	17.8	0.000		18.04	0.1	18.2	0.000		18.78	0.2
4/7/2021	930	10.2	0.0		6.2	0.0	10.2	0.000		5.92	0.0
5/17/2021	930	8.1	0.0		4.85	0.0	8.0	0.000		4.68	0.0
6/15/2021	1100	7.8	0.0		4.57	0.0	7.8	0.007		4.91	0.0
8/25/2021	1240	7.8	0.0		--	0.0	7.8	0.000		--	0.0
10/13/2021	1205	11.2	0.0		21.09	0.0	11.2	0.000		35.2	0.0
1/3/2022	1330	15.9	0.0		15.96	0.2	16.0	0.000		17.52	0.1
2/23/2022	1135	12.8	0.0		6.06	0.0	12.8	0.000		6.76	0.0
5/12/2022	915	9.1	0.0		11.23	0.0	9.0	0.000		11.42	0.0
5/26/2022	1404	8.6	0.0		1.28	--	8.6	0.000		1.35	--
8/10/2022	1020	8.0	0.0		11.23	0.0	8.0	0.000		11.21	0.0
10/10/2022	1420	8.0	0.0		9.46	0.0	8.0	0.000		9.65	0.0
12/16/2022	1200	15.5	0.0		18.02	0.0	15.5	0.000		18.48	0.0
12/29/2023	11:30	--	--	--	--	--	--	--	--	--	--
1/6/2023	1320	--	--	--	--	--	--	--	--	--	--
1/26/2023	1153	16.7	0.0		18.62	--	16.7	0.000		18.29	--
2/27/2023	1200	--	--	--	--	--	--	--	--	--	--
3/10/2023	903	15.5	0.0		21.34	0.0	15.5	0.000		20.88	0.0
3/17/2023	1345	--	--	--	--	--	--	--	--	--	--
4/10/2023	1439	--	--	--	--	--	--	--	--	--	--
5/11/2023	1315	14.6	0.00	652	15.19	0.0	14.6	0.00	625	14.56	0.0
5/22/2023	1200	--	--	--	--	--	--	--	--	--	--
7/12/2023	1150	31.9	0.00	688	16.03	0.0	31.7	0.00	676	15.75	0.0

Date	Time	Benzene Analytical Results (ug/m3)	Benzene Analytical Results (nl/ml)	Benzene Concentration[1] (mg/m3)	Benzene Removal Rate[2] (lbs/day)	Amount of Benzene Removed Between Testing[3] (lbs)	Total Amount of Benzene Removed to Date[4] (lbs)	GRO Analytical Results (ug/m3)	GRO Analytical Results (nl/ml)	GRO Concentration[1] (mg/m3)	GRO Removal Rate[2] (lbs/day)	Amount of GRO Removed Between Testing[3] (lbs)	Total Amount of GRO Removed to Date[4] (lbs)
5/29/2019	1210	-	-	-	-	-	-	-	-	-	-	-	-
5/29/2019	1240	-	-	-	-	-	-	-	-	-	-	-	-
5/29/2019	1400	-	-	-	-	-	-	-	-	-	-	-	-
5/29/2019	1500	-	<0.31	0.49	0.006	-	-	-	<21		0.000	-	-
6/13/2019	1415	-	-	-	-	-	-	-	-	-	-	-	-
6/24/2019	--	-	0.72	2.30	0.269	2.01	2.01	-			-	-	-
7/16/2019	--	-	-	-	-	-	-	-	-	-	-	-	-
7/18/2019	1540	0.578	-	0.0006	0.0000	0.821	2.8297	32800	-	32.8	0.3862	2.361	2.361
8/23/2019	1130	0.372	-	0.0004	0.0000	0.000	2.8297	2650	-	2.65	0.0306	1.259	3.620
9/18/2019	945	-	-	-	-	-	-	-	-	-	-	-	-
9/23/2019	930	<0.286	-	0.0001	0.0000	0.000	2.8298	151000	-	151	1.5901	7.838	11.458
10/22/2019	1120	<2.86	-	0.0014	0.0000	0.000	2.8300	110000	-	110	1.2102	40.715	52.172
11/27/2019	1045	-	-	-	-	-	-	-	-	-	-	-	-
12/18/2019	1010	<0.286	-	0.0001	0.0000	0.000	2.8303	837	-	0.84	0.0071	17.628	69.800
2/4/2020	1000	<0.286	-	0.0001	0.0000	0.000	2.8303	105	-	0.11	0.0008	0.189	69.990
2/21/2020	1200	-	-	-	-	-	-	-	-	-	-	-	-
2/26/2020	930	-	-	-	-	-	-	-	-	-	-	-	-
4/1/2020	910	<0.286	-	0.0001	0.0000	0.000	2.8304	43.6	-	0.04	0.0003	0.029	70.019
5/7/2020	820	<0.286	-	0.0001	0.0000	0.000	2.8304	29.5	-	0.03	0.0003	0.010	70.028
6/2/2020	852	<0.286	-	0.0001	0.0000	0.000	2.8304	234	-	0.23	0.0022	0.028	70.056
7/31/2020	1200	-	-	-	-	-	-	-	-	-	-	-	-
8/5/2020	1100	-	-	-	-	-	-	-	-	-	-	-	-
10/2/2020	1245	-	-	-	-	-	-	-	-	-	-	-	-
11/6/2020	900	-	-	0.0001	0.0000	0.000	2.8306	1580	-	1.58	0.0134	1.010	71.066
12/9/2020	1309	-	-	-	-	-	-	-	-	-	-	-	-
1/7/2021	1049	-	-	-	-	-	-	-	-	-	-	-	-
3/2/2021	1400	<0.319	-	0.0002	0.0000	0.000	2.8307	<164	-	0.0820	0.0005	0.714	71.780
4/7/2021	930	-	-	-	-	-	-	-	-	-	-	-	-
5/17/2021	930	<2.6	-	0.0013	0.0000	0.000	2.8311	58000	-	58.0	0.4083	15.255	87.034
6/15/2021	1100	<5.8	-	0.0029	0.0000	0.000	2.8314	85000	-	85.0	0.5886	9.157	96.192
8/25/2021	1240		-	0.0010	0.0000	0.000	2.8316	3600	-	3.6	0.0275	5.177	101.368
10/13/2021	1205	-	-	-	-	-	-	-	-	-	-	-	-
1/3/2022	1330	-	-	-	-	-	-	-	-	-	-	-	-
2/23/2022	1135	<1.9	-	0.0010	0.0000	0.001	2.8328	6900	-	6.9	0.0601	6.692	108.060
5/12/2022	915	<1.5	-	0.0008	0.0000	0.001	2.8340	<1500	-	0.8	0.0064	2.551	110.611
5/26/2022	1404	-	-	-	-	-	-	-	-	-	-	-	-
8/10/2022	1020	<3.5	-	0.0018	0.0000	0.001	2.8347	3800	-	3.8	0.0323	1.399	112.010
10/10/2022	1420	<2.8	-	0.0014	0.0000	0.001	2.8352	34000	-	34.0	0.2543	8.251	120.261
12/16/2022	1200	<5.1	-	0.0026	0.0000	0.002	2.8367	18000	-	18.0	0.1427	10.899	131.161
12/29/2023	11:30	--	--	--	--	--	--	--	--	--	--	--	--
1/6/2023	1320	--	--	--	--	--	--	--	--	--	--	--	--
1/26/2023	1153	--	--	--	--	--	--	--	--	--	--	--	--
2/27/2023	1200	--	--	--	--	--	--	--	--	--	--	--	--
3/10/2023	903	5.4	-	0.0054	0.0000	0.001	2.8380	2700	-	2.7	0.0209	3.481	134.641
3/17/2023	1345	--	--	--	--	--	--	--	--	--	--	--	--
4/10/2023	1439	--	--	--	--	--	--	--	--	--	--	--	--
5/11/2023	1315	<2.5	--	0.0013	0.0000	0.0015	2.8395	12000	-	12	0.086	3.1688	137.810
5/22/2023	1200	--	--	--	--	--	--	--	--	--	--	--	--
7/12/2023	1150	<2.6	--	0.0013	0.0000	0.0003	2.8399	30305	-	30.305	0.1567	5.4161	143.226

NOTES:
[1]flow rate not measured, assumed value for performance calculation.
-- denotes not collected

dp = differential pressure
F = degrees Fahrenheit
ft^3 = cubic feet

mg = milligrams
ml - milliliter
nl = nonoliter

dp = differential pressure
F = degrees Fahrenheit
ft^3 = cubic feet

mg = milligrams
ml - milliliter
nl = nonoliter

Table 1
SVE System and Well Data
Cenex Auburn Site
Auburn, Washington
Farallon PN: 301-004

											CSVE-1					CSVE-5					CSVE-7					CSVE-9					CSVE-10																
Date	Time	System Vacuum, pre-KO (IOW)	System Vacuum, post-KO (IOW)	System Flow Rate, Stack (dp)	System Flow Rate, Stack (SCFM)	Total Blower Run Time (hours)	Blower Running (Amps)	Blower Frequency (Hz)	Blower Effluent Temperature (F)	VOC Concentration, Vent Stack (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Well Vacuum (IOW)	Flow Rate (dp)	Thermal Anemometer (FPM)	Flow Rate (SCFM)	PID Reading (ppm)	Benzene Analytical Results (ug/m3)	Benzene Analytical Results (nl/ml)	Benzene Concentration[1] (mg/m3)	Benzene Removal Rate[2] (lbs/day)	Amount of Benzene Removed Between Testing[3] (lbs)	Total Amount of Benzene Removed to Date[4] (lbs)	GRO Analytical Results (ug/m3)	GRO Analytical Results (nl/ml)	GRO Concentration[1] (mg/m3)	GRO Removal Rate[2] (lbs/day)	Amount of GRO Removed Between Testing[3] (lbs)	Total Amount of GRO Removed to Date[4] (lbs)

CALCULATIONS:

[1] Benzene concentration (mg/m^3) = either ug/l = mg/m^3 or (ppmv)*3.19

[2] Benzene removal rate (lbs/day) = (Flow rate scfm)*(Benzene concentration mg/m^3)*(1/35.3 m3/ft^3)*(1440 minutes/day)*(1/453592.4 lbs/mg)

[3] Benzene removed (lbs) = average (Benzene removal rate lbs/day)*(operating hours between sampling events)(1 day/24 hours)

[4] Total Amount Removed to Date (lbs) = Previous Total Amount Removed + Amount Removed Between Sampling Events

Hz = hertz
IOW = inches of water
l = liter
lbs = pounds
KO = knockout
m^3 = cubic meters
µg = microgram
ppm = parts per million measured by photoionization detector (PID) calibrated using isobutylene span gas
ppmv = parts per million volume
psi = pounds per square inch
SCFM = standard cubic feet per minute
SVE = soil vapor extraction
VOC = volatile organic compound

Hz = hertz
IOW = inches of water
l = liter
lbs = pounds
KO = knockout
m^3 = cubic meters
µg = microgram
ppm = parts per million measured by photoionization detector (PID) calibrated using isobutylene span gas
ppmv = parts per million volume
psi = pounds per square inch
SCFM = standard cubic feet per minute
SVE = soil vapor extraction
VOC = volatile organic compound

Table 2
AS System and Well Data
Cenex Auburn Site
Auburn, Washington
Farallon PN: 301-004

Date	Time	Compressor Total Run Time (hrs)	Compressor Running Amps	Compressor Frequency (Hz)	Pre-Cooling Temperature (F)	Post-Cooling Temperature (F)	System Pressure (psi)	CAS-1		CAS-2		CAS-3		CAS-4		CAS-5		CAS-7		CAS-12		CAS-14		CAS-15		CAS-16		CAS-17		CAS-18		CAS-19		CAS-20		CAS-21		CAS-22		TOTAL Flow Rate (SCFM)
								Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	
5/29/2019	1415	--	--	--	152	105	9.2	0.0	2.8	9.9	0.8	8.3	0.9	9.8	0.0	8.9	0.0	3.0	3.1	10.3	0.0	9.1	6.2	8.2	2.9	8.9	3.2	9.9	0.0	9.0	3.7	6.7	3.2	5.9	2.9	6.8	3.1	8.1	3.0	35.8
	1600	--	--	--	--	--	--	8.9	0.6	9.1	0.8	7.7	2.8	9.3	0.7	8.0	3.1	3.0	3.0	10.2	0.6	6.0	3	7.0	2.9	7.7	3.3	9.1	0.8	6.2	3.1	5.5	3.2	4.0	3.1	5.5	3.0	7.0	3.4	37.4
6/13/2019	1415	70.0	8.3	60	--	--	9.0	9.2	0.0	9.2	0.0	5.3	3.3	9	3	7.5	3	9.5	1.7	0.0	0.0	5.2	2.9	6.8	2.5	7.1	2.9	9.2	1.2	5.9	3.2	5	3	4.3	2.9	5.3	2.4	6.9	3.0	35.0
7/18/2019	1540	496.0	8.3	60	160	120	10.0	8.9	0.0	9.0	0.0	7.1	3.1	9.0	3.3	7.5	2.9	9.1	2.3	0.0	0.0	5.0	2.5	6.8	2.7	7.0	2.9	9.7	1.7	5.0	2.9	4.5	3.0	4.2	3.0	5.0	2.4	7.0	2.5	35.2
7/19/2019	1230	517.8	8.3	60	155	110	10.9	9.8	0.0	9.0	0.0	8.0	3.1	9.0	3.7	8.0	2.9	10.9	2.8	0.0	0.0	5.5	2.6	7.0	2.7	7.2	3.0	9.7	1.7	5.9	3.0	5.0	3.0	5.0	3.1	5.4	2.4	7.0	2.5	36.5
8/23/2019	1130	641.0	8.5	60	155	114	10.2	9.6	0.0	9.0	0.0	7.8	2.9	9.0	2.3	7.9	3.0	10.1	3.4	10.0	0.0	5.1	2.5	7.0	2.8	7.1	2.9	9.1	1.7	5.7	3.0	4.9	3.0	5.0	3.1	5.2	2.4	7.0	2.7	35.7
9/18/2019	1005	766.8	8.3	60	145	105	11.2	10.0	0.0	9.0	0.0	8.1	3.4	9.0	2.6	8.3	3.5	10.1	3.7	10.0	0.0	5.7	2.6	7.1	2.9	7.5	3.1	9.6	2.2	6.1	3.1	5.2	3.1	5.3	2.9	5.8	2.2	7.8	0.0	35.3
9/23/2019	1030	885.1	8.3	60	147	104	11.4	10.0	0.0	9.0	0.0	8.4	3.5	9.1	3.0	8.6	2.9	10.1	3.2	10.0	0.0	5.9	2.7	7.2	2.8	7.7	3.2	9.9	2.3	6.0	3.1	5.2	3.1	5.5	2.9	5.9	2.3	7.4	0.0	35.0
10/22/2019	1205	1583	8.3	60	147	105	12.2	10.5	0.0	9.1	0.0	9.1	3.5	9.8	3.2	9.0	3.4	10.2	3.2	10.0	0.0	6.2	2.6	8.0	2.9	8.2	3.1	10.1	2.4	7.0	3.0	6.0	3.1	6.2	2.8	6.0	2.2	8.0	2.6	38.0
	1355	--	--	--	--	--	--	Closed		9.1	2.9	9.0	2.9	9.7	2.8	9.0	3.4	10.2	2.4	10.2	1.6	6.2	2.5	8.0	2.9	8.1	3.0	10.0	2.4	7.0	3.0	6.0	3.0	6.1	2.8	6.0	2.2	8.0	2.6	40.4
11/27/2019	1045	2235	8.6	60	95	55	14.7	Closed		10.8	3.3	11.0	3.2	11.0	2.7	11.1	3.1	10.8	1.9	10.6	1.9	8.0	2.6	9.7	2.7	9.8	3.0	11.2	1.6	9.0	3.0	8.0	2.8	8.9	2.8	7.5	1.9	9.9	2.7	39.2
12/18/2019	1010	2278	8.3	60	135	92	12.0	Closed		9.9	3.5	10.0	3.5	10.5	2.8	10.1	3.1	11.0	1.2	10.6	1.9	7.1	2.7	9.0	2.8	9.0	3.2	11.0	1.9	8.0	3.1	7.0	2.8	7.1	2.8	6.9	1.9	8.9	2.7	39.9
2/4/2020	1030	3430	8.5	60	150	98	14.0	Closed		12.4	3.5	12.2	2.9	13.0	2.6	12.3	3.0	13.1	1.2	13.0	1.9	9.4	2.5	11.0	2.6	11.2	3.0	13.0	2.0	9.9	2.9	9.0	2.6	9.2	2.7	9.1	1.8	11.0	2.7	37.9
2/21/2020	1200	3840	8.6	60	160	110	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2/26/2020	930	3840	8.8	60	150	100	15.0	Closed		14.5	3.5	14.6	3.2	14.5	2.6	15.0	3.5	13.5	2.4	13.5	1.7	11.0	1.5	13.0	2.1	13.0	3.0	15.0	1.6	12.5	2.7	11.5	2.6	12.2	2.8	10.5	1.7	13.3	2.6	37.5
4/1/2020	910	4679	8.5	60	150	106	14.0	Closed		12.2	3.3	12.0	3.2	12.6	2.5	12.0	3.5	12.9	2.3	12.9	1.7	9.0	1.7	10.9	2.2	11.0	3.0	12.9	1.7	9.5	2.9	8.8	2.6	9.0	2.8	8.9	1.7	10.9	2.6	37.7
5/7/2020	910	5448	8.4	60	150	111	13.6	Closed		11.9	3.5	11.3	3.2	12.1	2.5	11.3	3.5	12.3	2.3	12.2	1.7	8.3	1.1	10.1	2.1	10.4	3.0	12.1	1.9	8.8	2.7	8.0	2.6	8.1	2.9	8.1	1.7	10.1	2.6	37.3
6/2/2020	852	6009	8.4	60	155	110	13.2	Closed		11.5	3.4	11.1	3.1	11.9	2.5	11.1	3.5	12.0	2.3	11.9	1.9	7.9	1.2	9.7	2.2	10.0	3.0	12.0	2.0	8.4	2.7	7.8	2.5	8.0	2.8	7.8	1.7	9.9	2.6	37.4
7/31/2020	1200	7173	8.4	60	155	113	13.2	Closed		10.2	4.6	10.2	3.3	10.9	2.6	10.4	3.5	11.3	1.9	11.1	1.8	6.8	1.2	8.3	2.2	9.1	2.9	11.9	2.0	7.0	2.7	6.2	2.5	7.1	2.8	7.0	1.7	9.0	2.0	37.7
8/5/2020	1100	7177	8.6	60	148	110	13.8	Closed		7.3	3.0	11.1	2.9	11.3	2.5	11.4	2.8	11.2	2.6	11.0	2.2	7.2	1.0	9.1	2.2	10.0	2.9	11.5	2.5	8.9	2.7	7.6	2.5	8.8	2.7	7.7	1.7	9.8	2.0	36.2
10/2/2020	1245	8291	8.3	60	155	110	12.2	Closed		4.9	2.9	10.2	2.8	10.8	2.5	10.0	3.2	10.8	3.2	10.5	2.7	6.2	1.2	8.7	2.2	9.2	2.9	11.1	2.6	7.9	2.7	6.8	2.5	7.8	2.9	6.4	1.8	8.9	1.9	38.0
11/6/2020	900	9128	8.3	60	145	95	12.5	Closed		5.6	3.0	11.4	3.1	11.3	2.5	11.1	3.2	11.0	3.0	10.8	2.7	7.1	1.1	9.7	2.2	10.0	3.0	11.9	2.6	9.0	2.7	8.0	2.4	9.1	3.0	7.2	1.7	9.8	1.8	38.0
12/9/2020	1309	9768	8.4	60	150	100	13.5	Closed		Closed		11.7	3.3	11.5	2.3	11.5	3.7	11.6	4.0	11.1	2.7	8.9	1.1	10.0	2.1	10.2	3.0	12.3	3.1	8.9	2.7	7.9	2.4	8.8	3.0	7.9	1.9	9.9	1.8	37.1
1/7/2021	1049	10307	8.6	60	135	81	14.1	Closed		Closed		13.8	3.1	13.1	2.4	13.9	3.4	14.0	3.1	14.0	2.7	9.9	2.1	12.0	2.3	12.1	3.0	14.1	3.0	11.5	2.6	10.1	2.4	11.1	3.0	9.5	1.6	11.7	1.7	36.4
2/1/2021	1400	--	--	--	160	105	15.1	12.8	0.6	13.1	0.6	13.2	3.0	13.1	2.4	13.3	3.2	14.0	3.4	14.0	2.8	9.4	1.9	11.4	2.3	12.0	3.0	13.9	3.0	10.3	2.6	9.7	2.3	10.6	2.9	9.6	1.8	11.7	1.7	37.5
3/2/2021	1400	11595	8.6	60	160	107	15.1	12.9	0.6	13.1	0.6	13.2	3.0	13.2	2.4	13.3	3.2	14.2	3.5	14.2	2.8	9.5	1.9	11.5	2.2	12.0	3.0	14.0	3.0	10.2	2.7	9.7	2.3	10.3	2.9	9.6	1.7	11.8	1.7	37.5
4/7/2021	930	12454	8.5	60	155	100	15.0	12.2	0.0	13.0	0.0	12.7	3.3	12.9	2.3	13.1	3.0	14.1	2.2	14.0	2.2	9.0	2.0	11.9	2.4	11.1	3.0	13.4	3.4	9.8	2.7	8.9	2.3	9.9	3.1	8.9	1.9	11.0	1.7	35.5
5/17/2021	930	13386	8.4	60	159	110	14.0	11.1	0.0	11.9	0.8	11.7	3.3	12.0	2.1	12.0	3.0	13.2	2.3	13.0	2.7	8.0	1.9	9.9	2.3	10.2	3.0	12.5	3.3	8.6	2.7	8.9	2.3	8.9	3.1	9.0	1.9	9.9	1.7	36.4
6/15/2021	1100	13827	8.4	60	165	120	14.0	11.1	0.0	11.5	0.9	11.5	3.1	11.9	2.2	11.2	3.1	12.9	2.4	12.1	2.7	7.9	1.9	9.9	2.3	10.4	2.9	12.6	3.0	8.9	2.7	7.9	2.3	8.4	3.0	7.8	1.9	9.6	1.7	36.1
8/17/2021	1402	14181	9.0	60	183	115	18.5	15.8	0.5	10.1	1.0	Closed		Closed		Closed		Closed		Closed		6.9	3.2	8.9	4.0	10.0	6.0	11.2	4.0	9.1	7.0	7.0	5.1	7.5	4.7	Closed		Closed		35.5
8/25/2021	1240	14230	8.8	60	190	130	17.8	14.2	0.5	9.5	1.4	Closed		Closed		Closed		Closed		Closed		5.9	3.3	7.9	3.8	9.1	5.9	10.4	3.5	8.0	7.5	6.0	5.0	6.1	4.4	Closed		Closed		35.3
10/13/2021	1205	15261	7.9	60	132	96	18.0	Closed		11.0	1.4	Closed		Closed		Closed		Closed		Closed		8.0	3.4	10.1	4.0	11.2	5.9	12.3	3.7	12.5	7.0	9.0	5.0	10.2	4.5	Closed		Closed		34.9
1/3/2022	1330	16676	8.9	60	175	105	19.5	15.6	2.3	13.0	1.3	Closed		Closed		Closed		Closed		Closed		9.9	3.1	12.0	3.7	13.0	5.2	14.1	3.3	12.9	7.1	10.6	4.1	10.8	4.1	Closed		Closed		34.2
2/23/2022	1135	17897	9.1	60	170	110	20.0	18.0	1.9	13.9	1.2	Closed		Closed		Closed		Closed		Closed		10.9	3.1	12.9	3.9	13.5	5.3	14.9	3.6	13.5	7.3	11.1	4.6	11.3	4.2	Closed		Closed		35.1

Table 2
AS System and Well Data
Cenex Auburn Site
Auburn, Washington
Farallon PN: 301-004

Date	Time	Compressor Total Run Time (hrs)	Compressor Running Amps	Compressor Frequency (Hz)	Pre-Cooling Temperature (F)	Post-Cooling Temperature (F)	System Pressure (psi)	CAS-1		CAS-2		CAS-3		CAS-4		CAS-5		CAS-7		CAS-12		CAS-14		CAS-15		CAS-16		CAS-17		CAS-18		CAS-19		CAS-20		CAS-21		CAS-22		TOTAL Flow Rate (SCFM)
								Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	Well Pressure (psi)	Flow Rate (SCFM)	
5/12/2022	915	19740	9.0	60	185	110	20.0	17.5	2.1	13.0	1.3	Closed		Closed		Closed		Closed		Closed		9.5	2.7	11.5	3.9	12.5	5.5	14.0	3.5	12.8	7.2	10.0	4.7	10.6	4.2	Closed		Closed		35.1
5/26/2022	1404	19936	9.1	60	145	86	19.5	16.8	1.0	12.1	2.0	Closed		Closed		Closed		Closed		Closed		10.0	3.4	12.1	3.8	12.8	5.1	14.1	3.2	13.9	6.4	10.2	4.4	10.1	3.9	Closed		Closed		33.2
8/10/2022	1020	21479	8.8	60	185	124	17.9	15.0	1.0	0.0	3.4	Closed		Closed		Closed		Closed		Closed		7.9	3.5	10.0	4.0	10.8	5.3	12.1	3.2	10.2	7.2	8.0	4.5	8.3	4.1	Closed		Closed		36.2
8/10/2022	1200	21491	8.8	60	185	124	--	15.9	1.5	Closed		Closed		Closed		Closed		Closed		Closed		7.9	3.7	10.0	4.3	11.0	5.7	12.0	3.5	10.1	7.6	8.0	4.8	8.4	4.3	Closed		Closed		35.4
10/10/2022	1420	22861	8.7	60	195	124	18.1	15.3	1.0	Closed		Closed		Closed		Closed		Closed		Closed		7.9	3.9	9.8	4.3	10.8	5.9	12.0	3.8	10.5	7.7	7.9	4.8	7.9	4.3	Closed		Closed		35.7
12/16/2022	1200	24179	8.9	60	195	106	19.5	16.9	2.5	Closed		Closed		Closed		Closed		Closed		Closed		9.5	4.0	11.9	4.3	12.1	5.9	13.6	3.8	12.1	7.7	10.1	4.9	8.9	4.3	Closed		Closed		37.4
12/29/2023	1130	24415	9.2	60	-	-	-	-	-	-		-		-		-		-		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
3/10/2023	903	24546	0.0	0	-	-	-	-	-	-		-		-		-		-		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
3/17/2023	1345	24547	8.9	60	180	116	20.0	17.2	0.1	12.8	1.0	Closed		Closed		Closed		Closed		Closed		10.3	3.7	12.9	4.1	13.0	5.7	14.7	3.5	13.1	7.5	11.0	4.6	9.9	3.6	Closed		Closed		33.8
4/10/2023	1439	25061	-	-	-	-	-	-	-	-	-	Closed		Closed		Closed		Closed		Closed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	Closed		Closed		-
5/11/2023	1315	25801	8.6	50.0	176	112	16.5	13.8	0.5	11.5	0.5	Closed		Closed		Closed		Closed		Closed		9.0	3.1	11.1	3.3	11.2	4.3	13.0	2.4	10.9	6.3	9.1	3.8	7.9	3.0	Closed		Closed		27.2
5/22/2023	1200	25840	-	-	-	-	-	-	-	-		-		-		-		-		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
7/12/2023	1150	26873	8.4	50.0	170.0	120.0	15.5	12.5	0.5	10.2	0.5	Closed		Closed		Closed		Closed		Closed		8.0	3.2	10.0	3.4	10.5	4.5	12.0	2.6	9.5	6.3	8.0	3.9	6.1	3.1	Closed		Closed		28.0

NOTES:
-- denotes not collected

AS = air sparge
dp = differential pressure
hrs = hours
Hz - hertz
F = degrees Fahrenheit
IOW = inches of water
psi = pounds per square inch
SCFM = standard cubic feet per minute

Table 3
Air Analytical Data
Cenex Auburn Site
Auburn, Washington
Farallon PN: 301-004

Sample Location	Sample Identification	Sample Methodology	Sample Date	Analytical Results (nanoliter per microliter [ppmv])				
				Benzene	Toluene	Ethylbenzene	Total Xylenes	GRO
SVE System	Effluent	EPA 2021B	5/29/2019	< 0.31	< 0.26	< 0.23	< 0.46	< 21
		EPA 2021B	6/24/2019	0.72	< 0.26	<0.23	< 0.46	< 21
		EPA TO-15	7/18/2019	0.000181	0.000623	0.00171	0.0031	8.030 E*
		EPA TO-15	8/23/2019	0.000116	0.000610	0.00287	0.0126	0.647
		EPA TO-15	9/23/2019	< 0.0000895	< 0.0004	0.00294	0.0075	36.9 E
		EPA TO-15	10/22/2019	< 0.000895	< 0.0040	< 0.0040	< 0.016	27.0 E
		EPA TO-15	12/18/2019	< 0.0000895	< 0.00040	< 0.00040	< 0.0016	0.205
		EPA TO-15	2/4/2020	< 0.0000895	< 0.00040	< 0.00040	< 0.0016	0.026
		EPA TO-15	4/1/2020	< 0.0000895	< 0.00040	< 0.00040	< 0.0016	0.011
		EPA TO-15	5/7/2020	< 0.0000895	< 0.00040	< 0.00040	< 0.0016	0.007
		EPA TO-15	6/2/2020	< 0.0000895	< 0.00040	< 0.00040	< 0.0016	0.057
		EPA TO-15	11/6/2020	< 0.0000895	< 0.00040	< 0.00040	< 0.0016	0.385
		EPA TO-15	3/2/2021	< 0.000100	< 0.00100	< 0.00400	< 0.0060	< 0.040
		EPA TO-15	5/17/2021	< 0.0008	< 0.04	< 0.0008	0.00323	14
		EPA TO-15	6/15/2021	<0.0018	<0.09	<0.0018	<0.0054	21
		EPA TO-15	8/25/2021	<0.00061	<0.03	<0.00061	<0.00181	0.87
		EPA TO-15	2/23/2022	<0.0006	<0.03	<0.0006	0.00210	1.70
		EPA TO-15	5/12/2022	<0.00046	<0.023	<0.00046	<0.00138	<0.370
		EPA TO-15	8/10/2022	<0.0011	<0.055	<0.0011	<0.0033	3.80
		EPA TO-15	10/10/2022	<0.00087	<0.043	0.0012	0.0093	8.30
		EPA TO-15	12/16/2022	<0.0016	<0.080	<0.0016	<0.0048	4.40
		EPA TO-15	3/10/2023	0.0017	<0.039	<0.00078	<0.00238	0.65
		EPA TO-15	5/11/2023	<0.00078	<0.039	<0.00078	0.00450	2.80
		EPA TO-15	7/12/2023	<0.00082	<0.016	0.0012	0.00770	9.50

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

E denotes estimated analytical value, result exceeds the linear working range of the laboratory equipment

* denotes result not within established laboratory control limits

EPA = U.S. Environmental Protection Agency

GRO = total petroleum hydrocarbons as gasoline-range organics

ppmv = parts per million volume

SVE = soil vapor extraction

Table 4
Summary of Groundwater Elevation Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Well Casing (feet)[1]	Measurement Date	Depth to Water (feet)[2]	Elevation (feet)[1]
CMW-2	88.9	1/17/2018	18.52	70.38
		7/31/2018	23.24	65.66
		1/22/2019	20.92	67.98
		8/21/2019	24.51	64.39
		11/25/2019	23.92	64.98
		2/25/2020	16.80	72.10
		5/27/2020	20.77	68.13
		11/11/2020	23.52	65.38
		5/24/2021	21.05	67.85
		11/29/2021	20.07	68.83
		5/26/2022	19.17	69.73
		11/30/2022	23.31	65.59
		5/30/2023	21.01	67.89
CMW-4	90.68	1/17/2018	20.08	70.60
		7/31/2018	25.60	65.08
CMW-6	90.66	1/17/2018	20.94	69.72
		7/31/2018	dry	dry
CMW-8	89.94	1/17/2018	20.55	69.39
		7/31/2018	25.31	64.63
		1/22/2019	22.95	66.99
		8/21/2019	26.52	63.42
		11/25/2019	25.90	64.04
		2/24/2020	18.88	71.06
		5/27/2020	22.86	67.08
		11/11/2020	25.45	64.49
		5/24/2021	23.12	66.82
		11/29/2021	22.23	67.71
		5/25/2022	21.25	68.69
		11/29/2022	25.55	64.39
		5/30/2023	23.05	66.89
CMW-10	NS	1/17/2018	18.80	NS
		7/31/2018	23.71	NS
		1/22/2019	21.32	NS
		8/21/2019	24.96	NS
		11/25/2019	24.40	NS
		2/25/2020	17.20	NS
		5/27/2020	21.23	NS
		11/11/2020	24.00	NS
		5/24/2021	21.48	NS
		11/29/2021	20.61	NS
		5/25/2022	19.57	NS
		11/29/2022	24.00	NS
		5/30/2023	21.45	NS

Table 4
Summary of Groundwater Elevation Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Well Casing (feet)[1]	Measurement Date	Depth to Water (feet)[2]	Elevation (feet)[1]
CMW-12	90.02	1/17/2018	20.12	69.90
		7/31/2018	25.84	64.18
		1/22/2019	22.45	67.57
		8/21/2019	26.07	63.95
		11/25/2019	25.47	64.55
		2/25/2020	18.43	71.59
		5/27/2020	22.35	67.67
		11/11/2020	25.04	64.98
		5/24/2021	22.60	67.42
		11/29/2021	21.77	68.25
		5/25/2022	20.68	69.34
		11/29/2022	25.08	64.94
		5/30/2023	22.55	67.47
CMW-13	89.67	1/17/2018	19.63	70.04
		7/31/2018	22.48[3]	67.19[3]
		1/22/2019	22.03	67.64
		8/21/2019	25.71	63.96
		11/25/2019	25.06	64.61
		2/25/2020	17.89	71.78
		5/27/2020	21.91	67.76
		11/11/2020	24.65	65.02
		5/24/2021	22.16	67.51
		11/29/2021	21.32	68.35
		5/25/2022	20.33	69.34
		11/29/2022	24.68	64.99
		5/30/2023	22.15	67.52
CMW-15	87.22	1/17/2018	17.78	69.44
		7/31/2018	22.53	64.69
CMW-25	NS	1/17/2018	18.96	NS
		7/31/2018	23.64	NS
		1/22/2019	21.35	NS
		8/21/2019	24.91	NS
		11/25/2019	24.40	NS
		2/24/2020	17.25	NS
		5/27/2020	21.16	NS
		11/11/2020	23.98	NS
		5/24/2021	21.44	NS
		11/29/2021	20.63	NS
		5/25/2022	19.57	NS
		11/29/2022	23.96	NS
		5/30/2023	21.45	NS

Table 4
Summary of Groundwater Elevation Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Well Casing (feet)[1]	Measurement Date	Depth to Water (feet)[2]	Elevation (feet)[1]
CMW-26	87.80	1/17/2018	17.31	70.49
		7/31/2018	21.97	65.83
		1/22/2019	19.64	68.16
		8/21/2019	23.24	64.56
		11/25/2019	22.67	65.13
		2/25/2020	15.56	72.24
		5/27/2020	19.50	68.30
		11/11/2020	22.30	65.50
		5/24/2021	19.74	68.06
		11/29/2021	18.93	68.87
		5/25/2022	17.90	69.90
		11/29/2022	22.30	65.50
		5/30/2023	19.77	68.03
CMW-27	89.10	1/17/2018	18.79	70.31
		7/31/2018	23.70	65.40
		1/22/2019	21.35	67.75
		8/21/2019	24.96	64.14
		11/25/2019	24.37	64.73
		2/25/2020	17.17	71.93
		5/27/2020	21.22	67.88
		11/11/2020	23.97	65.13
		5/24/2021	21.47	67.63
		11/29/2021	20.68	68.42
		5/25/2022	19.56	69.54
		11/29/2022	24.03	65.07
		5/30/2023	21.46	67.64
CMW-28	89.48	1/17/2018	19.13	70.35
		7/31/2018	23.89	65.59
		1/22/2019	21.55	67.93
		8/21/2019	25.14	64.34
		11/25/2019	24.56	64.92
		2/24/2020	17.39	72.09
		5/27/2020	21.39	68.09
		11/11/2020	24.15	65.33
		5/24/2021	21.64	67.84
		11/29/2021	20.80	68.68
		5/25/2022	19.77	69.71
		11/29/2022	24.16	65.32
		5/30/2023	21.70	67.78

Table 4
Summary of Groundwater Elevation Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Well Casing (feet)[1]	Measurement Date	Depth to Water (feet)[2]	Elevation (feet)[1]
CMW-29	88.03	1/17/2018	17.48	70.55
		7/31/2018	22.19	65.84
		1/22/2019	19.85	68.18
		8/21/2019	23.47	64.56
		11/25/2019	22.91	65.12
		2/24/2020	15.76	72.27
		5/27/2020	19.66	68.37
		11/11/2020	22.51	65.52
		5/24/2021	19.93	68.10
		11/29/2021	19.13	68.90
		5/25/2022	18.10	69.93
		11/29/2022	22.52	65.51
		5/30/2023	19.96	68.07
CMW-30	87.58	1/17/2018	16.82	70.76
		7/31/2018	21.52	66.06
		1/22/2019	19.19	68.39
		8/21/2019	22.84	64.74
		11/25/2019	22.28	65.30
		2/25/2020	15.16	72.42
		5/27/2020	19.02	68.56
		11/11/2020	21.88	65.70
		5/24/2021	19.28	68.30
		11/29/2021	18.53	69.05
		5/25/2022	17.45	70.13
		11/29/2022	21.81	65.77
		5/30/2023	19.31	68.27
CMW-31	89.02	1/17/2018	19.49	69.53
		7/31/2018	24.32	64.70
		1/22/2019	21.90	67.12
		8/21/2019	25.54	63.48
		11/25/2019	24.91	64.11
		2/24/2020	17.80	71.22
		5/27/2020	21.81	67.21
		11/11/2020	24.43	64.59
		5/24/2021	22.06	66.96
		11/29/2021	21.18	67.84
		5/25/2022	20.22	68.80
		11/29/2022	24.56	64.46
		5/30/2023	22.04	66.98

Table 4
Summary of Groundwater Elevation Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Well Casing (feet)[1]	Measurement Date	Depth to Water (feet)[2]	Elevation (feet)[1]
HMW-9	89.07	1/17/2018	19.47	69.60
		7/31/2018	24.25	64.82
		1/22/2019	21.85	67.22
		8/21/2019	25.45	63.62
		11/25/2019	24.84	64.23
		2/25/2020	17.84	71.23
		5/27/2020	21.76	67.31
		11/11/2020	24.40	64.67
		5/24/2021	22.00	67.07
		11/29/2021	21.18	67.89
		5/25/2022	20.18	68.89
		11/29/2022	24.50	64.57
		5/30/2023	21.97	67.10
HMW-10	89.18	1/17/2018	19.40	69.78
		7/31/2018	24.13	65.05
		1/22/2019	21.77	67.41
		8/21/2019	23.35	65.83
		11/25/2019	24.78	64.40
		2/24/2020	17.70	71.48
		5/27/2020	21.66	67.52
		11/11/2020	24.34	64.84
		5/24/2021	21.91	67.27
		11/29/2021	21.08	68.10
		5/25/2022	20.04	69.14
		11/29/2022	24.39	64.79
		5/30/2023	21.86	67.32
HMW-11	NS	1/17/2018	17.51	NS
		7/31/2018	22.27	NS
		1/22/2019	19.89	NS
		8/21/2019	23.30	NS
		11/25/2019	22.87	NS
		2/25/2020	15.82	NS
		5/27/2020	19.76	NS
		11/11/2020	22.46	NS
		5/24/2021	20.03	NS
		11/29/2021	19.25	NS
		5/25/2022	18.21	NS
		11/29/2022	22.52	NS
		5/30/2023	20.02	NS

Table 4
Summary of Groundwater Elevation Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Well Casing (feet)[1]	Measurement Date	Depth to Water (feet)[2]	Elevation (feet)[1]
HMW-13	88.32	1/17/2018	17.82	70.50
		7/31/2018	22.51	65.81
		1/22/2019	20.21	68.11
		8/21/2019	23.80	64.52
		11/25/2019	23.24	65.08
		2/24/2020	16.13	72.19
		5/27/2020	20.02	68.30
		11/11/2020	22.85	65.47
		5/24/2021	16.00	72.32
		11/29/2021	19.50	68.82
		5/25/2022	16.32	72.00
		11/29/2022	16.20	72.12
		5/30/2023	20.29	68.03

NOTES:
[1]Elevation in feet above mean sea level.
[2]Depth to water in feet below the top of the well casing.
[3]Depth to water measurement appears to be erroneous; depth to water measured during sampling on July 31, 2018 was 24.45 feet below the top of the well casing.

NS = well not surveyed; groundwater elevation could be determined

Table 5
Groundwater Water Quality Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Sample Location	Date[1]	Temperature[2] (°Celsius)	pH[2]	ORP[2] (millivolts)	Dissolved Oxygen[1] (milligrams per liter)
CMW-2	1/18/2018	13.5	6.03	252.3	1.15
	7/31/2018	15.5	6.14	164.0	0.47
	1/22/2019	12.9	5.99	214.1	1.20
	8/22/2019	14.7	6.16	175.1	2.09
	11/26/2019	13.8	6.20	44.5	3.29
	2/25/2020	12.2	6.60	143.6	6.76
	5/28/2020	14.8	7.32	201.4	8.58
	11/12/2020	13.4	6.23	17.5	0.95
	5/25/2021	13.7	6.49	354.9	7.03
	11/30/2021	14.6	6.48	238.3	4.52
	5/26/2022	14.9	6.12	505.8	3.76
	11/30/2022	12.5	6.72	292.7	2.00
	5/31/2023	14.5	6.23	210.6	3.96
CMW-4	1/17/2018	—	—	—	4.52
CMW-6	1/17/2018	—	—	—	4.09
CMW-8	1/18/2018	12.0	6.66	-14.3	0.29
	8/1/2018	14.5	6.33	-32.3	0.52
	1/22/2019	12.2	6.29	8.8	0.64
	8/21/2019	13.9	6.21	8.4	1.71
	11/25/2019	12.6	6.37	21.8	1.05
	2/25/2020	12.5	6.27	-1.3	0.99
	5/28/2020	13.3	6.52	-9.9	0.60
	11/11/2020	12.3	6.31	-31.9	6.67
	5/24/2021	13.3	6.08	41.2	0.75
	11/30/2021	12.9	6.51	-12.5	1.17
	5/25/2022	15.7	6.09	328.8	0.93
	11/30/2022	11.5	6.47	127.3	0.76
	5/31/2023	15.1	6.45	15.8	1.48
CMW-10	1/18/2018	13.4	6.12	194.4	0.70
	8/1/2018	14.9	6.12	-40.1	0.26
	1/23/2019	13.0	5.76	176.7	0.75
	8/22/2019	14.3	6.00	-37.4	0.76
	11/25/2019	14.6	4.87	87.3	1.18
	2/25/2020	13.3	6.08	158	5.58
	5/28/2020	15.2	6.52	120.8	2.27
	11/12/2020	13.1	5.75	36.6	1.20
	5/25/2021	14.1	6.13	319.2	1.36
	11/30/2021	15.1	6.25	174.8	1.56
	5/26/2022	15.1	6.12	463.7	1.58
	11/30/2022	12.9	6.55	42.5	0.95
	5/31/2023	15.7	5.84	163.2	1.51

Table 5
Groundwater Water Quality Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Sample Location	Date[1]	Temperature[2] (°Celsius)	pH[2]	ORP[2] (millivolts)	Dissolved Oxygen[1] (milligrams per liter)
CMW-12	1/18/2018	12.8	6.46	-47.0	0.18
	8/1/2018	15.8	6.19	-22.5	0.41
	1/23/2019	12.5	6.36	-25.7	0.60
	8/22/2019	15.1	6.25	-61.5	1.71
	11/26/2019	12.4	6.36	-6.5	0.97
	2/25/2020	12.8	6.12	-13.9	1.01
	5/28/2020	18.3	6.50	-35.5	0.59
	11/12/2020	13.6	6.29	-93.6	0.73
	5/25/2021	14.6	6.13	86.8	0.86
	11/30/2021	13.9	6.38	93.4	2.17
	5/26/2022	15.8	6.21	-121.8	0.84
	11/30/2022	12.6	6.14	189.4	0.73
	5/31/2023	15.7	6.27	14.3	1.63
CMW-13	1/18/2018	13.1	6.30	107.2	1.25
	7/31/2018	15.9	6.18	-40.3	0.26
	1/23/2019	12.5	5.91	78.6	1.28
	8/22/2019	14.5	6.34	-31.7	1.85
	11/26/2019	13.1	6.41	-0.9	1.51
	2/25/2020	12.8	6.13	155.9	1.54
	5/28/2020	16.5	6.17	77.5	0.71
	11/12/2020	13.3	6.44	-80.0	2.30
	5/24/2021	14.5	5.79	116.3	1.15
	11/30/2021	14.3	6.27	60.3	4.52
	5/25/2022	16.4	6.08	526.1	0.66
	11/30/2022	11.8	6.67	31.9	1.27
	5/31/2023	13.9	6.21	48.5	1.46
CMW-15	1/17/2018	—	—	—	0.37
CMW-25	1/18/2018	12.7	6.14	269.4	4.68
	7/31/2018	16.3	6.03	88.5	0.75
	1/22/2019	12.4	6.03	315.1	4.59
	8/21/2019	15.6	6.03	117.8	1.03
	11/25/2019	12.8	6.13	63.5	1.74
	2/24/2020	12.1	6.00	114.2	8.05
	5/27/2020	15.1	6.18	251.5	4.24
	11/12/2020	12.5	5.97	12.4	1.32
	5/24/2021	13.2	5.77	345.6	4.00
	11/29/2021	15.0	6.19	279.6	6.85
	5/25/2022	14.9	6.02	519.7	6.48
	11/30/2022	12.3	6.10	224.8	1.12
	5/30/2023	16.0	6.11	305.0	5.21

Table 5
Groundwater Water Quality Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Sample Location	Date[1]	Temperature[2] (°Celsius)	pH[2]	ORP[2] (millivolts)	Dissolved Oxygen[1] (milligrams per liter)
CMW-26	1/18/2018	10.7	6.44	233.6	4.04
	8/1/2018	16.0	6.22	160.6	4.32
	1/22/2019	11.9	6.07	98.6	4.08
	8/21/2019	16.0	6.05	206.1	4.18
	11/26/2019	11.6	6.27	218.2	2.98
	2/25/2020	11.4	6.33	155.2	4.61
	5/27/2020	16.4	6.35	266.0	4.21
	11/11/2020	12.5	6.05	49.6	0.77
	5/25/2021	13.0	6.05	338.3	4.53
	11/29/2021	14.0	6.36	273.5	4.61
	5/25/2022	16.2	6.24	503.0	4.40
	11/30/2022	11.3	7.99	228.0	4.55
	5/30/2023	14.1	6.16	184.1	4.52
CMW-27	1/18/2018	14.0	6.12	155.5	0.44
	8/1/2018	16.0	6.05	-26.7	0.21
	1/23/2019	12.7	6.27	-106.1	0.73
	8/22/2019	16.7	6.45	-53.7	0.69
	11/26/2019	14.6	6.29	-156.8	0.47
	2/25/2020	13.9	6.14	276.2	1.95
	5/28/2020	16.1	6.49	-31.0	0.76
	11/12/2020	14.5	6.28	-73.2	0.90
	5/25/2021	14.5	6.11	29.2	0.63
	11/30/2021	15.2	6.18	50.9	0.99
	5/26/2022	14.7	6.37	87.2	0.77
	11/30/2022	11.2	6.66	16.7	0.91
	5/31/2023	15.7	5.78	85.5	1.07
CMW-28	1/18/2018	9.3	6.17	204.4	2.04
	8/1/2018	15.2	5.98	44.9	0.52
	1/23/2019	12.0	5.56	184.9	1.87
	8/21/2019	15.2	5.65	161.3	1.55
	11/26/2019	14.8	5.66	245.0	1.93
	2/24/2020	11.1	5.54	146.7	7.51
	5/27/2020	15.5	6.03	292.3	7.44
	11/12/2020	14.2	5.90	52.1	3.91
	5/25/2021	13.6	5.63	296.5	3.08
	11/30/2021	14.1	6.04	286.6	1.15
	5/25/2022	15.8	5.86	520.4	3.54
	11/29/2022	12.3	6.10	201.9	6.26
	5/30/2023	15.4	5.93	242.0	6.04

Table 5
Groundwater Water Quality Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Sample Location	Date[1]	Temperature[2] (°Celsius)	pH[2]	ORP[2] (millivolts)	Dissolved Oxygen[1] (milligrams per liter)
CMW-29	1/17/2018	11.9	6.15	109.6	0.55
	7/31/2018	16.7	6.07	43.2	0.41
	1/22/2019	13.1	5.90	180.3	1.28
	8/22/2019	14.1	5.59	103.4	0.87
	11/25/2019	13.6	5.94	112.3	0.85
	2/24/2020	13.1	6.03	90.0	1.49
	5/27/2020	17.4	6.05	243.7	1.66
	11/11/2020	13.1	5.72	24.2	5.06
	5/24/2021	14.0	5.60	267.0	7.19
	11/29/2021	15.3	5.96	294.7	1.53
	5/25/2022	15.2	5.98	492.8	0.88
	11/30/2022	11.9	6.17	281.8	2.07
	5/30/2023	14.5	5.87	158.8	2.37
CMW-30	1/17/2018	—	—	—	1.11
	1/22/2019	13.4	6.19	179.1	0.91
	8/21/2019	15.1	5.90	163.9	0.90
	11/25/2019	14.5	6.09	124.4	0.56
	2/25/2020	12.0	6.20	148.2	2.26
	5/27/2020	15.6	6.29	193.3	0.71
	11/11/2020	14.3	6.03	15.0	0.89
	5/24/2021	13.9	5.80	241.9	0.40
	11/29/2021	15.1	6.24	210.2	0.93
	5/25/2022	13.9	6.08	505.5	1.08
	11/29/2022	12.2	6.16	202.6	0.89
	5/30/2023	14.3	5.96	114.8	1.42
CMW-31	1/18/2018	12.0	6.34	153.3	2.90
	7/31/2018	14.6	6.03	97.6	0.71
	1/22/2019	12.7	5.95	161.2	3.34
	8/22/2019	13.5	6.11	143.8	2.07
	11/25/2019	12.3	6.20	109.3	1.60
	2/24/2020	12.5	5.88	277.9	3.91
	5/28/2020	13.9	6.21	163.2	1.17
	11/11/2020	12.6	6.08	53.4	1.11
	5/24/2021	13.7	6.15	270.8	1.09
	11/29/2021	14.1	6.15	297.5	1.28
	5/25/2022	15.5	6.13	321.7	1.87
	11/29/2022	11.6	6.42	200.6	1.13
	5/31/2023	14.4	6.12	162.7	1.99
HMW-9	1/18/2018	12.6	6.51	-13.0	0.51
	8/1/2018	14.8	6.23	-20.0	0.25
	1/22/2019	13.3	6.16	28.8	0.59
	8/21/2019	16.7	6.23	-5.1	1.89
	11/25/2019	14.0	6.25	25.3	0.33
	2/25/2020	13.0	6.18	35.7	2.84
	5/28/2020	14.0	6.38	-18.7	0.88
	11/11/2020	13.9	6.23	-67.3	3.82
	5/25/2021	14.9	5.99	36.6	2.66
	11/30/2021	14.1	6.44	13	1.1
	5/26/2022	14.6	6.00	-202.6	0.62
	11/30/2022	9.2	5.35	217.5	4.76
	5/31/2023	14.4	6.34	-53.8	1.38

Table 5
Groundwater Water Quality Data – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Sample Location	Date[1]	Temperature[2] (°Celsius)	pH[2]	ORP[2] (millivolts)	Dissolved Oxygen[1] (milligrams per liter)
HMW-10	1/17/2018	12.3	6.49	-38.1	0.47
	7/31/2018	14.8	6.22	-43.1	0.26
	1/22/2019	13.0	6.14	30.5	0.53
	8/21/2019	14.6	6.25	-26.0	2.02
	11/25/2019	13.3	6.18	27.3	2.76
	2/24/2020	13.5	6.07	7.8	7.1
	5/28/2020	14.1	6.43	-9.0	0.59
	11/12/2020	13.1	6.26	-57.4	2.70
	5/24/2021	14.6	5.85	26.7	0.80
	11/30/2021	13.5	6.48	-7.8	0.85
	5/26/2022	15.0	6.32	-162.1	0.64
	11/30/2022	11.5	7.96	184.0	0.89
	5/31/2023	14.1	6.21	4.6	1.35
HMW-11	1/18/2018	13.7	6.07	176.6	0.46
	8/1/2018	15.3	6.20	-27.6	0.29
	1/23/2019	12.9	6.30	-30.4	0.96
	8/22/2019	14.6	6.20	-40.1	1.70
	11/26/2019	13.3	6.35	-3.9	0.78
	2/25/2020	14.1	6.00	188.7	0.63
	5/28/2020	16.2	6.38	-16.6	0.70
	11/12/2020	13.8	6.37	-108.8	0.67
	5/25/2021	14.6	6.22	1.6	1.10
	11/30/2021	15.3	6.23	255.3	4.12
	5/26/2022	15.3	6.07	-62.7	0.98
	11/30/2022	6.7	6.57	54.1	1.60
	5/31/2023	14.1	6.03	11.7	1.64
HMW-13	1/18/2018	12.2	6.18	233.4	0.55
	8/1/2018	14.7	5.95	157.5	0.85
	1/23/2019	12.5	5.64	196.8	1.23
	8/21/2019	15.9	5.97	211.9	2.72
	11/26/2019	12.1	6.06	235.3	1.51
	2/24/2020	11.7	5.89	140.1	2.92
	5/27/2020	16.8	6.16	233.0	1.10
	11/11/2020	12.6	5.77	59.2	2.70
	5/25/2021	14.7	5.96	250.9	1.93
	11/30/2021	13.6	6.19	281.1	1.86
	5/26/2022	16.1	6.10	-36.1	1.89
	11/30/2022	12.5	6.05	233.7	3.22
	5/30/2023	14.8	5.96	208.1	3.01

NOTES:
-- = not measured
ORP = oxidation-reduction potential
[1]Date shown represents date of groundwater sample collection. Dissolved-oxygen measurements typically were collected 1 to 2 days prior using a dissolved-oxygen analyzer with a down-hole probe.
[2]Temperature, pH, and ORP were measured using a YSI or Horiba multiparameter water-quality analyzer.
[3]Not measured due to malfunctioning pH meter.
[4]pH readings did not stabilize.

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
CMW-2	CMW-2-011818	1/18/2018	**0.93**	**<0.62**[4]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-073118	7/31/2018	**0.63**	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-012219	1/22/2019	**2.2**	**1.1**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-082219	8/22/2019	**1.0**	**0.69**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-112619	11/26/2019	**5.2**	**3.3**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-022520	2/25/2020	**0.63**	**1.0**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-052820	5/28/2020	**0.76**	**0.94**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-111220	11/12/2020	**1.9**	**1.1**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-052521	5/25/2021	0.34	**0.63**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-113021	11/30/2021	**1.4**	**1.2**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-052622	5/26/2022	0.20	0.25	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-113022	11/30/2022	**0.57**	**0.59**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-2-053123	5/31/2023	0.43	**0.64**	<100	<1.0	<1.0	<1.0	<2.0
CMW-8	CMW-8-011818	1/18/2018	0.38	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-080118	8/1/2018	0.31	<0.42	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-012219	1/22/2019	**0.50**	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-082119	8/21/2019	**0.51**	<0.40	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-112519	11/25/2019	**0.53**	0.36	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-022420	2/24/2020	**0.60**	0.25	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-052820	5/28/2020	**0.97**	**0.56**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-111120	11/11/2020	0.47	0.22[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-052421	5/24/2021	**0.53**	0.26	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-113021	11/30/2021	**0.58**	0.35	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-052522	5/25/2022	**0.79**	**0.60**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-113022	11/30/2022	0.28	0.29	<100	<1.0	<1.0	<1.0	<2.0
	CMW-8-053123	5/31/2023	**0.64**	**0.71**	<100	<1.0	<1.0	<1.0	<2.0
CMW-10	CMW-10-011818	1/18/2018	**1.4**	**<0.89**[4]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-080118	8/1/2018	**1.5**	**0.67**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-012319	1/23/2019	**2.1**	**1.4**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-082219	8/22/2019	**2.9**	**0.80**[5]	<400	<4.0	<4.0	<4.0	<8.0
	CMW-10-112519	11/25/2019	**0.73**	0.37	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-022520	2/25/2020	**2.3**	**1.4**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-052820	5/28/2020	**3.4**	**2.9**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-111220	11/12/2020	**1.6**	**0.70**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-052521	5/25/2021	**2.1**	**3.1**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-113021	11/30/2021	**2.8**	**2.9**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-052622	5/26/2022	**0.62**	**0.51**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-113022	11/30/2022	**1.8**	**0.77**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-10-053123	5/31/2023	**3.0**	**4.5**	<100	<1.0	<1.0	<1.0	<2.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
CMW-12	CMW-12-011818	1/18/2018	**2.1**[11]	**<0.55**[4]	**1,300**	3.0	<1.0	<1.0	<2.0
	QA/QC-1-011818[9]	1/18/2018	**2.2**[11]	**<0.70**[4]	**1,200**	2.6	<1.0	<1.0	<2.0
	CMW-12-080118	8/1/2018	**1.5**[11]	**0.77**[5]	**1,500**	1.2	<1.0	<1.0	1.6
	QA/QC-1-080118[9]	8/1/2018	**1.4**[11]	**0.56**[5]	**1,500**	1.1	<1.0	<1.0	1.9
	CMW-12-012319	1/23/2019	**1.6**[11]	0.43[5]	**1,500**[8]	1.7	<1.0	<1.0	<2.0
	QA/QC-1-012319[9]	1/23/2019	**1.6**[11]	<0.42	**1,500**[8]	1.6	<1.0	<1.0	<2.0
	CMW-12-082219	8/22/2019	**2.5**[11]	**0.51**[5]	**920**	<4.0	<4.0	<4.0	<8.0
	QA/QC-1-082219[9]	8/22/2019	**2.1**[11]	<0.41	**950**	<4.0	<4.0	<4.0	<8.0
	CMW-12-112619	11/26/2019	**2.3**[11]	**0.51**[5]	620[8]	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-112619[9]	11/26/2019	**2.3**[11]	0.46[5]	620[8]	<1.0	<1.0	<1.0	<2.0
	CMW-12-022520	2/25/2020	**4.2**	**1.4**	**1,000**	2.0	1.8	<1.0	<2.0
	QAQC-1-022520[9]	2/25/2020	**4.2**	**1.5**	**950**	2.0	1.8	<1.0	<2.0
	CMW-12-052820	5/28/2020	**2.4**[11]	**1.1**	510[8]	<1.0	<1.0	<1.0	<2.0
	QA/QC-2-052820[9]	5/28/2020	**2.3**[11]	**1.1**	490[8]	<1.0	<1.0	<1.0	<2.0
	CMW-12-111220	11/12/2020	**0.85**[11]	0.34[5]	200[8]	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-111220[9]	11/12/2020	**0.90**[11]	0.37[5]	200[8]	<1.0	<1.0	<1.0	<2.0
	CMW-12-052521	5/25/2021	**1.1**	**0.95**	<130[4]	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-052521[9]	5/25/2021	**1.0**	**0.98**	<120[4]	<1.0	<1.0	<1.0	<2.0
	CMW-12-113021	11/30/2021	**0.64**	0.33	<100	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-113021[9]	11/30/2021	**0.65**	0.32	<100	<1.0	<1.0	<1.0	<2.0
	CMW-12-052622	5/26/2022	**0.80**	0.44	<100	<1.0	<1.0	<1.0	<2.0
	QA/QC-2-052622[9]	5/26/2022	**0.84**	0.49	<100	<1.0	<1.0	<1.0	<2.0
	CMW-12-113022	11/30/2022	0.43	0.26	<100	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-113022[9]	11/30/2022	0.39	0.30	<100	<1.0	<1.0	<1.0	<2.0
	CMW-12-053123	5/31/2023	**1.0**	**1.1**	<100	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-053123[9]	5/31/2023	**0.88**	**0.89**	<100	<1.0	<1.0	<1.0	<2.0
CMW-13	CMW-13-011818	1/18/2018	0.29	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-073118	7/31/2018	**0.62**[11]	<0.41	240	1.1	<1.0	<1.0	<2.0
	CMW-13-012319	1/23/2019	**0.57**	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-082219	8/22/2019	0.38	<0.41	<400	<4.0	<4.0	<4.0	<8.0
	CMW-13-112619	11/26/2019	**0.70**	0.35[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-022520	2/25/2020	**3.3**	**2.0**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-052820	5/28/2020	**1.7**	**1.1**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-111220	11/12/2020	0.48	0.25[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-052421	5/24/2021	**1.4**	**0.72**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-113021	11/30/2021	**0.57**	0.34	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-052522	5/25/2022	**1.4**	**0.67**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-13-113022	11/30/2022	0.44[11]	0.22	150	1.5	<1.0	<1.0	<2.0
	CMW-13-053123	5/31/2023	**1.5**	**1.2**	<100	<1.0	<1.0	<1.0	<2.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
CMW-25	CMW-25-011818	1/18/2018	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-073118	7/31/2018	<0.26	<0.42	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-012219	1/22/2019	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-082119	8/21/2019	<0.25	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-112519	11/25/2019	0.14	0.22	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-022420	2/24/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-052720	5/27/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-111220	11/12/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-052421	5/24/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-112921	11/29/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-052522	5/25/2022	<0.11	<0.22	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-113022	11/30/2022	<0.13	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-25-053023	5/30/2023	<0.21	<0.15	<400	<4.0	<4.0	<4.0	<8.0
CMW-26	CMW-26-011818	1/18/2018	<0.26	<0.42	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-080118	8/1/2018	<0.26	<0.42	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-012219	1/22/2019	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-082119	8/21/2019	<0.25	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-112619	11/26/2019	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-022520	2/25/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-052720	5/27/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-111120	11/11/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-052521	5/25/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-112921	11/29/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-052522	5/25/2022	<0.11	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-113022	11/30/2022	<0.13	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-26-053023	5/30/2023	<0.21	<0.15	<400	<4.0	<4.0	<4.0	<8.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
CMW-27	CMW-27-011818	1/18/2018	**1.7**	**<1.0**[4]	<100	<1.0	<1.0	<1.0	<2.0
	QA/QC-2-011818[9]	1/18/2018	**1.6**	**<0.96**[4]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-27-080118	8/1/2018	**2.7**[11]	**1.0**[5]	**1,000**	<1.0	1.3	5.9	7.4
	QA/QC-2-080118[9]	8/1/2018	**2.6**[11]	**0.89**[5]	**1,100**	<1.0	1.3	5.8	7.8
	CMW-27-012319	1/23/2019	**6.9**[11]	**1.6**[5]	**900**[8]	1.5	3.4	19	17
	QA/QC-2-012319[9]	1/23/2019	**6.9**[11]	**1.5**[5]	**940**[8]	1.3	3.3	20	17
	CMW-27-082219	8/22/2019	**2.7**[11]	**0.56**[5]	**1,500**	1.2	<1.0	5.2	7.9
	QA/QC-2-082219[9]	8/22/2019	**3.4**[11]	**0.82**[5]	**1,300**	<4.0	<4.0	4.9	5.9
	CMW-27-112619	11/26/2019	**3.3**[11]	**0.94**[5]	**860**[8]	<1.0	1.2	<1.0	2.0
	QA/QC-2-112619[9]	11/26/2019	**3.9**[11]	**1.1**[5]	**940**[8]	<1.0	1.6	1.3	2.5
	CMW-27-022520	2/25/2020	**1.2**	**1.2**	<100	<1.0	<1.0	<1.0	<2.0
	QAQC-2-022520[9]	2/25/2020	**1.0**	**1.1**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-27-052820	5/28/2020	**3.5**[11]	**2.0**	**1,300**[8]	<1.0	3.4	16	4.1
	QA/QC-1-052820[9]	5/28/2020	**4.5**[11]	**2.4**	**1,000**[8]	<1.0	2.6	13	3.6
	CMW-27-111220	11/12/2020	**2.1**[11]	**0.70**[5]	**1,700**[8]	<1.0	<1.0	1.8	3.9
	QA/QC-2-111220[9]	11/12/2020	**2.4**[11]	**0.76**[5]	**1,800**[8]	<1.0	<1.0	1.8	4.0
	CMW-27-052521	5/25/2021	**3.1**[11]	**1.4**	**1,100**[8]	<1.0	<1.0	15	3.5
	QA/QC-2-052521[9]	5/25/2021	**3.1**[11]	**2.3**	**1,200**[8]	3.9	<1.0	15	3.4
	CMW-27-113021	11/30/2021	**8.9**[11]	**4.8**	770	<1.0	<1.0	5.0	1.7
	QA/QC-2-113021[9]	11/30/2021	**6.7**[11]	**2.8**	**960**	1.2	<1.0	6.5	2.1
	CMW-27-052622	5/26/2022	**1.6**	**1.0**	<100	<1.0	<1.0	<1.0	<2.0
	QA/QC-1-052622[9]	5/26/2022	**1.6**	**1.1**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-27-113022	11/30/2022	**2.1**[11]	**0.61**	**1,300**	3.8	<1.0	3.2	1.5
	QA/QC-2-113022[9]	11/30/2022	**1.7**[11]	**0.61**	**1,300**	4.0	<1.0	3.3	1.5
	CMW-27-053123	5/31/2023	**2.5**	**3.0**	710	1.2	<1.0	1.7	<2.0
	QA/QC-2-053123[9]	5/31/2023	**2.9**	**4.2**	680	1.5	<1.0	2.0	1.1
CMW-28	CMW-28-011818	1/18/2018	<0.26	<0.42	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-080118	8/1/2018	**0.81**	**0.52**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-012319	1/23/2019	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-082119	8/21/2019	**0.63**	<0.44	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-112619	11/26/2019	**2.8**	**1.9**[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-022420	2/24/2020	0.45	0.32	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-052720	5/27/2020	<0.21	0.23	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-111220	11/12/2020	**0.70**	0.42[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-052521	5/25/2021	0.49	0.43	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-113021	11/30/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-052522	5/25/2022	**1.1**	**0.68**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-112922	11/29/2022	0.24	0.31	<100	<1.0	<1.0	<1.0	<2.0
	CMW-28-053023	5/30/2023	**1.5**	**1.1**	<100	<1.0	<1.0	<1.0	<2.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
CMW-29	CMW-29-011718	1/17/2018	**0.70**	**<0.54**[4]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-073118	7/31/2018	0.33	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-012219	1/22/2019	**1.0**	0.50[5]	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-082219	8/22/2019	<0.25	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-112519	11/25/2019	**0.55**	0.38	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-022420	2/24/2020	**0.67**	0.28	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-052720	5/27/2020	**0.97**	**0.71**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-111120	11/11/2020	0.25	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-052421	5/24/2021	**0.71**	0.43	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-112921	11/29/2021	**0.74**	**0.87**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-052522	5/25/2022	**0.74**	**0.56**	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-113022	11/30/2022	0.17	0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-29-053023	5/30/2023	0.48	0.46	<100	<1.0	<1.0	<1.0	<2.0
CMW-30	CMW-30-012219	1/22/2019	0.26	<0.42	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-082119	8/21/2019	<0.25	<0.40	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-112519	11/25/2019	0.19	0.22	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-022520	2/25/2020	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-052720	5/27/2020	0.36	0.30	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-111120	11/11/2020	0.22	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-052421	5/24/2021	0.29	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-112921	11/29/2021	0.23	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-052522	5/25/2022	0.40	0.29	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-112922	11/29/2022	0.47	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-30-053023	5/30/2023	0.33	0.21	<100	<1.0	<1.0	<1.0	<2.0
CMW-31	CMW-31-011818	1/18/2018	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-073118	7/31/2018	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-012219	1/22/2019	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-082219	8/22/2019	0.34	<0.45	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-112519	11/25/2019	0.22	0.27	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-022420	2/24/2020	<0.21	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-052820	5/28/2020	<0.21	0.32	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-111120	11/11/2020	0.29	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-052421	5/24/2021	<0.20	0.27	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-112921	11/29/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-052522	5/25/2022	<0.10	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-112922	11/29/2022	0.25	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	CMW-31-053123	5/31/2023	<0.21	0.27	<100	<1.0	<1.0	<1.0	<2.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
HMW-9	HMW-9-011818	1/18/2018	0.35	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-080118	8/1/2018	0.46	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-012219	1/22/2019	0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-082119	8/21/2019	0.34	<0.44	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-112519	11/25/2019	0.40	0.42	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-022520	2/25/2020	0.39	**1.2**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-052820	5/28/2020	**0.98**	**2.1**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-111120	11/11/2020	0.47	**0.69**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-052521	5/25/2021	**0.55**	**1.2**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-113021	11/30/2021	0.30	0.32	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-052622	5/26/2022	**0.77**	**0.65**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-9-113022	11/30/2022	0.18	0.45	<100	<1.0	<1.0	<1.0	<2.0
	HMW-09-053123	5/31/2023	**0.96**	**1.3**	<100	<1.0	<1.0	<1.0	<2.0
HMW-10	HMW-10-011718	1/17/2018	**0.72**	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-073118	7/31/2018	**0.60**[11]	<0.40	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-012219	1/22/2019	0.38	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-082119	8/21/2019	**0.51**	<0.41	<400	<4.0	<4.0	<4.0	<8.0
	HMW-10-112519	11/25/2019	**5.0**	**1.7**[5]	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-022420	2/24/2020	**0.71**	0.34	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-052820	5/28/2020	**1.2**	**0.77**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-111220	11/12/2020	0.50	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-052421	5/24/2021	**0.95**	**0.51**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-113021	11/30/2021	0.50	0.23	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-052622	5/26/2022	**1.5**	**0.75**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-113022	11/30/2022	**0.52**	0.28	<100	<1.0	<1.0	<1.0	<2.0
	HMW-10-053123	5/31/2023	**1.0**	**0.75**	<100	<1.0	<1.0	<1.0	<2.0
HMW-11	HMW-11-011818	1/18/2018	**2.5**	**<1.3**[4]	<100	<1.0	<1.0	<1.0	<2.0
	HMW-11-080118	8/1/2018	**1.6**[11]	0.48[5]	**1,600**	1.0	<1.0	<1.0	<2.0
	HMW-11-012319	1/23/2019	**1.9**[11]	<0.41	**1,900**[8]	1.4	<1.0	1.2	<2.0
	HMW-11-082219	8/22/2019	**3.3**[11]	0.49[5]	**1,400**	<4.0	<4.0	<4.0	<8.0
	HMW-11-112619	11/26/2019	**3.2**[11]	**0.63**[5]	**1,200**[8]	1.0	1.0	<1.0	<2.0
	HMW-11-022520	2/25/2020	**4.9**	**2.1**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-11-052820	5/28/2020	**4.1**[11]	**2.1**	**920**[8]	<1.0	1.5	<1.0	<2.0
	HMW-11-111220	11/12/2020	**1.4**[11]	**0.51**[5]	410[8]	<1.0	<1.0	<1.0	<2.0
	HMW-11-052521	5/25/2021	**3.5**[11]	**1.1**	730[8]	<1.0	<1.0	<1.0	<2.0
	HMW-11-113021	11/30/2021	0.36	0.38	<100	<1.0	<1.0	<1.0	<2.0
	HMW-11-052622	5/26/2022	**2.5**	**1.4**	<100	<1.0	<1.0	<1.0	<2.0
	HMW-11-113022	11/30/2022	**1.3**[11]	**0.51**	480	2.1	<1.0	<1.0	<2.0
	HMW-11-053123	5/31/2023	**3.5**	**2.5**	770	1.7	<1.0	<1.0	<2.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

Table 6
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater – January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)		Analytical Results (micrograms per liter)				
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
HMW-13	HMW-13-011818	1/18/2018	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-080118	8/1/2018	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-012319	1/23/2019	<0.26	<0.41	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-082119	8/21/2019	<0.30	<0.48	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-112619	11/26/2019	0.27	<0.21	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-022420	2/24/2020	<0.21	0.22	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-052720	5/27/2020	<0.21	0.24	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-111120	11/11/2020	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-052521	5/25/2021	<0.20	0.24	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-113021	11/30/2021	<0.20	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-052622	5/26/2022	<0.11	<0.22	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-113022	11/30/2022	<0.13	<0.20	<100	<1.0	<1.0	<1.0	<2.0
	HMW-13-053023	5/30/2023	<0.22	<0.17	<100	<1.0	<1.0	<1.0	<2.0
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**800**	**5**	**1,000**	**700**	**1,000**

NOTES:
<denotes analyte not detected at or exceeding the laboratory reporting limit listed.
Results in **bold** denote sample result or reporting limit exceeds applicable MTCA Method A cleanup levels for groundwater.
[1]Analyzed by Northwest Method NWTPH-Dx. Samples analyzed by OnSite Environmental Inc. between June 2008 and November 2016 were analyzed using acid silica gel cleanup procedure.
[2]Analyzed by Northwest Method NWTPH-Gx.
[3]Analyzed by U.S. Environmental Protection Agency Method 8021B.
[4]The practical quantitation limit is elevated due to interferences in the sample.
[5]Hydrocarbons in the diesel range are impacting the oil-range result.
[6]MTCA Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.
[7]Sample collected using a disposable bailer.
[8]Hydrocarbons indicative of heavier fuels present in the sample are impacting the gasoline result.
[9]Quality assurance/quality control field duplicate sample.
[10]Duplicate sample analyzed at TestAmerica Laboratories Inc.
[11]Hydrocarbons in the gasoline-range are impacting the diesel-range result.

BTEX = benzene, toluene, ethylbenzene, and xylenes
DRO = TPH as diesel-range organics
GRO = TPH as gasoline-range organics
MTCA = Washington State Model Toxics Control Act Cleanup Regulation
ORO = TPH as oil-range organics
TPH = total petroleum hydrocarbons

Table 7
Summary of Laboratory Analytical Results for DRO and ORO in Groundwater – November 2021 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)			
			NWTPH-Dx without Sulfuric Acid Silica Gel or Silica Gel[1]		NWTPH-Dx with Sulfuric Acid Silica Gel or Silica Gel	
			DRO	ORO	DRO	ORO
CMW-2	CMW-2-113021	11/30/2021	**1.4**	**1.2**	<0.20[2]	<0.20[2]
	CMW-2-052622	5/26/2022	0.20	0.25	<0.24[3]	<0.24[3]
	CMW-2-113022	11/30/2022	**0.57**	**0.59**	<0.12[3]	<0.20[3]
	CMW-2-053123	5/31/2023	0.43	**0.64**	<0.22[3]	<0.22[3]
CMW-8	CMW-8-113021	11/30/2021	**0.58**	0.35	<0.20[2]	<0.20[2]
	CMW-8-052522	5/25/2022	**0.79**	**0.60**	<0.20[3]	<0.20[3]
	CMW-8-113022	11/30/2022	0.28	0.29	<0.11[3]	<0.20[3]
	CMW-8-053123	5/31/2023	**0.64**	**0.71**	<0.20[3]	<0.20[3]
CMW-10	CMW-10-113021	11/30/2021	**2.8**	**2.9**	<0.20[2]	<0.20[2]
	CMW-10-052622	5/26/2022	**0.62**	**0.51**	<0.23[3]	<0.23[3]
	CMW-10-113022	11/30/2022	**1.8**	**0.77**	<0.12[3]	<0.20[3]
	CMW-10-053123	5/31/2023	**3.0**	**4.5**	0.28[3]	<0.22[3]
CMW-12	CMW-12-113021	11/30/2021	**0.64**	0.33	<0.20[2]	<0.20[2]
	QA/QC-1-113021[4]	11/30/2021	**0.65**	0.32	<0.21[2]	<0.21[2]
	CMW-12-052622	5/26/2022	**0.80**	0.44	<0.22[3]	<0.22[3]
	QA/QC-2-052622[4]	5/26/2022	**0.84**	0.49	<0.20[3]	<0.20[3]
	CMW-12-113022	11/30/2022	0.43	0.26	<0.12[3]	<0.20[3]
	QA/QC-1-113022[4]	11/30/2022	0.39	0.30	<0.12[3]	<0.20[3]
	CMW-12-053123	5/31/2023	**1.0**	**1.1**	<0.20[3]	<0.20[3]
	QA/QC-1-053123[4]	5/31/2023	**0.88**	**0.89**	<0.21[3]	<0.21[3]
CMW-13	CMW-13-113021	11/30/2021	**0.57**	0.34	<0.21[2]	<0.21[2]
	CMW-13-052522	5/25/2022	**1.4**	**0.67**	<0.22[3]	<0.22[3]
	CMW-13-113022	11/30/2022	0.44[5]	0.22	<0.16[3]	<0.20[3]
	CMW-13-053123	5/31/2023	**1.5**	**1.2**	<0.20[3]	<0.20[3]
CMW-25	CMW-25-112921	11/29/2021	<0.20	<0.20	<0.20[2]	<0.20[2]
	CMW-25-052522	5/25/2022	<0.11	<0.22	<0.22[3]	<0.22[3]
	CMW-25-113022	11/30/2022	<0.13	<0.20	<0.12[3]	<0.20[3]
	CMW-25-053023	5/30/2023	<0.21	<0.15	<0.21[3]	<0.21[3]
CMW-26	CMW-26-112921	11/29/2021	<0.20	<0.20	<0.20[2]	<0.20[2]
	CMW-26-052522	5/25/2022	<0.11	<0.21	<0.21[3]	<0.21[3]
	CMW-26-113022	11/30/2022	<0.13	<0.20	<0.12[3]	<0.20[3]
	CMW-26-053023	5/30/2023	<0.21	<0.15	<0.21[3]	<0.21[3]
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**0.5**	**0.5**

Table 7
Summary of Laboratory Analytical Results for DRO and ORO in Groundwater – November 2021 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)			
			NWTPH-Dx without Sulfuric Acid Silica Gel or Silica Gel[1]		NWTPH-Dx with Sulfuric Acid Silica Gel or Silica Gel	
			DRO	ORO	DRO	ORO
CMW-27	CMW-27-113021	11/30/2021	**8.9**[5]	**4.8**	**0.88**[5,2]	<0.21[2]
	QA/QC-2-113021[4]	11/30/2021	**6.7**[5]	**2.8**	**0.93**[5,2]	<0.21[2]
	CMW-27-052622	5/26/2022	**1.6**	**1.0**	0.28[3]	<0.22[3]
	QA/QC-1-052622[4]	5/26/2022	**1.6**	**1.1**	0.32[3]	<0.23[3]
	CMW-27-113022	11/30/2022	**2.1**[5]	**0.61**	**0.75**[3,5]	<0.20[3]
	QA/QC-2-113022[4]	11/30/2022	**1.7**[5]	**0.61**	**0.64**[3,5]	<0.20[3]
	CMW-27-053123	5/31/2023	**2.5**	**3.0**	0.23[3]	<0.20[3]
	QA/QC-2-053123[4]	5/31/2023	**2.9**	**4.2**	0.24[3]	<0.21[3]
CMW-28	CMW-28-113021	11/30/2021	<0.20	<0.20	<0.20[2]	<0.20[2]
	CMW-28-052522	5/25/2022	**1.1**	**0.68**	<0.23[3]	<0.23[3]
	CMW-28-112922	11/29/2022	0.24	0.31	<0.12[3]	<0.20[3]
	CMW-28-053023	5/30/2023	**1.5**	**1.1**	<0.20[3]	<0.20[3]
CMW-29	CMW-29-112921	11/29/2021	**0.74**	**0.87**	<0.20[2]	<0.20[2]
	CMW-29-052522	5/25/2022	**0.74**	**0.56**	<0.23[3]	<0.23[3]
	CMW-29-113022	11/30/2022	0.17	0.20	<0.12[3]	<0.20[3]
	CMW-29-053023	5/30/2023	0.48	0.46	<0.22[3]	<0.22[3]
CMW-30	CMW-30-112921	11/29/2021	0.23	<0.20	<0.20[2]	<0.20[2]
	CMW-30-052522	5/25/2022	0.40	0.29	<0.21[3]	<0.21[3]
	CMW-30-112922	11/29/2022	0.47	<0.20	<0.12[3]	<0.20[3]
	CMW-30-053023	5/30/2023	0.33	0.21	<0.22[3]	<0.22[3]
CMW-31	CMW-31-112921	11/29/2021	<0.20	<0.20	<0.20[2]	<0.20[2]
	CMW-31-052522	5/25/2022	<0.10	<0.20	<0.20[3]	<0.20[3]
	CMW-31-112922	11/29/2022	0.25	<0.20	<0.12[3]	<0.20[3]
	CMW-31-053123	5/31/2023	<0.21	0.27	<0.21[3]	<0.21[3]
HMW-9	HMW-9-113021	11/30/2021	0.30	0.32	<0.21[2]	<0.21[2]
	HMW-9-052622	5/26/2022	**0.77**	**0.65**	<0.21[3]	<0.21[3]
	HMW-9-113022	11/30/2022	0.18	0.45	<0.12[3]	0.35[3]
	HMW-09-053123	5/31/2023	**0.96**	**1.3**	<0.20[3]	0.22[3]
HMW-10	HMW-10-113021	11/30/2021	0.50	0.23	<0.20[2]	<0.20[2]
	HMW-10-052622	5/26/2022	**1.5**	**0.75**	<0.20[3]	<0.20[3]
	HMW-10-113022	11/30/2022	**0.52**	0.28	<0.12[3]	<0.20[3]
	HMW-10-053123	5/31/2023	**1.0**	**0.75**	<0.22[3]	<0.22[3]
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**0.5**	**0.5**

Table 7
Summary of Laboratory Analytical Results for DRO and ORO in Groundwater – November 2021 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Analytical Results (milligrams per liter)			
			NWTPH-Dx without Sulfuric Acid Silica Gel or Silica Gel[1]		NWTPH-Dx with Sulfuric Acid Silica Gel or Silica Gel	
			DRO	ORO	DRO	ORO
HMW-11	HMW-11-113021	11/30/2021	0.36	0.38	<0.20[2]	<0.20[2]
	HMW-11-052622	5/26/2022	**2.5**	**1.4**	<0.20[3]	<0.20[3]
	HMW-11-113022	11/30/2022	**1.3**[5]	**0.51**	0.36[3,5]	<0.20[3]
	HMW-11-053123	5/31/2023	**3.5**	**2.5**	0.42[3]	<0.22[3]
HMW-13	HMW-13-113021	11/30/2021	<0.20	<0.20	<0.20[2]	<0.20[2]
	HMW-13-052622	5/26/2022	<0.11	<0.22	<0.22[3]	<0.22[3]
	HMW-13-113022	11/30/2022	<0.13	<0.20	<0.12[3]	<0.20[3]
	HMW-13-053023	5/30/2023	<0.22	<0.17	<0.22[3]	<0.22[3]
MTCA Method A Cleanup Levels for Groundwater[6]			**0.5**	**0.5**	**0.5**	**0.5**

NOTES:
<denotes analyte not detected at or exceeding the laboratory reporting limit listed.
Results in **bold** denote sample result or reporting limit exceeds applicable MTCA Method A cleanup levels for groundwater.
[1]Analyzed by Northwest Method NWTPH-Dx without a sulfuric acid/silica gel or silica gel cleanup procedure.
[2]Analyzed by Northwest Method NWTPH-Dx with a sulfuric acid/silica gel cleanup procedure.
[3]Analyzed by Northwest Method NWTPH-Dx with a silica gel cleanup procedure.
[4]Quality assurance/quality control field duplicate sample.
[5]Hydrocarbons in the gasoline-range are impacting the diesel-range result.
[6]MTCA Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

DRO = TPH as diesel-range organics
MTCA = Washington State Model Toxics Control Act Cleanup Regulation
ORO = TPH as oil-range organics
TPH = total petroleum hydrocarbons

Table 8
Groundwater Geochemical Data January 2018 through May 2023
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004

Well Identification	Sample Identification	Sample Date	Nitrate[1] (mg/l)	Sulfate[2] (mg/l)	Ferrous Iron[3] (mg/l)	Dissolved Manganese[4] (mg/l)	Methane[5] (µg/l)	Alkalinity[6] (mg/l $CaCO_3$)
CMW-26	CMW-26-053023	5/30/2023	2.9	12	<0.150	<0.011	<0.55	60
CMW-27	CMW-27-053123	5/31/2023	0.95	12	1.42	0.29	360	52
	QA/QC-2-053123	5/31/2023	0.86	11	0.803	0.25	420	52
CMW-31	CMW-31-053123	5/31/2023	0.46	9.6	<0.150	<0.011	<0.55	84
HMW-10	HMW-10-053123	5/31/2023	<0.050	<5.0	3.70	0.55	230	78
HMW-11	HMW-11-053123	5/31/2023	0.55	<5.0	8.00	0.55	460	56

NOTES:

< denotes analyte not detected at or above the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency (EPA) Method 353.2.

[2]Analyzed by ASTM Method D516-11.

[3]Analyzed by Standard Method 3500Fe-B.

[4]Analyzed by EPA Method 6010D.

[5]Analyzed by Method RSK-175.

[6]Analyzed by Standard Method 2320B.

µg/l = micrograms per liter

mg/l = milligrams per liter

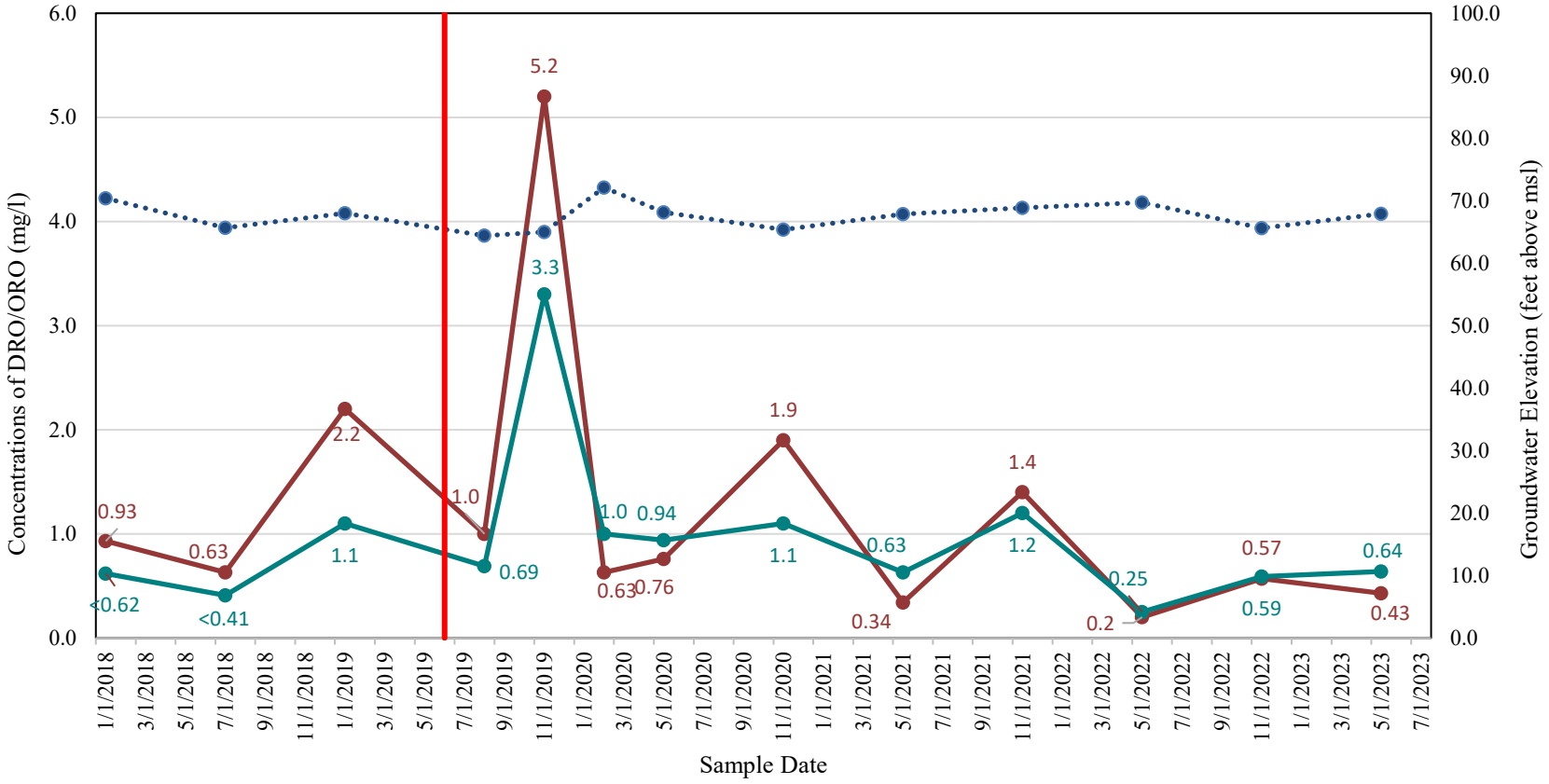
mg/l $CaCO^3$ = milligrams per liter as calcium carbonate

CHARTS

FIRST AND SECOND QUARTER 2023
GROUNDWATER MONITORING AND TREATMENT SYSTEM
OPERATION AND MAINTENANCE REPORT
CHS Auburn Site
Auburn, Washington

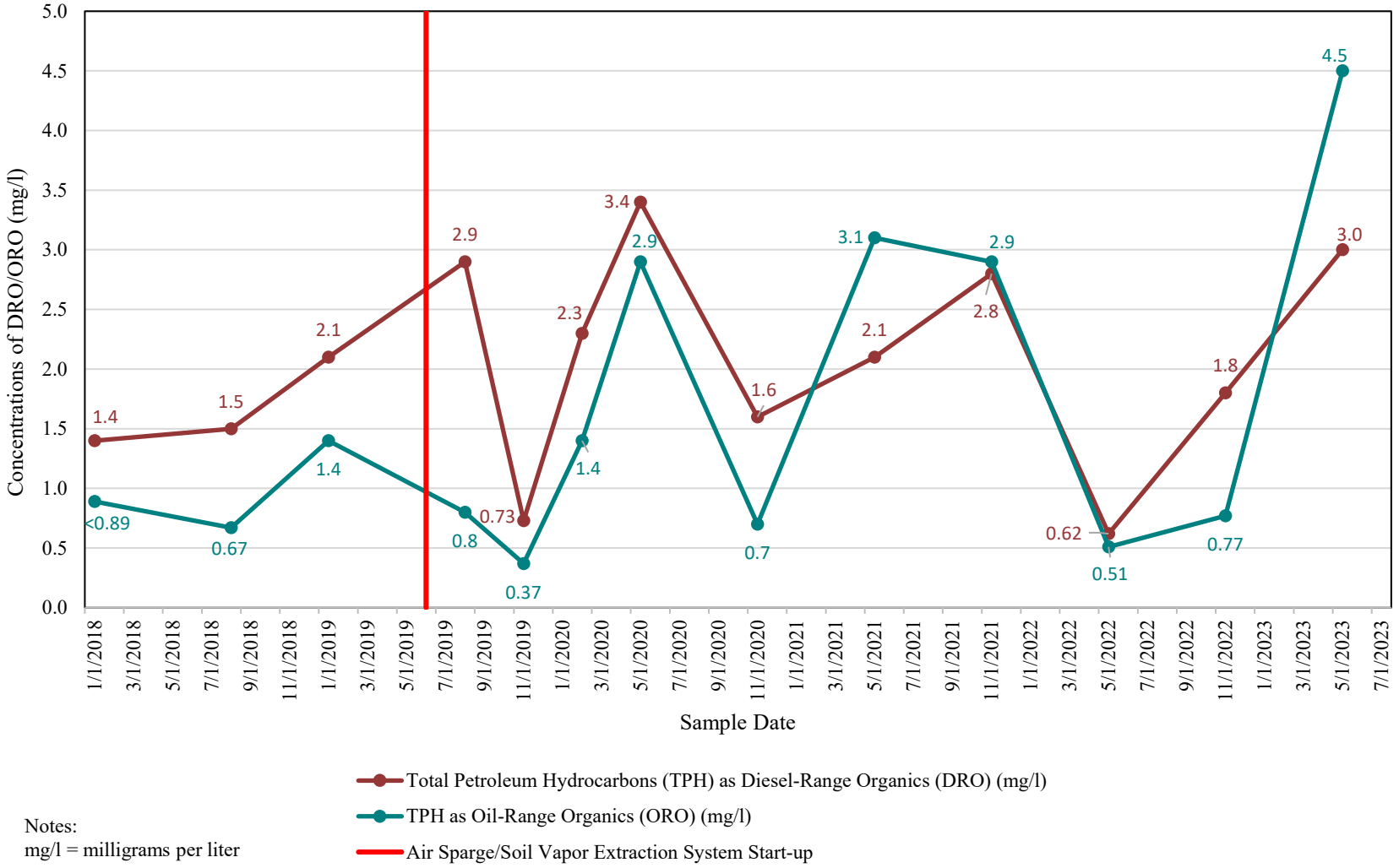
Farallon PN: 301-004

Chart 1
DRO and ORO Concentration Data Trends for Monitoring Well CMW-2
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



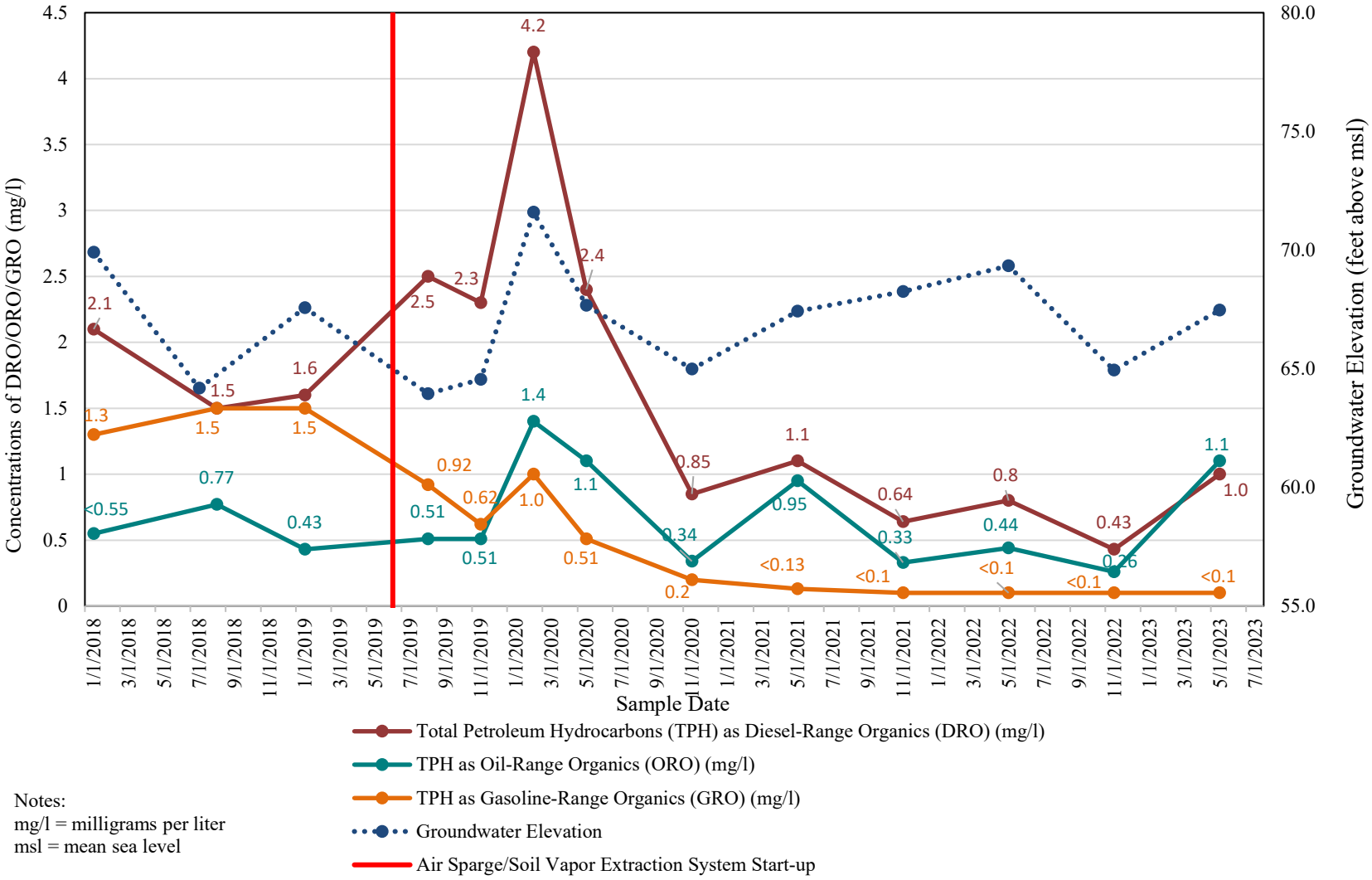
Notes:
mg/l = milligrams per liter
msl = mean sea level

Chart 2
DRO and ORO Concentration Data Trends for Monitoring Well CMW-10
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



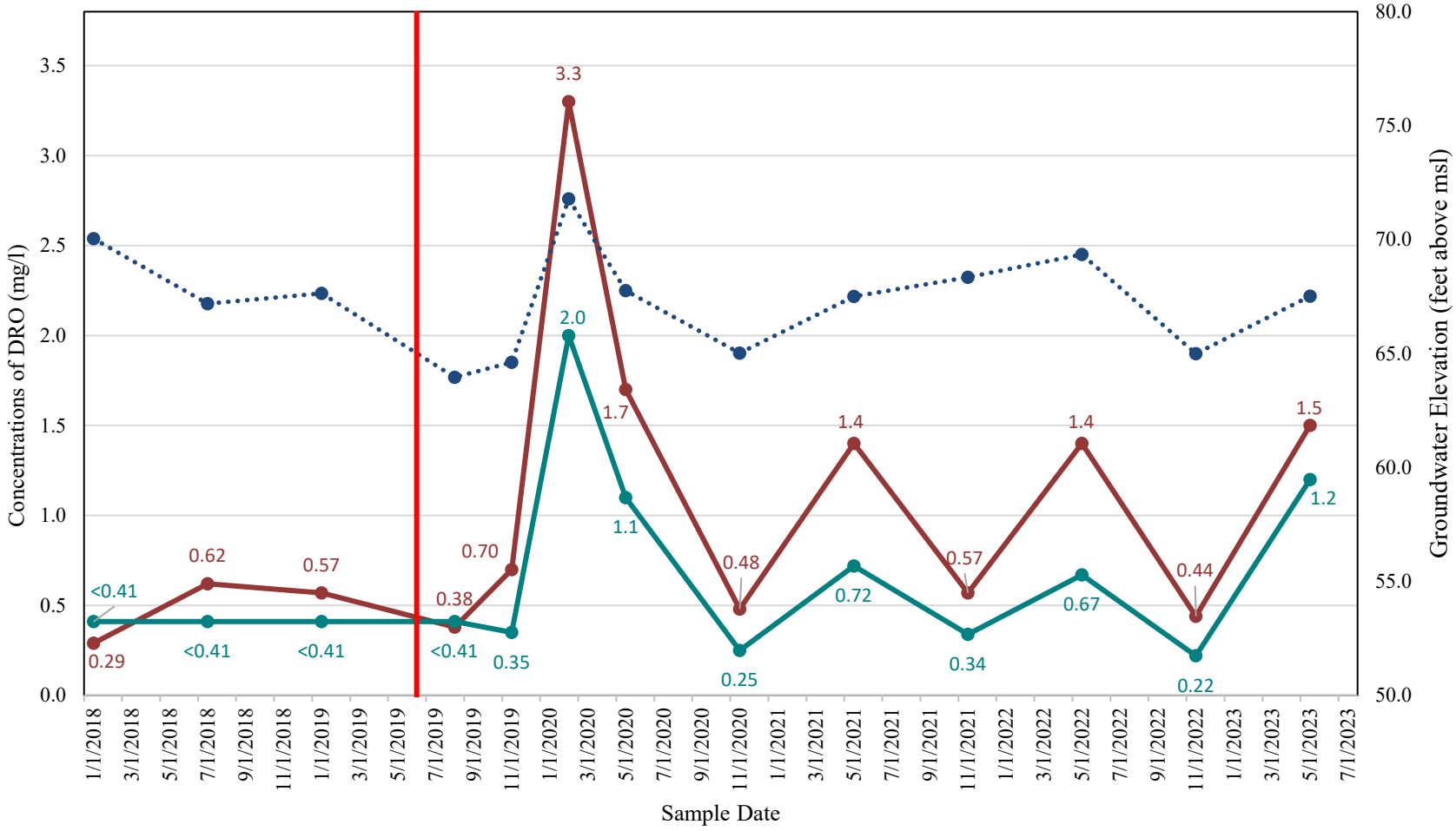
Notes:
mg/l = milligrams per liter

Chart 3
DRO, ORO, and GRO Concentration Data Trends for Monitoring Well CMW-12
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



Notes:
mg/l = milligrams per liter
msl = mean sea level

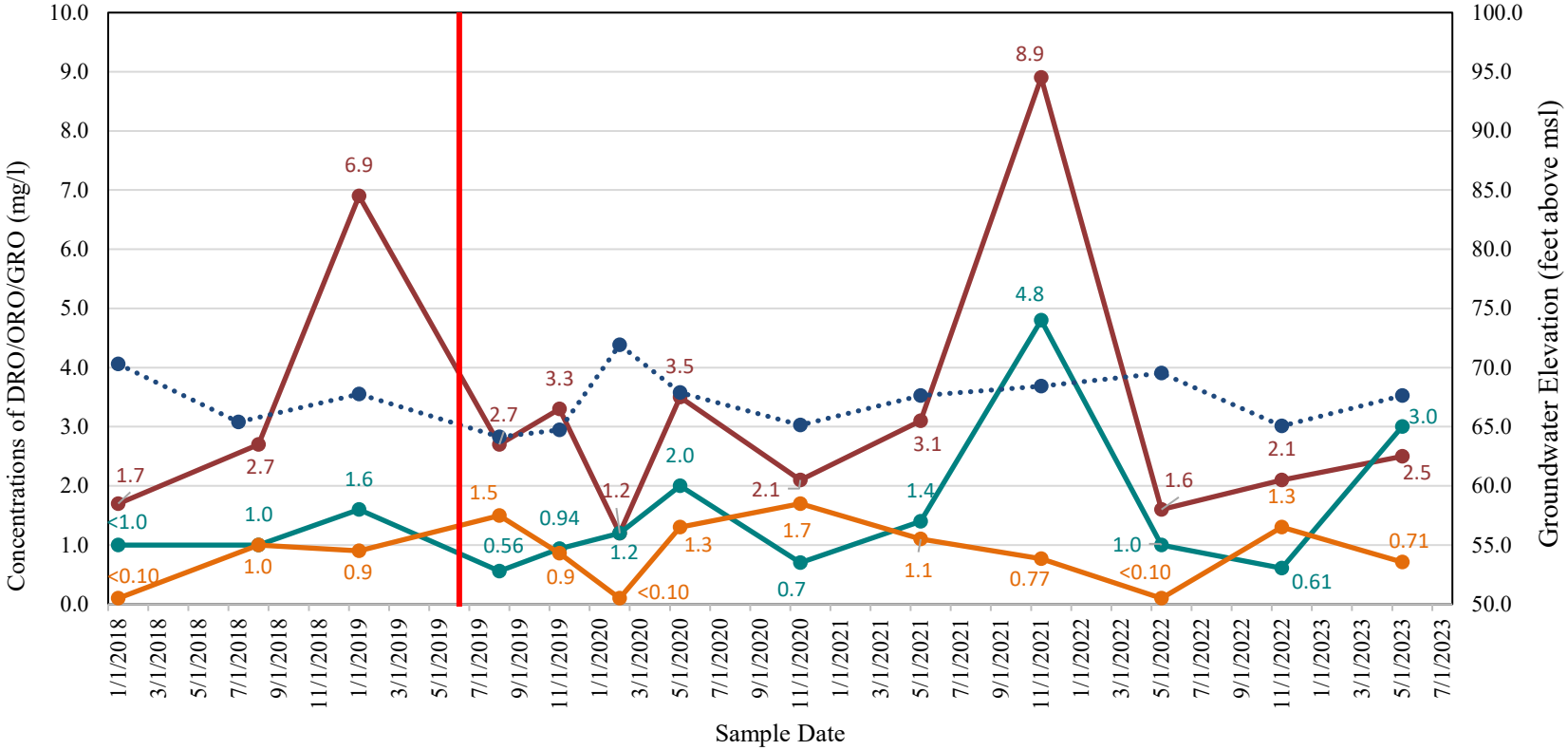
Chart 4
DRO Concentration Data Trend for Monitoring Well CMW-13
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



Notes:
mg/l = milligrams per liter
msl = mean sea level

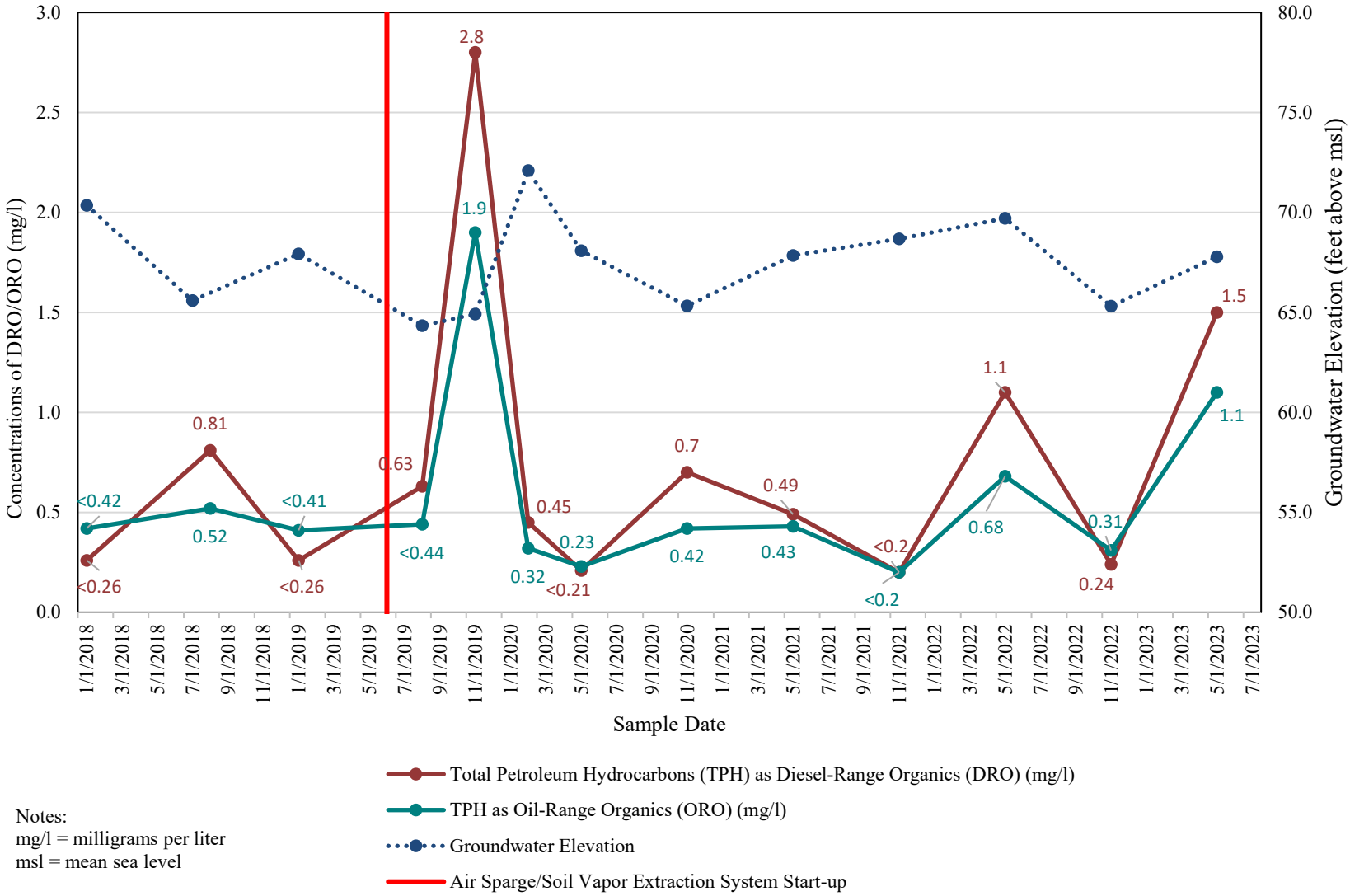
- Total Petroleum Hydrocarbons (TPH) as Diesel-Range Organics (DRO) (mg/l)
- TPH as Oil-Range Organics (ORO) (mg/l)
- Groundwater Elevation
- Air Sparge/Soil Vapor Extraction System Start-up

Chart 5
DRO, ORO, and GRO Concentration Data Trends for Monitoring Well CMW-27
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



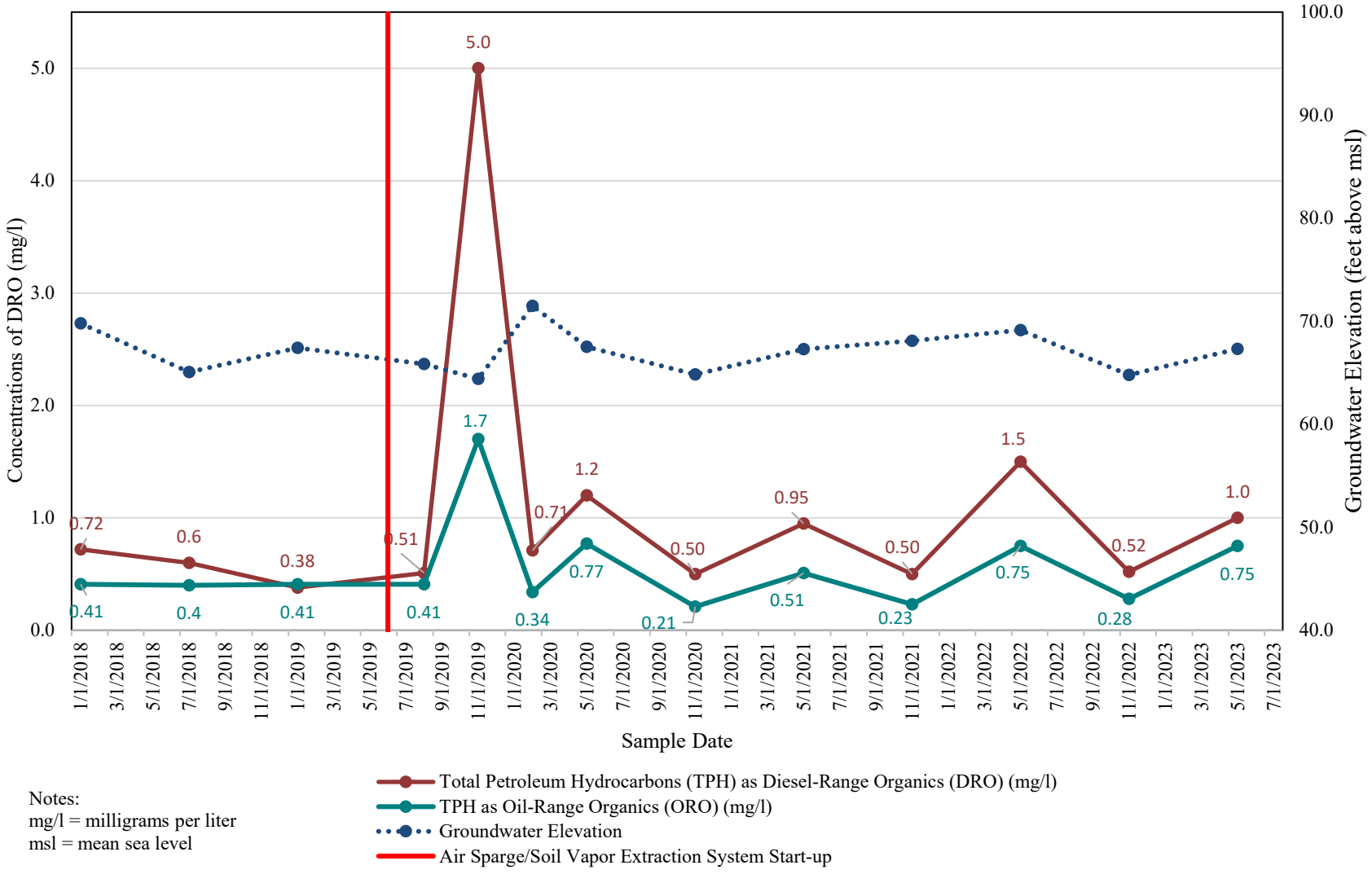
Notes:
mg/l = milligrams per liter
msl = mean sea level

Chart 6
DRO and ORO Concentration Data Trends for Monitoring Well CMW-28
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



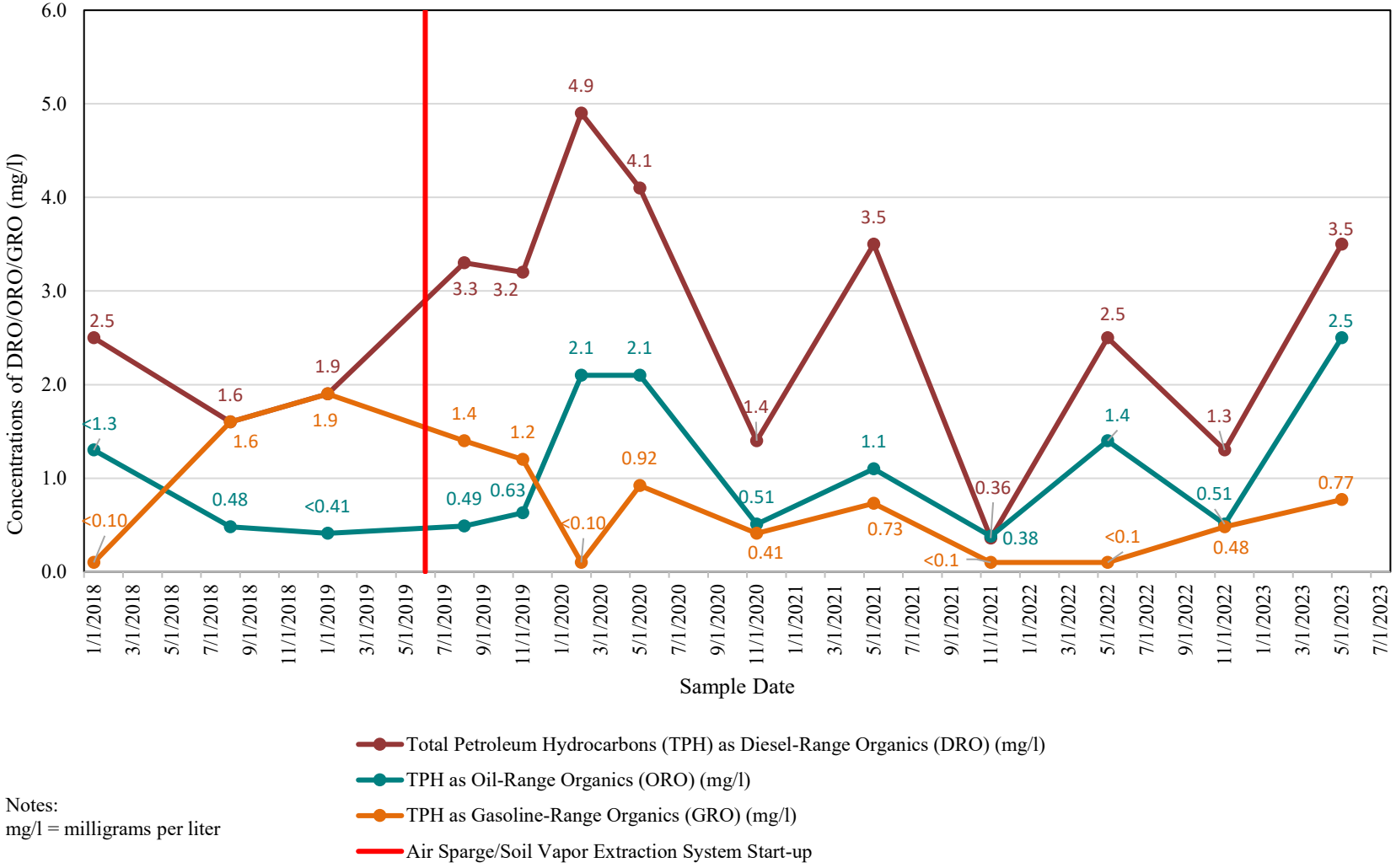
Notes:
mg/l = milligrams per liter
msl = mean sea level

Chart 7
DRO Concentration Data Trend for Monitoring Well HMW-10
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



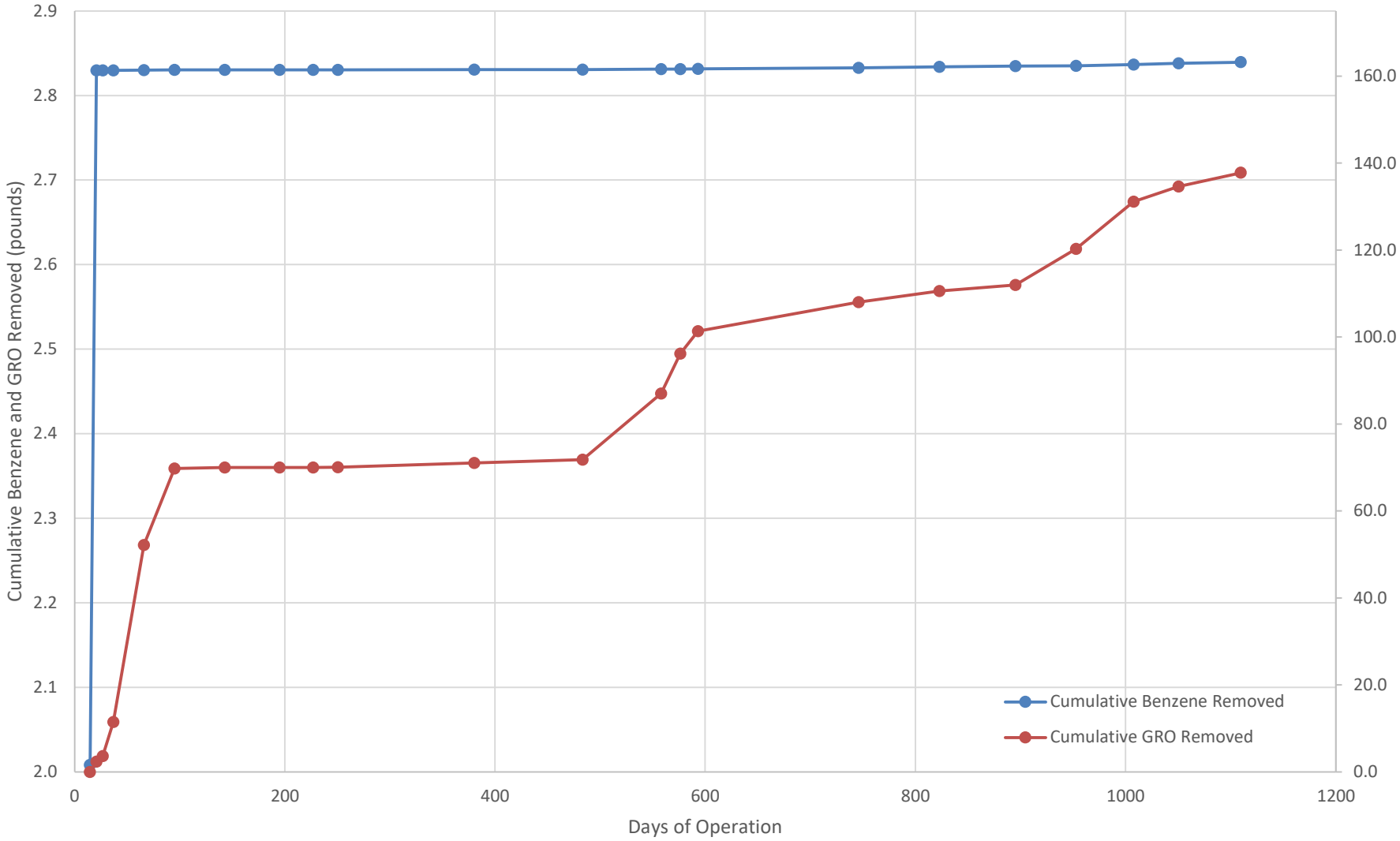
Notes:
mg/l = milligrams per liter
msl = mean sea level

Chart 8
DRO, ORO, and GRO Concentration Data Trends for Monitoring Well HMW-11
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



Notes:
mg/l = milligrams per liter

Chart 9
Cumulative Pounds of Benzene and GRO Removed
CHS Auburn Site
Auburn, Washington
Farallon PN: 301-004



APPENDIX A
LABORATORY ANALYTICAL REPORTS

FIRST AND SECOND QUARTER 2023
GROUNDWATER MONITORING AND TREATMENT SYSTEM
OPERATION AND MAINTENANCE REPORT
CHS Auburn Site
Auburn, Washington

Farallon PN: 301-004

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

June 8, 2023

Javan Ruark
Farallon Consulting
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 301-004
Laboratory Reference No. 2305-321

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on May 31, 2023.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

Case Narrative

Samples were collected on May 30, 2023 and received by the laboratory on May 31, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Benzene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	400	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*65-122*				
Client ID:	**CMW-25-053023**					
Laboratory ID:	05-321-02					
Benzene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	4.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	400	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*65-122*				
Client ID:	**CMW-28-053023**					
Laboratory ID:	05-321-03					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*65-122*				

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-29-053023**					
Laboratory ID:	05-321-04					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*65-122*				
Client ID:	**CMW-30-053023**					
Laboratory ID:	05-321-05					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*65-122*				
Client ID:	**HMW-13-053023**					
Laboratory ID:	05-321-06					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*65-122*				

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*65-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-321-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethylbenzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*107*	*101*	*65-122*			
SPIKE BLANKS											
Laboratory ID:	SB0602W1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**48.2**	**50.2**	50.0	50.0		**96**	**100**	81-118	4	12	
Toluene	**49.8**	**51.8**	50.0	50.0		**100**	**104**	82-119	4	12	
Ethylbenzene	**50.6**	**52.5**	50.0	50.0		**101**	**105**	81-118	4	12	
m,p-Xylene	**50.6**	**52.6**	50.0	50.0		**101**	**105**	82-118	4	12	
o-Xylene	**51.2**	**53.0**	50.0	50.0		**102**	**106**	81-119	3	11	
Surrogate:											
Fluorobenzene						*97*	*104*	*65-122*			

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**ND**	0.15	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**CMW-25-053023**					
Laboratory ID:	05-321-02					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**ND**	0.15	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**CMW-25-053023**					
Laboratory ID:	05-321-02					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**CMW-28-053023**					
Laboratory ID:	05-321-03					
Diesel Range Organics	**1.5**	0.20	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**1.1**	0.15	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**CMW-28-053023**					
Laboratory ID:	05-321-03					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-29-053023**					
Laboratory ID:	05-321-04					
Diesel Range Organics	**0.48**	0.22	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**0.46**	0.17	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**CMW-29-053023**					
Laboratory ID:	05-321-04					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**CMW-30-053023**					
Laboratory ID:	05-321-05					
Diesel Range Organics	**0.33**	0.22	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**0.21**	0.17	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Client ID:	**CMW-30-053023**					
Laboratory ID:	05-321-05					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**HMW-13-053023**					
Laboratory ID:	05-321-06					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**ND**	0.17	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*110*	*50-150*				
Client ID:	**HMW-13-053023**					
Laboratory ID:	05-321-06					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**ND**	0.12	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Laboratory ID:	MB0605W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-321-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	40	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	40	
Surrogate:											
o-Terphenyl						*106*	*101*	*50-150*			
Laboratory ID:	05-321-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	40	X2
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	40	X2
Surrogate:											
o-Terphenyl						*108*	*100*	*50-150*			

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Sulfate	**12**	5.0	ASTM D516-11	6-2-23	6-2-23	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0602W1					
Sulfate	**ND**	5.0	ASTM D516-11	6-2-23	6-2-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	06-021-01								
	ORIG	DUP							
Sulfate	**9.26**	**9.02**	NA	NA	NA	NA	3	10	
MATRIX SPIKE									
Laboratory ID:	06-021-01								
	MS		MS		MS				
Sulfate	**18.1**		10.0	9.26	88	73-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0602W1								
	SB		SB		SB				
Sulfate	**8.62**		10.0	NA	86	85-114	NA	NA	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PCS-1**					
Laboratory ID:	05-231-01					
Nitrate	**2.9**	0.10	EPA 353.2	5-31-23	5-31-23	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531W1					
Nitrate	**ND**	0.050	EPA 353.2	5-31-23	5-31-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-231-01								
	ORIG	DUP							
Nitrate	**2.93**	**3.00**	NA	NA	NA	NA	2	19	
MATRIX SPIKE									
Laboratory ID:	05-231-01								
	MS		MS		MS				
Nitrate	**7.10**		4.00	2.93	104	85-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0531W1								
	SB		SB		SB				
Nitrate	**1.83**		2.00	NA	92	87-118	NA	NA	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DISSOLVED MANGANESE
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Manganese	**ND**	11	EPA 6010D	5-31-23	6-2-23	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DISSOLVED MANGANESE
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531F1					
Manganese	**ND**	11	EPA 6010D	5-31-23	6-2-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-321-01										
	ORIG	DUP									
Manganese	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-321-01										
	MS	MSD	MS	MSD		MS	MSD				
Manganese	**544**	**535**	556	556	ND	**98**	**96**	75-125	2	20	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Methane	**ND**	0.55	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*71*	*50-150*				

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0607W1					
Methane	**ND**	0.55	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*83*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0607W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**42.4**	**38.0**	44.2	44.2	96	86	75-125	11	25	
Surrogate:										
1-Butene					*122*	*91*	*50-150*			

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-26-053023**					
Laboratory ID:	05-321-01					
Total Alkalinity	**60**	2.0	SM 2320B	6-5-23	6-5-23	

Date of Report: June 8, 2023
Samples Submitted: May 31, 2023
Laboratory Reference: 2305-321
Project: 301-004

TOTAL ALKALINITY
SM 2320B
QUALITY CONTROL

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Total Alkalinity	**ND**	2.0	SM 2320B		6-5-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-321-01								
	ORIG	DUP							
Total Alkalinity	**60.0**	**60.0**	NA	NA	NA	NA	0	10	
SPIKE BLANK									
Laboratory ID:	SB0605W1								
	SB		SB		SB				
Total Alkalinity	**94.0**		100	NA	94	82-112	NA	NA	

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

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

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

RE: 05-321
Work Order Number: 2305554

June 05, 2023

Attention David Baumeister:

Fremont Analytical, Inc. received 1 sample(s) on 5/31/2023 for the analyses presented in the following report.

Ferrous Iron by SM3500-Fe B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *06/05/2023*

CLIENT: OnSite Environmental Inc
Project: 05-321
Work Order: 2305554

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2305554-001	CMW-26-053023	05/30/2023 2:40 PM	05/31/2023 11:18 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

Case Narrative

WO#: **2305554**
Date: **6/5/2023**

CLIENT: OnSite Environmental Inc
Project: 05-321

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2305554**
Date Reported: **6/5/2023**

Client: OnSite Environmental Inc
Collection Date: 5/30/2023 2:40:00 PM
Project: 05-321
Lab ID: 2305554-001
Matrix: Water
Client Sample ID: CMW-26-053023

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ferrous Iron by SM3500-Fe B				Batch ID: R84360		Analyst: SLL
Ferrous Iron	ND	0.150		mg/L	1	5/31/2023 12:00:00 PM

Work Order: 2305554
CLIENT: OnSite Environmental Inc
Project: 05-321

QC SUMMARY REPORT

Ferrous Iron by SM3500-Fe B

Sample ID: **MB-R84360**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **5/31/2023**	RunNo: **84360**
Client ID: **MBLKW**	Batch ID: **R84360**		Analysis Date: **5/31/2023**	SeqNo: **1760377**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.150									

Sample ID: **LCS-R84360**	SampType: **LCS**	Units: **mg/L**	Prep Date: **5/31/2023**	RunNo: **84360**
Client ID: **LCSW**	Batch ID: **R84360**		Analysis Date: **5/31/2023**	SeqNo: **1760378**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.425	0.150	0.4000	0	106	85	115				

Sample ID: **2305554-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/31/2023**	RunNo: **84360**
Client ID: **CMW-26-053023**	Batch ID: **R84360**		Analysis Date: **5/31/2023**	SeqNo: **1760380**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.150						0		20	

Sample ID: **2305554-001AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **5/31/2023**	RunNo: **84360**
Client ID: **CMW-26-053023**	Batch ID: **R84360**		Analysis Date: **5/31/2023**	SeqNo: **1760381**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.539	0.150	0.4000	0.1121	107	70	130				

Sample ID: **2305554-001AMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **5/31/2023**	RunNo: **84360**
Client ID: **CMW-26-053023**	Batch ID: **R84360**		Analysis Date: **5/31/2023**	SeqNo: **1760382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.531	0.150	0.4000	0.1121	105	70	130	0.5390	1.52	30	

Sample Log-In Check List

Client Name:	ONSITE	Work Order Number:	2305554
Logged by:	Clare Griggs	Date Received:	5/31/2023 11:18:00 AM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	5.8

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

OnSite Environmental Inc.

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

23D5554

Page 1 of 1

Laboratory Reference #: 05-321

Laboratory: Fremont Analytical

Attention: Chelsea Ward

3600 Fremont Avenue N, Seattle, WA 98103

Phone Number: (206) 352-3790

Turnaround Request

1 Day 2 Day 3 Day

Standard

Other: _____

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 301-004

Project Name: _____

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analyses
	CMW-26-053023	5/30/23	14:40	Water	1	Ferrous Iron

Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by:	OnSite Env	5/31/23	1640	
Received by: #17	Speedy Shipping	5/31/23	10:42	
Relinquished by: #17	Speedy Shipping	5/31/23	11:12	
Received by:	FAI	5/5/23	1118	
Relinquished by:				
Received by:				

Chain of Custody

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

Company: FARALLON
Project Number: 301-004
Project Name: CENEX AUBURN
Project Manager: J. RUARK
Sampled by: J. KIM, M. YSAGUIRRE

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

Laboratory Number: 05-321

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021/8260)	NWTPH-Gx	NWTPH-Dx (~~Acid~~/SG Clean-up) with & without	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	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	Sulfate, Nitrate	Ferrous Iron	Dis. Mn	Methane, Alkalinity	% Moisture
1	CMW-26-053023	5-30-23	1440	W	10		X		X														X	X	X	X	
2	CMW-25-053023		1540		5																						
3	CMW-28-053023		1640		5																						
4	CMW-29-053023		1307		5																						
5	CMW-30-053023		1208		5																						
6	HMW-13-053023		1618		5																						

	Signature	Company	Date	Time
Relinquished	[signature] #17	FARALLON	5-30-23	1756
Received	[signature]	Sprenger & Kline	5-31-23	09:55
Relinquished	[signature] #17	Sprenger & Kline	5/31/23	10:29
Received	[signature]	OSE	5/31/23	1029
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~* HOLD FOR PM, UNLESS HOLD TIME IS A CONSTRAINT~~
* Added 5/31/23 MW

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

June 23, 2023

Javan Ruark
Farallon Consulting
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 301-004
Laboratory Reference No. 2306-001

Dear Javan:

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

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

Case Narrative

Samples were collected on May 31, 2023 and received by the laboratory on June 1, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-2-053123**					
Laboratory ID:	06-001-01					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*65-122*				
Client ID:	**CMW-10-053123**					
Laboratory ID:	06-001-02					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*106*	*65-122*				
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Benzene	**1.2**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**1.7**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**710**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*106*	*65-122*				

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Benzene	**1.5**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**2.0**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**1.1**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**680**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*65-122*				
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Benzene	**1.7**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**770**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*65-122*				
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*106*	*65-122*				

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-8-053123**					
Laboratory ID:	06-001-07					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*65-122*				
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*65-122*				
Client ID:	**CMW-13-053123**					
Laboratory ID:	06-001-09					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*65-122*				

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-12-053123**					
Laboratory ID:	06-001-10					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*65-122*				
Client ID:	**QA/QC-1-053123**					
Laboratory ID:	06-001-11					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*65-122*				
Client ID:	**HMW-09-053123**					
Laboratory ID:	06-001-12					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*65-122*				

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GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*65-122*				
Laboratory ID:	MB0605W2					
Benzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Toluene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Ethylbenzene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
m,p-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
o-Xylene	**ND**	1.0	EPA 8021B	6-5-23	6-5-23	
Gasoline	**ND**	100	NWTPH-Gx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*65-122*				

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GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-321-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethylbenzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*107*	*101*	*65-122*			
Laboratory ID:	05-321-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethylbenzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*99*	*103*	*65-122*			
SPIKE BLANKS											
Laboratory ID:	SB0602W1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**48.2**	**50.2**	50.0	50.0		**96**	**100**	81-118	4	12	
Toluene	**49.8**	**51.8**	50.0	50.0		**100**	**104**	82-119	4	12	
Ethylbenzene	**50.6**	**52.5**	50.0	50.0		**101**	**105**	81-118	4	12	
m,p-Xylene	**50.6**	**52.6**	50.0	50.0		**101**	**105**	82-118	4	12	
o-Xylene	**51.2**	**53.0**	50.0	50.0		**102**	**106**	81-119	3	11	
Surrogate:											
Fluorobenzene						*97*	*104*	*65-122*			

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-2-053123**					
Laboratory ID:	06-001-01					
Diesel Range Organics	**0.43**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**0.64**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**CMW-2-053123**					
Laboratory ID:	06-001-01					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**CMW-10-053123**					
Laboratory ID:	06-001-02					
Diesel Range Organics	**3.0**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**4.5**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				
Client ID:	**CMW-10-053123**					
Laboratory ID:	06-001-02					
Diesel Range Organics	**0.28**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*120*	*50-150*				
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Diesel Range Organics	**2.5**	0.20	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**3.0**	0.20	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Diesel Range Organics	**0.23**	0.20	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Diesel Range Organics	**2.9**	0.21	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**4.2**	0.21	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*120*	*50-150*				
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Diesel Range Organics	**0.24**	0.21	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Diesel Range Organics	**3.5**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**2.5**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Diesel Range Organics	**0.42**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Diesel Range Organics	**1.0**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**0.75**	0.22	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*120*	*50-150*				
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*123*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-8-053123**					
Laboratory ID:	06-001-07					
Diesel Range Organics	**0.64**	0.20	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**0.71**	0.20	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*120*	*50-150*				
Client ID:	**CMW-8-053123**					
Laboratory ID:	06-001-07					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-7-23	
Lube Oil Range Organics	**0.27**	0.21	NWTPH-Dx	6-5-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-7-23	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-7-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**CMW-13-053123**					
Laboratory ID:	06-001-09					
Diesel Range Organics	**1.5**	0.20	NWTPH-Dx	6-5-23	6-7-23	
Lube Oil Range Organics	**1.2**	0.20	NWTPH-Dx	6-5-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				
Client ID:	**CMW-13-053123**					
Laboratory ID:	06-001-09					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-7-23	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-7-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-12-053123**					
Laboratory ID:	06-001-10					
Diesel Range Organics	**1.0**	0.20	NWTPH-Dx	6-5-23	6-6-23	
Lube Oil Range Organics	**1.1**	0.20	NWTPH-Dx	6-5-23	6-6-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				
Client ID:	**CMW-12-053123**					
Laboratory ID:	06-001-10					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-6-23	X2
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-6-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*124*	*50-150*				
Client ID:	**QA/QC-1-053123**					
Laboratory ID:	06-001-11					
Diesel Range Organics	**0.88**	0.21	NWTPH-Dx	6-5-23	6-7-23	
Lube Oil Range Organics	**0.89**	0.21	NWTPH-Dx	6-5-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**QA/QC-1-053123**					
Laboratory ID:	06-001-11					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-7-23	X2
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	6-5-23	6-7-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**HMW-09-053123**					
Laboratory ID:	06-001-12					
Diesel Range Organics	**0.96**	0.20	NWTPH-Dx	6-5-23	6-7-23	
Lube Oil Range Organics	**1.3**	0.20	NWTPH-Dx	6-5-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				
Client ID:	**HMW-09-053123**					
Laboratory ID:	06-001-12					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	6-5-23	6-7-23	X2
Lube Oil	**0.22**	0.20	NWTPH-Dx	6-5-23	6-7-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*122*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Laboratory ID:	MB0605W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	X2
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	6-5-23	6-5-23	X2
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-321-01								
	ORIG	DUP							
Diesel Range	**ND**	**ND**	NA	NA	NA	NA	NA	40	
Lube Oil Range	**ND**	**ND**	NA	NA	NA	NA	NA	40	
Surrogate:									
o-Terphenyl					*106* *101*	*50-150*			
Laboratory ID:	SB0605W1								
	ORIG	DUP							
Diesel Fuel #2	**0.521**	**0.472**	NA	NA	NA	NA	10	40	
Surrogate:									
o-Terphenyl					*111* *104*	*50-150*			
Laboratory ID:	05-321-01								
	ORIG	DUP							
Diesel Range	**ND**	**ND**	NA	NA	NA	NA	NA	40	X2
Lube Oil Range	**ND**	**ND**	NA	NA	NA	NA	NA	40	X2
Surrogate:									
o-Terphenyl					*108* *100*	*50-150*			
Laboratory ID:	SB0605W1								
	ORIG	DUP							
Diesel Fuel #2	**0.486**	**0.424**	NA	NA	NA	NA	14	40	X2
Surrogate:									
o-Terphenyl					*112* *106*	*50-150*			

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Sulfate	**12**	5.0	ASTM D516-11	6-2-23	6-2-23	
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Sulfate	**11**	5.0	ASTM D516-11	6-2-23	6-2-23	
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Sulfate	**ND**	5.0	ASTM D516-11	6-2-23	6-2-23	
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Sulfate	**ND**	5.0	ASTM D516-11	6-2-23	6-2-23	
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Sulfate	**9.6**	5.0	ASTM D516-11	6-2-23	6-2-23	

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SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0602W1					
Sulfate	**ND**	5.0	ASTM D516-11	6-2-23	6-2-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	06-021-01								
	ORIG	DUP							
Sulfate	**9.26**	**9.02**	NA	NA	NA	NA	3	10	
MATRIX SPIKE									
Laboratory ID:	06-021-01								
	MS		MS		MS				
Sulfate	**18.1**		10.0	9.26	88	73-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0602W1								
	SB		SB		SB				
Sulfate	**8.62**		10.0	NA	86	85-114	NA	NA	

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NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Nitrate	**0.95**	0.050	EPA 353.2	6-1-23	6-1-23	
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Nitrate	**0.86**	0.050	EPA 353.2	6-1-23	6-1-23	
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Nitrate	**0.55**	0.050	EPA 353.2	6-1-23	6-1-23	
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Nitrate	**ND**	0.050	EPA 353.2	6-1-23	6-1-23	
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Nitrate	**0.46**	0.050	EPA 353.2	6-1-23	6-1-23	

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NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0601W1					
Nitrate	**ND**	0.050	EPA 353.2	6-1-23	6-1-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	06-001-03								
	ORIG	DUP							
Nitrate	**0.945**	**0.938**	NA	NA	NA	NA	1	19	
MATRIX SPIKE									
Laboratory ID:	06-001-03								
	MS		MS		MS				
Nitrate	**3.07**		2.00	0.945	106	85-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0601W1								
	SB		SB		SB				
Nitrate	**2.00**		2.00	NA	100	87-118	NA	NA	

Date of Report: June 23, 2023
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Project: 301-004

DISSOLVED MANGANESE
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Manganese	**290**	11	EPA 6010D	6-1-23	6-2-23	
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Manganese	**250**	11	EPA 6010D	6-1-23	6-2-23	
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Manganese	**550**	11	EPA 6010D	6-1-23	6-2-23	
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Manganese	**550**	11	EPA 6010D	6-1-23	6-2-23	
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Manganese	**ND**	11	EPA 6010D	6-1-23	6-2-23	

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

DISSOLVED MANGANESE
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0601F1					
Manganese	**ND**	11	EPA 6010D	6-1-23	6-2-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-321-01										
	ORIG	DUP									
Manganese	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-321-01										
	MS	MSD	MS	MSD		MS	MSD				
Manganese	**544**	**535**	556	556	ND	**98**	**96**	75-125	2	20	

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

DISSOLVED METHANE
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Methane	**360**	2.8	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*87*	*50-150*				
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Methane	**420**	3.3	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*84*	*50-150*				
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Methane	**460**	3.3	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*89*	*50-150*				
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Methane	**230**	3.3	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*86*	*50-150*				
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Methane	**ND**	0.55	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*91*	*50-150*				

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

DISSOLVED METHANE
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0607W1					
Methane	**ND**	0.55	RSK 175	6-7-23	6-7-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*83*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0607W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**42.4**	**38.0**	44.2	44.2	96	86	75-125	11	25	
Surrogate:										
1-Butene					*122*	*91*	*50-150*			

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CMW-27-053123**					
Laboratory ID:	06-001-03					
Total Alkalinity	**52**	2.0	SM 2320B	6-5-23	6-5-23	
Client ID:	**QA/QC-2-053123**					
Laboratory ID:	06-001-04					
Total Alkalinity	**52**	2.0	SM 2320B	6-5-23	6-5-23	
Client ID:	**HMW-11-053123**					
Laboratory ID:	06-001-05					
Total Alkalinity	**56**	2.0	SM 2320B	6-5-23	6-5-23	
Client ID:	**HMW-10-053123**					
Laboratory ID:	06-001-06					
Total Alkalinity	**78**	2.0	SM 2320B	6-5-23	6-5-23	
Client ID:	**CMW-31-053123**					
Laboratory ID:	06-001-08					
Total Alkalinity	**84**	2.0	SM 2320B	6-5-23	6-5-23	

Date of Report: June 23, 2023
Samples Submitted: June 1, 2023
Laboratory Reference: 2306-001
Project: 301-004

TOTAL ALKALINITY
SM 2320B
QUALITY CONTROL

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Total Alkalinity	**ND**	2.0	SM 2320B		6-5-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-321-01								
	ORIG	DUP							
Total Alkalinity	**60.0**	**60.0**	NA	NA	NA	NA	0	10	
SPIKE BLANK									
Laboratory ID:	SB0605W1								
	SB		SB		SB				
Total Alkalinity	**94.0**		100	NA	94	82-112	NA	NA	

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

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

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

RE: 06-001
Work Order Number: 2306005

June 06, 2023

Attention David Baumeister:

Fremont Analytical, Inc. received 5 sample(s) on 6/1/2023 for the analyses presented in the following report.

Ferrous Iron by SM3500-Fe B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *06/06/2023*

CLIENT: OnSite Environmental Inc
Project: 06-001
Work Order: 2306005

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2306005-001	CMW-27-053123	05/31/2023 11:50 AM	06/01/2023 9:22 AM
2306005-002	QA/QC-2-053123	05/31/2023 12:28 PM	06/01/2023 9:22 AM
2306005-003	HMW-11-053123	05/31/2023 10:40 AM	06/01/2023 9:22 AM
2306005-004	HMW-10-053123	05/31/2023 9:45 AM	06/01/2023 9:22 AM
2306005-005	CMW-31-053123	05/31/2023 12:20 PM	06/01/2023 9:22 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2306005**
Date: **6/6/2023**

CLIENT: OnSite Environmental Inc
Project: 06-001

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2306005**
Date Reported: **6/6/2023**

Client: OnSite Environmental Inc
Collection Date: 5/31/2023 11:50:00 AM
Project: 06-001
Lab ID: 2306005-001
Matrix: Water
Client Sample ID: CMW-27-053123

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ferrous Iron by SM3500-Fe B				Batch ID: R84373		Analyst: SLL
Ferrous Iron	1.42	0.150		mg/L	1	6/1/2023 9:40:00 AM

Analytical Report

Work Order: **2306005**
Date Reported: **6/6/2023**

Client: OnSite Environmental Inc
Collection Date: 5/31/2023 12:28:00 PM
Project: 06-001
Lab ID: 2306005-002
Matrix: Water
Client Sample ID: **QA/QC-2-053123**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ferrous Iron by SM3500-Fe B				Batch ID: R84373		Analyst: SLL
Ferrous Iron	0.803	0.150		mg/L	1	6/1/2023 9:40:00 AM

Analytical Report

Work Order: **2306005**
Date Reported: **6/6/2023**

Client: OnSite Environmental Inc
Collection Date: 5/31/2023 10:40:00 AM
Project: 06-001
Lab ID: 2306005-003
Matrix: Water
Client Sample ID: HMW-11-053123

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ferrous Iron by SM3500-Fe B				Batch ID: R84373		Analyst: SLL
Ferrous Iron	8.00	1.50	D	mg/L	10	6/1/2023 9:40:00 AM

Analytical Report

Work Order: **2306005**
Date Reported: **6/6/2023**

Client: OnSite Environmental Inc
Collection Date: 5/31/2023 9:45:00 AM
Project: 06-001
Lab ID: 2306005-004
Matrix: Water
Client Sample ID: HMW-10-053123

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ferrous Iron by SM3500-Fe B				Batch ID: R84373		Analyst: SLL
Ferrous Iron	3.70	1.50	D	mg/L	10	6/1/2023 9:40:00 AM

Analytical Report

Work Order: **2306005**
Date Reported: **6/6/2023**

Client: OnSite Environmental Inc
Collection Date: 5/31/2023 12:20:00 PM
Project: 06-001
Lab ID: 2306005-005
Matrix: Water
Client Sample ID: CMW-31-053123

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ferrous Iron by SM3500-Fe B				Batch ID: R84373		Analyst: SLL
Ferrous Iron	ND	0.150		mg/L	1	6/1/2023 9:40:00 AM

Work Order: 2306005
CLIENT: OnSite Environmental Inc
Project: 06-001

QC SUMMARY REPORT

Ferrous Iron by SM3500-Fe B

Sample ID: MB-R84373	SampType: MBLK			Units: mg/L		Prep Date: 6/1/2023		RunNo: 84373		
Client ID: MBLKW	Batch ID: R84373					Analysis Date: 6/1/2023		SeqNo: 1760611		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.150									

Sample ID: LCS-R84373	SampType: LCS			Units: mg/L		Prep Date: 6/1/2023		RunNo: 84373		
Client ID: LCSW	Batch ID: R84373					Analysis Date: 6/1/2023		SeqNo: 1760612		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.403	0.150	0.4000	0	101	85	115				

Sample ID: 2306005-003ADUP	SampType: DUP			Units: mg/L		Prep Date: 6/1/2023		RunNo: 84373		
Client ID: HMW-11-053123	Batch ID: R84373					Analysis Date: 6/1/2023		SeqNo: 1760615		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	8.19	1.50						8.000	2.35	20	D

Sample ID: 2306005-003AMS	SampType: MS			Units: mg/L		Prep Date: 6/1/2023		RunNo: 84373		
Client ID: HMW-11-053123	Batch ID: R84373					Analysis Date: 6/1/2023		SeqNo: 1760616		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	12.0	1.50	4.000	8.000	99.9	70	130				D

Sample ID: 2306005-003AMSD	SampType: MSD			Units: mg/L		Prep Date: 6/1/2023		RunNo: 84373		
Client ID: HMW-11-053123	Batch ID: R84373					Analysis Date: 6/1/2023		SeqNo: 1760617		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	12.6	1.50	4.000	8.000	116	70	130	12.00	5.30	30	D

Sample Log-In Check List

Client Name:	ONSITE	Work Order Number:	2306005
Logged by:	Morgan Wilson	Date Received:	6/1/2023 9:22:00 AM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	1.8

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

OnSite Environmental Inc.

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

2306005

Laboratory Reference #: 06-001

Laboratory: Fremont Analytical

Attention: Chelsea Ward

3600 Fremont Avenue N, Seattle, WA 98103

Phone Number: (206) 352-3790

Turnaround Request

1 Day 2 Day 3 Day

Standard

Other: _____

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 301-004

Project Name: _____

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analyses
	CMW-27-053123	5/31/23	11:50	W	1	Ferrour Iron
	QA/QC-2-053123	5/31/23	12:28	W	1	Ferrour Iron
	HMW-11-053123	5/31/23	10:40	W	1	Ferrour Iron
	HMW-10-053123	5/31/23	9:45	W	1	Ferrour Iron
	CMW-31-053123	5/31/23	12:20	W	1	Ferrour Iron

Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by:	FLN	6/1/23	0921	EDDs
Received by:	FAI	6/1/23	9:22	
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Chain of Custody

06-001

Page 1 of 2

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

Company: FARALLON
Project Number: 301-004
Project Name: CENEX AUBURN
Project Manager: J. RUARK
Sampled by: J. KIM / M. Ysaguirre

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

Laboratory Number: ~~05-346~~ KP

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX SGZ1	NWTPH-Gx	NWTPH-Dx (~~Acid~~/SG Clean-up) w/ + w/out	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Sulfate, Nitrate	Ferrous Iron	Dis. Manganese	Methane, Alkalinity	% Moisture
1	CMW-2-053123	5-31-23	1535	W	5		X		X																		
2	CMW-10-053123		1450		5		X		X																		
3	CMW-27-053123		1150		10		X		X														X	X	X	X	
4	QA/QC-2-053123		1228		~~10~~ 10		X		X														X	X	X	X	
5	HMW-11-053123		1040		10		X		X														X	X	X	X	
6	HMW-10-053123		0945		10		X		X														X	X	X	X	
7	CMW-8-053123		1410		5		X		X																		
8	CMW-31-053123		1220		11		X		X														X	X	X	X	
9	CMW-13-053123		1120		5		X		X																		
10	CMW-12-053123	↓	0957	↓	5		X		X																		

	Signature	Company	Date	Time
Relinquished		FARALLON	5-31-23	1800
Received		OSE	~~5/31/23~~ KP	
Relinquished			6/1/23	0830
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

HOLD FOR PM
No Acid on the clean up

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

Chain of Custody

06-001

Page 2 of 2

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

Company:

Project Number: SEE PG. 1

Project Name:

Project Manager:

Sampled by:

Turnaround Request (in working days)

(Check One)

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

Laboratory Number: ~~05-346~~ KP

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX 8021	NWTPH-Gx	NWTPH-Dx (~~Acid~~ SG Clean-up) w/ Acid without	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
11	QA/QC-1-053123	5/31/23	1000	Water	5		X		X																		
12	HMW-09-053123	1	0905	1	5		X		X																		

	Signature	Company	Date	Time
Relinquished		FARALLON	5-31-23	1900
Received		OSE	6/1/23	0830
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

HOLD FOR PM

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

March 20, 2023

Javan Ruark, Project Manager
Farallon Consulting, LLC
975 5th Avenue Northwest
Issaquah, WA 98027

Dear Mr Ruark:

Included are the results from the testing of material submitted on March 10, 2023 from the CHS Auburn 301-004, F&BI 303180 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Farallon Data, Braeden Lukkari
FLN0320R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 10, 2023 by Friedman & Bruya, Inc. from the Farallon Consulting, LLC CHS Auburn 301-004, F&BI 303180 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Farallon Consulting, LLC
303180 -01	OVERALL-031023

The TO-15 gasoline range concentrations were quantified using a single point calibration at 80 ppbv.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	OVERALL-031023	Client:	Farallon Consulting, LLC
Date Received:	03/10/23	Project:	CHS Auburn 301-004
Date Collected:	03/10/23	Lab ID:	303180-01 1/7.8
Date Analyzed:	03/16/23	Data File:	031526.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	5.4	1.7
Toluene	<150	<39
Ethylbenzene	<3.4	<0.78
m,p-Xylene	<6.8	<1.6
o-Xylene	<3.4	<0.78
Gasoline Range Organics	2,700	650

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Farallon Consulting, LLC
Date Received:	Not Applicable	Project:	CHS Auburn 301-004
Date Collected:	Not Applicable	Lab ID:	03-0548 MB
Date Analyzed:	03/15/23	Data File:	031512.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	85	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Gasoline Range Organics	<330	<80

Date of Report: 03/20/23
Date Received: 03/10/23
Project: CHS Auburn 301-004, F&BI 303180

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 303174-01 1/5.6 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<1.8	<1.8	nm
Toluene	ug/m3	<110	<110	nm
Ethylbenzene	ug/m3	<2.4	<2.4	nm
m,p-Xylene	ug/m3	<4.9	<4.9	nm
o-Xylene	ug/m3	<2.4	<2.4	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	86	70-130
Toluene	ug/m3	51	92	70-130
Ethylbenzene	ug/m3	59	82	70-130
m,p-Xylene	ug/m3	120	93	70-130
o-Xylene	ug/m3	59	94	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased high; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

303180

SAMPLE CHAIN OF CUSTODY 03/10/23

Report To Braeden Lutteral Javan Rusk,

Company Farallon

Address

City, State, ZIP

Phone Email JRusk, BLutteral @ farallonconsulting.com

SAMPLERS (signature)

PROJECT NAME & ADDRESS: CHS Auburn

PO #: 301-004

NOTES: *GRO + BTEX

INVOICE TO: AP

Page # 1 of 1

TURNAROUND TIME: Standard / RUSH / Rush charges authorized by:

SAMPLE DISPOSAL: Default: Clean following final report delivery / Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	* TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
OVERALL-031023	01	8531	279	IA / SG	3/10/23	28.0	1016	5.0	1025		X					
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG					Samples received at 20 °C							
				IA / SG												
				IA / SG												

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Braeden Lutteral	Farallon	3/10/23	1459
Received by:	ANHPHAM	FSB	03/10/23	14:59
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 23, 2023

Javan Ruark, Project Manager
Farallon Consulting, LLC
975 5th Avenue Northwest
Issaquah, WA 98027

Dear Mr Ruark:

Included are the results from the testing of material submitted on May 11, 2023 from the CHS Auburn 301-004, F&BI 305206 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Farallon Data, Braeden Lukkari
FLN0523R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 11, 2023 by Friedman & Bruya, Inc. from the Farallon Consulting, LLC CHS Auburn 301-004, F&BI 305206 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Farallon Consulting, LLC
305206 -01	OVERALL-051123

The TO-15 gasoline range concentrations were quantified using a single point calibration at 80 ppbv.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	OVERALL-051123	Client:	Farallon Consulting, LLC
Date Received:	05/11/23	Project:	CHS Auburn 301-004
Date Collected:	05/11/23	Lab ID:	305206-01 1/7.8
Date Analyzed:	05/17/23	Data File:	051718.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<2.5	<0.78
Toluene	<150	<39
Ethylbenzene	<3.4	<0.78
m,p-Xylene	13	3.0
o-Xylene	6.7	1.5
Gasoline Range Organics	12,000	2,800

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Farallon Consulting, LLC
Date Received:	Not Applicable	Project:	CHS Auburn 301-004
Date Collected:	Not Applicable	Lab ID:	03-1091 mb
Date Analyzed:	05/17/23	Data File:	051711.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Gasoline Range Organics	<330	<80

Date of Report: 05/23/23
Date Received: 05/11/23
Project: CHS Auburn 301-004, F&BI 305206

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 305136-01 1/4.6 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<1.5	<1.5	nm
Toluene	ug/m3	<35	<35	nm
Ethylbenzene	ug/m3	<2	<2	nm
m,p-Xylene	ug/m3	<4	<4	nm
o-Xylene	ug/m3	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	111	70-130
Toluene	ug/m3	51	104	70-130
Ethylbenzene	ug/m3	59	100	70-130
m,p-Xylene	ug/m3	120	91	70-130
o-Xylene	ug/m3	59	98	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

305206 Jason Rueff

ME 05-11-23

Report To Brieden Luttkai

Company Farallon

Address

City, State, ZIP

Phone Email JRueff, BLuttkai@farallonconsulting.com

SAMPLERS (*signature*) [signature]

PROJECT NAME & ADDRESS: CHS Auburn

PO#: 301-004

NOTES: * GRO + BTEX

INVOICE TO: AP

Page # 1 of 1

TURNAROUND TIME
Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Default: Clean following final report delivery
Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	* TO15 GRO+BTEX ~~BTEXN~~	TO15 cVOCs	APH	Helium		Notes
OVERALL-051123	01	8098	225	IA / (SG)	5/11/23	30+	1358	4.5	1405		X					
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG								Samples received at 23 °C				
				IA / SG												

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Brieden Luttkai	Farallon	5/11/23	1504
Received by: [signature]	Liz Wesber-B	F?B	5/11/23	1504
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 25, 2023

Javan Ruark, Project Manager
Farallon Consulting, LLC
975 5th Avenue Northwest
Issaquah, WA 98027

Dear Mr Ruark:

Included are the results from the testing of material submitted on July 12, 2023 from the CHS Auburn 301-004, F&BI 307110 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Farallon Data, Braeden Lukkari
FLN0725R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 12, 2023 by Friedman & Bruya, Inc. from the Farallon Consulting, LLC CHS Auburn 301-004, F&BI 307110 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Farallon Consulting, LLC
307110 -01	Overall-071223

The TO-15 gasoline range concentrations were quantified using a single point calibration at 80 ppbv.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Overall-071223	Client:	Farallon Consulting, LLC
Date Received:	07/12/23	Project:	CHS Auburn 301-004
Date Collected:	07/12/23	Lab ID:	307110-01 1/8.2
Date Analyzed:	07/18/23	Data File:	071823.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

	Concentration	
Compounds:	ug/m3	ppbv
Benzene	<2.6	<0.82
Toluene	<62	<16
Ethylbenzene	5.1	1.2
m,p-Xylene	25	5.7
o-Xylene	8.5	2.0
Gasoline Range Organics	39,000	9,500

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Farallon Consulting, LLC
Date Received:	Not Applicable	Project:	CHS Auburn 301-004
Date Collected:	Not Applicable	Lab ID:	03-1704 MB
Date Analyzed:	07/18/23	Data File:	071814.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<7.5	<2
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Gasoline Range Organics	<330	<80

Date of Report: 07/25/23
Date Received: 07/12/23
Project: CHS Auburn 301-004, F&BI 307110

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 307070-03 1/6.4 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	2.5	2.4	4
Toluene	ug/m3	<48	<48	nm
Ethylbenzene	ug/m3	<2.8	<2.8	nm
m,p-Xylene	ug/m3	<5.6	<5.6	nm
o-Xylene	ug/m3	<2.8	<2.8	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	100	70-130
Toluene	ug/m3	51	107	70-130
Ethylbenzene	ug/m3	59	101	70-130
m,p-Xylene	ug/m3	120	98	70-130
o-Xylene	ug/m3	59	101	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

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J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

307110

Jovan Rourke

SAMPLE CHAIN OF CUSTODY 07/12/23

Report To Braiden Lukkari

Company Farallon

Address

City, State, ZIP

Phone Email JRourke, BLukkari@farallonconsulting.com

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS: CTS Auburn

PO #: 301-004

NOTES: * GRO + BTEX

INVOICE TO: AP

TURNAROUND TIME
Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Default: Clean following final report delivery
Hold (Fee may apply):

SAMPLE INFORMATION / ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	*TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
OVERALL-071223	01	3671	221	IA / (SG)	7/12/23	30+	1247	5.0	1253		X					
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												Samples received at 22 °C
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Braiden Lukkari	Farallon	7/12/23	1406
Received by:	ANIHPHANI	ESS	07/12/23	14:06
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044