PHASE II ENVIRONMENTAL SITE ASSESSMENT
HOUGHTON VILLAGE
KIRKLAND, WASHINGTON

PREPARED FOR
CITY OF KIRKLAND
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HWA | GEOSCIENCES INC.
DBE/MWBE

Geotechnical Engineering
Pavement Engineering
Geoenvironmental
Hydrogeology
Inspection & Testing

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1.0 INTRODUCTION

This report presents the results of the HWA GeoSciences Inc. (HWA) Phase II Environmental Site Assessment (ESA) conducted for the City of Kirkland, in support of the Houghton Village project. It is HWA's understanding that the City of Kirkland (City) is considering purchasing the Houghton Village property (hereafter referred to as the Subject Property), which would likely result in redevelopment of the property, but no specific plans have been determined. Figure 1 shows the Subject Property location and vicinity.

This Phase II ESA was performed in response to HWA's contract with the City, which was authorized on March 28, 2022 by Beth Goldberg, Deputy City Manager of Operations.

1.1 Subject Property Background

This Phase II ESA was performed based on the results of a Phase I ESA of the Subject Property, completed by Shockey Planning Group (SPG) in March 2022 and other previous environmental reports provided to HWA by the City.

From information obtained from the 2022 SPG Phase I ESA and other environmental reports provided to HWA by the City, one of the current tenants of the Subject Property is Olympic Organic Cleaners. According to SPG, the tenant space of the dry cleaning facility has been occupied by a dry cleaners since at least 1989 and Olympic Organic Cleaners produced hydrocarbon solvent wastes as recently as 2019 (SPG, 2022). Investigation of the Subject Property by SPG and other consultants also identified a former gasoline service station previously located on the southern portion of the Subject Property, and a former print shop just east of the current dry cleaner tenant space. Figure 2 depicts the locations of these current and former uses of the Subject Property as well as adjoining property uses.

From review of previous environmental reports provided, former gasoline service stations were also located on the east and south-adjoining properties; an active manufacturing plant is located north of the Subject Property; an active machine shop/former manufacturing plant is located northeast; a former dry cleaner to the east; and an active dry cleaner to the south (Figure 2). Washington State Department of Ecology (Ecology) listed properties are located on the south-adjoining property (above-mentioned former

gasoline service station), and the southeast-adjoining property (an active gasoline station).

A 1998 Phase II ESA completed by Geotech Consultants, Inc. (Geotech, 1998a) included a geophysical survey of the Subject Property former gasoline service station area and limited soil and groundwater sampling. The 1997 geophysical survey did not identify any underground storage tanks (USTs), but noted possible buried debris that could have been a backfilled excavation west of the former gasoline service station. The limited soil and groundwater sampling conducted in 1997 found that soil samples collected from the vicinity of the former onsite gasoline service station pump island and suspected UST area were both non detect for total petroleum hydrocarbons (TPH) at depths of approximately 7.5 feet below ground surface (bgs). A groundwater sample collected from the southeast corner of the Subject Property had gasoline and benzene detections that were above Ecology's Model Toxic Control Act (MTCA) method A cleanup levels for unrestricted use. Based on these results, Geotech suspected that the groundwater impacts were from upgradient, offsite sources of contamination. Two soil samples were also collected by Geotech in 1998 from "near the back of Olympic Cleaners" with both non-detect for halogenated volatile organic compounds (HVOCs). The soil samples collected for HVOC analysis were obtained via hand auger borings and the soil sample depth was not identified. Locations of the 1998 Geotech borings are shown on Figure 3.

In 1998, Geotech also collected a water sample was from an onsite catch basin located north of the dry cleaners (Geotech, 1998b). The exact location of this catch basin was not identified. During the catch basin sampling activities, Geotech noted lint below the catch basin grate and an astringent odor. Analysis of the water sample detected chloroform, toluene, tetrachloroethylene, and p-Isopropyltoluene below the MTCA groundwater and surface water cleanup levels.

The 2022 SPG Phase I ESA included a 1999 *Subsurface Soil and Ground Water Sampling* report completed by Environmental Partners Inc. The 1999 soil and groundwater investigation was completed in the vicinity of the former onsite gasoline station, and in the southeast corner of the Subject Property (in the vicinity of the former offsite east-adjoining gasoline station). No gasoline (TPHg), diesel (TPHd), or oil range (TPHo) TPH, or any benzene, toluene, ethylbenzene and xylenes (BTEX) were detected in any of the 1999 EPI soil samples except for one sample with a TPHg detection well below the Method A soil cleanup level.

Three of the 1999 groundwater samples along the southern border of the Subject Property (borings B-4, B-5, and B-6) had TPHg below the MTCA Method A groundwater cleanup level, and no detections of TPHd or TPHo. BTEX compounds were either below cleanup levels or not detected except for a benzene detection of 6 micrograms per liter (µg/L) in boring B-5, exceeding the cleanup level of 5 µg/L. TPHg and benzene detections of 1,100 and 77 µg/L, respectively, were identified in a boring east of the former onsite gasoline station (boring B-10), while TPHd, toluene, and xylenes were below cleanup levels in this boring. The locations of the 1999 borings are shown on Figure 3.

EPI concluded, based on their findings, that groundwater impacts were due to an off site source south and/or east of the property, because 1) no significant surface soil, or vadose zone soil impacts were observed on the property, and 2) contamination was found upgradient of the former on site gas station.

From review of the previous environmental reports provided to HWA, it appears that the three closest off-site gasoline service stations include:

1) A former gasoline service station located on the east-adjoining property, approximately 75 feet east of the Subject Property. The former east-adjoining gasoline service station is not identified on any regulatory databases that indicate a release has occurred. However, the 1999 EPI report indicates that during construction of a retaining wall on the east side of the Subject Property (date not noted) "several seeps" with an "oily sheen" and "petroleum smell" were noted.
2) A former gasoline service station identified as OVS, Inc. (OVS) that was located on the south-adjoining property, approximately 100 feet southeast of the Subject Property. The OVS property is identified on regulatory databases that indicate a release to the environment has occurred. According to the SPG Phase I ESA, the OVS property had five USTs removed in 1991 with TPHg and benzene impacts to soil and groundwater. The former OVS building was removed in 1996 and three other sources of contamination were identified below the building, an oil-water separator, two hydraulic hoists, and a drywell. Additional remedial excavation occurred in 1996 and a drinking water well was encountered during excavation activities. A water sample was collected, and the water had "concentrations of petroleum hydrocarbons slightly exceeding the cleanup levels that the time of 1.0 ppm in groundwater." No other information regarding remediation actives that may have occurred were identified in the documents provided for review. This OVS property has been redeveloped and is currently occupied by a Starbucks coffee shop.
3) An active Shell branded gasoline station located approximately 250 feet southeast of the Subject Property. The Shell station, previously a Texaco branded gasoline station, is identified of Ecology regulatory databases as having TPH and BTEX impacts to the soil and groundwater. Laboratory analysis of January 2015 groundwater samples collected from a well on the northwest (downgradient) corner of the Shell property (approximately 250 feet southeast of the Subject Property) identified TPHg and benzene concentrations of 19,000 µg/L and 179 µg/L, respectively. TPHg and benzene concentrations of 1,750 µg/L and 11.3 µg/L, respectively, were also detected in a monitoring well located in the 108th Avenue Northeast (approximately 228 feet southeast of the Subject Property). The MTCA Method A cleanup levels for TPHg and benzene are 800 µg/L and 5 µg/L, respectively.

1.2 Scope of Work

The purpose of the Phase II assessment was to investigate the potential presence of soil and/or groundwater contamination at the Subject Property via on site sampling. To accomplish the above-stated objectives for the HWA Phase II ESA, the following scope of work was performed:

- Prepared project work plan and health and safety plan;
- Conducted a geophysical reconnaissance of the former gasoline station portion of the Subject Property;
- Collected subsurface soil samples (2.5-30 feet deep) via hollow-stem-auger drilling methods;
- Collected groundwater grab samples via temporary wells installed during hollow-stem-auger drilling activities;
- Performed laboratory analyses on soil and groundwater samples; and
- Prepared a Phase II ESA Report.

2.0 SITE DESCRIPTION

The following sections provide a description of the Subject Property, the geographic setting, and geologic/hydrologic conditions, based information obtained by HWA or from review of background documentation provided to HWA by the City.

2.1 Location

The Subject Property is addressed at 10702 NE 68th Street in Kirkland, King County, Washington, and consists of King County tax parcel 7882600611, which totals approximately 2.20 acres. The Subject Property is developed with an approximately 17,530 square foot retail building that was constructed in 1958 (herein referred to as the eastern building), a 12,127 square foot retail building constructed in 1956 (herein referred to as the western building), and associated paved driveways and parking areas. Surrounding areas generally consist of commercial, residential, and light industrial properties. The City is considering purchasing the Subject Property and will likely redevelop it, but currently there are no specific redevelopment plans. Figure 1 shows the location and vicinity of the Subject Property.

2.2 Physical Setting

The Subject Property and nearby vicinity slopes down from southeast to northwest. Elevation of the Subject Property is approximately 195 feet above mean sea level (MSL) in the southeast corner and 175 feet above MSL in the northwest corner. The nearest surface water body is Lake Washington, which is approximately 2,100 feet west of the Subject Property.

2.3 Regional Geology

Soil information provided by the United States Department of Agriculture Web Soil Survey indicates the project area is classified as Alderwood Gravelly Sandy Loam, which is classified as moderately well drained. Background geologic information for the project area was obtained from the Geologic Map of Surficial Deposits in the Seattle 30’ x 60’ Quadrangle, Washington (Yount et al., 1993). This map indicates that the Subject Property is underlain by Vashon till. Vashon till generally consists of poorly sorted sands and silts with varying amounts of gravel, and is typically very dense and relatively impermeable due to being overrun by advancing and retreating glacial ice, causing it to be overconsolidated.

The 1990s Geotech and EPI environmental investigations indicate that the Subject Property is underlain by silt with sand and gravel to depths of approximately 14 feet bgs. The EPI report included two boring logs that noted fill to approximately one foot bgs, which was underlain by sandy lean clay to poorly graded sand with clay to approximately

11 feet bgs. An approximately one foot thick sand lens was noted at seven feet bgs in one of the two boring logs.

2.4 Hydrogeologic Conditions

The 1990s Geotech and EPI environmental investigations of the Subject Property encountered shallow groundwater at depths ranging between approximately 4.2 to 8.7 feet bgs, which was interpreted to be localized and discontinuous perched groundwater. The 1998 Geotech Phase II ESA also noted that "deeper borings made on a nearby property found that the dry silt with sand extends to a depth of 30 to 35 feet and is underlain by a water-bearing sand."

EPI reported a hydraulic gradient within the perched aquifer of about 0.035 feet/feet in a westerly direction, and opined that this steep gradient could result in rapid groundwater (and contaminant) migration rates. They also stated that "there appears to be a more permeable soil material… within the shallow subsurface soils that likely acts as a preferential groundwater (and contaminant) migration pathway" that could "readily facilitate dissolved-phase contaminant migration from adjacent contaminated properties".

According to an AECOM Environment *2015 Annual Groundwater Monitoring Report* for a Shell branded gasoline service station located approximately 240 feet southeast of the Subject Property, groundwater is located at approximately 1.5 to 9.6 feet bgs at this Shell property (AECOM, 2016). The AECOM report also noted that the measured groundwater flow direction at this Shell property is to the northwest with a horizontal hydraulic gradient of approximately 0.07 to 0.08 feet/foot.

3.0 FIELD ACTIVITIES

Field activities associated with HWA's Phase II ESA were performed on March 29, 2022, and April 4 through 7, 2022. The program consisted of a geophysical survey, private utility locate, advancing nine hollow-stem-auger drilled borings to depths ranging from approximately 10 to 30 feet bgs, sampling of soil and groundwater, and laboratory analysis of selected soil and/or groundwater samples. GPR survey and boring locations are shown on Figure 3. Appendix A contains the boring logs. Appendix B contains the laboratory analysis.

3.1 Electromagnetic/Ground Penetrating Radar Survey

On March 29, 2022, Applied Professional Services, Inc. (APS), of North Bend, Washington, under subcontract to HWA, performed an electromagnetic (EM) survey of selected areas of the Subject Property to evaluate the presence of potential USTs, piping, or other buried metallic structures at the Subject Property. In addition, these areas were also profiled by APS using ground penetrating radar (GPR). Areas surveyed consisted of proposed boring locations, the former gas station area on the southern portion of the Subject Property, and catch basins to the north of the onsite dry cleaner.

The EM survey was used to locate buried metal objects. The EM device transmits and receives an electromagnetic signal. When the transmitted signal encounters a buried conductor (metal object) the return signal is altered, and that change is registered on the instrument by deflections on a meter and an audible alarm tone. Each EM anomaly was marked on the ground with spray paint. The GPR is a geophysical method in which a high frequency electromagnetic signal is emitted into the ground during a linear traverse. Reflections of this signal are recorded and processed to yield a visual image (cross-section) of the subsurface. GPR is a useful tool for determining depth, shape and orientation of buried objects based on density differences.

EM and/or GPR anomalies were identified on the south-central part of the Subject Property, near the location of the former gas station. The anomalies included two potential USTs and/or UST excavations (Figure 3), and multiple linear anomalies interpreted as either abandoned utilities or UST piping. In the northwest part of the property, two linear anomalies to the north of the onsite dry cleaner were identified and interpreted as drainpipes to catch basins.

Although EM and GPR surveys provide general information on the location and orientation of possible USTs or other buried metallic objects, the occurrence of other buried features (i.e., metallic items associated with foundations, pipes, debris, etc.) may limit interpretation of the geophysical data.

3.2 Soil Sample Collection

HWA contracted Cascade Drilling, L.P. (Cascade) of Woodinville, Washington, a licensed drilling contractor, to advance soil borings at the Subject Property. Nine soil borings were advanced on April 4 through 7, 2022 to depths of up to 30 feet bgs. Soil boring locations are shown on Figure 3.

Cascade employed a CME 55 Hollow Stem Auger drill rig to collect soil and groundwater samples. The device consists of a track-mounted drill rig that advances 5-foot-long auger flights into the ground. Soil samples were collected every 2.5 feet using a steel Dames and Moore sampling spoon, which was driven into the ground using a 140-pound hydraulic hammer.

Soil samples were placed in labeled laboratory-provided sample containers using nitrile gloves. Soil samples for volatile organic compound (VOC) analysis were collected in accordance with Environmental Protection Agency (EPA) 5035 methodology. Samples were placed in a cooler with “blue ice” for transport to the laboratory under chain-of-custody protocol.

HWA collected up to two soil samples from each soil boring for submittal to the laboratory. Soil samples were field screened using a photoionization detector (PID) and water sheen test to evaluate potential presence of petroleum hydrocarbons in the samples. Soil samples selected for laboratory analyses were based on field screening results and/or typically collected at the soil-groundwater interface. Field observations, soil conditions, and other pertinent information were recorded on boring logs to document subsurface hydrogeologic conditions encountered during field activities. Copies of boring logs are included in Appendix A.

3.3 Groundwater Sample Collection

HWA collected groundwater samples from eight of the soil borings using low flow sample methods. During drilling, perched groundwater was encountered at depths ranging between approximately four to seven feet bgs. Due to the limited quantities of groundwater encountered in boring B-13, collection of a groundwater sample from this boring was not possible. Deeper groundwater was encountered in borings B-16 and B-19 at depths of 20 and 22.5 feet bgs, respectively. In these borings, both shallow perched groundwater samples (sample identification B-16 and B-19) and deeper groundwater samples (sample identification B-16a and B-19a) were collected. Groundwater samples were collected using a peristaltic pump placed within temporary PVC slotted screens and casing placed into the borehole and removed subsequent to sample collection. New screen, casing, and pump tubing were used at each groundwater sample location.

Water samples were filtered for analysis of dissolved metals to avoid artificially biasing the sample results due to sample turbidity, which is common in groundwater samples collected from mechanical borings and undeveloped monitoring wells where groundwater samples cannot be collected without some entrained soil particles. The Washington State Ecology MTCA allows filtered groundwater samples in cases where "*a properly constructed monitoring well cannot be sufficiently developed to provide low turbidity water samples*."

Samples were collected directly into the sample containers provided by the laboratory, and placed in a cooler with blue ice for transport to the laboratory under chain-of-custody protocol.

3.4 Field Screening Instruments

HWA conducted field screening of soil from the borings for the presence of volatile organic vapors using a Mini-Rae PGM 75 PID. In addition, any visual indications of contamination and/or odors were noted. Although the PID is not capable of quantifying or identifying specific organic compounds, this instrument is capable of measuring relative concentrations of a variety of organic vapors with ionization potentials less than the energy of the ultraviolet source (in this case, 10.6 eV). The PID is useful for providing qualitative information with respect to the presence and relative concentration of organic vapors.

The PID was calibrated with 100 parts per million isobutylene standard at the beginning of each field day. Fifty to 100 milliliters of soil from a discrete depth were placed in a plastic bag, sealed, and permitted to sit at least two to three minutes prior to analyzing the vapor in the sample bag. The bag was then perforated by the PID sample tip to obtain the reading. Samples were screened with the PID when sufficient sample volume was available. Field PID sample screening depths and concentration values were recorded on the boring logs and are provided in Appendix A.

3.5 Decontamination Methods

To prevent potential cross-contamination of samples, Cascade cleaned sampling spoons between each sample and drilling rods between each boring. All sampling equipment was decontaminated prior to use with detergent solution, potable water, and deionized water.

3.6 Investigation-Derived Waste

Soil cuttings, purged groundwater, and decontamination water from the field activities were placed in steel drums stored at the Subject Property pending analytical results.

Disposable personal protective equipment (e.g., nitrile gloves) was discarded off-site as solid waste.

4.0 GEOLOGY AND HYDROGEOLOGY

The regional geology and previous consultant findings are discussed in Sections 2.3 and 2.4.

4.1 Geologic Conditions

Nine borings were advanced on April 4 through 7, 2022 to depths between 10.5 and 30.5 feet. A summary of the general geologic conditions, based on HWA's observations and soils encountered, is described below in order of general increasing depth:

- Fill soils consisting of very loose to loose, brown to grayish-brown sand with varying amounts of silt, gravel, and organics; or medium stiff to stiff brown, grayish-brown or olive brown silt with varying amounts of sand, gravel, and organics were encountered from below the pavement to depths of approximately 5 to 10 feet bgs. The silt fill appeared to be reworked native soil.
- Medium dense to very dense, olive brown, gray or dark gray sand with varying amounts of silt and gravel; or stiff to hard, olive brown or gray silt with varying amounts of sand and gravel was encountered below the fill to a maximum depth of 30.5 feet bgs, and was interpreted to be Ice Contact Stratified Drift. Ice Contact Stratified Drift is similar to Vashon till but has been reworked by the base of the glacial ice, and tends to be more well sorted and stratified than till typically is.
- In the deeper borings B-16 and B-19, sands and silty sands were encountered at around 25 feet bgs to the completed depths of 26 and 31 feet, respectively, which were interpreted to be Quaternary Advance Outwash deposits. Advance Outwash is generally comprised of dense alluvial sands and gravels deposited in front of the advancing ice sheet, and then overridden by the ice and compacted. Advance Outwash is often water bearing and is a regional aquifer.

4.2 Hydrogeologic Conditions

Cascade installed temporary groundwater monitoring wells in eight of the nine borings advanced. Shallow groundwater was encountered at depths ranging from approximately 4 to 7.5 feet bgs, and is interpreted to be perched in the fill. Deeper groundwater was encountered in B-16 and B-19 at depths of approximately 20 and 22.5 feet bgs, respectively, in a sand layer interpreted to be Advance Outwash. Groundwater in the outwash appeared to be confined, i.e., under pressure, as evidenced by water levels measured above the sands, and heave (flowing sands) in the borehole during drilling.

The inferred groundwater flow direction in shallow groundwater at the Subject Property is to the northwest toward Lake Washington, located approximately 2,100 feet west of the Subject Property.

As part of the investigation, HWA utilized the elevations of perched groundwater as first encountered during drilling (i.e., not stabilized static groundwater levels) and contouring software (Surfer) to estimate groundwater flow direction at the Subject Property. Figure 4 shows the interpreted perched groundwater gradient of the Subject Property. Based on this analysis, perched groundwater at the Subject Property flows to the northwest, at gradients of 0.010 to 0.016 ft/ft, consistent with the inferred groundwater flow direction toward Lake Washington and with measured groundwater flow at the nearby Shell property (as discussed in Section 2.4). Stabilized static groundwater levels could not be reliably measured due to the temporary wells used to collect samples. Also, perched water in some of the temporary wells drained out to below the first encountered elevations. For these reasons, the gradient shown in Figure 4 may not represent the true potentiometric surface (groundwater table), but is used as a general indicator of shallow hydraulic gradient. It should be noted that the presence of utilities on the Subject Property and nearby roadways may affect the perched groundwater flow direction as the backfill materials utilized in utility trenches are generally permeable and create a preferential pathway for water flow (and contaminant migration).

5.0 CHEMICAL ANALYSES AND QUALITY CONTROL REVIEW

5.1 Chemical Analyses

Select soil and groundwater samples were submitted to OnSite Environmental Inc. (OnSite) of Redmond, Washington for chemical analysis to evaluate concentrations of TPH, select metals (arsenic, cadmium, chromium, lead and mercury), VOCs, and HVOCs. HWA had initially proposed that laboratory analysis of polychlorinated biphenyls (PCBs) might be performed. However, based on the contaminants and depths of soil impacts in the vicinity of the former onsite gas station that were identified during initial laboratory analysis; analysis for PCBs was deemed to be unnecessary (i.e., no impacts identified at the typical depth of underground hydraulic hoists). Chemical analytical methods performed on the soil and/or groundwater samples included one or more of the following:

- Hydrocarbon identification (HCID) scan using Ecology method NWTPH-HCID.
- TPH in the diesel range (TPHd) and oil range (TPHo) using Ecology method NWTPH-Dx.
- TPH in the gasoline range (TPHg) using Ecology method NWTPH-Gx.
- Model Toxics Control Act (MTCA) total metals (arsenic, cadmium, chromium, lead, and mercury), using EPA method 6010D/7471B (for soil samples only).
- MTCA total and dissolved metals using EPA method 200.8/7470A (groundwater samples only).
- VOCs using EPA method 8260D.
- HVOCs using EPA method 8260D.

Copies of final laboratory report including chain-of custody documents are included in Appendix B.

5.2 Quality Control Review

HWA reviewed quality control results of the analytical data. Surrogate recoveries, method blanks, laboratory duplicates, spike blanks, and spike blank duplicates were all within control limits with the following exceptions:

- MTCA total metals EPA 6010D/7471B Analysis – The laboratory duplicate analysis of lead for the B-12@5’ soil sample had a relative percent differences (RPD) out of control limits due to high result variability when analyte concentrations are within five times the quantitation limit. Because no lead was

detected in the sample, the results were deemed to be acceptable for use and no action was taken.

- HCID Ecology NWTPH-HCID Analysis – The practical quantitation limit (PQL) of TPHg for soil sample B-18@2.5 is slightly elevated due to interferences present in the sample, but is still below the cleanup level. The results were deemed to be acceptable for use and no action was taken.
- TPHd Ecology NWTPH-Dx Analysis – The hydrocarbons in the lube oil range are impacting the diesel range results for the B18@2.5 soil sample.
- TPHd Ecology NWTPH-Dx Analysis – The hydrocarbons in the gasoline range are impacting the diesel range results for the B-20@6 soil sample.
- VOC EPA 8260D Analysis – The compound 2-Chloroethyl Vinyl Ether did not meet method specified calibration criteria due to instrument reactivity. The analysis for this compound should be considered a screen with estimated potential values. Because the compound 2-Chloroethyl Vinyl Ether was not detected in any of the Subject Property samples, the results were deemed to be acceptable for use and no action was taken.
- VOC EPA 8260D Analysis – The percent recovery for surrogate Toluene-d8 is outside of the control limits for sample B-20 @ 6 due to co-eluting non-target analytes. Because toluene was not detected in any of the sample, the results were deemed to be acceptable for use and no action was taken.
- The PQL of ethylbenzene and m,p-xylene in soil sample B-20@6 were elevated due to interferences present in the sample. Neither of these compounds were detected in this sample, and the results were deemed to be acceptable for use and no action was taken.

OnSite did not flag any other results with qualifiers which would indicate that a given result was suspect. Laboratory method blank analyses were all below detection limits.

The analyses of the soil samples and groundwater samples collected From April 4 through 7, 2022 were determined to be acceptable for their intended use.

6.0 CHEMICAL ANALYSES RESULTS

6.1 Analytical Results

Analytical results for soil and groundwater samples are described in subsequent sections of this report, and are summarized in Table 1 (soil) and Table 2 (groundwater). Copies of final laboratory reports including chain-of custody documents are included in Appendix B. Laboratory analytical data were compared to MTCA Method A and/or Method B cleanup levels, which may not apply at the site, but are used for a general indication of environmental conditions at the property.

6.2 Analytical Results for Soil Samples

Analytical results for soil samples collected from the borings are summarized in Table 1, and described below. Boring locations are shown on Figure 3.

The following observations were made based on the analytical results for the soil samples collected and analyzed during the HWA Phase II assessment:

- Six soil samples were submitted for HCID analysis, as a general (semi quantitative) screening for petroleum where no specific source area or prior impacts were identified. No petroleum was detected by this method except for TPHo detected in one sample collected from boring B-18 at a depth of approximately 2.5 feet bgs. Follow up quantitative analysis of this sample by Ecology test method NWTPH-Dx detected TPHd at 75 milligrams per kilogram (mg/kg) and TPHo at 430 mg/kg, which are below the MTCA Method A cleanup level of 2,000 mg/kg. The TPHd and TPHo detections are above Ecology's Category 1 unrestricted use disposal guidelines of < 25 mg/kg and <100 mg/kg, respectively. The Ecology Category 1 end use criteria are generally for use in handling soils from petroleum cleanups, and may not apply at this site, but are shown as the only available numeric criteria for disposing of petroleum impacted soils below cleanup levels.
- Six other soil samples were submitted for gasoline analysis using Ecology test method NWTPH-Gx, in areas where gasoline impacts were known or suspected. TPHg was detected in one sample collected from boring B-20 at a depth of approximately six feet bgs. This sample contained TPHg at 240 mg/kg, above the MTCA Method A cleanup level of 30 mg/kg. TPHg was not detected in the other five samples.
- The same six soil samples as above were also submitted for diesel and oil analysis using Ecology test method NWTPH-Dx, which provides results for both TPHd and TPHo. Of the seven total samples (including B-18 at 2.5 feet described

above) analyzed by Method NWTPH-Dx, TPHd and/or TPHo were detected in three of them, at concentrations below the MTCA Method A cleanup level of 2,000 mg/kg, with two of the three (B-18 and B-20) exceeding Ecology Category 1 end use criteria.

- Six soil samples were submitted for BTEX analysis using EPA test method 8260D. Of these, benzene was detected at 0.0029 mg/kg and xylenes were detected at 0.0024 mg/kg in sample B-19 at a depth of 7.5 feet bgs, both below MTCA Method A soil cleanup levels, although the presence of benzene at any concentration anywhere on the site drives the TPHg cleanup level (for soil and groundwater) to the lower values under MTCA. No components of BTEX were detected in the other soil samples analyzed.
- Two soil samples were submitted for full VOC analysis, including the one with the highest TPHg concentrations from boring B-20. Of these two samples, one contained BTEX below cleanup levels (described above), along with various other non-chlorinated (i.e., non halogenated) VOCs (see Table 1), but all of these VOC detections were below MTCA soil cleanup levels and no established Category 1 end use criteria exist for these other VOCs. See Appendix B for a complete list of analyzed VOCs.
- Five soil samples were submitted for HVOC analysis, to assess impacts from the dry cleaners. No HVOCs were detected any of the soil samples analyzed. See Appendix B for a complete list of analyzed HVOCs.
- Five soil samples were submitted for MTCA metals analysis. Metals arsenic, cadmium, and mercury were not detected above laboratory detection limits. Chromium was detected in each soil sample analyzed at concentrations ranging between 20 and 73 mg/kg. The MTCA Method A cleanup level for hexavalent chromium is 19 mg/kg while trivalent chromium has a cleanup level of 2,000 mg/kg. The geochemical conditions at the Subject Property are not conducive to oxidizing trivalent chromium to hexavalent chromium and therefore these chromium detections are not considered to be above the cleanup level. Lead was detected at 14 mg/kg and 6.3 mg/kg in B-12 and B-19, respectively, at depths of approximately 7.5 feet bgs. Both these concentrations are below the MTCA Method A cleanup level of 250 mg/kg and the Ecology Category 1 unrestricted use disposal guidelines of <17 mg/kg.

In summary, only one of the 14 soil samples analyzed had a detection of contaminants of concern (COCs) at a concentration exceeding MTCA cleanup levels and one of the soil samples had COCs detected above Ecology's Category 1 guidelines. The TPHg detected in boring B-20 exceeding cleanup levels was at a depth of 6 feet bgs, right at the perched groundwater table on top of a silt layer, and may represent soil impacts from groundwater (i.e., a "smear zone") rather than a soil source at this location. Although no HVOCs were

detected in site soils, no samples were collected near the dry cleaning operations due to access limitations, and it is possible that HVOC impacts exist under the building.

6.3 Analytical Results for Groundwater Samples

As noted above, perched groundwater samples were collected from all of the borings except for boring B-13 where groundwater was insufficient for sampling. In borings B-16 and B-19, shallow perched groundwater samples (identified as B-16 and B-19) were collected, as well as deeper groundwater samples (identified at B-16a and B-19a), collected in the underlying Advance Outwash sand layer. A total of 10 groundwater samples were submitted for laboratory analysis.

Analytical results for groundwater samples collected from the borings are summarized in Table 2 and described below. Figure 3 shows boring locations and Figure 4 shows the interpreted groundwater gradient.

The following observations were made based on the analytical results for groundwater samples collected and analyzed during the HWA Phase II assessment:

- Four groundwater samples (B-12, B-14, B-15, and B-16) were submitted for HCID analysis. TPHg was detected above laboratory detection limits in each of these samples, and TPHd and/or TPHo were also detected in each sample. Therefore, each of these groundwater samples were further analyzed for TPHg, TPHd, and TPHo and the laboratory results are discussed below.
- Nine groundwater samples were analyzed for TPHg using NWTPH-Gx. Of these nine samples, TPHg was only detected in samples collected from B-17 and B-20. TPHg was detected at 130 micrograms per liter (µg/L) in boring B-17 and at 280 µg/Lin B-20, both of which are below the MTCA Method A groundwater cleanup level of 800 µg/L. TPHg was not detected in any of the other groundwater samples analyzed.
- Nine groundwater samples were analyzed for TPHd and TPHo using NWTPH-Dx. Of these nine samples, TPHd was detected in each sample except for the groundwater sample B-16a (deeper groundwater sample). TPHd detections ranged between 170 to 350 µg/L. TPHo was detected in groundwater samples analyzed from B-12, B-16 (shallow perched groundwater sample), B-17, B-18, and B-20. TPHo detections ranged between 150 to 280 µg/L. The MTCA Method A cleanup level for combined TPHd and TPHo is 500 µg/L, therefore two samples are at the cleanup level of 500 µg/L, and three are just below it, at 460 to 490 µg/L.
- Nine groundwater samples were submitted for BTEX analysis using EPA method 8260D. Of these, no components of BTEX were detected.

- Four samples were submitted for full VOC analysis. Of these, components of BTEX were not detected. Various other non-chlorinated VOCs were detected in these groundwater samples, as shown on Table 1, but all of these VOC detections were well below MTCA groundwater cleanup levels. See Appendix B for a complete list of analyzed VOCs.
- All 10 groundwater samples collected were submitted for HVOC analysis. No HVOCs were detected above laboratory detection limits. See Appendix B for a complete list of analyzed HVOCs.
- Four groundwater samples were submitted for dissolved MTCA metals analysis. Metals cadmium, chromium, lead, and mercury were not detected above laboratory detection limits. Arsenic was detected in all four samples, with three of them exceeding the MTCA Method A groundwater cleanup level of 5 µg/L, at concentrations ranging from 9.6 to 20 µg/L.
- One groundwater sample was submitted for total (unfiltered) MTCA metals analysis. Cadmium and mercury were not detected above laboratory detection limits. Arsenic was detected at 45 µg/L, chromium was detected at 260 µg/L, and lead was detected at 63 µg/L. Each of these detections are above the MTCA Method A groundwater cleanup levels. However, when comparing the dissolved metal analysis results to the total metals analysis, the only metal detected above cleanup levels was arsenic; dissolved chromium and lead were not detected in any of the dissolved (filtered) groundwater samples. This indicates that the total metals analysis results could be influenced by suspended solids in the groundwater and the total metal results may be elevated and not be representative of groundwater conditions at the Subject Property.

In summary, analytical results indicate that two groundwater samples detected combined TPHd and TPHo at the cleanup level of 500 µg/L, and three samples were just below it, at 460 to 490 µg/L. The only other COC detected above cleanup levels is arsenic (in four of five wells sampled). The presence of arsenic above cleanup levels at the Subject Property could potentially be a result of the natural breakdown of TPH in groundwater, which promotes mobilization of naturally occurring arsenic in soils into the groundwater. However, the presence of arsenic concentrations above cleanup level would still require consideration during remediation and/or redevelopment of the Subject Property. Although no HVOCs were detected in site groundwater, no samples were collected near the dry cleaning operations due to access limitations, and it is possible that HVOC impacts exist under the building.

Past and recent groundwater samples with TPH at or near cleanup levels are located throughout the bulk of the property, from the very northwest corner to the southeast corner, and in between. Based on the limited TPH impacts identified in the soils at the Subject Property during this and prior investigations, the location and distribution of

groundwater impacts, and the groundwater impacts identified and suspected at three adjacent former and current gasoline stations; it is likely that the TPH groundwater impacts at the Subject Property are from upgradient off-site sources.

7.0 RECOMMENDATIONS

7.1 Vapor Intrusion

COCs present at the Subject Property may potentially pose a vapor intrusion risk in existing or future buildings at the Subject Property. Some historic groundwater detections exceed screening levels established in Ecology's draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*- Revised March 2022. This guidance provides a process for evaluating the vapor intrusion pathway and subsurface remedial cleanup levels protective of indoor air quality.

HWA recommends conducting a vapor intrusion assessment for existing or future buildings to determine the degree to which the vapor pathway may currently be exposing receptors to subsurface contamination. The vapor intrusion assessment may include:

- Comparison of existing soil and groundwater data to vapor screening levels to see if further sampling is required
- Sampling and analysis of indoor air, sub-slab soil gas, and/or crawlspace air, and comparing these measured gas concentrations to indoor air standards to determine the degree to which the pathway may be currently exposing receptors to subsurface contamination.
- Predicting indoor air concentrations via modeling and comparing to indoor air standards

7.2 Construction Impacts

Soil

Although soils sampled generally did not exceed MTCA cleanup levels, any net export soil excavated for development purposes should be to be properly handled and disposed of. Many receiving facilities will not accept soils with detectable concentrations of contaminants or odors, even if below cleanup levels, necessitating disposal at facilities licensed to dispose, treat, or recycle contaminated soil.

Washington State Solid Waste Handling Standards, Chapter 173-350 WAC, define "clean" and "contaminated" soil for off-site disposal purposes on the basis of cleanup levels "that would be established for existing land use at the location where soil is placed." This definition can be difficult to implement, particularly for public works projects where soil disposal fill sites are usually identified by the Contractor. These cleanup levels may or may not correspond to MTCA table values, and disponing of soils with contaminants below MTCA cleanup levels at an otherwise unimpacted site may create liability for the soil owner. Ecology Category 1 end use criteria are generally for

use in handling soils from petroleum cleanups, and may not apply at this site, but are shown in this report as the only available numeric criteria for disposing of petroleum impacted soils below cleanup levels. HWA recommends if site development involves excavation and net export of soils, all available data, including this report and any additional testing information available at that time, be provided to contractors and disposal site owners to ensure they can accept the soils, and the City obtain a release or indemnification from the disposal site. Construction bid or contract documents (e.g., plans and specifications) should include analytical results and provisions for contaminated soil handling, treatment/disposal, and health and safety requirements.

Water

The majority of reconnaissance groundwater samples analyzed had arsenic detections above the MTCA Method A groundwater cleanup level. Half of the groundwater samples collected also contained combined TPHd and TPHo concentrations at or close to the MTCA Method A cleanup level. If construction excavations require dewatering, effluent should be tested and properly managed, treated, and/or disposed. Potential dewatering discharge options include discharge under permit to sanitary sewer, on-site treatment prior to discharge to the storm drainage system, or off-site treatment/disposal (typically for small quantities).

Criteria (chemical concentrations) for disposal to sanitary sewer under permit are typically much higher than for discharge to the storm drainage system, with most dewatering effluent suitable for discharge with little or no pre-treatment. Conversely, discharge to the storm drainage system typically requires very high quality water, with regards to chemical concentrations and also turbidity.

Potentially contaminated dewatering effluent may require storage in tanks and testing prior to discharge, treatment or disposal, and other applicable requirements. This may include planning and design for treatment of water, obtaining appropriate disposal or discharge permits, and compliance sampling and reporting.

Summary

HWA recommends that if redevelopment occurs, all available soil and groundwater data, including this report and previous environmental reports, be provided to contractors for construction planning purposes. Construction bid or contract documents (e.g., plans and specifications) should include provisions for impacted soil and groundwater for proper handling, treatment/disposal, and health and safety requirements.

7.3 USTs

Geophysical reconnaissance of the former gas station area on the south-central portion of the Subject Property identified two GPR anomalies suspected to either be abandoned

USTs or suspect former UST locations. Several linear features were also identified that could be abandoned utilities or piping associated with USTs. Due to the presence of other buried features (e.g., metallic items, utilities, debris, etc.) interpretation of the geophysical data may be compromised.

Abandoned or unreported USTs that may be encountered during potential redevelopment of the Subject property project construction should be properly reported and decommissioned in accordance with local and Ecology regulations.

7.4 Health and Safety

If redevelopment occurs, HWA recommends that appropriate health and safety measures be taken during excavations where contaminated soils and/or groundwater may be present. These measures may include, but are not limited to, preparation of a site-specific health and safety plan, air monitoring, site control/access, protective and decontamination measures, worker training, certification, and medical monitoring. We recommend an industrial hygienist or health and safety specialist be consulted to determine the applicability of these requirements.

8.0 CONCLUSIONS

HWA performed a Phase II ESA at the Subject Property to evaluate the potential presence of contaminants in soil and groundwater prior to potential purchase and redevelopment of the Subject Property.

Geophysical reconnaissance of the former gas station area on the south-central portion of the Subject Property identified two GPR anomalies suspected to either be abandoned USTs or former UST locations.

Phase II ESA field activities included advancing nine hollow stem auger soil borings to collect soil and groundwater samples. Selected soil and groundwater samples were submitted for chemical analyses to evaluate concentrations of TPH, VOCs, HVOCs, and RCRA metals.

One of the 14 soil samples analyzed had a TPHg detection exceeding MTCA cleanup levels. This sample was collected from boring B-20, west of the former gasoline service station on the east-adjoining property. As stated earlier, MTCA Method A and/or Method B cleanup levels may not apply at the site, and are used for a general indication of environmental conditions at the property. One sample analyzed from boring B-18, located along the east side of the former onsite gasoline service station and west of one of the suspect UST GPR anomalies, contained TPHd and TPHo above Ecology Category 1 disposal guidelines for unrestricted use. These guidelines are generally for use in handling soils from petroleum cleanups, and may not apply at this site. HWA recommends if site development involves excavation and net export of soils, all available data, including this report, be provided to contractors and disposal site owners to ensure they can accept the soils, and the City obtain a release or indemnification from the disposal site.

Four of the five groundwater samples analyzed for RCRA metals had arsenic detected above MTCA groundwater cleanup levels. TPH were also detected in eight of the nine groundwater samples analyzed. TPHg was detected below MTCA cleanup levels in one groundwater sample. TPHd and TPHo were detected in eight of nine samples tested, with two samples containing combined TPHd and TPHo at the cleanup level of 500 µg/L, and three samples just below it, at 460 to 490 µg/L. These five samples were located over a large portion of the property.

Based on the results of this and prior studies, impacts to soil and groundwater at the Subject Property may be attributed to one or all of three potential offsite sources: 1) the gasoline service station property previously located on the east-adjoining property, 2) a gasoline service station previously located on the south-adjoining property, and 3) an active gasoline service station to the southeast of the Subject Property that has known

releases to soil and groundwater at their downgradient property boundary. The onsite former gas station may also be a source, although the data doesn't strongly indicate this. If redevelopment of the Subject Property includes excavations, it is likely that impacted soil and groundwater would be encountered, requiring proper management and disposal.

9.0 REPORTING

Pursuant to MTCA regulations (Chapter 173-340-300 WAC), the property owner or operator may be required to notify Ecology within 90 days of discovery that an uncontrolled release of a hazardous substance was discovered. The Subject Property is already on Ecology's Confirmed and Suspected Contaminated Sites List and Independent Cleanup Report databases, therefore no further reporting is required unless a cleanup is performed or Ecology oversight or opinion is desired.

10.0 REFERENCES

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Yount, et al., 1993, *Geologic Map of Surficial Deposits in the Seattle 30' x 60' Quadrangle, Washington.*

11.0 LIMITATIONS

The conclusions expressed by HWA are based solely on material referenced in this report. Observations were made under the conditions stated. Within the limitations of scope, schedule and budget, HWA attempted to execute these services in accordance with generally accepted professional principles and practices in the area at the time the report was prepared. No warranty, expressed or implied, is made. Experience has shown that subsurface soil and groundwater conditions can vary significantly over small distances. It is always possible that contamination may exist in areas that were not sampled. HWA's findings and conclusions must not be considered as scientific or engineering certainties, but rather as our professional opinion concerning the significance of the limited data gathered and interpreted during the course of the assessment.

Unless specifically stated in the report, HWA has not performed specific testing or analysis to determine the presence or absence of any chemical, physical, radiological, or biological hazard or condition, including, but not limited to: wetlands, endangered species issues, asbestos containing materials, lead-based paint, or radon.

This study and report have been prepared on behalf of the City of Kirkland, for the specific application to the Subject Property. This report and the findings contained herein shall not, in whole or part, be disseminated or conveyed to any other party without prior written consent of HWA. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

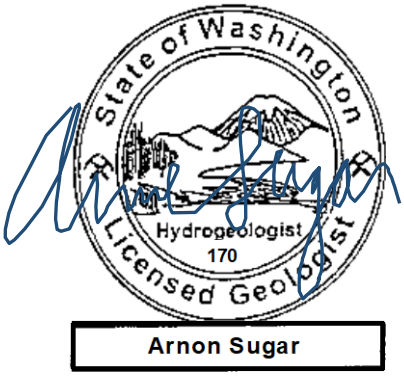
We appreciate the opportunity to provide professional services to the City of Kirkland on this project. Please feel free to call us at (425) 774-0106 if you have any questions or need more information.

Sincerely,

HWA GEOSCIENCES INC.

Mary Alice Benson
Geologist, GIT

Nicole Kapise
Senior Environmental Geologist



Arnie Sugar, LG, LHG
Principal Hydrogeologist

TABLES

Houghton Village Property
Table 1- Soil Sampling Results
All values in mg/kg except as noted

Boring		B-12	B-12	B-13	B-14	B-15	B-16	B-17	B-17	B-18	B-18	B-19	B-19	B-20	B-20	MTCA Method A/B Cleanup Level[1]	Ecology Reuse Category 1 Guidelines[2]	Puget Sound Background Metals[3]
Location		NW Corner, North Adjoining Manufact-uring Plant	NW Corner, North Adjoining Manufact-uring Plant	NE Corner, Northeast Adjoining Machine Shop	NE Corner, East Adjoining Former Dry Cleaner	Onsite Active Dry Cleaner (NW corner of bldg)	Onsite Active Dry Cleaner (back door area of dry cleaner)	Onsite Active Dry Cleaner (SW corner of bldg)	Onsite Active Dry Cleaner (SW corner of bldg)	Former Onsite Gas Station & GPR Anomaly	Former Onsite Gas Station & GPR Anomaly	Former Onsite Gas Station & GPR Anomaly	Former Onsite Gas Station & GPR Anomaly	SE Corner, Former East Adjoining Gas Station	SE Corner, Former East Adjoining Gas Station			
Sample Date		4/4/2022	4/4/2022	4/4/2022	4/4/2022	4/5/2022	4/5/2022	4/7/2022	4/7/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/7/2022	4/7/2022			
Sample Depth (feet bgs)		5.0	7.5	5.0	6.0	6.5	5.0	3.0	6.0	2.5	7.5	2.5	7.5	6.0	7.5			
Petroleum Hydrocarbons	HCID	ND	--	ND	--	ND	ND	--	--	TPHo		ND		--	--			
	TPHg	--	--	--	--	--	--	<5.7	<5.5	--	<5.1	--	<5.9	**240**	<7.4	100/30[4]	NE	NA
	TPHd	--	--	--	--	--	--	<30	<30	**75**	<31	--	<30	**90**	<32	2,000	<25	NA
	TPHo	--	--	--	--	--	--	<60	<60	**430**	<63	--	**72**	<64	<64	2,000	<100	NA
BTEX	Benzene	--	--	--	--	--	--	<0.00087	<0.00076	--	<0.00074	--	**0.0029**	<0.0010	<0.0012	0.03	<0.005	NA
	Toluene	--	--	--	--	--	--	<0.0043	<0.0038	--	<0.0037	--	<0.0052	<0.0052	<0.0058	7	<0.005	NA
	Ethylbenzene	--	--	--	--	--	--	<0.00087	<0.00076	--	<0.00074	--	<0.0010	<0.0015	<0.0012	6	<0.005	NA
	Xylenes	--	--	--	--	--	--	<0.0017	<0.0015	--	<0.0015	--	**0.0024**	<0.0040	<0.0023	9	<0.015	NA
Total MTCA Metals	Arsenic	<12	--	--	--	--	--	--	<12	--	<13	--	<12	<13	--	20	NE	7.3
	Cadmium	<0.58	--	--	--	--	--	--	<0.60	--	<0.63	--	<0.60	<0.64	--	2	NE	0.77
	Chromium	**20**	--	--	--	--	--	--	**26**	--	**44**	--	**24**	**73**	--	19/2,000[5]	NE	48.5
	Lead	**14**	--	--	--	--	--	--	<6.0	--	<6.3	--	**6.3**	<6.4	--	250	<17	16.8
	Mercury	<0.29	--	--	--	--	--	--	<0.30	--	<0.31	--	<0.30	<0.32	--	2	NE	0.07
VOCs[6]	Acetone	--	--	--	--	--	--	--	**0.18**	--	--	--	--	<0.010	--	72,000 (B)	NE	NA
	Isopropylbenzene	--	--	--	--	--	--	--	<0.00076	--	--	--	--	**0.010**	--	NE	NE	NA
	n-Polypropylbenzene	--	--	--	--	--	--	--	<0.00076	--	--	--	--	**0.011**	--	NE	NE	NA
	sec-Butylbenzene	--	--	--	--	--	--	--	<0.00076	--	--	--	--	**0.035**	--	8,000 (B)	NE	NA
	n-Butylbenzene	--	--	--	--	--	--	--	<0.00076	--	--	--	--	**0.010**	--	4,000 (B)	NE	NA
HVOCs[6]	Various	--	--	--	ND	ND	ND	--	ND	--	--	--	--	ND	--	Various	NE	NA

Notes:

[1] MTCA A/B – Ecology MTCA Method A/B soil cleanup levels, Chapter 173-340 WAC, shown for reference only. These cleanup levels may not apply at the Subject Property, and are provided as a screening level indication of the environmental quality of the site only.

[2] Category 1 – The Ecology Reuse Guidelines – WA Department of Ecology Guidance for Remediation of Petroleum Contaminated Sites, Publication No. 10-09-057, are shown for reference only. Category 1 = Unrestricted Use.

[3] Background – Natural Background Soil Metals Concentrations in Washington State; Puget Sound Region (Ecology, 1994) shown for reference only.

[4] – The Method A Soil cleanup levels for gasoline mixtures without benzene and the total of ethylbenzene, toluene, and xylenes are less than 1% of the gasoline mixture is 100 mg/kg; all other mixtures are 30 mg/kg.

[5] –The MTCA Method A soil cleanup level for trivalent chromium is 2,000 mg/kg. Geochemical conditions in the Subject Property would not cause oxidation to hexavalent chromium having a cleanup level of 19 mg/kg.

[6] –No other method listed VOCs or HVOCs detected above laboratory reporting limits; see Appendix A with laboratory reports for complete list.

< - Analyte not detected at listed laboratory reporting limit

Bold/Highlighted – Analyte detected at concentration greater than MTCA soil cleanup levels

Bold/Highlighted – Analyte detected at concentration greater than Category 1 Disposal Criteria

Bold – Analyte detected at concentration greater than the laboratory reporting limit

HCID – Hydrocarbon Identification analytical method

TPHg – Gasoline range total petroleum hydrocarbon (TPH)

TPHd – Diesel range TPH

TPHo – Oil range TPH

BTEX – Benzene, toluene, ethylbenzene and xylenes

ND – None of the analytes detected at laboratory reporting limits

NE – Not Established

NA – Not Applicable

-- – Not Analyzed

Houghton Village Property
Table 2- Groundwater Sampling Results
All values in ug/L except as noted

Boring		B-12	B-14	B-15	B-16	B-16a	B-17	B-18	B-19	B-19a	B-20	MTCA Method A/B Cleanup Level[1]
Location		NW Corner (North Adjoining Manufact-uring Plant)	NE Corner, East Adjoining Former Dry Cleaner	Onsite Active Dry Cleaner (NW corner of bldg)	Onsite Active Dry Cleaner (back door area of dry cleaner)	Onsite Active Dry Cleaner (back door area of dry cleaner)	Onsite Active Dry Cleaner (SW corner of bldg)	Former Onsite Gas Station & GPR Anomaly	Former Onsite Gas Station & GPR Anomaly	Former Onsite Gas Station & GPR Anomaly	SE Corner, Former East Adjoining Gas Station	
Sample Date		4/4/2022	4/4/2022	4/5/2022	4/5/2022	4/5/2022	4/7/2022	4/7/2022	4/6/2022	4/6/2022	4/7/2022	
Approximate Depth to Water (feet bgs)		6	6	7	4	20	4	7.5	7.5	22.5	6	
Petroleum Hydrocarbons	HCID	TPHg & TPHo	TPHg & TPHd	TPHg & TPHd	TPHg, TPHd, & TPHo	--	--	--	--	--	--	NA
	TPHg	<100	<100	<100	<100	<100	**130**	<100	<100	--	**280**	1,000/800[2]
	TPHd	**180**	**260**	**170**	**180**	<180	**310**	**350**	**240**	--	**350**	500
	TPHo	**280**	<190	<210	**280**	<240	**180**	**150**	<220	--	**150**	500
	TPHd + TPHo	**460**	**260**	**170**	**460**	<240	**490**	**500**	**240**		**500**	500
BTEX	Benzene	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	5
	Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	1,000
	Ethylbenzene	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	700
	Xylenes	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	--	<0.40	1,000
MTCA Dissolved Metals[3]	Arsenic	**9.6**	--	--	**45**	--	--	**10**	**20**	--	**3.2**	5
	Cadmium	<4	--	--	<4.4	--	--	<4	<4.0	--	<4	5
	Chromium	<10	--	--	**260**	--	--	<10	<10	--	<10	50
	Lead	<1	--	--	**63**	--	--	<1	<1	--	<1	15
	Mercury	<0.5	--	--	<0.50	--	--	<0.5	<0.5	--	<0.5	2
VOCs[4]	Acetone	--	--	--	--	--	**9**	**25**	**8.5**	--	**11**	7,200 (B)
	Isopropylbenzene	--	--	--	--	--	**0.75**	<0.20	**0.36**	--	**1.8**	NE
	n-propylbenzene	--	--	--	--	--	**0.6**	<0.20	**1.1**	--	**1.8**	NE
	sec-Butylbenzene	--	--	--	--	--	**0.87**	<0.20	**0.38**	--	**2.1**	800 (B)
	2-Butanone	--	--	--	--	--	<5	**5.7**	<5	--	<5.0	NE
	n-Butylbenzene	--	--	--	--	--	**0.51**	<0.20	**0.56**	--	**1.4**	400 (B)
HVOCs[4]	Various	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Various

Notes:

[1] – Ecology MTCA Method A groundwater cleanup levels, Chapter 173-340 WAC, shown for reference only. These cleanup levels may not apply at the site and are provided as a screening level indication of the environmental quality of the site only.

[2] – The Method A Groundwater cleanup levels for gasoline mixtures without benzene and the total of ethylbenzene, toluene, and xylenes are less than 1% of the gasoline mixture is 800 ug/L; all other mixtures are 1000 ug/L.

[3] – Water samples analyzed for dissolved metals except for sample B-16 which had to be run for total metals due to sample container requirements.

[4] –No other method listed VOCs or HVOCs detected above laboratory reporting limits; see Appendix A with laboratory reports for complete list.

< - Analyte not detected at listed reporting limit

Bold/Highlighted – Analyte detected at concentration greater than MTCA groundwater cleanup levels

Bold – Analyte detected at concentration greater than the laboratory reporting limit

HCID – Hydrocarbon Identification analytical method

TPHg – Gasoline range total petroleum hydrocarbon (TPH)

TPHd – Diesel range TPH

TPHo – Oil range TPH

BTEX – Benzene, toluene, ethylbenzene and xylenes

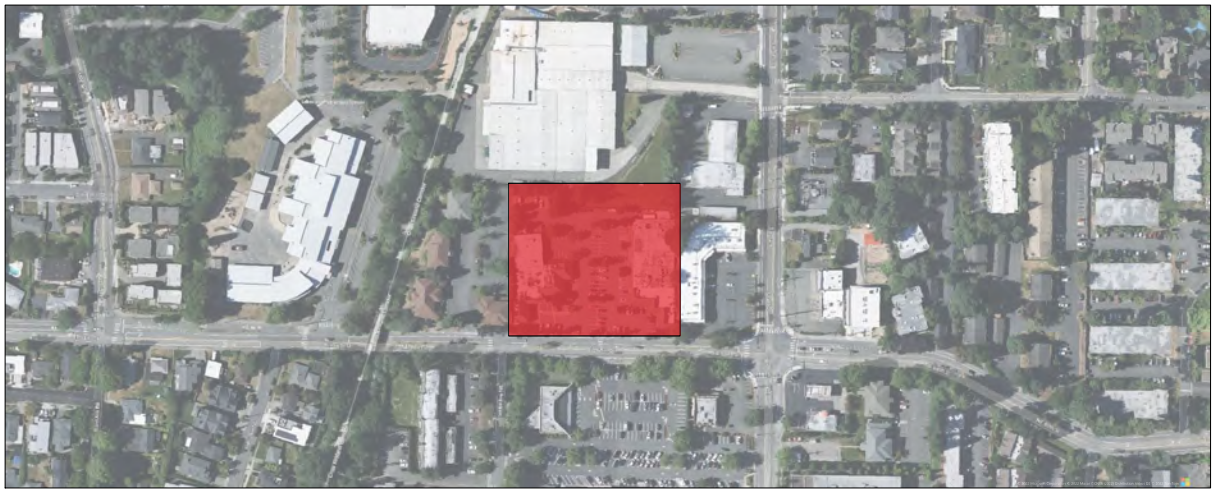
ND – None of the analytes detected at laboratory reporting limits

NE – Not Established

NA – Not Applicable

-- – Not Analyzed

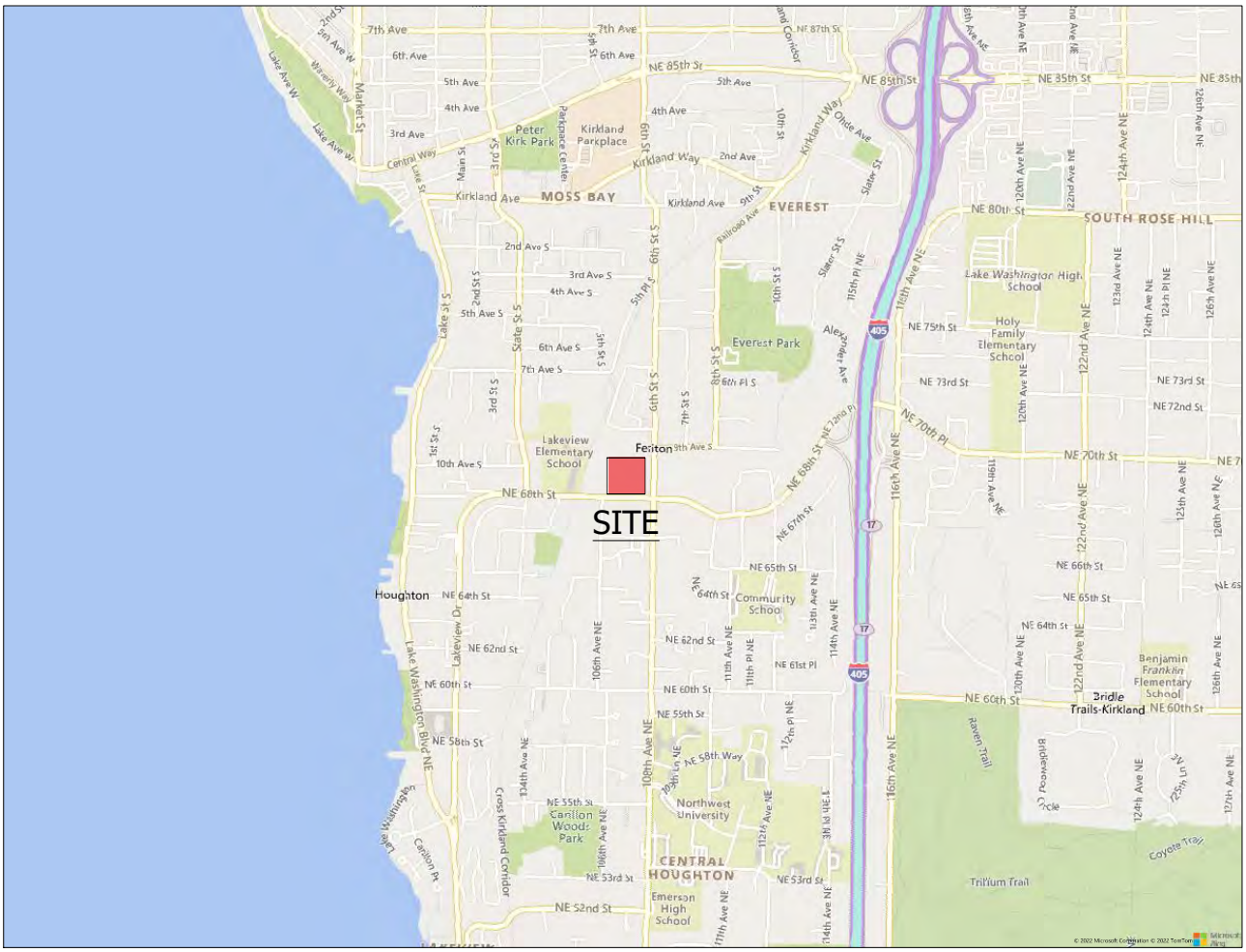
FIGURES



SITE MAP

0 200' 400' 600' 800'

SCALE: 1" = 400'



VICINITY MAP

0 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

GeoSciences Inc.
DBE/MWBE

SITE AND VICINITY MAP

HOUGHTON VILLAGE
PHASE II ESA
KIRKLAND, WASHINGTON

FIGURE NO.: 1

DRAWN BY: CF
CHECK BY: NK

PROJECT # 2022-042-21

S:\2022 PROJECTS\2022-042-22 HOUGHTON VILLAGE PHASE II ESA\CAD\2022-042-21 HOUGHTON VILLAGE PHASE II ESA.DWG <1> Plotted: 4/28/2022 6:56 PM

NE 68TH STREET
Scale: 1" = 150'-0"

LEGEND

- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- APPROXIMATE LAYOUT OF DRY CLEANER TENANT SPACE
- GPR SURVEY OF FORMER GASOLINE STATION AREA

N

0 75 150 225 300
SCALE: 1" = 150'

BASE MAP PROVIDED BY: BING

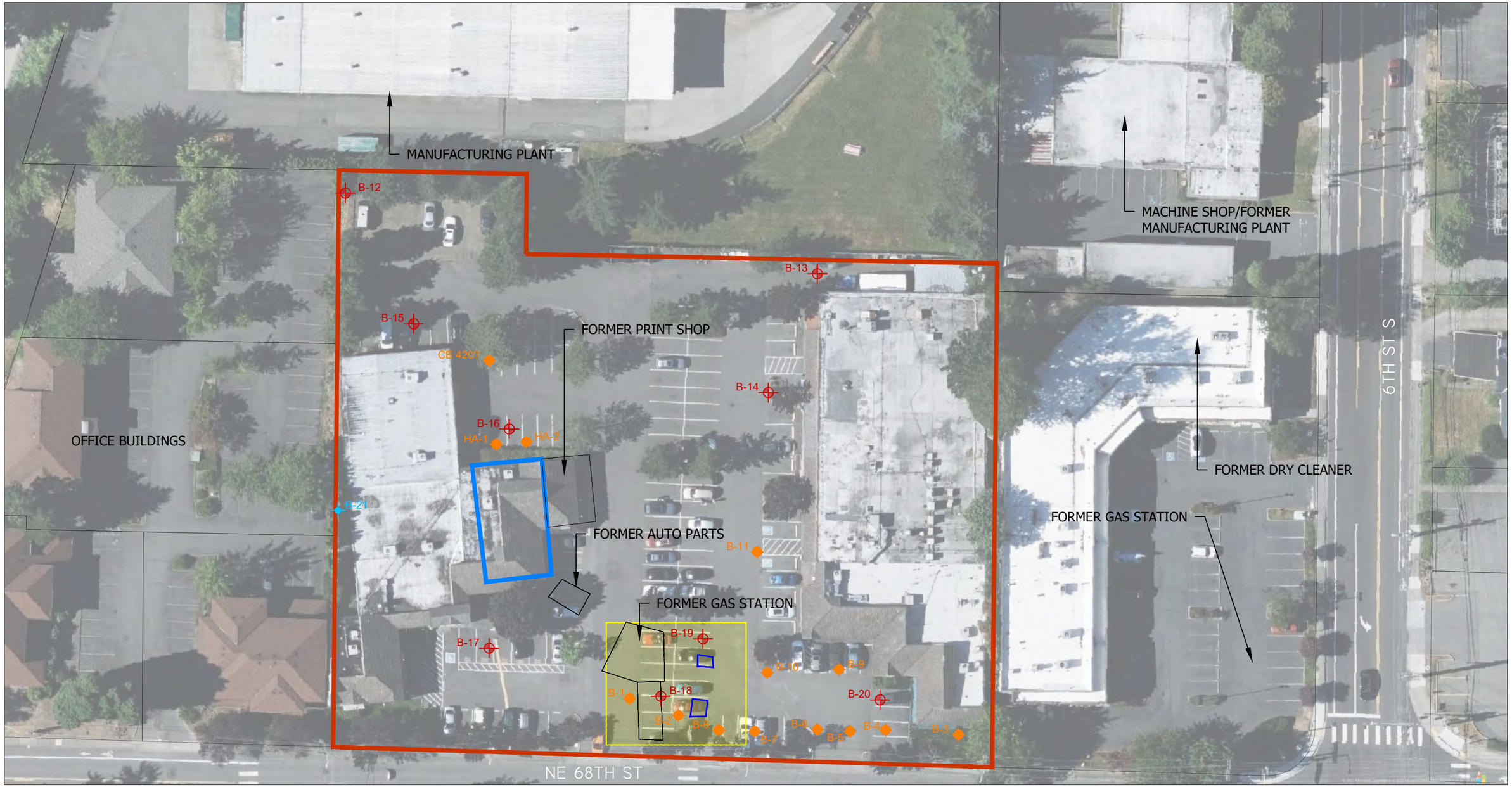
C:\USERS\CFRY\DESKTOP\2022-042-21 HOUGHTON VILLAGE PHASE II ESA\2022-042-21 HOUGHTON VILLAGE PHASE II ESA.DWG <2> Plotted: 5/5/2022 4:29 PM

HWA GEOSCIENCES INC. DBE/MWBE

HOUGHTON VILLAGE
PHASE II ESA
10702 NE 68TH STREET
KIRKLAND, WASHINGTON

SUBJECT AND ADJOINING PROPERTIES

DRAWN BY:	FIGURE NO.:
CF	2
CHECK BY:	PROJECT NO.:
NK	2022-042-21



NE 68TH STREET
Scale: 1" = 50'-0"

EXPLORATION LEGEND

- B-12 — BOREHOLE DESIGNATION AND APPROXIMATE LOCATION (HWA, 2022)
- B-21 — PROPOSED DIRECT PUSH PROBE DESIGNATION AND APPROXIMATE LOCATION, UNABLE TO COMPLETE (HWA, 2022)
- B-1 — 1990s BORING LOCATIONS COMPLETED BY OTHERS
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- APPROXIMATE AREA GPR ANOMALIES
- APPROXIMATE LAYOUT OF DRY CLEANER TENANT SPACE
- GPR SURVEY OF FORMER GASOLINE STATION AREA

N

0 25 50 75 100
SCALE: 1" = 50'

BASE MAP PROVIDED BY: BING

C:\USERS\CFRY\DESKTOP\2022-042-21 HOUGHTON VILLAGE PHASE II ESA\2022-042-21 HOUGHTON VILLAGE PHASE II ESA.DWG <3> Plotted: 5/6/2022 7:44 AM

HWA GEOSCIENCES INC. DBE/MWBE

HOUGHTON VILLAGE
PHASE II ESA
10702 NE 68TH STREET
KIRKLAND, WASHINGTON

BORING AND GPR SURVEY LOCATIONS

DRAWN BY:	FIGURE NO.:
CF	3
CHECK BY:	PROJECT NO.:
NK	2022-042-21

HWA GeoSciences Inc.
DBE/MWBE

0 25 50 100 Feet

HOUGHTON VILLAGE
PHASE II ESA
KIRKLAND, WASHINGTON

PERCHED GROUNDWATER
GRADIENT MAP,
APRIL 4-7, 2022

FIGURE # 4

PROJECT # 2022-042-21

APPENDIX A

BORING LOGS

RELATIVE DENSITY OR CONSISTENCY VERSUS SPT N-VALUE

COHESIONLESS SOILS			COHESIVE SOILS		
Density	N (blows/ft)	Approximate Relative Density(%)	Consistency	N (blows/ft)	Approximate Undrained Shear Strength (psf)
Very Loose	0 to 4	0 - 15	Very Soft	0 to 2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Medium Dense	10 to 30	35 - 65	Medium Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	over 50	85 - 100	Very Stiff	15 to 30	2000 - 4000
			Hard	over 30	>4000

USCS SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP DESCRIPTIONS	
Coarse Grained Soils	Gravel and Gravelly Soils	Clean Gravel (little or no fines)	GW	Well-graded GRAVEL
			GP	Poorly-graded GRAVEL
	More than 50% of Coarse Fraction Retained on No. 4 Sieve	Gravel with Fines (appreciable amount of fines)	GM	Silty GRAVEL
			GC	Clayey GRAVEL
	Sand and Sandy Soils	Clean Sand (little or no fines)	SW	Well-graded SAND
			SP	Poorly-graded SAND
	50% or More of Coarse Fraction Passing No. 4 Sieve	Sand with Fines (appreciable amount of fines)	SM	Silty SAND
			SC	Clayey SAND
Fine Grained Soils	Silt and Clay	Liquid Limit Less than 50%	ML	SILT
			CL	Lean CLAY
			OL	Organic SILT/Organic CLAY
50% or More Passing No. 200 Sieve Size	Silt and Clay	Liquid Limit 50% or More	MH	Elastic SILT
			CH	Fat CLAY
			OH	Organic SILT/Organic CLAY
Highly Organic Soils			PT	PEAT

TEST SYMBOLS

%F	Percent Fines
AL	Atterberg Limits: PL = Plastic Limit, LL = Liquid Limit
CBR	California Bearing Ratio
CN	Consolidation
DD	Dry Density (pcf)
DS	Direct Shear
GS	Grain Size Distribution
K	Permeability
MD	Moisture/Density Relationship (Proctor)
MR	Resilient Modulus
OC	Organic Content
pH	pH of Soils
PID	Photoionization Device Reading
PP	Pocket Penetrometer (Approx. Comp. Strength, tsf)
Res.	Resistivity
SG	Specific Gravity
CD	Consolidated Drained Triaxial
CU	Consolidated Undrained Triaxial
UU	Unconsolidated Undrained Triaxial
TV	Torvane (Approx. Shear Strength, tsf)
UC	Unconfined Compression

SAMPLE TYPE SYMBOLS

- 2.0" OD Split Spoon (SPT) (140 lb. hammer with 30 in. drop)
- Shelby Tube
- Non-standard Penetration Test (3.0" OD Split Spoon with Brass Rings)
- Small Bag Sample
- Large Bag (Bulk) Sample
- Core Run
- 3-1/4" OD Split Spoon

GROUNDWATER SYMBOLS

- Groundwater Level (measured at time of drilling)
- Groundwater Level (measured in well or open hole after water level stabilized)

COMPONENT DEFINITIONS

COMPONENT	SIZE RANGE
Boulders	Larger than 12 in
Cobbles	3 in to 12 in
Gravel	3 in to No 4 (4.5mm)
Coarse gravel	3 in to 3/4 in
Fine gravel	3/4 in to No 4 (4.5mm)
Sand	No. 4 (4.5 mm) to No. 200 (0.074 mm)
Coarse sand	No. 4 (4.5 mm) to No. 10 (2.0 mm)
Medium sand	No. 10 (2.0 mm) to No. 40 (0.42 mm)
Fine sand	No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt and Clay	Smaller than No. 200 (0.074mm)

COMPONENT PROPORTIONS

PROPORTION RANGE	DESCRIPTIVE TERMS
< 5%	Clean
5 - 12%	Slightly (Clayey, Silty, Sandy)
12 - 30%	Clayey, Silty, Sandy, Gravelly
30 - 50%	Very (Clayey, Silty, Sandy, Gravelly)
Components are arranged in order of increasing quantities.	

NOTES: Soil classifications presented on exploration logs are based on visual and laboratory observation.
Soil descriptions are presented in the following general order:

Density/consistency, color, modifier (if any) GROUP NAME, additions to group name (if any), moisture content. Proportion, gradation, and angularity of constituents, additional comments. (GEOLOGIC INTERPRETATION)

Please refer to the discussion in the report text as well as the exploration logs for a more complete description of subsurface conditions.

MOISTURE CONTENT

DRY	Absence of moisture, dusty, dry to the touch.
MOIST	Damp but no visible water.
WET	Visible free water, usually soil is below water table.

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Phase II ESA
Kirkland Washington

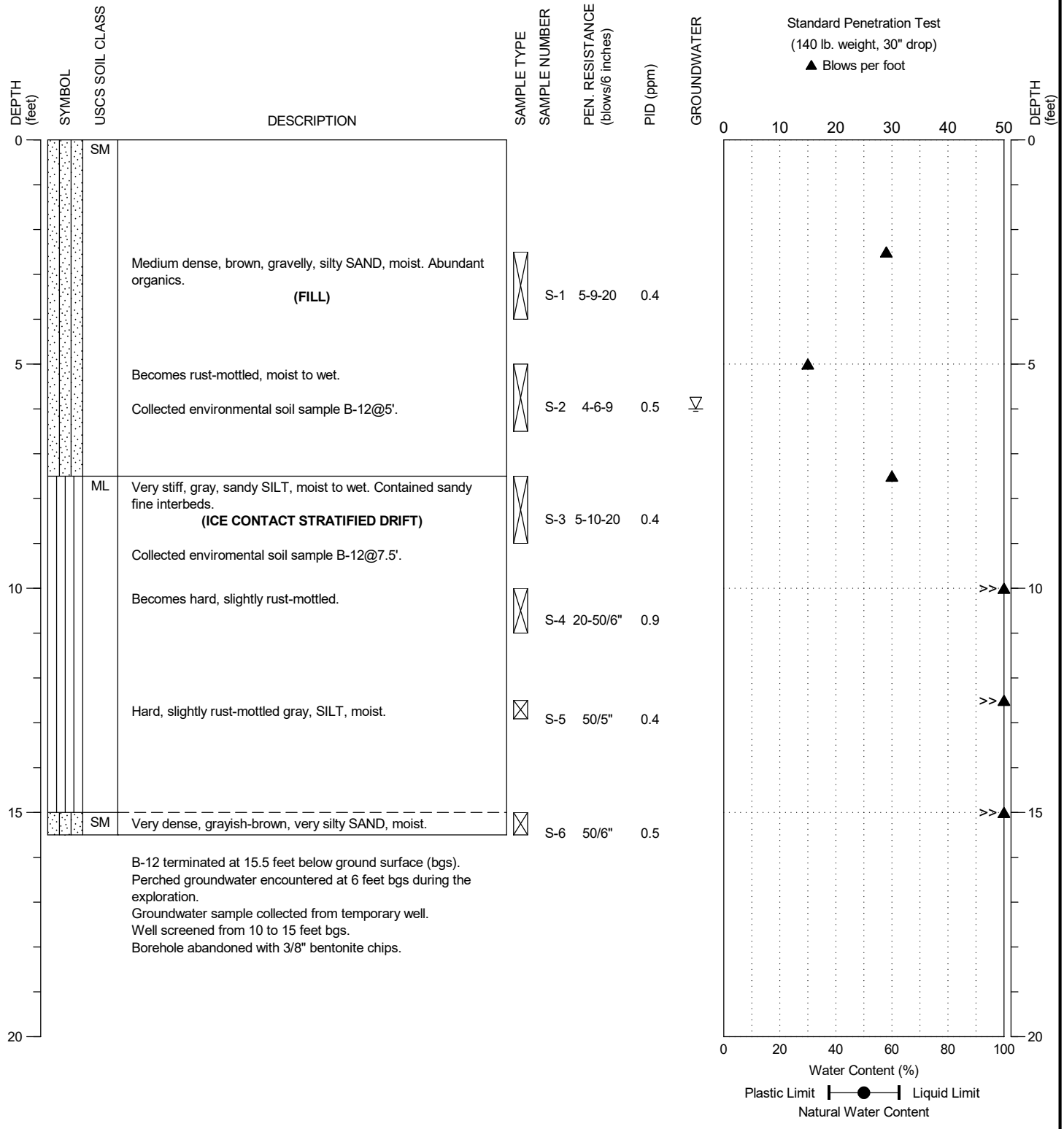
LEGEND OF TERMS AND SYMBOLS USED ON EXPLORATION LOGS

PROJECT NO.: 2022-042-22 FIGURE: A-1

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/4/2022
DATE COMPLETED: 4/4/2022
LOGGED BY: M.A. Benson



B-12 terminated at 15.5 feet below ground surface (bgs).
Perched groundwater encountered at 6 feet bgs during the exploration.
Groundwater sample collected from temporary well.
Well screened from 10 to 15 feet bgs.
Borehole abandoned with 3/8" bentonite chips.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Kirkland Washington

BORING:
B-12

PAGE: 1 of 1

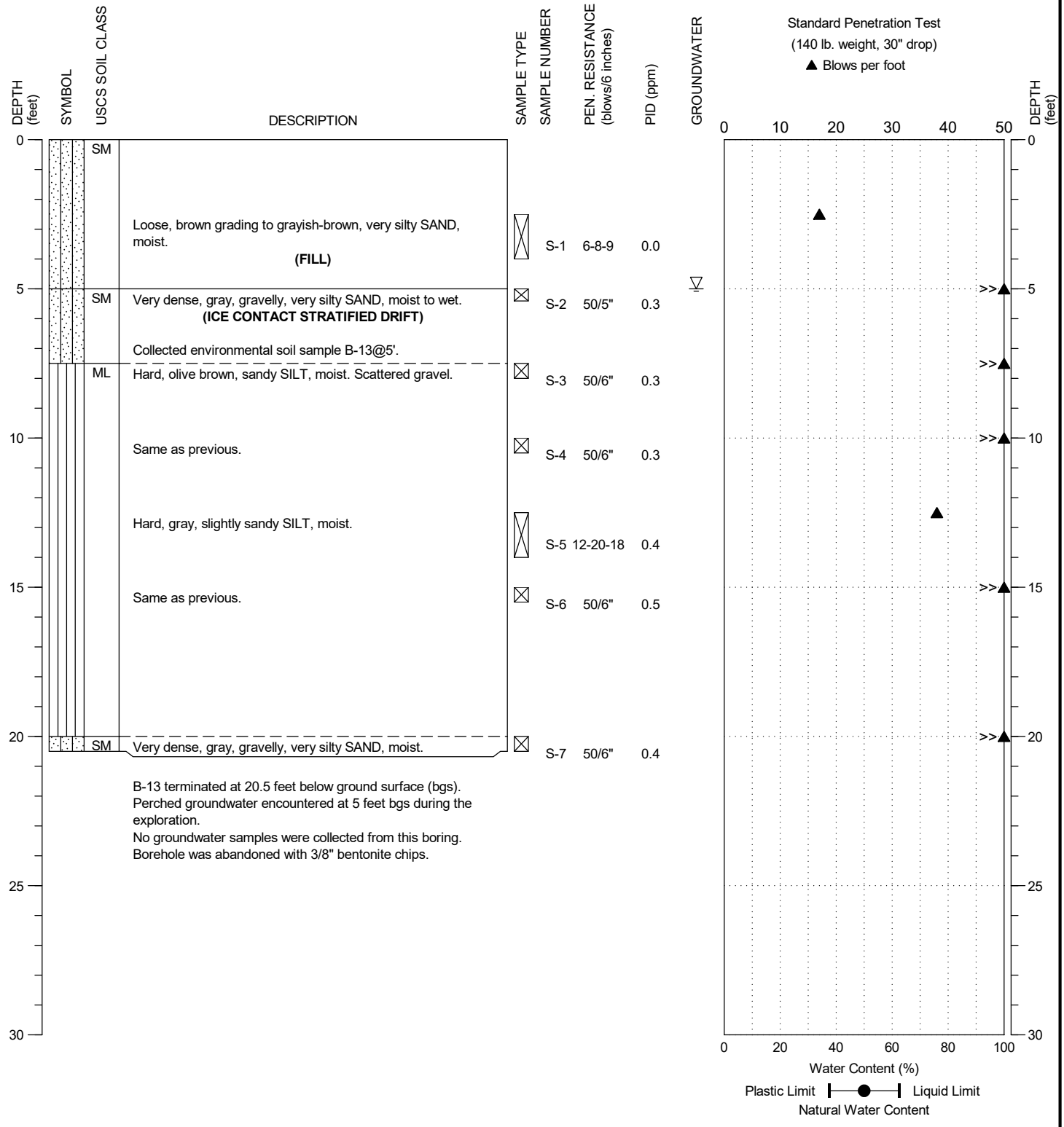
PROJECT NO.: 2022-042-22 FIGURE: A-2

BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/4/2022
DATE COMPLETED: 4/4/2022
LOGGED BY: M.A. Benson



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Kirkland Washington

BORING:
B-13

PAGE: 1 of 1

PROJECT NO.: 2022-042-22 FIGURE: A-3

BORINGE 2022-042-22.GPJ 5/4/22

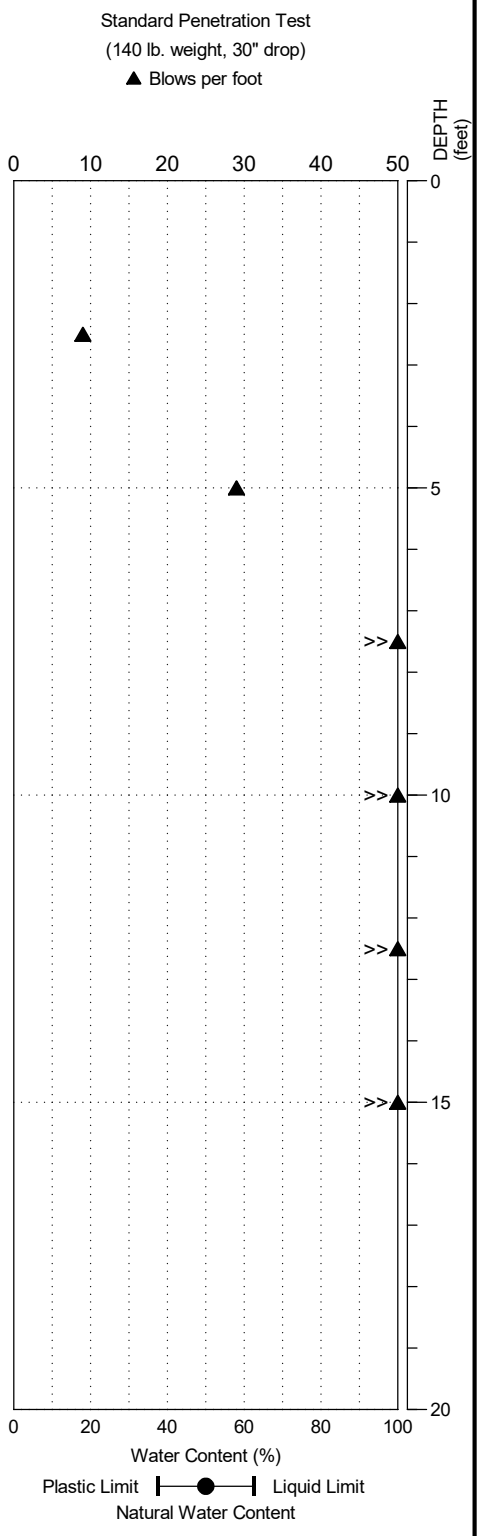
DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/4/2022
DATE COMPLETED: 4/4/2022
LOGGED BY: M.A. Benson

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	PID (ppm)	GROUNDWATER
0		SM	Loose, dark brown grading to grayish-brown, gravelly, silty SAND, moist to wet. Scattered organics. **(FILL)**		S-1	5-5-4	0.8	
5		SM	Dense, dark olive brown, gravelly, silty SAND, moist to wet. **(ICE CONTACT STRATIFIED DRIFT)** Collected environmental soil sample B-14@6'.		S-2	4-9-20	0.8	▽
		ML	Hard, gray, sandy SILT, moist. One-inch-thick sand interbed, wet.		S-3	25-50/5"	0.8	
10			Hard, gray, slightly gravelly, sandy SILT, moist.		S-4	50/5"	0.7	
			Hard, gray, SILT, moist.		S-5	50/6"	0.7	
15			Hard, gray, sandy SILT, moist.		S-6	50/6"	0.8	
20								

B-14 terminated at 15.5 feet below ground surface (bgs).
Perched groundwater encountered at 6 feet bgs during the exploration.
Groundwater sample collected from temporary well.
Well screened from 10 to 15 feet bgs.
Borehole abandoned with 3/8" bentonite chips.



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Kirkland Washington

BORING:
B-14

PAGE: 1 of 1

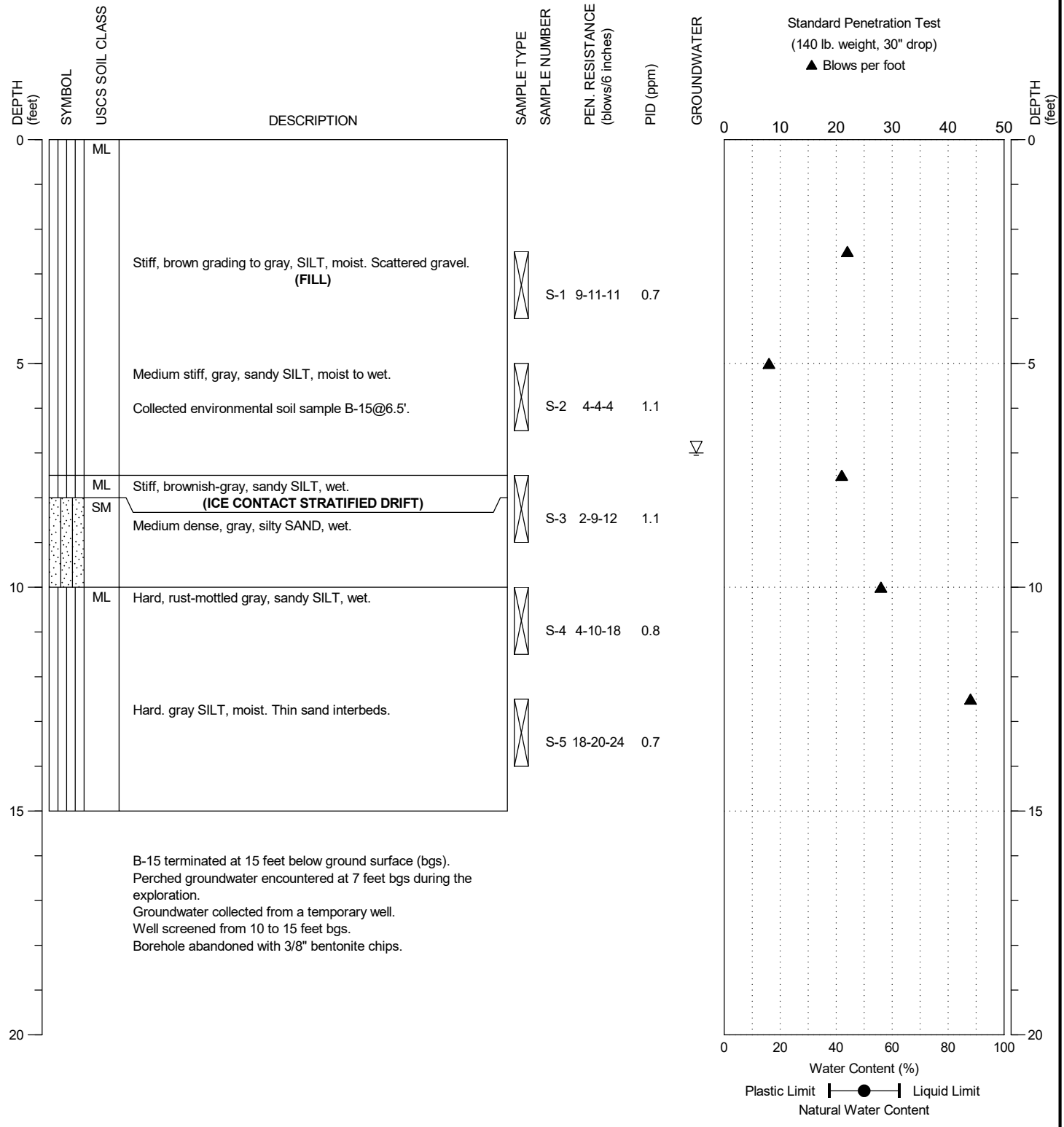
PROJECT NO.: 2022-042-22 FIGURE: A-4

BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/5/2022
DATE COMPLETED: 4/5/2022
LOGGED BY: M.A. Benson



B-15 terminated at 15 feet below ground surface (bgs).
Perched groundwater encountered at 7 feet bgs during the exploration.
Groundwater collected from a temporary well.
Well screened from 10 to 15 feet bgs.
Borehole abandoned with 3/8" bentonite chips.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Kirkland Washington

BORING:
B-15

PAGE: 1 of 1

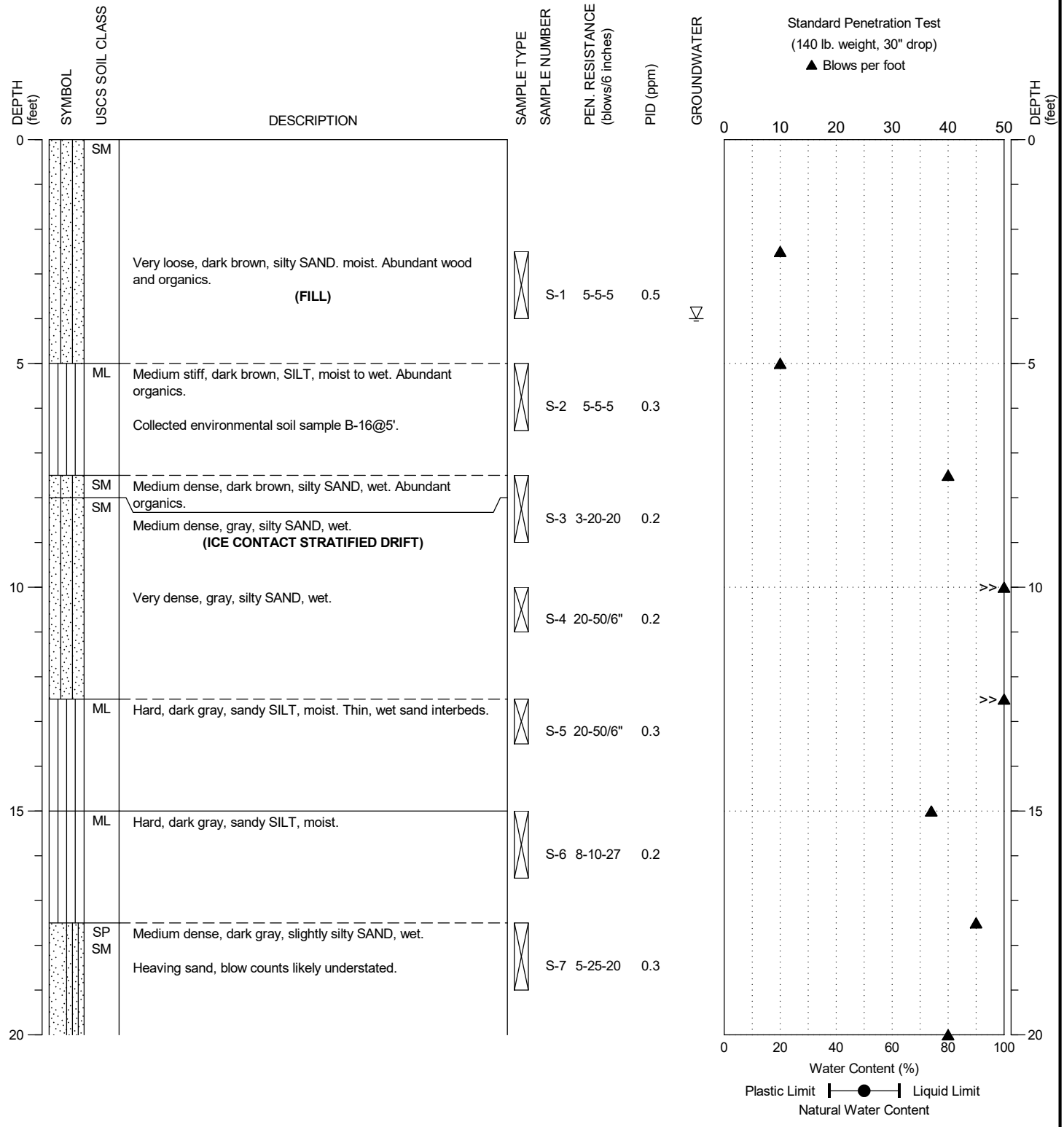
PROJECT NO.: 2022-042-22 FIGURE: A-5

BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/5/2022
DATE COMPLETED: 4/5/2022
LOGGED BY: M.A. Benson



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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BORING:
B-16

PAGE: 1 of 2

PROJECT NO.: 2022-042-22 FIGURE: A-6

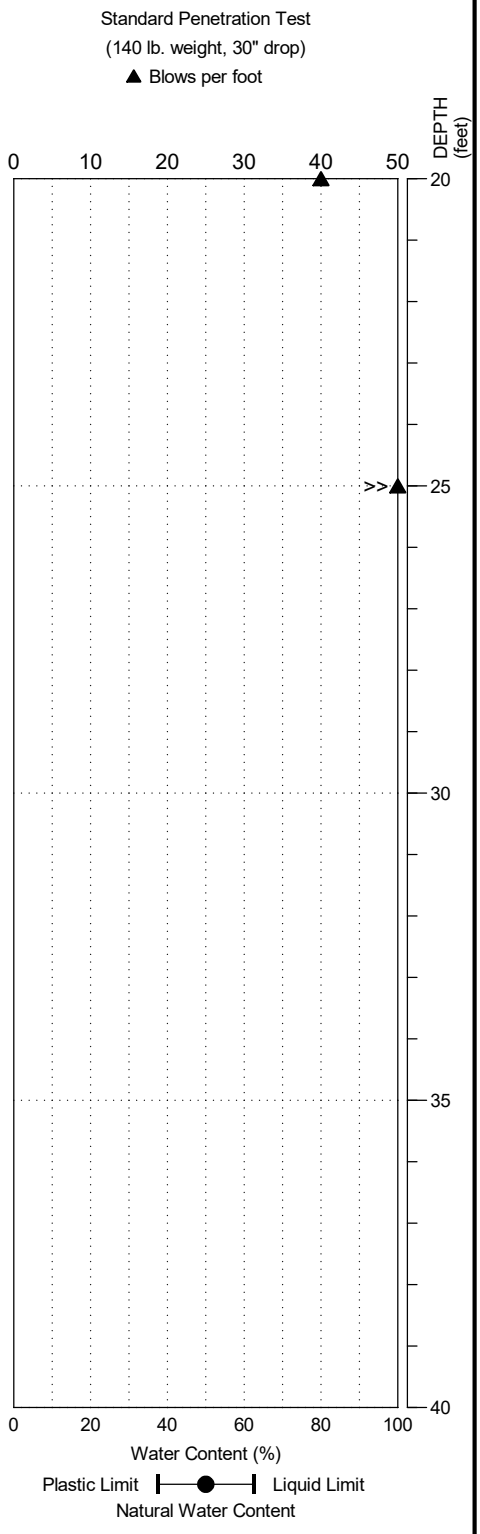
BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/5/2022
DATE COMPLETED: 4/5/2022
LOGGED BY: M.A. Benson

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	PID (ppm)	GROUNDWATER
20					S-8	10-20-20	0.4	
25			Very dense, dark gray, slightly silty SAND, wet. Trace gravel. Driller reports 4 feet of heave.		S-9	20-50/6"	0.7	
30			B-16 terminated at 26 feet below ground surface (bgs). Perched groundwater encountered in B-16 at 6 feet bgs during the exploration. Groundwater encountered in B-16 at 20 feet bgs during the exploration. Groundwater samples collect from two temporary wells. Groundwater in B-16 measured to 17.6 feet bgs on 4/5/2022 after the exploration. Wells screened to 10 to 15 feet bgs and 16 to 21 feet bgs. Borehole abandoned with 3/8" bentonite chips.					
35								
40								



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Houghton Village
Phase II ESA
Kirkland Washington

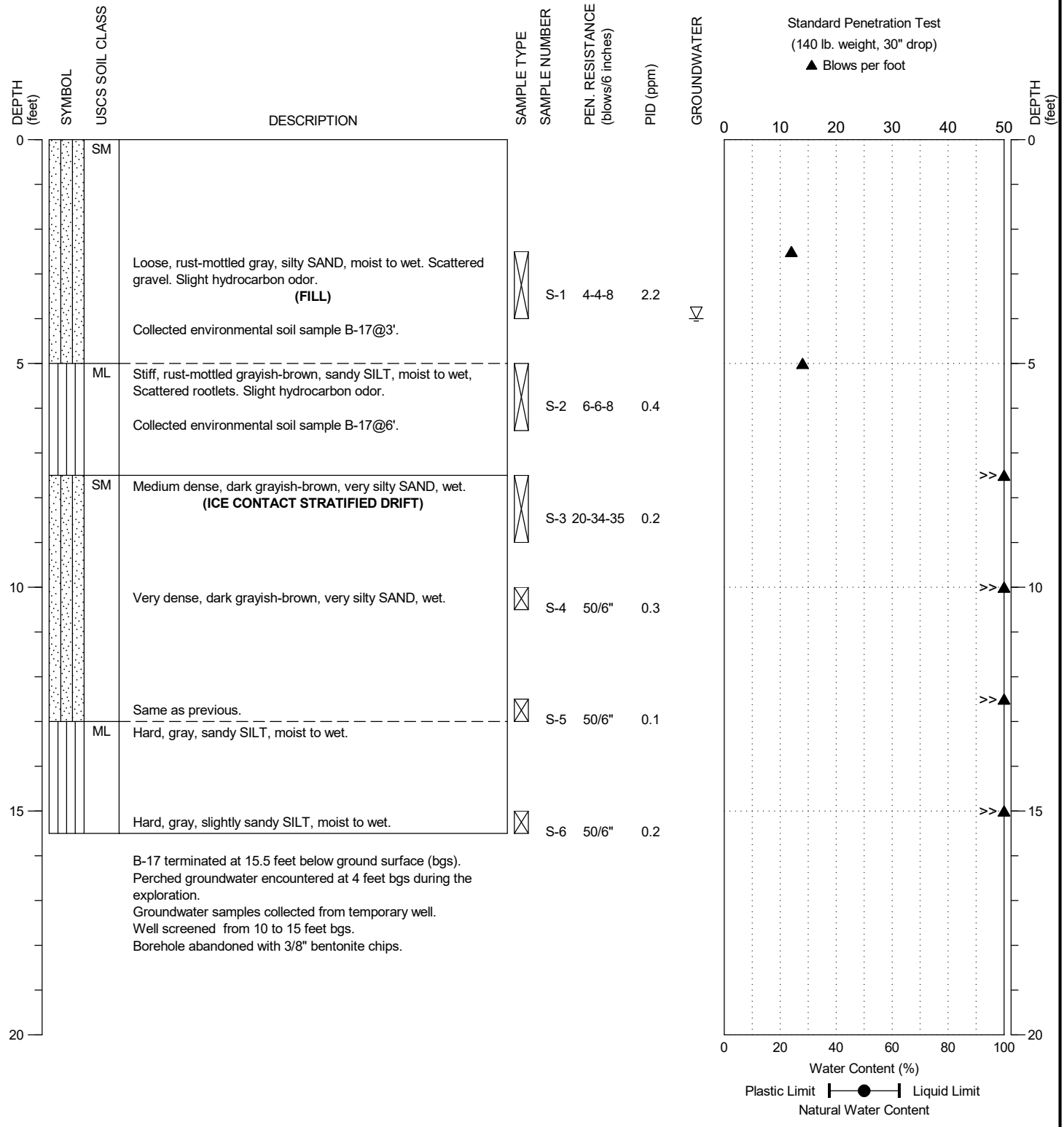
BORING:
B-16

PROJECT NO.: 2022-042-22 FIGURE: A-6

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/7/2022
DATE COMPLETED: 4/7/2022
LOGGED BY: M.A. Benson



B-17 terminated at 15.5 feet below ground surface (bgs).
Perched groundwater encountered at 4 feet bgs during the exploration.
Groundwater samples collected from temporary well.
Well screened from 10 to 15 feet bgs.
Borehole abandoned with 3/8" bentonite chips.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Houghton Village
Phase II ESA
Kirkland Washington

BORING:
B-17

PAGE: 1 of 1

PROJECT NO.: 2022-042-22 FIGURE: A-7

BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

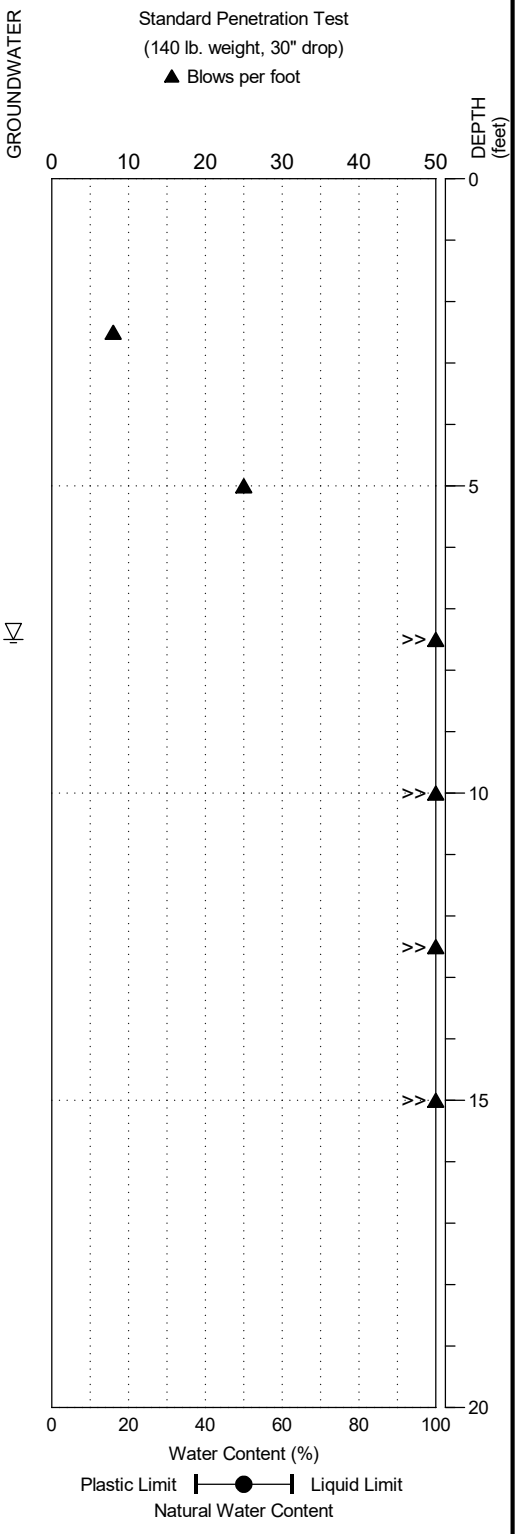
SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/6/2022
DATE COMPLETED: 4/6/2022
LOGGED BY: M.A. Benson

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	PID (ppm)
0		ML	Medium stiff, olive brown, gravelly, sandy SILT, moist. **(FILL)**				
			Collected environmental soil sample B-18@2.5'.		S-1	4-4-4	0.9
5			Very stiff, olive brown, gravelly, clayey, sandy SILT, moist.		S-2	9-10-15	1.3
		ML	Hard, brownish-gray, SILT, wet. **(ICE CONTACT STRATIFIED DRIFT)**		S-3	15-50/6"	1.7
			Collected envirnmental soil sample B-17@7.5'.				
10			Hard, brown, SILT, moist.		S-4	50/6"	1.2
			Hard, gray, SILT, moist.		S-5	50/5"	0.5
15			Hard, gray, SILT, moist.		S-6	50/6"	0.5
20							

B-18 terminated at 15.5 feet below ground surface (bgs).
Perched groundwater encountered at 7.5 feet bgs during the exploration.
Groundwater samples collected from temporary well.
Well screened from 10 to 15 feet bgs.
Borehole abandoned with 3/8" bentonite chips.

GROUNDWATER



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Houghton Village
Phase II ESA
Kirkland Washington

BORING:
B-18

PAGE: 1 of 1

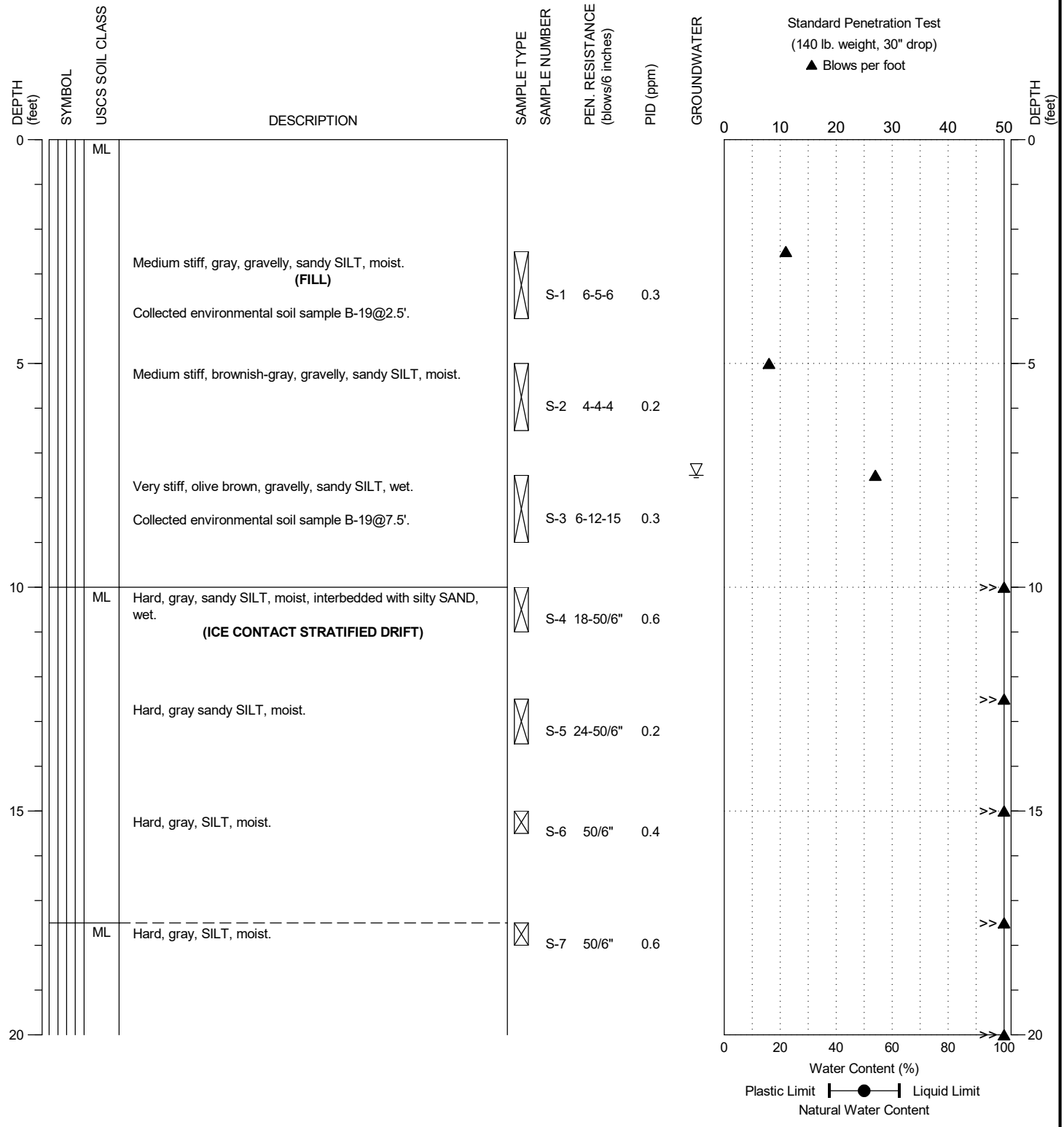
PROJECT NO.: 2022-042-22 FIGURE: A-8

BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/6/2022
DATE COMPLETED: 4/6/2022
LOGGED BY: M.A. Benson



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Houghton Village
Phase II ESA
Kirkland Washington

BORING:
B-19

PAGE: 1 of 2

PROJECT NO.: 2022-042-22 FIGURE: A-9

BORINGE 2022-042-22.GPJ 5/4/22

DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

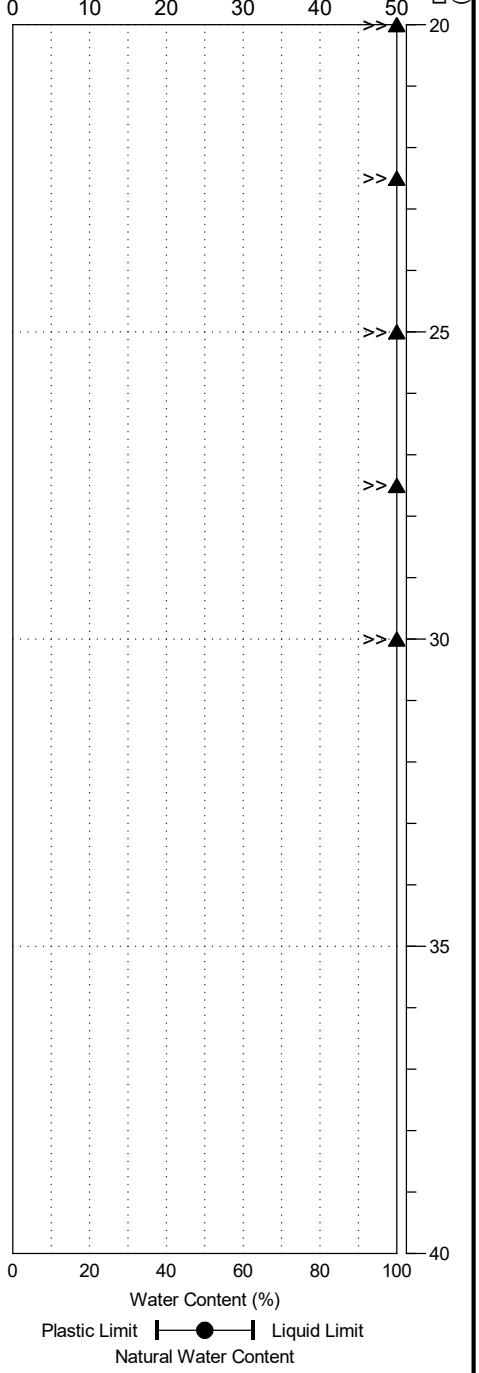
DATE STARTED: 4/6/2022
DATE COMPLETED: 4/6/2022
LOGGED BY: M.A. Benson

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	PID (ppm)
20			Hard, gray, SILT, moist. Scattered gravel.	☒	S-8	50/6"	0.5
			Hard, gray, clayey SILT, moist, interbedded with gravelly SAND, wet.	☒	S-9	50/6"	0.6
25		SP	Very dense, gray, gravelly SAND, wet.	☒	S-10	50/6"	0.7
		SM	No recovery.	☒	S-11	50/6"	
30			Very dense, gray, silty, gravelly SAND, wet.	☒	S-12	50/6"	0.6
35							
40							

B-19 terminated at 30.5 feet below ground surface (bgs).
Perched groundwater encountered in B-19 at 7.5 feet bgs during the exploration.
Groundwater encountered in B-19 at 22.5 feet bgs during the exploration.
Groundwater in B-19 measured to 12.12 feet bgs on 4/6/2022 after the exploration.
Groundwater samples collected from two temporary wells.
Wells screened from 10 to 15 feet bgs and 20 to 30 feet bgs.
Borehole abandoned with 3/8" bentonite chips.

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

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Houghton Village
Phase II ESA
Kirkland Washington

BORING:
B-19

PAGE: 2 of 2

PROJECT NO.: 2022-042-22 FIGURE: A-9

BORINGE 2022-042-22.GPJ 5/4/22

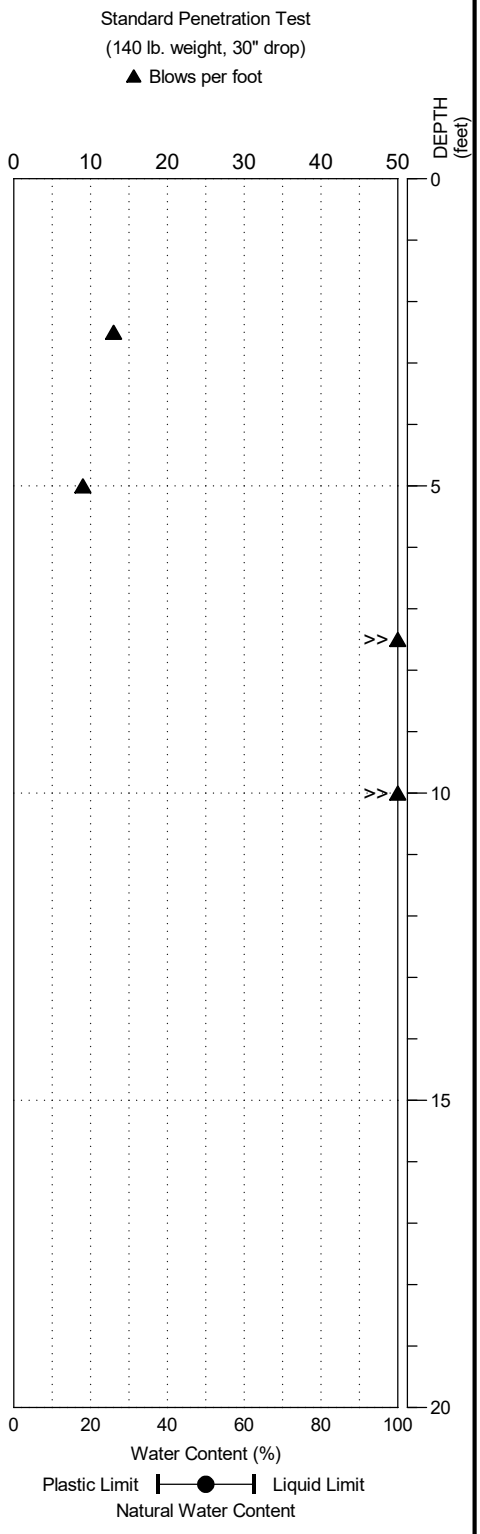
DRILLING COMPANY: Cascade Drilling, Inc.
DRILLING METHOD: HSA, CME 55 Tracked Rig
SAMPLING METHOD: SPT, Dames and Moore sampler w/140 lb hammer
LOCATION: See Figure 2

SURFACE ELEVATION: ± feet
CASING ELEVATION ± feet

DATE STARTED: 4/7/2022
DATE COMPLETED: 4/7/2022
LOGGED BY: M.A. Benson

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	PID (ppm)	GROUNDWATER
0		SM	Loose, dark brown, gravelly, silty SAND, moist. Scattered rootlets. **(FILL)**		S-1	6-5-8	1.3	
5		ML	Medium stiff, grayish-brown, SILT, moist to wet. Strong hydrocarbon odor. Collected environmental soil sample B-20@6'.		S-2	1-4-5	204.1	▽
		ML	Hard, olive brown, SILT, moist. **(ICE CONTACT STRATIFIED DRIFT)** Collected environmental soil sample B-20@7.5'. Driller reports hard drilling.		S-3	30-50/6"	1.6	
10			Same as previous.		S-4	50/6"	0.2	
15								
20								

B-20 terminated at 10.5 feet below ground surface (bgs).
Perched groundwater encountered at 6 feet bgs during the exploration.
Groundwater samples collected from temporary well.
Well screened from 5 to 10 feet bgs.
Borehole abandoned with 3/8" bentonite chips.



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

Houghton Village
Phase II ESA
Kirkland Washington

BORING:
B-20

PAGE: 1 of 1

PROJECT NO.: 2022-042-22 FIGURE: A-10

BORINGE 2022-042-22.GPJ 5/4/22

APPENDIX B

LABORATORY REPORTS

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

April 20, 2022

Nicole Kapise
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2022-042
Laboratory Reference No. 2204-022

Dear Nicole:

Enclosed are the analytical results and associated quality control data for samples submitted on April 5, 2022.

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: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

Case Narrative

Samples were collected on April 4, 2022 and received by the laboratory on April 5, 2022. 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: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

HYDROCARBON IDENTIFICATION
NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13 @ 5'**					
Laboratory ID:	04-022-01					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	4-6-22	4-6-22	
Diesel Range Organics	**ND**	59	NWTPH-HCID	4-6-22	4-6-22	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*118*	*50-150*				
Client ID:	**B-12 @ 5'**					
Laboratory ID:	04-022-03					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	4-6-22	4-6-22	
Diesel Range Organics	**ND**	58	NWTPH-HCID	4-6-22	4-6-22	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

HYDROCARBON IDENTIFICATION
NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	4-6-22	4-6-22	
Diesel Range Organics	**ND**	50	NWTPH-HCID	4-6-22	4-6-22	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

HYDROCARBON IDENTIFICATION
NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	04-022-06					
Gasoline Range Organics	**Detected**	0.12	NWTPH-HCID	4-8-22	4-8-22	
Diesel Range Organics	**ND**	0.24	NWTPH-HCID	4-8-22	4-8-22	
Lube Oil Range Organics	**Detected**	0.24	NWTPH-HCID	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

HYDROCARBON IDENTIFICATION
NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0408W1					
Gasoline Range Organics	**ND**	0.080	NWTPH-HCID	4-8-22	4-8-22	
Diesel Range Organics	**ND**	0.16	NWTPH-HCID	4-8-22	4-8-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-HCID	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14 @ 6'**					
Laboratory ID:	04-022-02					
Dichlorodifluoromethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Chloromethane	ND	0.0056	EPA 8260D	4-6-22	4-7-22	
Vinyl Chloride	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Bromomethane	ND	0.0043	EPA 8260D	4-6-22	4-7-22	
Chloroethane	ND	0.0043	EPA 8260D	4-6-22	4-7-22	
Trichlorofluoromethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,1-Dichloroethene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Iodomethane	ND	0.0043	EPA 8260D	4-6-22	4-7-22	
Methylene Chloride	ND	0.0059	EPA 8260D	4-6-22	4-7-22	
(trans) 1,2-Dichloroethene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,1-Dichloroethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
2,2-Dichloropropane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
(cis) 1,2-Dichloroethene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Bromochloromethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Chloroform	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,1,1-Trichloroethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Carbon Tetrachloride	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,1-Dichloropropene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,2-Dichloroethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Trichloroethene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,2-Dichloropropane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Dibromomethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Bromodichloromethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
2-Chloroethyl Vinyl Ether	ND	0.021	EPA 8260D	4-6-22	4-7-22	
(cis) 1,3-Dichloropropene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
(trans) 1,3-Dichloropropene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14 @ 6'**					
Laboratory ID:	04-022-02					
1,1,2-Trichloroethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Tetrachloroethene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,3-Dichloropropane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Dibromochloromethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,2-Dibromoethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Chlorobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,1,1,2-Tetrachloroethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Bromoform	ND	0.0043	EPA 8260D	4-6-22	4-7-22	
Bromobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,1,2,2-Tetrachloroethane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,2,3-Trichloropropane	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
2-Chlorotoluene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
4-Chlorotoluene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,3-Dichlorobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,4-Dichlorobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,2-Dichlorobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
1,2-Dibromo-3-chloropropane	ND	0.0063	EPA 8260D	4-6-22	4-7-22	
1,2,4-Trichlorobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Hexachlorobutadiene	ND	0.0043	EPA 8260D	4-6-22	4-7-22	
1,2,3-Trichlorobenzene	ND	0.00087	EPA 8260D	4-6-22	4-7-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*88*	*74-131*				
Toluene-d8	*93*	*78-128*				
4-Bromofluorobenzene	*93*	*71-130*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	0.0064	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
2-Chloroethyl Vinyl Ether	ND	0.023	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	0.0064	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*74-131*				
Toluene-d8	*102*	*78-128*				
4-Bromofluorobenzene	*96*	*71-130*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0406S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0508**	**0.0504**	0.0500	0.0500	102	101	71-131	1	19	
Benzene	**0.0494**	**0.0492**	0.0500	0.0500	99	98	73-124	0	18	
Trichloroethene	**0.0584**	**0.0556**	0.0500	0.0500	117	111	79-130	5	18	
Toluene	**0.0504**	**0.0476**	0.0500	0.0500	101	95	76-123	6	18	
Chlorobenzene	**0.0555**	**0.0554**	0.0500	0.0500	111	111	78-122	0	18	
Surrogate:										
Dibromofluoromethane					*100*	*103*	*74-131*			
Toluene-d8					*100*	*99*	*78-128*			
4-Bromofluorobenzene					*100*	*100*	*71-130*			

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14**					
Laboratory ID:	04-022-05					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14**					
Laboratory ID:	04-022-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	04-022-06					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	04-022-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*103*	*78-125*				

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QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406W1					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

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QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0406W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.40**	**9.07**	10.0	10.0	94	91	78-125	4	19	
Benzene	**10.1**	**9.83**	10.0	10.0	101	98	80-119	3	16	
Trichloroethene	**9.92**	**9.82**	10.0	10.0	99	98	80-121	1	18	
Toluene	**8.78**	**8.76**	10.0	10.0	88	88	80-117	0	18	
Chlorobenzene	**9.90**	**9.72**	10.0	10.0	99	97	80-117	2	17	
Surrogate:										
Dibromofluoromethane					*102*	*101*	*75-127*			
Toluene-d8					*98*	*99*	*80-127*			
4-Bromofluorobenzene					*107*	*108*	*78-125*			

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Project: 2022-042

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	04-022-06					
Arsenic	**9.6**	3.0	EPA 200.8		4-6-22	
Cadmium	**ND**	4.0	EPA 200.8		4-6-22	
Chromium	**ND**	10	EPA 200.8		4-6-22	
Lead	**ND**	1.0	EPA 200.8		4-6-22	
Mercury	**ND**	0.50	EPA 7470A		4-7-22	

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DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406D1					
Arsenic	**ND**	3.0	EPA 200.8		4-6-22	
Cadmium	**ND**	4.0	EPA 200.8		4-6-22	
Chromium	**ND**	10	EPA 200.8		4-6-22	
Lead	**ND**	1.0	EPA 200.8		4-6-22	
Laboratory ID:	MB0404F1					
Mercury	**ND**	0.50	EPA 7470A	4-4-22	4-7-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-022-06										
	ORIG	DUP									
Arsenic	**9.64**	**10.0**	NA	NA		NA		NA	4	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	04-010-06										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	04-022-06										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**92.6**	**91.4**	80.0	80.0	9.64	**104**	**102**	75-125	1	20	
Cadmium	**77.2**	**77.0**	80.0	80.0	ND	**97**	**96**	75-125	0	20	
Chromium	**75.0**	**74.2**	80.0	80.0	ND	**94**	**93**	75-125	1	20	
Lead	**74.6**	**74.4**	80.0	80.0	ND	**93**	**93**	75-125	0	20	
Laboratory ID:	04-010-06										
Mercury	**6.45**	**6.48**	6.25	6.25	ND	**103**	**104**	75-125	0	20	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12 @ 5'**					
Laboratory ID:	04-022-03					
Arsenic	**ND**	12	EPA 6010D	4-6-22	4-6-22	
Cadmium	**ND**	0.58	EPA 6010D	4-6-22	4-6-22	
Chromium	**20**	0.58	EPA 6010D	4-6-22	4-6-22	
Lead	**14**	5.8	EPA 6010D	4-6-22	4-6-22	
Mercury	**ND**	0.29	EPA 7471B	4-7-22	4-7-22	

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TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406SM2					
Arsenic	**ND**	10	EPA 6010D	4-6-22	4-6-22	
Cadmium	**ND**	0.50	EPA 6010D	4-6-22	4-6-22	
Chromium	**ND**	0.50	EPA 6010D	4-6-22	4-6-22	
Lead	**ND**	5.0	EPA 6010D	4-6-22	4-6-22	
Laboratory ID:	MB0407S1					
Mercury	**ND**	0.25	EPA 7471B	4-7-22	4-7-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-022-03									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**16.9**	**14.8**	NA	NA		NA	NA	14	20	
Lead	**12.5**	**15.5**	NA	NA		NA	NA	21	20	C
Laboratory ID:	04-021-01									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
MATRIX SPIKES										
Laboratory ID:	04-022-03									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	**101**	**104**	100	100	ND	**101**	**104**	75-125	3	20
Cadmium	**51.1**	**52.4**	50.0	50.0	ND	**102**	**105**	75-125	2	20
Chromium	**113**	**114**	100	100	16.9	**96**	**97**	75-125	0	20
Lead	**254**	**264**	250	250	12.5	**96**	**101**	75-125	4	20
Laboratory ID:	04-021-01									
Mercury	**0.515**	**0.511**	0.500	0.500	0.0140	**100**	**99**	80-120	1	20

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HYDROCARBON IDENTIFICATION
NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14**					
Laboratory ID:	04-022-05					
Gasoline Range Organics	**Detected**	0.094	NWTPH-HCID	4-11-22	4-12-22	
Diesel Range Organics	**Detected**	0.19	NWTPH-HCID	4-11-22	4-12-22	
Lube Oil Range Organics	**ND**	0.19	NWTPH-HCID	4-11-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*76*	*50-150*				

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HYDROCARBON IDENTIFICATION
NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W1					
Gasoline Range Organics	**ND**	0.080	NWTPH-HCID	4-11-22	4-11-22	
Diesel Range Organics	**ND**	0.16	NWTPH-HCID	4-11-22	4-11-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-HCID	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Date of Report: April 20, 2022
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GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	04-022-06					
Gasoline	**ND**	100	NWTPH-Gx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*66-117*				

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GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413W1					
Gasoline	**ND**	100	NWTPH-Gx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-022-06										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*95*	*99*	*66-117*			

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Laboratory Reference: 2204-022
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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:	**B-12**					
Laboratory ID:	04-022-06					
Diesel Range Organics	**0.18**	0.12	NWTPH-Dx	4-8-22	4-8-22	
Lube Oil Range Organics	**0.28**	0.24	NWTPH-Dx	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Date of Report: April 20, 2022
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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:	MB0408W1					
Diesel Range Organics	**ND**	0.080	NWTPH-Dx	4-8-22	4-8-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-017-02									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*98* *90*	*50-150*			

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	04-022-06					
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413W1					
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0413W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.47**	**10.5**	10.0	10.0	95	105	78-125	10	19	
Benzene	**9.25**	**10.4**	10.0	10.0	93	104	80-119	12	16	
Trichloroethene	**9.94**	**11.2**	10.0	10.0	99	112	80-121	12	18	
Toluene	**9.43**	**10.6**	10.0	10.0	94	106	80-117	12	18	
Chlorobenzene	**9.74**	**11.2**	10.0	10.0	97	112	80-117	14	17	
Surrogate:										
Dibromofluoromethane					*100*	*101*	*75-127*			
Toluene-d8					*100*	*99*	*80-127*			
4-Bromofluorobenzene					*103*	*102*	*78-125*			

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14**					
Laboratory ID:	04-022-05					
Gasoline	**ND**	100	NWTPH-Gx	4-15-22	4-15-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*66-117*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0415W1					
Gasoline	**ND**	100	NWTPH-Gx	4-15-22	4-15-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-022-05										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*93*	*93*	*66-117*			

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

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:	**B-14**					
Laboratory ID:	04-022-05					
Diesel Range Organics	**0.26**	0.19	NWTPH-Dx	4-11-22	4-12-22	
Lube Oil Range Organics	**ND**	0.19	NWTPH-Dx	4-11-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

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:	MB0411W1					
Diesel Range Organics	**ND**	0.16	NWTPH-Dx	4-11-22	4-11-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	SB0411W1										
	ORIG	DUP									
Diesel Fuel #2	**0.446**	**0.400**	NA	NA		NA		NA	11	NA	
Surrogate:											
o-Terphenyl						*102*	*86*	*50-150*			

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14**					
Laboratory ID:	04-022-05					
Benzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Toluene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-6-22	4-6-22	
o-Xylene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406W1					
Benzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Toluene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-6-22	4-6-22	
o-Xylene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0406W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.40**	**9.07**	10.0	10.0	94	91	78-125	4	19	
Benzene	**10.1**	**9.83**	10.0	10.0	101	98	80-119	3	16	
Trichloroethene	**9.92**	**9.82**	10.0	10.0	99	98	80-121	1	18	
Toluene	**8.78**	**8.76**	10.0	10.0	88	88	80-117	0	18	
Chlorobenzene	**9.90**	**9.72**	10.0	10.0	99	97	80-117	2	17	
Surrogate:										
Dibromofluoromethane					*102*	*101*	*75-127*			
Toluene-d8					*98*	*99*	*80-127*			
4-Bromofluorobenzene					*107*	*108*	*78-125*			

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-022
Project: 2022-042

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B-13 @ 5'	04-022-01	**14**	4-6-22
B-14 @ 6'	04-022-02	**21**	4-6-22
B-12 @ 5'	04-022-03	**14**	4-6-22

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

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

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

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

Z -

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

Chain of Custody

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

Company: HWA
Project Number: 2022-042
Project Name: Houghton Village ESA
Project Manager: ~~Ali~~ Nicole Kapise
Sampled by: Mary Alice Benson

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

Laboratory Number: 04-022

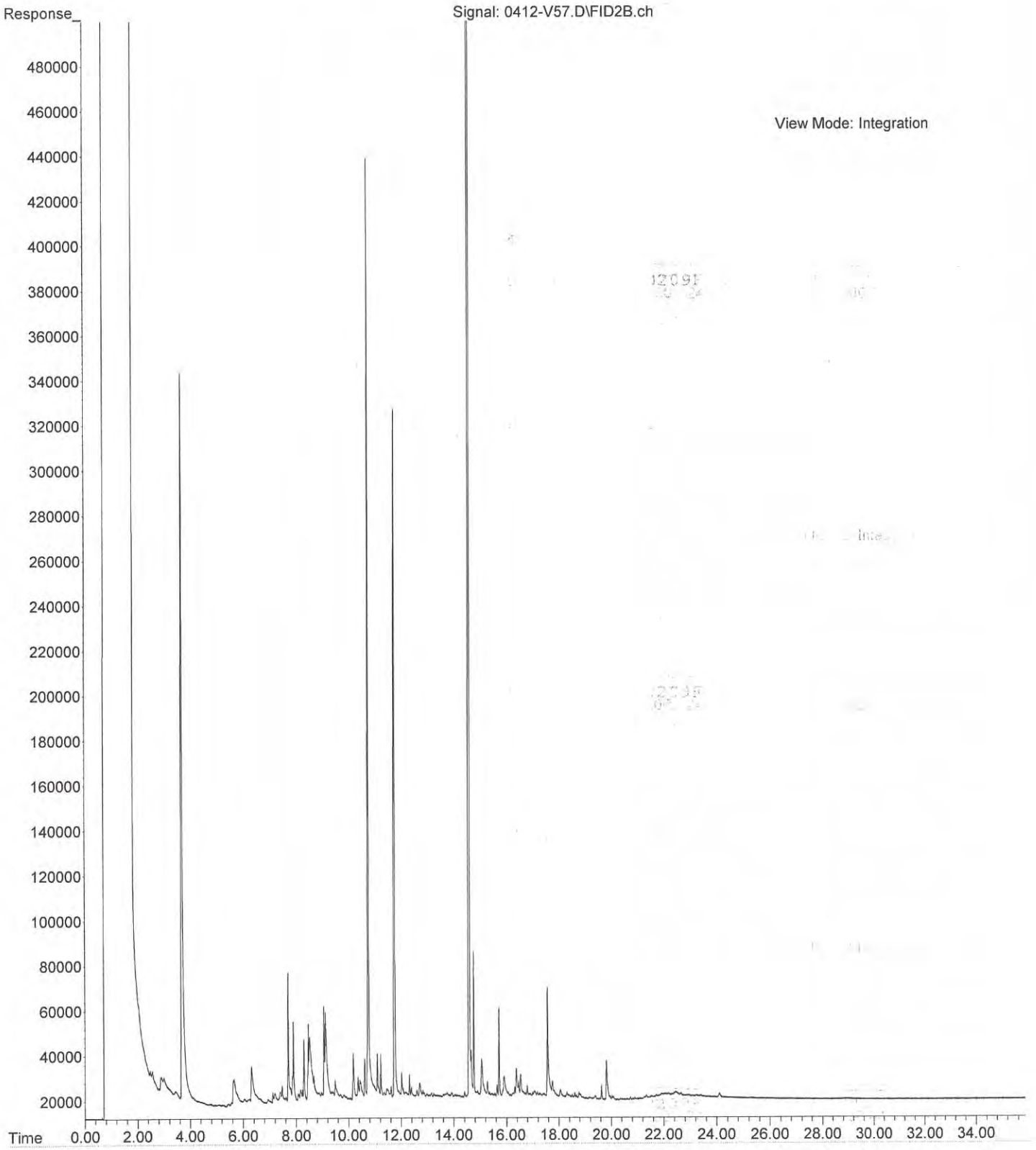
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX 8260	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	~~Total RCRA Metals~~ Dissolved MTCA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A		HOLD		Field Filtered	% Moisture
1	B-13 @ 5' ~~(Hold)~~	4-4-22	0950	Soil	6	X																				X
2	B-14 @ 6' ~~(Hold)~~ DB	4-4-22	1035	Soil	6						X															X
3	B-12 @ 5' ~~(Hold)~~ DB	4-4-22	1240	Soil	6	X														X						X
4	B-12 @ ~~7~~ 7.5' (Hold)	4-4-22	1250	Soil	6																			X		
5	B-14 ~~(Hold)~~ DB	4-4-22	1350	water	9	⊗	O		O		X														✓	
6	B-12 ~~(Hold)~~ DB	4-4-22	1430	water	7	X	⊗		⊗		X								X	~~X~~ 20					✓	

	Signature	Company	Date	Time
Relinquished		HWA	4-4-22	1540
Received		CORE	4/4/22	1540
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

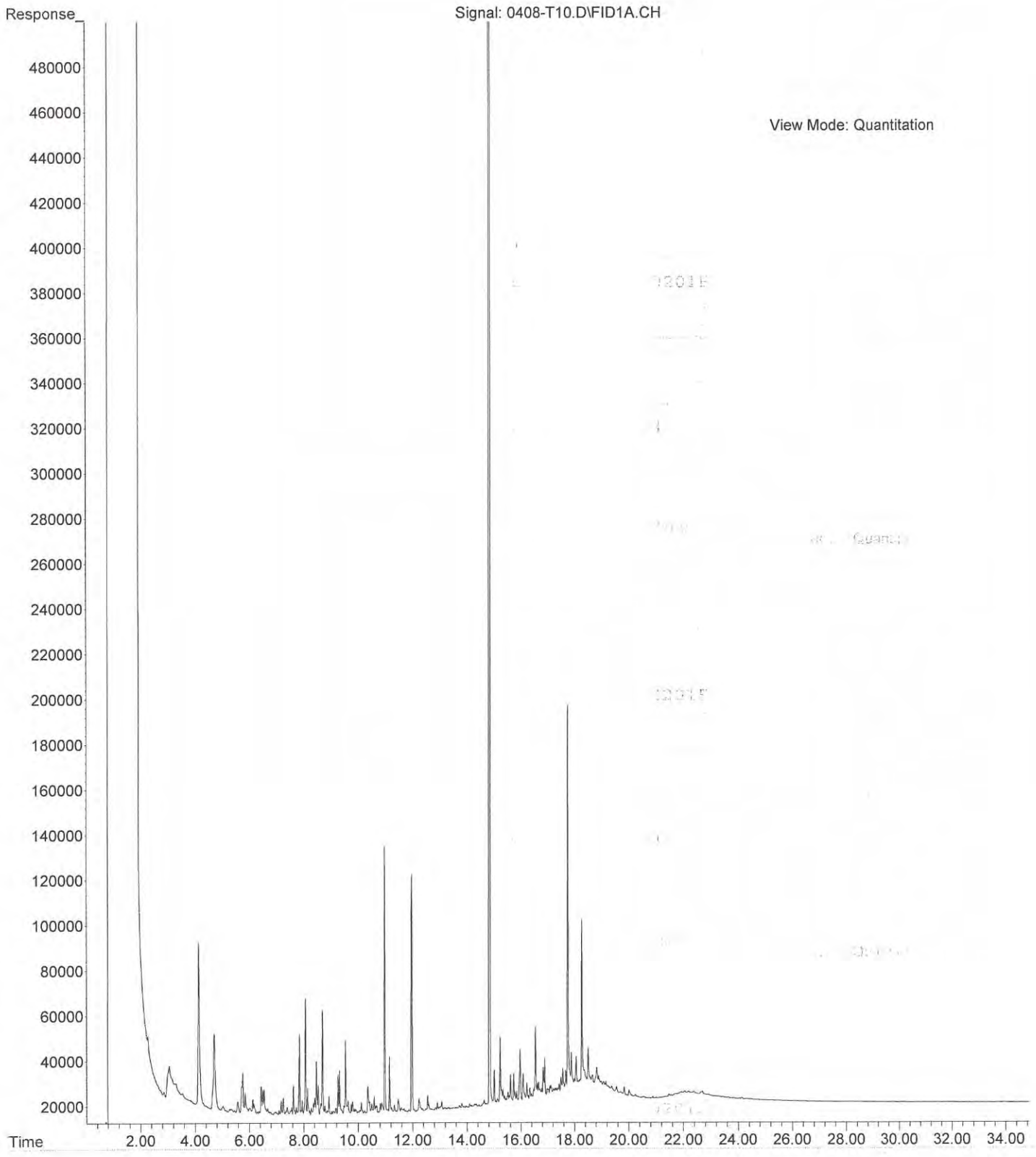
Comments/Special Instructions
X - Added 4/5/22. DB (STA)
⊗ - Added 4/11/22. DB (STA)
O - Added 4/14/22. DB (STA)

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

File :C:\msdchem\2\data\V220412.SEC\0412-V57.D
Operator : JP
Acquired : 12 Apr 2022 11:26 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-022-05
Misc Info : RearSamp
Vial Number: 57



File :C:\msdchem\1\data\T220408\0408-T10.D
Operator : JP
Acquired : 08 Apr 2022 15:02 using AcqMethod T220201F.M
Instrument : Teri
Sample Name: 04-022-06
Misc Info : Sample
Vial Number: 10



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

April 20, 2022

Nicole Kapise
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2022-042
Laboratory Reference No. 2204-039

Dear Nicole:

Enclosed are the analytical results and associated quality control data for samples submitted on April 5, 2022.

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: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

Case Narrative

Samples were collected on April 5, 2022 and received by the laboratory on April 5, 2022. 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: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

HYDROCARBON IDENTIFICATION
NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15 @ 6.5'**					
Laboratory ID:	04-039-01					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	4-6-22	4-6-22	
Diesel Range Organics	**ND**	62	NWTPH-HCID	4-6-22	4-6-22	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				
Client ID:	**B-16 @ 5'**					
Laboratory ID:	04-039-02					
Gasoline Range Organics	**ND**	30	NWTPH-HCID	4-6-22	4-6-22	
Diesel Range Organics	**ND**	74	NWTPH-HCID	4-6-22	4-6-22	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

HYDROCARBON IDENTIFICATION
NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	4-6-22	4-6-22	
Diesel Range Organics	**ND**	50	NWTPH-HCID	4-6-22	4-6-22	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15 @ 6.5'**					
Laboratory ID:	04-039-01					
Dichlorodifluoromethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	0.0048	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	0.0048	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	0.0048	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	0.0048	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	0.0061	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
2-Chloroethyl Vinyl Ether	ND	0.022	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15 @ 6.5'**					
Laboratory ID:	04-039-01					
1,1,2-Trichloroethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	0.0048	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	0.0061	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	0.0048	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.00096	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*90*	*74-131*				
Toluene-d8	*101*	*78-128*				
4-Bromofluorobenzene	*93*	*71-130*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 5'**					
Laboratory ID:	04-039-02					
Dichlorodifluoromethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Chloromethane	ND	0.0099	EPA 8260D	4-6-22	4-7-22	
Vinyl Chloride	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Bromomethane	ND	0.0077	EPA 8260D	4-6-22	4-7-22	
Chloroethane	ND	0.0077	EPA 8260D	4-6-22	4-7-22	
Trichlorofluoromethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,1-Dichloroethene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Iodomethane	ND	0.0077	EPA 8260D	4-6-22	4-7-22	
Methylene Chloride	ND	0.010	EPA 8260D	4-6-22	4-7-22	
(trans) 1,2-Dichloroethene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,1-Dichloroethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
2,2-Dichloropropane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
(cis) 1,2-Dichloroethene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Bromochloromethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Chloroform	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,1,1-Trichloroethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Carbon Tetrachloride	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,1-Dichloropropene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,2-Dichloroethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Trichloroethene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,2-Dichloropropane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Dibromomethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Bromodichloromethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
2-Chloroethyl Vinyl Ether	ND	0.037	EPA 8260D	4-6-22	4-7-22	
(cis) 1,3-Dichloropropene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
(trans) 1,3-Dichloropropene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 5'**					
Laboratory ID:	04-039-02					
1,1,2-Trichloroethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Tetrachloroethene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,3-Dichloropropane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Dibromochloromethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,2-Dibromoethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Chlorobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,1,1,2-Tetrachloroethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Bromoform	ND	0.0077	EPA 8260D	4-6-22	4-7-22	
Bromobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,1,2,2-Tetrachloroethane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,2,3-Trichloropropane	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
2-Chlorotoluene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
4-Chlorotoluene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,3-Dichlorobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,4-Dichlorobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,2-Dichlorobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
1,2-Dibromo-3-chloropropane	ND	0.011	EPA 8260D	4-6-22	4-7-22	
1,2,4-Trichlorobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Hexachlorobutadiene	ND	0.0077	EPA 8260D	4-6-22	4-7-22	
1,2,3-Trichlorobenzene	ND	0.0015	EPA 8260D	4-6-22	4-7-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*87*	*74-131*				
Toluene-d8	*96*	*78-128*				
4-Bromofluorobenzene	*90*	*71-130*				

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QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	0.0064	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
2-Chloroethyl Vinyl Ether	ND	0.023	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	0.0064	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*74-131*				
Toluene-d8	*102*	*78-128*				
4-Bromofluorobenzene	*96*	*71-130*				

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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0406S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0508**	**0.0504**	0.0500	0.0500	102	101	71-131	1	19	
Benzene	**0.0494**	**0.0492**	0.0500	0.0500	99	98	73-124	0	18	
Trichloroethene	**0.0584**	**0.0556**	0.0500	0.0500	117	111	79-130	5	18	
Toluene	**0.0504**	**0.0476**	0.0500	0.0500	101	95	76-123	6	18	
Chlorobenzene	**0.0555**	**0.0554**	0.0500	0.0500	111	111	78-122	0	18	
Surrogate:										
Dibromofluoromethane					*100*	*103*	*74-131*			
Toluene-d8					*100*	*99*	*78-128*			
4-Bromofluorobenzene					*100*	*100*	*71-130*			

Date of Report: April 20, 2022
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*105*	*78-125*				

Date of Report: April 20, 2022
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 23'**					
Laboratory ID:	04-039-04					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 23'**					
Laboratory ID:	04-039-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
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Project: 2022-042

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15**					
Laboratory ID:	04-039-05					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15**					
Laboratory ID:	04-039-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*105*	*78-125*				

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QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406W1					
Dichlorodifluoromethane	ND	0.36	EPA 8260D	4-6-22	4-6-22	
Chloromethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromomethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Chloroethane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Iodomethane	ND	2.0	EPA 8260D	4-6-22	4-6-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-6-22	4-6-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chloroform	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Trichloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromomethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-6-22	4-6-22	

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QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Bromoform	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Bromobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-6-22	4-6-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0406W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.40**	**9.07**	10.0	10.0	94	91	78-125	4	19	
Benzene	**10.1**	**9.83**	10.0	10.0	101	98	80-119	3	16	
Trichloroethene	**9.92**	**9.82**	10.0	10.0	99	98	80-121	1	18	
Toluene	**8.78**	**8.76**	10.0	10.0	88	88	80-117	0	18	
Chlorobenzene	**9.90**	**9.72**	10.0	10.0	99	97	80-117	2	17	
Surrogate:										
Dibromofluoromethane					*102*	*101*	*75-127*			
Toluene-d8					*98*	*99*	*80-127*			
4-Bromofluorobenzene					*107*	*108*	*78-125*			

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HYDROCARBON IDENTIFICATION
NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
Gasoline Range Organics	**Detected**	0.11	NWTPH-HCID	4-12-22	4-12-22	
Diesel Range Organics	**Detected**	0.14	NWTPH-HCID	4-12-22	4-12-22	
Lube Oil Range Organics	**Detected**	0.22	NWTPH-HCID	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*62*	*50-150*				
Client ID:	**B-15**					
Laboratory ID:	04-039-05					
Gasoline Range Organics	**Detected**	0.11	NWTPH-HCID	4-12-22	4-12-22	
Diesel Range Organics	**Detected**	0.13	NWTPH-HCID	4-12-22	4-12-22	
Lube Oil Range Organics	**ND**	0.21	NWTPH-HCID	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				

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HYDROCARBON IDENTIFICATION
NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W1					
Gasoline Range Organics	**ND**	0.080	NWTPH-HCID	4-12-22	4-12-22	
Diesel Range Organics	**ND**	0.10	NWTPH-HCID	4-12-22	4-12-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-HCID	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
Gasoline	**ND**	100	NWTPH-Gx	4-15-22	4-15-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*66-117*				
Client ID:	**B-16 @ 23'**					
Laboratory ID:	04-039-04					
Gasoline	**ND**	100	NWTPH-Gx	4-15-22	4-15-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*66-117*				
Client ID:	**B-15**					
Laboratory ID:	04-039-05					
Gasoline	**ND**	100	NWTPH-Gx	4-15-22	4-15-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*66-117*				

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GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0415W1					
Gasoline	**ND**	100	NWTPH-Gx	4-15-22	4-15-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-022-05										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*93*	*93*	*66-117*			

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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:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
Diesel Range Organics	**0.18**	0.16	NWTPH-Dx	4-12-22	4-12-22	
Lube Oil Range Organics	**0.28**	0.22	NWTPH-Dx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*62*	*50-150*				
Client ID:	**B-16 @ 23'**					
Laboratory ID:	04-039-04					
Diesel Range Organics	**ND**	0.18	NWTPH-Dx	4-18-22	4-18-22	
Lube Oil Range Organics	**ND**	0.24	NWTPH-Dx	4-18-22	4-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Date of Report: April 20, 2022
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Laboratory Reference: 2204-039
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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:	MB0412W1					
Diesel Range Organics	**ND**	0.12	NWTPH-Dx	4-12-22	4-12-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Laboratory ID:	MB0418W1					
Diesel Range Organics	**ND**	0.080	NWTPH-Dx	4-18-22	4-18-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	4-18-22	4-18-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	SB0412W1										
	ORIG	DUP									
Diesel Fuel #2	**0.462**	**0.410**	NA	NA		NA		NA	12	NA	
Surrogate:											
o-Terphenyl						*105*	*94*	*50-150*			
Laboratory ID:	04-153-02										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*83*	*88*	*50-150*			

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Laboratory Reference: 2204-039
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VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
Benzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Toluene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-6-22	4-6-22	
o-Xylene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*105*	*78-125*				
Client ID:	**B-16 @ 23'**					
Laboratory ID:	04-039-04					
Benzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Toluene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-6-22	4-6-22	
o-Xylene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				
Client ID:	**B-15**					
Laboratory ID:	04-039-05					
Benzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Toluene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-6-22	4-6-22	
o-Xylene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*105*	*78-125*				

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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0406W1					
Benzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Toluene	ND	1.0	EPA 8260D	4-6-22	4-6-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-6-22	4-6-22	
o-Xylene	ND	0.20	EPA 8260D	4-6-22	4-6-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0406W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.40**	**9.07**	10.0	10.0	94	91	78-125	4	19	
Benzene	**10.1**	**9.83**	10.0	10.0	101	98	80-119	3	16	
Trichloroethene	**9.92**	**9.82**	10.0	10.0	99	98	80-121	1	18	
Toluene	**8.78**	**8.76**	10.0	10.0	88	88	80-117	0	18	
Chlorobenzene	**9.90**	**9.72**	10.0	10.0	99	97	80-117	2	17	
Surrogate:										
Dibromofluoromethane					*102*	*101*	*75-127*			
Toluene-d8					*98*	*99*	*80-127*			
4-Bromofluorobenzene					*107*	*108*	*78-125*			

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16 @ 15'**					
Laboratory ID:	04-039-03					
Arsenic	**45**	8.3	EPA 200.8	4-15-22	4-15-22	
Cadmium	**ND**	4.4	EPA 200.8	4-15-22	4-15-22	
Chromium	**260**	28	EPA 200.8	4-15-22	4-15-22	
Lead	**63**	2.8	EPA 200.8	4-15-22	4-15-22	
Mercury	**ND**	0.50	EPA 7470A	4-20-22	4-20-22	

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TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0415WM1					
Arsenic	**ND**	3.3	EPA 200.8	4-15-22	4-15-22	
Cadmium	**ND**	4.4	EPA 200.8	4-15-22	4-15-22	
Chromium	**ND**	11	EPA 200.8	4-15-22	4-15-22	
Lead	**ND**	1.1	EPA 200.8	4-15-22	4-15-22	
Laboratory ID:	MB0420W1					
Mercury	**ND**	0.50	EPA 7470A	4-20-22	4-20-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-158-02										
	ORIG	DUP									
Arsenic	**11.5**	**11.3**	NA	NA		NA		NA	2	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	04-205-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	04-158-02										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**135**	**131**	111	111	11.5	**111**	**108**	75-125	3	20	
Cadmium	**121**	**120**	111	111	ND	**109**	**108**	75-125	1	20	
Chromium	**123**	**126**	111	111	ND	**111**	**114**	75-125	2	20	
Lead	**114**	**115**	111	111	ND	**103**	**104**	75-125	1	20	
Laboratory ID:	04-205-01										
Mercury	**6.60**	**6.53**	6.25	6.25	ND	**106**	**104**	75-125	1	20	

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

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:	**B-15**					
Laboratory ID:	04-039-05					
Diesel Range Organics	**0.17**	0.16	NWTPH-Dx	4-12-22	4-12-22	
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

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:	MB0412W1					
Diesel Range Organics	**ND**	0.12	NWTPH-Dx	4-12-22	4-12-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	SB0412W1										
	ORIG	DUP									
Diesel Fuel #2	**0.462**	**0.410**	NA	NA		NA		NA	12	NA	
Surrogate:											
o-Terphenyl						*105*	*94*	*50-150*			

Date of Report: April 20, 2022
Samples Submitted: April 5, 2022
Laboratory Reference: 2204-039
Project: 2022-042

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B-15 @ 6.5'	04-039-01	**19**	4-6-22
B-16 @ 5'	04-039-02	**33**	4-6-22

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

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

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

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

Z -

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

Chain of Custody

Page 1 of 1

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

Company: HWA
Project Number: 2022-042
Project Name: Houghton Village ESA
Project Manager: Nicole Kapise
Sampled by: Mary Alice Benson

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

Laboratory Number: 04-039

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX 8260	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL DISSOLVED MTCA Metals ⊗ 4/15/22			Not Field Filtered	% Moisture
1	B-15 @ 6.5'	4-5-22	1245	Soil	6	✓					✓																⊗
2	B-16 @ 5'	4-5-22	0815	Soil	6	✓					✓																↓
3	B-16 @ 15'	4-5-22	1150	water	7	⊗	O		O		✓												O			✓	
4	B-16 @ 23'	4-5-22	1025	water	5		O		O		✓															✓	
5	B-15	4-5-22	1405	water	7	⊗	O		●		✓															✓	

	Signature	Company	Date	Time
Relinquished		HWA	4-5-22	3:30
Received		COSE	4/5/22	1530
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
⊗ Added 4/11/22. DB (STAT)
O - Added 4/14/22. DB (STAT)
● - Added 4/19/22. DB (1 day TAT)

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

Chain of Custody

Page 1 of 1

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

Company: HWA
Project Number: 2022-042
Project Name: Houghton Village ESA
Project Manager: Nicole Kapise
Sampled by: Mary Alice Benson

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

Laboratory Number: 04-039

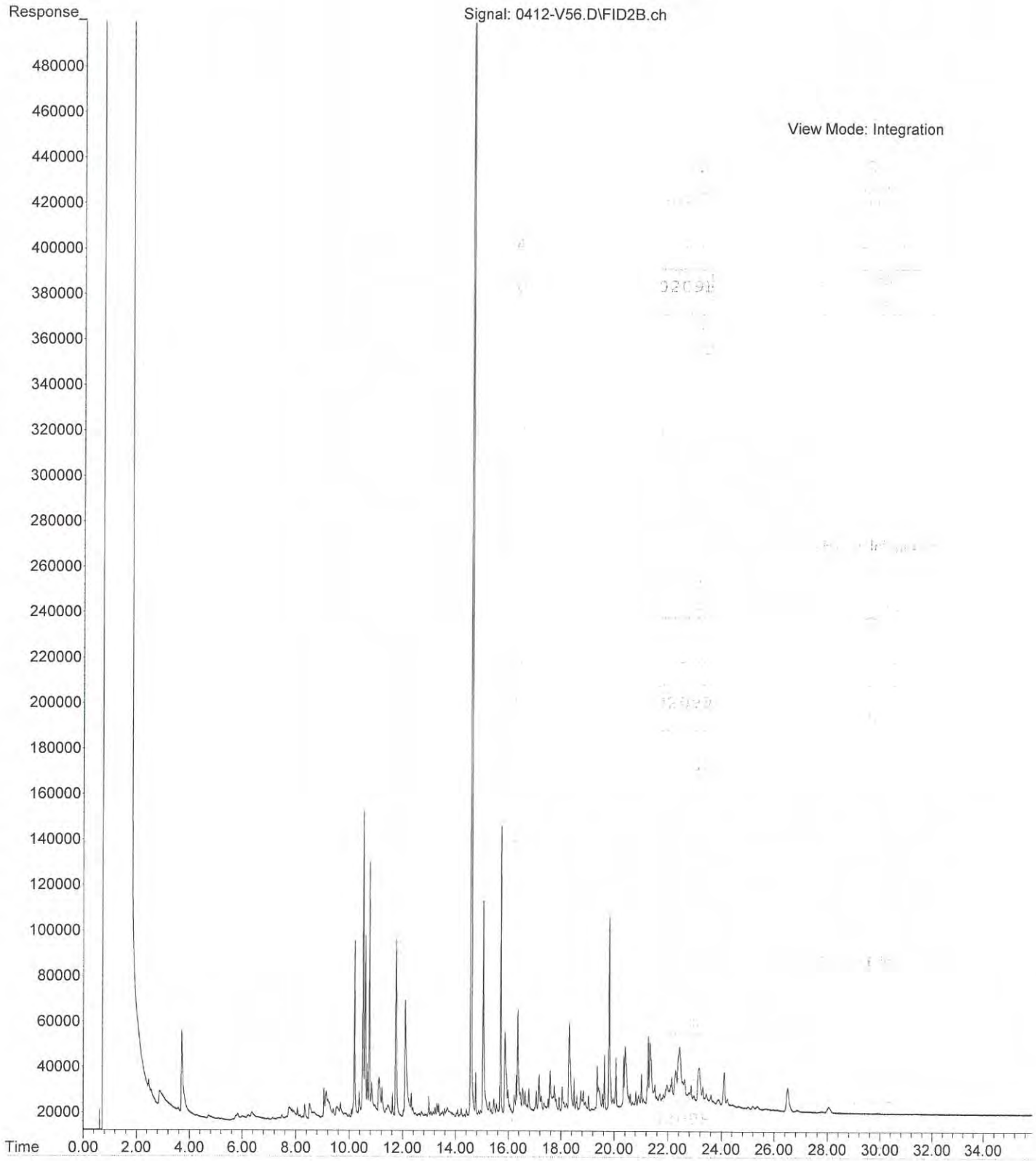
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX 8260	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL DISSOLVED MTCA Metals ⊗ 4/15/22			Not Field Filtered	% Moisture
1	B-15 @ 6.5'	4-5-22	1245	Soil	6	✓					✓																⊗
2	B-16 @ 5'	4-5-22	0815	Soil	6	✓					✓																↓
3	B-16 @ 15'	4-5-22	1150	water	7	⊗	O		O		✓												O			✓	
4	B-16 @ 23'	4-5-22	1025	water	5		O		O		✓															✓	
5	B-15	4-5-22	1405	water	7	⊗	O		●		✓															✓	

	Signature	Company	Date	Time
Relinquished		HWA	4-5-22	3:30
Received		COSE	4/5/22	1530
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

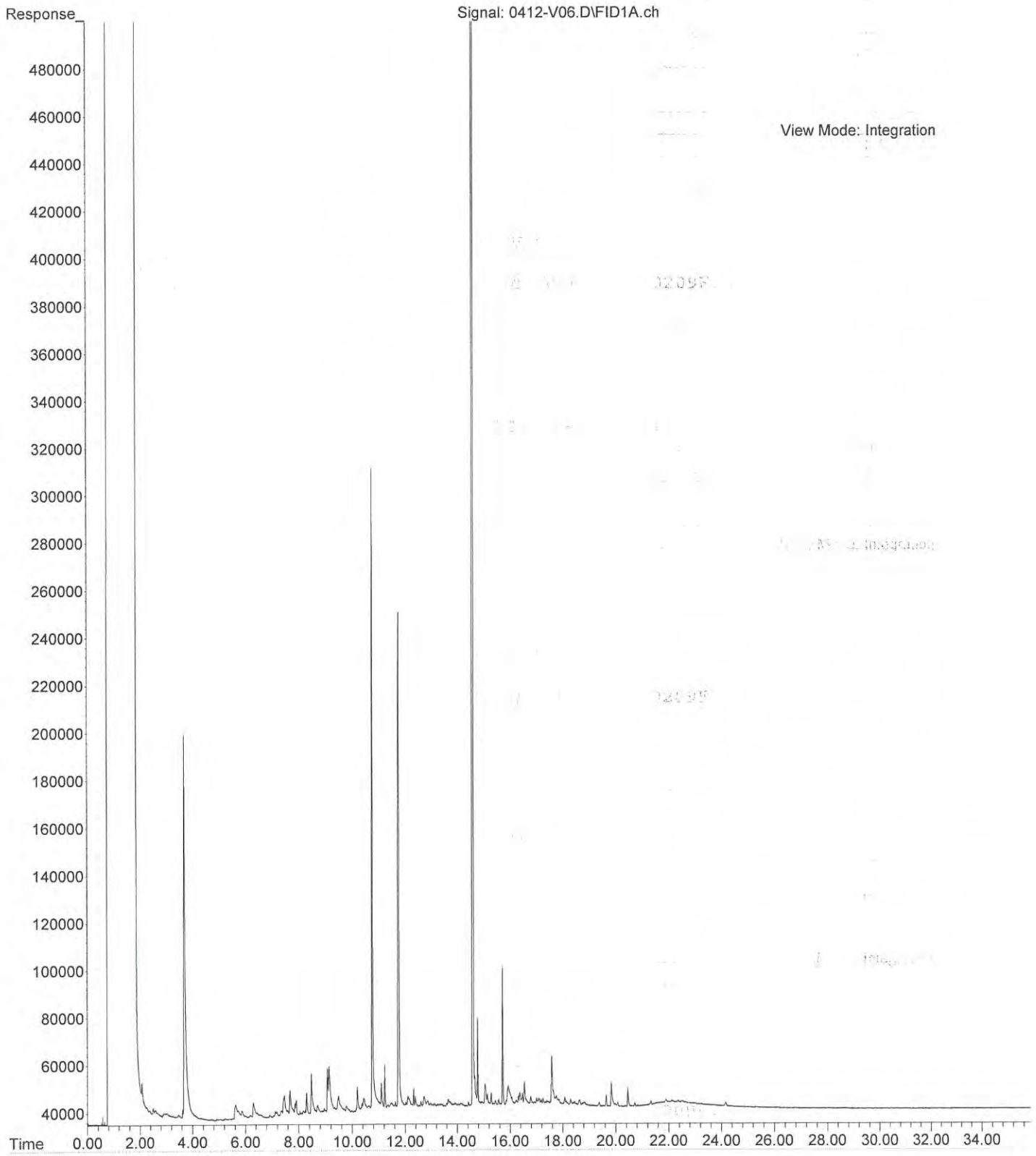
Comments/Special Instructions
⊗ Added 4/11/22. DB (STAT)
O - Added 4/14/22. DB (STAT)
● - Added 4/19/22. DB (1 day TAT)

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

File :C:\msdchem\2\data\V220412.SEC\0412-V56.D
Operator : JP
Acquired : 12 Apr 2022 10:46 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-039-03
Misc Info : RearSamp
Vial Number: 56



File :C:\msdchem\2\data\V220412\0412-V06.D
Operator : JP
Acquired : 12 Apr 2022 10:46 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-039-05
Misc Info : Sample
Vial Number: 6



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

April 15, 2022

Nicole Kapise
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2022-042-22
Laboratory Reference No. 2204-060

Dear Nicole:

Enclosed are the analytical results and associated quality control data for samples submitted on April 6, 2022.

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: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

Case Narrative

Samples were collected on April 6, 2022 and received by the laboratory on April 6, 2022. 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: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

HYDROCARBON IDENTIFICATION
NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 2.5**					
Laboratory ID:	04-060-01					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	4-11-22	4-11-22	
Diesel Range Organics	**ND**	61	NWTPH-HCID	4-11-22	4-11-22	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**B18 @ 2.5**					
Laboratory ID:	04-060-05					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	4-11-22	4-11-22	U1
Diesel Range Organics	**ND**	69	NWTPH-HCID	4-11-22	4-11-22	
Lube Oil	**Detected**	140	NWTPH-HCID	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

HYDROCARBON IDENTIFICATION
NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	4-11-22	4-11-22	
Diesel Range Organics	**ND**	50	NWTPH-HCID	4-11-22	4-11-22	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 7.5**					
Laboratory ID:	04-060-02					
Gasoline	**ND**	5.9	NWTPH-Gx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*66-129*				
Client ID:	**B18 @ 7.5**					
Laboratory ID:	04-060-06					
Gasoline	**ND**	5.1	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-129*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411S1					
Gasoline	**ND**	5.0	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*66-129*				
Laboratory ID:	MB0413S1					
Gasoline	**ND**	5.0	NWTPH-Gx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*66-129*				

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-060-06								
	ORIG	DUP							
Gasoline	**ND**	**ND**	NA	NA	NA	NA	NA	30	
Surrogate:									
Fluorobenzene					*89*	*113*	*66-129*		
Laboratory ID:	04-060-02								
	ORIG	DUP							
Gasoline	**ND**	**ND**	NA	NA	NA	NA	NA	30	
Surrogate:									
Fluorobenzene					*92*	*105*	*66-129*		

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 14**					
Laboratory ID:	04-060-04					
Gasoline	**ND**	100	NWTPH-Gx	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*66-117*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0408W1					
Gasoline	**ND**	100	NWTPH-Gx	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-103-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*94*	*94*	*66-117*			

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 7.5**					
Laboratory ID:	04-060-02					
Diesel Range Organics	**ND**	30	NWTPH-Dx	4-13-22	4-13-22	
Lube Oil Range Organics	**72**	61	NWTPH-Dx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*63*	*50-150*				
Client ID:	**B18 @ 7.5**					
Laboratory ID:	04-060-06					
Diesel Range Organics	**ND**	31	NWTPH-Dx	4-13-22	4-13-22	
Lube Oil Range Organics	**ND**	63	NWTPH-Dx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*70*	*50-150*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	4-13-22	4-13-22	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*134*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-078-02									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil	**93.6**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*98* *94*	*50-150*			

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

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:	**B19 @ 14**					
Laboratory ID:	04-060-04					
Diesel Range Organics	**0.24**	0.11	NWTPH-Dx	4-8-22	4-8-22	
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

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:	MB0408W1					
Diesel Range Organics	**ND**	0.080	NWTPH-Dx	4-8-22	4-8-22	
Lube Oil Range Organics	**ND**	0.16	NWTPH-Dx	4-8-22	4-8-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-017-02									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*98* *90*	*50-150*			

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

VOLATILE ORGANICS EPA 8260D

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 7.5**					
Laboratory ID:	04-060-02					
Benzene	0.0029	0.0010	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	0.0024	0.0021	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*74-131*				
Toluene-d8	*104*	*78-128*				
4-Bromofluorobenzene	*103*	*71-130*				
Client ID:	**B18 @ 7.5**					
Laboratory ID:	04-060-06					
Benzene	ND	0.00074	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0037	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.00074	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	ND	0.0015	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.00074	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*74-131*				
Toluene-d8	*103*	*78-128*				
4-Bromofluorobenzene	*103*	*71-130*				

Date of Report: April 15, 2022
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Laboratory Reference: 2204-060
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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411S1					
Benzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	ND	0.0020	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*115*	*74-131*				
Toluene-d8	*103*	*78-128*				
4-Bromofluorobenzene	*101*	*71-130*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0411S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0512**	**0.0514**	0.0500	0.0500	102	103	71-131	0	19	
Benzene	**0.0540**	**0.0541**	0.0500	0.0500	108	108	73-124	0	18	
Trichloroethene	**0.0573**	**0.0582**	0.0500	0.0500	115	116	79-130	2	18	
Toluene	**0.0528**	**0.0521**	0.0500	0.0500	106	104	76-123	1	18	
Chlorobenzene	**0.0523**	**0.0519**	0.0500	0.0500	105	104	78-122	1	18	
Surrogate:										
Dibromofluoromethane					*110*	*110*	*74-131*			
Toluene-d8					*104*	*102*	*78-128*			
4-Bromofluorobenzene					*103*	*101*	*71-130*			

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 29**					
Laboratory ID:	04-060-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Chloromethane	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromomethane	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Chloroethane	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Iodomethane	ND	5.0	EPA 8260D	4-12-22	4-12-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-12-22	4-12-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Chloroform	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Trichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Dibromomethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-12-22	4-12-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 29**					
Laboratory ID:	04-060-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromoform	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Bromobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260D	4-12-22	4-12-22	
1,2,4-Trichlorobenzene	ND	0.48	EPA 8260D	4-12-22	4-12-22	
Hexachlorobutadiene	ND	1.6	EPA 8260D	4-12-22	4-12-22	
1,2,3-Trichlorobenzene	ND	0.70	EPA 8260D	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*107*	*78-125*				

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Samples Submitted: April 6, 2022
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 14**					
Laboratory ID:	04-060-04					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-13-22	4-13-22	
Chloromethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromomethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Chloroethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Acetone	8.5	5.0	EPA 8260D	4-13-22	4-13-22	
Iodomethane	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Carbon Disulfide	ND	0.27	EPA 8260D	4-13-22	4-13-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Vinyl Acetate	ND	1.0	EPA 8260D	4-13-22	4-13-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Butanone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chloroform	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Trichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Dibromomethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 14**					
Laboratory ID:	04-060-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Hexanone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Styrene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromoform	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Isopropylbenzene	0.36	0.20	EPA 8260D	4-13-22	4-13-22	
Bromobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Propylbenzene	1.1	0.20	EPA 8260D	4-13-22	4-13-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
sec-Butylbenzene	0.38	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Butylbenzene	0.56	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Naphthalene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichlorobenzene	ND	0.25	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Chloromethane	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromomethane	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Chloroethane	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Iodomethane	ND	5.0	EPA 8260D	4-12-22	4-12-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-12-22	4-12-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Chloroform	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Trichloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Dibromomethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-12-22	4-12-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
Bromoform	ND	1.0	EPA 8260D	4-12-22	4-12-22	
Bromobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-12-22	4-12-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-12-22	4-12-22	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260D	4-12-22	4-12-22	
1,2,4-Trichlorobenzene	ND	0.48	EPA 8260D	4-12-22	4-12-22	
Hexachlorobutadiene	ND	1.6	EPA 8260D	4-12-22	4-12-22	
1,2,3-Trichlorobenzene	ND	0.70	EPA 8260D	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*106*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413W1					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-13-22	4-13-22	
Chloromethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromomethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Chloroethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Acetone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Iodomethane	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Carbon Disulfide	ND	0.27	EPA 8260D	4-13-22	4-13-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Vinyl Acetate	ND	1.0	EPA 8260D	4-13-22	4-13-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Butanone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chloroform	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Trichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Dibromomethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Hexanone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Styrene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromoform	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Isopropylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Propylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
sec-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Naphthalene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichlorobenzene	ND	0.25	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0412W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**11.1**	**10.9**	10.0	10.0	111	109	78-125	2	19	
Benzene	**11.4**	**11.2**	10.0	10.0	114	112	80-119	2	16	
Trichloroethene	**10.6**	**11.0**	10.0	10.0	106	110	80-121	4	18	
Toluene	**9.52**	**9.76**	10.0	10.0	95	98	80-117	2	18	
Chlorobenzene	**9.70**	**9.92**	10.0	10.0	97	99	80-117	2	17	
Surrogate:										
Dibromofluoromethane					*103*	*98*	*75-127*			
Toluene-d8					*99*	*98*	*80-127*			
4-Bromofluorobenzene					*108*	*107*	*78-125*			
Laboratory ID:	SB0413W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.47**	**10.5**	10.0	10.0	95	105	78-125	10	19	
Benzene	**9.25**	**10.4**	10.0	10.0	93	104	80-119	12	16	
Trichloroethene	**9.94**	**11.2**	10.0	10.0	99	112	80-121	12	18	
Toluene	**9.43**	**10.6**	10.0	10.0	94	106	80-117	12	18	
Chlorobenzene	**9.74**	**11.2**	10.0	10.0	97	112	80-117	14	17	
Surrogate:										
Dibromofluoromethane					*100*	*101*	*75-127*			
Toluene-d8					*100*	*99*	*80-127*			
4-Bromofluorobenzene					*103*	*102*	*78-125*			

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 7.5**					
Laboratory ID:	04-060-02					
Arsenic	**ND**	12	EPA 6010D	4-12-22	4-12-22	
Cadmium	**ND**	0.60	EPA 6010D	4-12-22	4-12-22	
Chromium	**24**	0.60	EPA 6010D	4-12-22	4-12-22	
Lead	**6.3**	6.0	EPA 6010D	4-12-22	4-12-22	
Mercury	**ND**	0.30	EPA 7471B	4-8-22	4-8-22	
Client ID:	**B18 @ 7.5**					
Laboratory ID:	04-060-06					
Arsenic	**ND**	13	EPA 6010D	4-12-22	4-12-22	
Cadmium	**ND**	0.63	EPA 6010D	4-12-22	4-12-22	
Chromium	**44**	0.63	EPA 6010D	4-12-22	4-12-22	
Lead	**ND**	6.3	EPA 6010D	4-12-22	4-12-22	
Mercury	**ND**	0.31	EPA 7471B	4-8-22	4-8-22	

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412SM1					
Arsenic	**ND**	10	EPA 6010D	4-12-22	4-12-22	
Cadmium	**ND**	0.50	EPA 6010D	4-12-22	4-12-22	
Chromium	**ND**	0.50	EPA 6010D	4-12-22	4-12-22	
Lead	**ND**	5.0	EPA 6010D	4-12-22	4-12-22	
Laboratory ID:	MB0408S2					
Mercury	**ND**	0.25	EPA 7471B	4-8-22	4-8-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-122-01										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**18.9**	**20.4**	NA	NA		NA		NA	8	20	
Lead	**10.9**	**12.1**	NA	NA		NA		NA	10	20	
Laboratory ID:	04-060-02										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	04-122-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**92.0**	**90.0**	100	100	ND	**92**	**90**	75-125	2	20	
Cadmium	**45.4**	**43.5**	50.0	50.0	ND	**91**	**87**	75-125	4	20	
Chromium	**105**	**101**	100	100	18.9	**86**	**82**	75-125	5	20	
Lead	**246**	**236**	250	250	10.9	**94**	**90**	75-125	4	20	
Laboratory ID:	04-060-02										
Mercury	**0.534**	**0.518**	0.500	0.500	0.0309	**101**	**97**	80-120	3	20	

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B19 @ 14**					
Laboratory ID:	04-060-04					
Arsenic	**20**	3.0	EPA 200.8		4-12-22	
Cadmium	**ND**	4.0	EPA 200.8		4-12-22	
Chromium	**ND**	10	EPA 200.8		4-12-22	
Lead	**ND**	1.0	EPA 200.8		4-12-22	
Mercury	**ND**	0.50	EPA 7470A		4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412D1					
Arsenic	**ND**	3.0	EPA 200.8		4-12-22	
Cadmium	**ND**	4.0	EPA 200.8		4-12-22	
Chromium	**ND**	10	EPA 200.8		4-12-22	
Lead	**ND**	1.0	EPA 200.8		4-12-22	
Laboratory ID:	MB0413D1					
Mercury	**ND**	0.50	EPA 7470A		4-13-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-103-01										
	ORIG	DUP									
Arsenic	**4.88**	**5.80**	NA	NA		NA		NA	17	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	04-133-04										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	04-103-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**87.0**	**86.2**	80.0	80.0	4.88	**103**	**102**	75-125	1	20	
Cadmium	**77.8**	**79.6**	80.0	80.0	ND	**97**	**100**	75-125	2	20	
Chromium	**74.6**	**73.6**	80.0	80.0	ND	**93**	**92**	75-125	1	20	
Lead	**77.8**	**77.6**	80.0	80.0	ND	**97**	**97**	75-125	0	20	
Laboratory ID:	04-133-04										
Mercury	**6.38**	**6.18**	6.25	6.25	ND	**102**	**99**	75-125	3	20	

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B18 @ 2.5**					
Laboratory ID:	04-060-05					
Diesel Range Organics	**75**	34	NWTPH-Dx	4-13-22	4-13-22	N
Lube Oil Range Organics	**430**	69	NWTPH-Dx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	4-13-22	4-13-22	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*134*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-078-02									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil	**93.6**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*98* *94*	*50-150*			

Date of Report: April 15, 2022
Samples Submitted: April 6, 2022
Laboratory Reference: 2204-060
Project: 2022-042-22

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B19 @ 2.5	04-060-01	**18**	4-11-22
B19 @ 7.5	04-060-02	**17**	4-11-22
B18 @ 2.5	04-060-05	**27**	4-11-22
B18 @ 7.5	04-060-06	**20**	4-11-22

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

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

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

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

Z -

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

Chain of Custody

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

Company: HWA Geosciences
Project Number: 2022-042-22
Project Name: Houghton Village Phase II
Project Manager: Nicole Kapise
Sampled by: Cierra Wilson

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

Laboratory Number: 04-060

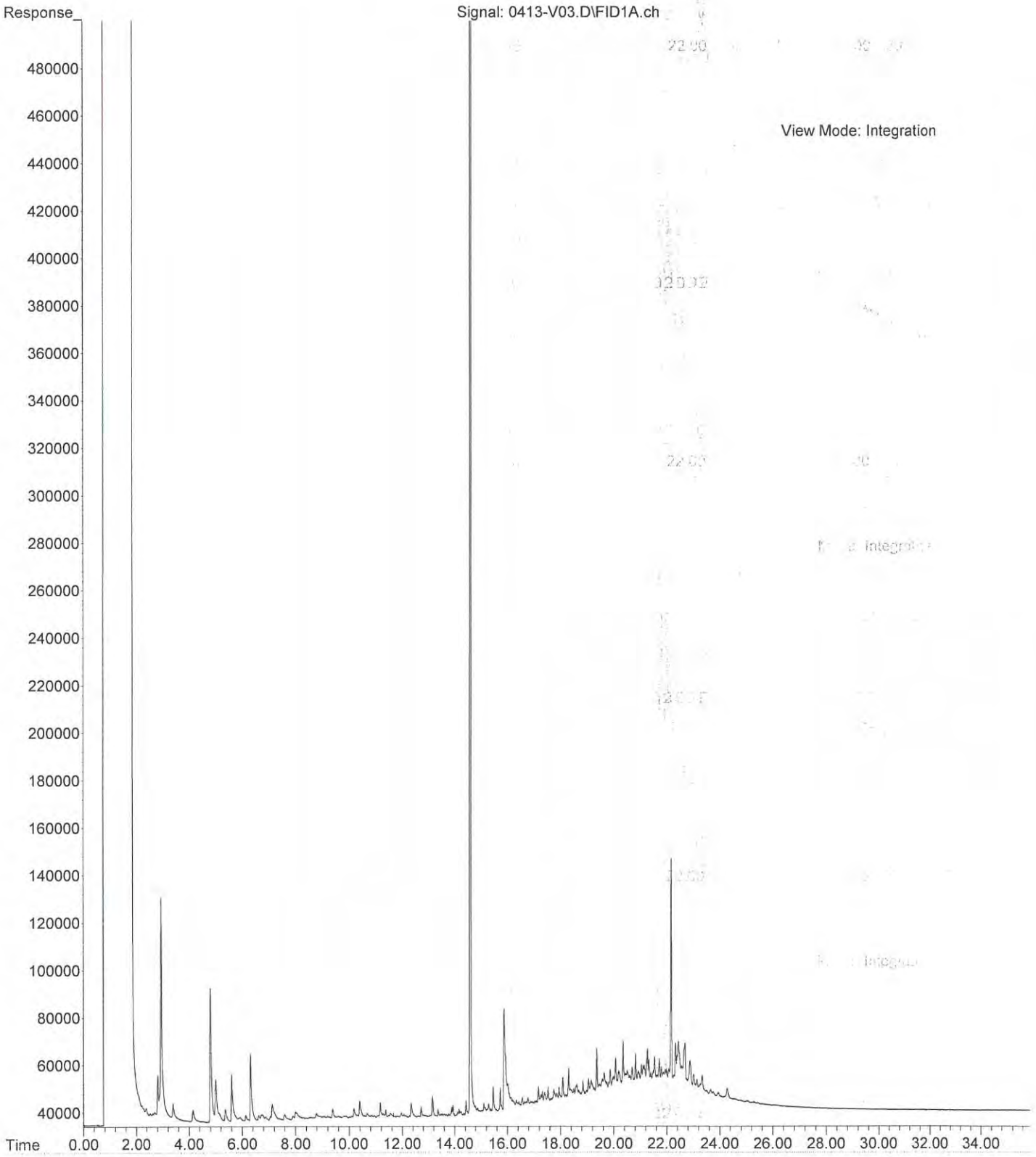
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX 8260	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Dissolved MTCA-FF				% Moisture
1	B-19@2.5	4/6/22	0835	SOIL	6	X																					X
2	B-19@7.5	4/6/22	0840	SOIL	6		X		X											X							X
3	B-19@29	4/6/22	1140	WATER	4						X																
4	B-19@14	4/6/22	1210	WATER	9			X	X	X													X				
5	B-18@2.5	4/6/22 ~~1410~~ 1350		SOIL	5	X			⊗																		X
6	B-18@7.5	4/6/22	1410	SOIL	6		X		X											X							X
~~7~~	~~B-18@~~	~~4/6/22~~		~~WATER~~	~~8~~																						

	Signature	Company	Date	Time
Relinquished	Cierra Wilson	HWA Geosciences	4/6/22	1607
Received	Nicholle Bohman	OSE	4/6/22	1607
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

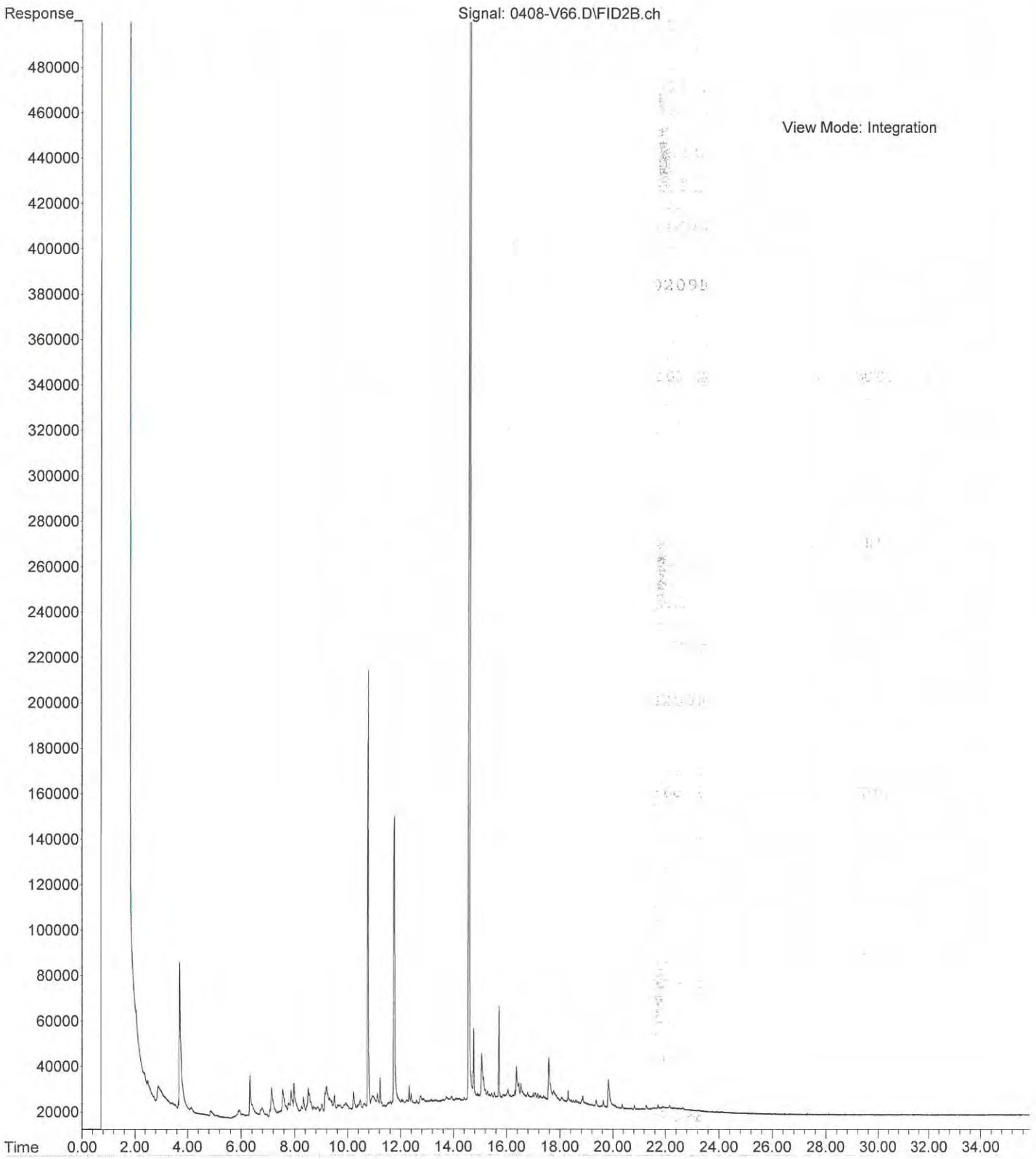
Comments/Special Instructions
X - Added 4/7 NB (STA)
⊗ Added 4/13/22. DB (STA)

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

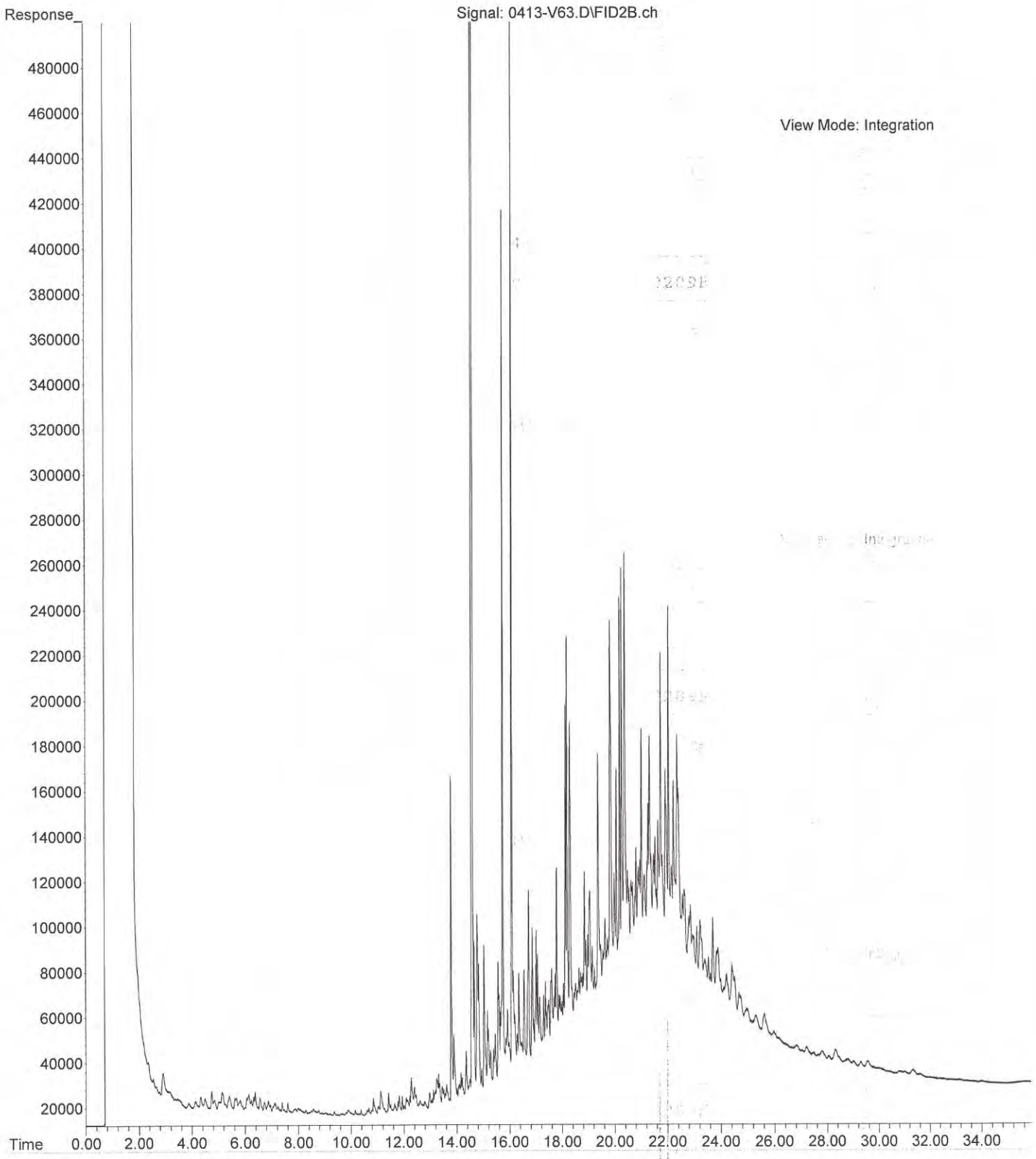
File :C:\msdchem\2\data\V220413\0413-V03.D
Operator : LAD
Acquired : 13 Apr 2022 9:50 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-060-02
Misc Info : Sample
Vial Number: 3



File :C:\msdchem\2\data\V220408.SEC\0408-V66.D
Operator : JP
Acquired : 8 Apr 2022 18:50 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-060-04
Misc Info : RearSamp
Vial Number: 66



File :C:\msdchem\2\data\V220413.SEC\0413-V63.D
Operator : LAD
Acquired : 13 Apr 2022 16:34 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-060-05
Misc Info : RearSamp
Vial Number: 63



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

April 15, 2022

Nicole Kapise
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2022-042
Laboratory Reference No. 2204-075

Dear Nicole:

Enclosed are the analytical results and associated quality control data for samples submitted on April 7, 2022.

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: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

Case Narrative

Samples were collected on April 7, 2022 and received by the laboratory on April 7, 2022. 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.

Volatiles EPA 8260D Analysis

The compound 2-Chloroethyl Vinyl Ether did not meet method specified calibration criteria due to instrument reactivity. The analysis for this compound should be considered a screen with estimated potential values.

The percent recovery for surrogate Toluene-d8 is outside of the control limits for sample B-20 @ 6 due to co-eluting non-target analytes.

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

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17 @ 3**					
Laboratory ID:	04-075-01					
Gasoline	**ND**	5.7	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*81*	*66-129*				
Client ID:	**B-17 @ 6**					
Laboratory ID:	04-075-02					
Gasoline	**ND**	5.5	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*66-129*				
Client ID:	**B-20 @ 6**					
Laboratory ID:	04-075-03					
Gasoline	**240**	5.1	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*66-129*				
Client ID:	**B-20 @ 7.5**					
Laboratory ID:	04-075-04					
Gasoline	**ND**	7.4	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-129*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411S1					
Gasoline	**ND**	5.0	NWTPH-Gx	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*66-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-060-06									
	ORIG	DUP								
Gasoline	**ND**	**ND**	NA	NA		NA	NA	NA	30	
Surrogate:										
Fluorobenzene						*89*	*113*	*66-129*		

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GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17**					
Laboratory ID:	04-075-05					
Gasoline	**130**	100	NWTPH-Gx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				
Client ID:	**B-18**					
Laboratory ID:	04-075-06					
Gasoline	**ND**	100	NWTPH-Gx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*66-117*				
Client ID:	**B-20**					
Laboratory ID:	04-075-07					
Gasoline	**280**	100	NWTPH-Gx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*66-117*				

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GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W1					
Gasoline	**ND**	100	NWTPH-Gx	4-12-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-075-05										
	ORIG	DUP									
Gasoline	**128**	**123**	NA	NA		NA		NA	4	30	
Surrogate:											
Fluorobenzene						*89*	*89*	*66-117*			

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17 @ 3**					
Laboratory ID:	04-075-01					
Diesel Range Organics	**ND**	30	NWTPH-Dx	4-14-22	4-14-22	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	4-14-22	4-14-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				
Client ID:	**B-17 @ 6**					
Laboratory ID:	04-075-02					
Diesel Range Organics	**ND**	30	NWTPH-Dx	4-14-22	4-14-22	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	4-14-22	4-14-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Client ID:	**B-20 @ 6**					
Laboratory ID:	04-075-03					
Diesel Range Organics	**90**	32	NWTPH-Dx	4-14-22	4-14-22	M
Lube Oil Range Organics	**ND**	64	NWTPH-Dx	4-14-22	4-14-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Client ID:	**B-20 @ 7.5**					
Laboratory ID:	04-075-04					
Diesel Range Organics	**ND**	32	NWTPH-Dx	4-14-22	4-14-22	
Lube Oil Range Organics	**ND**	64	NWTPH-Dx	4-14-22	4-14-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0414S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	4-14-22	4-14-22	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	4-14-22	4-14-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*130*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-068-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*122*	*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:	**B-17**					
Laboratory ID:	04-075-05					
Diesel Range Organics	**0.31**	0.15	NWTPH-Dx	4-11-22	4-12-22	
Lube Oil Range Organics	**0.18**	0.15	NWTPH-Dx	4-11-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**B-18**					
Laboratory ID:	04-075-06					
Diesel Range Organics	**0.35**	0.14	NWTPH-Dx	4-11-22	4-12-22	
Lube Oil Range Organics	**0.15**	0.14	NWTPH-Dx	4-11-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**B-20**					
Laboratory ID:	04-075-07					
Diesel Range Organics	**0.35**	0.15	NWTPH-Dx	4-11-22	4-12-22	
Lube Oil Range Organics	**0.15**	0.15	NWTPH-Dx	4-11-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*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:	MB0411W1					
Diesel Range Organics	**ND**	0.13	NWTPH-Dx	4-11-22	4-12-22	
Lube Oil Range Organics	**ND**	0.13	NWTPH-Dx	4-11-22	4-12-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	SB0411W1								
	ORIG	DUP							
Diesel Fuel #2	**0.446**	**0.400**	NA	NA	NA	NA	11	NA	
Surrogate:									
o-Terphenyl					*102*	*86*	*50-150*		

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VOLATILE ORGANICS EPA 8260D

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17 @ 3**					
Laboratory ID:	04-075-01					
Benzene	ND	0.00087	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0043	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.00087	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	ND	0.0017	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.00087	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*113*	*74-131*				
Toluene-d8	*108*	*78-128*				
4-Bromofluorobenzene	*104*	*71-130*				

Date of Report: April 15, 2022
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17 @ 6**					
Laboratory ID:	04-075-02					
Dichlorodifluoromethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Chloromethane	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Vinyl Chloride	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Bromomethane	ND	0.0061	EPA 8260D	4-11-22	4-11-22	
Chloroethane	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Trichlorofluoromethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloroethene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Acetone	0.018	0.0076	EPA 8260D	4-11-22	4-11-22	
Iodomethane	ND	0.0060	EPA 8260D	4-11-22	4-11-22	
Carbon Disulfide	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Methylene Chloride	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
(trans) 1,2-Dichloroethene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Methyl t-Butyl Ether	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloroethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Vinyl Acetate	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
2,2-Dichloropropane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
(cis) 1,2-Dichloroethene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
2-Butanone	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Bromochloromethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Chloroform	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,1,1-Trichloroethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Carbon Tetrachloride	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloropropene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Benzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2-Dichloroethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Trichloroethene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2-Dichloropropane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Dibromomethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Bromodichloromethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
2-Chloroethyl Vinyl Ether	ND	0.12	EPA 8260D	4-11-22	4-11-22	
(cis) 1,3-Dichloropropene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Methyl Isobutyl Ketone	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
(trans) 1,3-Dichloropropene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17 @ 6**					
Laboratory ID:	04-075-02					
1,1,2-Trichloroethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Tetrachloroethene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,3-Dichloropropane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
2-Hexanone	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Dibromochloromethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2-Dibromoethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Chlorobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,1,1,2-Tetrachloroethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	ND	0.0015	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Styrene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Bromoform	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Isopropylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Bromobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,1,2,2-Tetrachloroethane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2,3-Trichloropropane	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
n-Propylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
2-Chlorotoluene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
4-Chlorotoluene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,3,5-Trimethylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
tert-Butylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2,4-Trimethylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
sec-Butylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,3-Dichlorobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
p-Isopropyltoluene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,4-Dichlorobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2-Dichlorobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
n-Butylbenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
1,2-Dibromo-3-chloropropane	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
1,2,4-Trichlorobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Hexachlorobutadiene	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
Naphthalene	ND	0.0038	EPA 8260D	4-11-22	4-11-22	
1,2,3-Trichlorobenzene	ND	0.00076	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*74-131*				
Toluene-d8	*104*	*78-128*				
4-Bromofluorobenzene	*104*	*71-130*				

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-20 @ 6**					
Laboratory ID:	04-075-03					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Chloromethane	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Vinyl Chloride	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromomethane	ND	0.0083	EPA 8260D	4-11-22	4-11-22	
Chloroethane	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Acetone	ND	0.010	EPA 8260D	4-11-22	4-11-22	
Iodomethane	ND	0.0081	EPA 8260D	4-11-22	4-11-22	
Carbon Disulfide	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Methylene Chloride	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Vinyl Acetate	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Butanone	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Bromochloromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Chloroform	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Benzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Trichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Dibromomethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromodichloromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Chloroethyl Vinyl Ether	ND	0.17	EPA 8260D	4-11-22	4-11-22	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Methyl Isobutyl Ketone	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-20 @ 6**					
Laboratory ID:	04-075-03					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Tetrachloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Hexanone	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Dibromochloromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Chlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.0015	EPA 8260D	4-11-22	4-11-22	U1
m,p-Xylene	ND	0.0040	EPA 8260D	4-11-22	4-11-22	U1
o-Xylene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Styrene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromoform	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Isopropylbenzene	0.010	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
n-Propylbenzene	0.011	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Chlorotoluene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
4-Chlorotoluene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
tert-Butylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
sec-Butylbenzene	0.035	0.0010	EPA 8260D	4-11-22	4-11-22	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
p-Isopropyltoluene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
n-Butylbenzene	0.010	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dibromo-3-chloropropane	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Hexachlorobutadiene	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
Naphthalene	ND	0.0052	EPA 8260D	4-11-22	4-11-22	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*74-131*				
Toluene-d8	*130*	*78-128*				Q
4-Bromofluorobenzene	*120*	*71-130*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-20 @ 7.5**					
Laboratory ID:	04-075-04					
Benzene	ND	0.0012	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0058	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.0012	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	ND	0.0023	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.0012	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*74-131*				
Toluene-d8	*102*	*78-128*				
4-Bromofluorobenzene	*103*	*71-130*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Chloromethane	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Vinyl Chloride	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromomethane	ND	0.0080	EPA 8260D	4-11-22	4-11-22	
Chloroethane	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Acetone	ND	0.010	EPA 8260D	4-11-22	4-11-22	
Iodomethane	ND	0.0078	EPA 8260D	4-11-22	4-11-22	
Carbon Disulfide	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Methylene Chloride	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Vinyl Acetate	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Butanone	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Bromochloromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Chloroform	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Benzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Trichloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Dibromomethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromodichloromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Chloroethyl Vinyl Ether	ND	0.16	EPA 8260D	4-11-22	4-11-22	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Toluene	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Tetrachloroethene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Hexanone	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Dibromochloromethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Chlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Ethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
m,p-Xylene	ND	0.0020	EPA 8260D	4-11-22	4-11-22	
o-Xylene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Styrene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromoform	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Isopropylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Bromobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
n-Propylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
2-Chlorotoluene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
4-Chlorotoluene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
tert-Butylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
sec-Butylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
p-Isopropyltoluene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
n-Butylbenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
Naphthalene	ND	0.0050	EPA 8260D	4-11-22	4-11-22	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	4-11-22	4-11-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*115*	*74-131*				
Toluene-d8	*103*	*78-128*				
4-Bromofluorobenzene	*101*	*71-130*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0411S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0512**	**0.0514**	0.0500	0.0500	102	103	71-131	0	19	
Benzene	**0.0540**	**0.0541**	0.0500	0.0500	108	108	73-124	0	18	
Trichloroethene	**0.0573**	**0.0582**	0.0500	0.0500	115	116	79-130	2	18	
Toluene	**0.0528**	**0.0521**	0.0500	0.0500	106	104	76-123	1	18	
Chlorobenzene	**0.0523**	**0.0519**	0.0500	0.0500	105	104	78-122	1	18	
Surrogate:										
Dibromofluoromethane					*110*	*110*	*74-131*			
Toluene-d8					*104*	*102*	*78-128*			
4-Bromofluorobenzene					*103*	*101*	*71-130*			

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17**					
Laboratory ID:	04-075-05					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-13-22	4-13-22	
Chloromethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromomethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Chloroethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Acetone	9.0	5.0	EPA 8260D	4-13-22	4-13-22	
Iodomethane	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Carbon Disulfide	ND	0.27	EPA 8260D	4-13-22	4-13-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Vinyl Acetate	ND	1.0	EPA 8260D	4-13-22	4-13-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Butanone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chloroform	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Trichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Dibromomethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17**					
Laboratory ID:	04-075-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Hexanone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Styrene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromoform	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Isopropylbenzene	0.75	0.20	EPA 8260D	4-13-22	4-13-22	
Bromobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Propylbenzene	0.60	0.20	EPA 8260D	4-13-22	4-13-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
sec-Butylbenzene	0.87	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Butylbenzene	0.51	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Naphthalene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichlorobenzene	ND	0.25	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*98*	*80-127*				
4-Bromofluorobenzene	*101*	*78-125*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-18**					
Laboratory ID:	04-075-06					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-13-22	4-13-22	
Chloromethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromomethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Chloroethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Acetone	25	5.0	EPA 8260D	4-13-22	4-13-22	
Iodomethane	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Carbon Disulfide	ND	0.27	EPA 8260D	4-13-22	4-13-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Vinyl Acetate	ND	1.0	EPA 8260D	4-13-22	4-13-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Butanone	5.7	5.0	EPA 8260D	4-13-22	4-13-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chloroform	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Trichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Dibromomethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-18**					
Laboratory ID:	04-075-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Hexanone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Styrene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromoform	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Isopropylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Propylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
sec-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Naphthalene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichlorobenzene	ND	0.25	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-20**					
Laboratory ID:	04-075-07					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-13-22	4-13-22	
Chloromethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromomethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Chloroethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Acetone	11	5.0	EPA 8260D	4-13-22	4-13-22	
Iodomethane	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Carbon Disulfide	ND	0.27	EPA 8260D	4-13-22	4-13-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Vinyl Acetate	ND	1.0	EPA 8260D	4-13-22	4-13-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Butanone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chloroform	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Trichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Dibromomethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-20**					
Laboratory ID:	04-075-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Hexanone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Styrene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromoform	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Isopropylbenzene	1.8	0.20	EPA 8260D	4-13-22	4-13-22	
Bromobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Propylbenzene	1.8	0.20	EPA 8260D	4-13-22	4-13-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
sec-Butylbenzene	2.1	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Butylbenzene	1.4	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Naphthalene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichlorobenzene	ND	0.25	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413W1					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-13-22	4-13-22	
Chloromethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Vinyl Chloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromomethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Chloroethane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Acetone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Iodomethane	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Carbon Disulfide	ND	0.27	EPA 8260D	4-13-22	4-13-22	
Methylene Chloride	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Vinyl Acetate	ND	1.0	EPA 8260D	4-13-22	4-13-22	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Butanone	ND	5.0	EPA 8260D	4-13-22	4-13-22	
Bromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chloroform	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Benzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Trichloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Dibromomethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromodichloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Toluene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-13-22	4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0413W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Tetrachloroethene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Hexanone	ND	2.0	EPA 8260D	4-13-22	4-13-22	
Dibromochloromethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Chlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Ethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
m,p-Xylene	ND	0.40	EPA 8260D	4-13-22	4-13-22	
o-Xylene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Styrene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromoform	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Isopropylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Bromobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Propylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
sec-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
n-Butylbenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-13-22	4-13-22	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
Naphthalene	ND	1.0	EPA 8260D	4-13-22	4-13-22	
1,2,3-Trichlorobenzene	ND	0.25	EPA 8260D	4-13-22	4-13-22	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0413W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.47**	**10.5**	10.0	10.0	95	105	78-125	10	19	
Benzene	**9.25**	**10.4**	10.0	10.0	93	104	80-119	12	16	
Trichloroethene	**9.94**	**11.2**	10.0	10.0	99	112	80-121	12	18	
Toluene	**9.43**	**10.6**	10.0	10.0	94	106	80-117	12	18	
Chlorobenzene	**9.74**	**11.2**	10.0	10.0	97	112	80-117	14	17	
Surrogate:										
Dibromofluoromethane					*100*	*101*	*75-127*			
Toluene-d8					*100*	*99*	*80-127*			
4-Bromofluorobenzene					*103*	*102*	*78-125*			

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17 @ 6**					
Laboratory ID:	04-075-02					
Arsenic	**ND**	12	EPA 6010D	4-8-22	4-8-22	
Cadmium	**ND**	0.60	EPA 6010D	4-8-22	4-8-22	
Chromium	**26**	0.60	EPA 6010D	4-8-22	4-8-22	
Lead	**ND**	6.0	EPA 6010D	4-8-22	4-8-22	
Mercury	**ND**	0.30	EPA 7471B	4-8-22	4-8-22	
Client ID:	**B-20 @ 6**					
Laboratory ID:	04-075-03					
Arsenic	**ND**	13	EPA 6010D	4-8-22	4-8-22	
Cadmium	**ND**	0.64	EPA 6010D	4-8-22	4-8-22	
Chromium	**73**	0.64	EPA 6010D	4-8-22	4-8-22	
Lead	**ND**	6.4	EPA 6010D	4-8-22	4-8-22	
Mercury	**ND**	0.32	EPA 7471B	4-8-22	4-8-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0408SM1					
Arsenic	**ND**	10	EPA 6010D	4-8-22	4-8-22	
Cadmium	**ND**	0.50	EPA 6010D	4-8-22	4-8-22	
Chromium	**ND**	0.50	EPA 6010D	4-8-22	4-8-22	
Lead	**ND**	5.0	EPA 6010D	4-8-22	4-8-22	
Laboratory ID:	MB0408S2					
Mercury	**ND**	0.25	EPA 7471B	4-8-22	4-8-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	04-085-01									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**12.4**	**12.0**	NA	NA		NA	NA	3	20	
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	04-060-02									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
MATRIX SPIKES										
Laboratory ID:	04-085-01									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	**87.2**	**85.9**	100	100	ND	**87**	**86**	75-125	2	20
Cadmium	**45.6**	**43.7**	50.0	50.0	ND	**91**	**87**	75-125	4	20
Chromium	**94.9**	**92.0**	100	100	12.4	**83**	**80**	75-125	3	20
Lead	**225**	**219**	250	250	ND	**90**	**88**	75-125	2	20
Laboratory ID:	04-060-02									
Mercury	**0.534**	**0.518**	0.500	0.500	0.0309	**101**	**97**	80-120	3	20

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-18**					
Laboratory ID:	04-075-06					
Arsenic	**10**	3.0	EPA 200.8		4-12-22	
Cadmium	**ND**	4.0	EPA 200.8		4-12-22	
Chromium	**ND**	10	EPA 200.8		4-12-22	
Lead	**ND**	1.0	EPA 200.8		4-12-22	
Mercury	**ND**	0.50	EPA 7470A		4-13-22	
Client ID:	**B-20**					
Laboratory ID:	04-075-07					
Arsenic	**3.2**	3.0	EPA 200.8		4-12-22	
Cadmium	**ND**	4.0	EPA 200.8		4-12-22	
Chromium	**ND**	10	EPA 200.8		4-12-22	
Lead	**ND**	1.0	EPA 200.8		4-12-22	
Mercury	**ND**	0.50	EPA 7470A		4-13-22	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

DISSOLVED METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412D1					
Arsenic	**ND**	3.0	EPA 200.8		4-12-22	
Cadmium	**ND**	4.0	EPA 200.8		4-12-22	
Chromium	**ND**	10	EPA 200.8		4-12-22	
Lead	**ND**	1.0	EPA 200.8		4-12-22	
Laboratory ID:	MB0413D1					
Mercury	**ND**	0.50	EPA 7470A		4-13-22	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-103-01										
	ORIG	DUP									
Arsenic	**4.88**	**5.80**	NA	NA		NA		NA	17	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	04-133-04										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	04-103-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**87.0**	**86.2**	80.0	80.0	4.88	**103**	**102**	75-125	1	20	
Cadmium	**77.8**	**79.6**	80.0	80.0	ND	**97**	**100**	75-125	2	20	
Chromium	**74.6**	**73.6**	80.0	80.0	ND	**93**	**92**	75-125	1	20	
Lead	**77.8**	**77.6**	80.0	80.0	ND	**97**	**97**	75-125	0	20	
Laboratory ID:	04-133-04										
Mercury	**6.38**	**6.18**	6.25	6.25	ND	**102**	**99**	75-125	3	20	

Date of Report: April 15, 2022
Samples Submitted: April 7, 2022
Laboratory Reference: 2204-075
Project: 2022-042

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B-17 @ 3	04-075-01	**17**	4-13-22
B-17 @ 6	04-075-02	**16**	4-13-22
B-20 @ 6	04-075-03	**22**	4-13-22
B-20 @ 7.5	04-075-04	**21**	4-13-22

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

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

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

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

Z -

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

Chain of Custody

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

Company: HWA
Project Number: 2022-042
Project Name: Houghton Village ESA
Project Manager: Nicole Kapise
Sampled by: Mary Alice Benson

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

Laboratory Number: 04-075

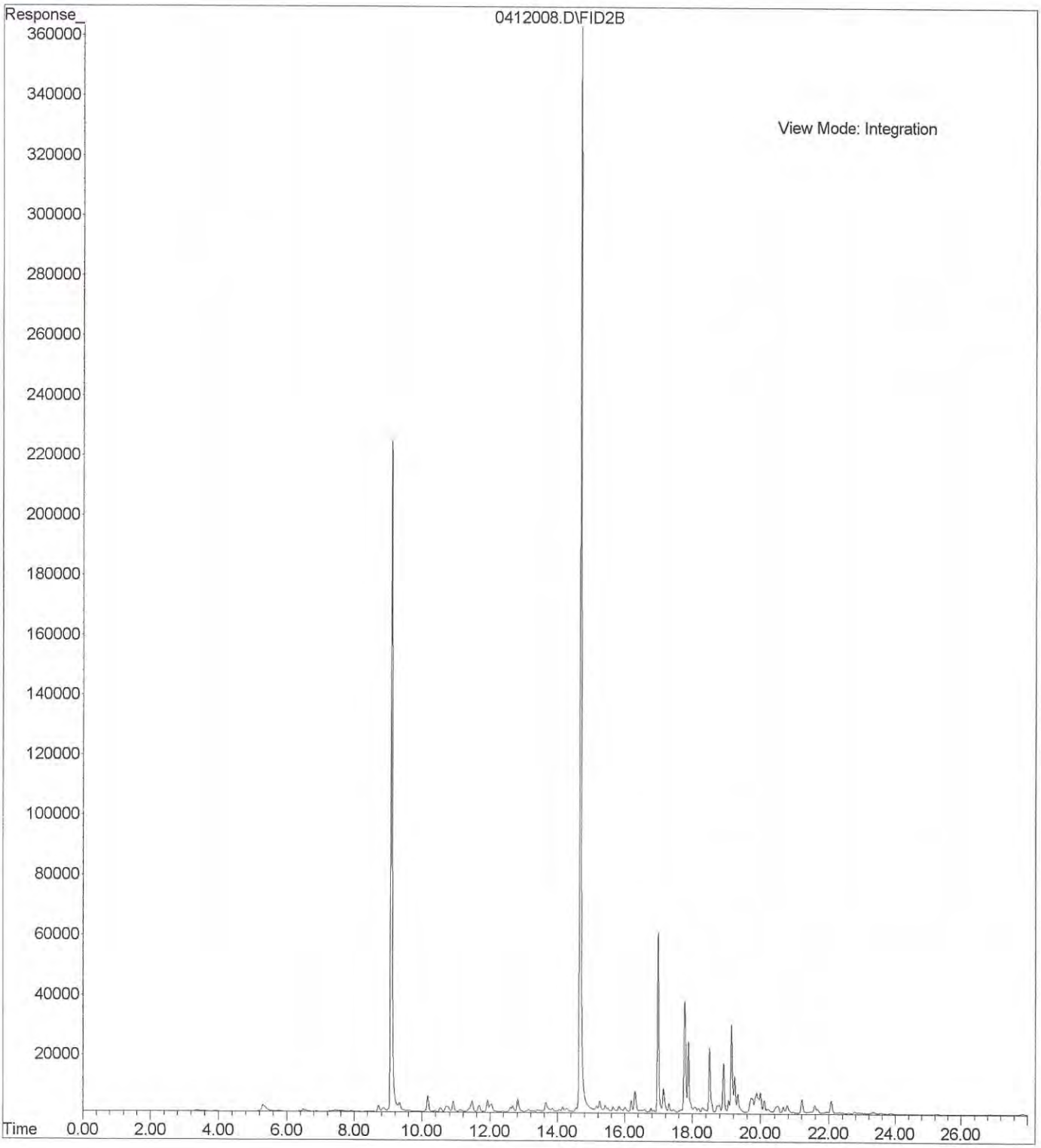
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX 8260	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 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	Dissolved MTCA Metals			Is Field Filtered	% Moisture
1	B-17@3	4-7-22	0830	Soil	5		✓		✓																		✓
2	B-17@6	4-7-22	0840	Soil	6			✓	✓	✓											✓							✓
3	B-20@6	4-7-22	1040	Soil	6			✓	✓	✓											✓							✓
4	B-20@7.5	4-7-22	1100	Soil	5		✓		✓																			✓
5	B-17	4-7-22	1120	water	8			✓	✓	✓																	✓	
6	B-18	4-7-22	0800	water	8			✓	✓	✓													✓				✓	
7	B-20	4-7-22	1240	water	9			✓	✓	✓													✓				✓	

	Signature	Company	Date	Time
Relinquished		HWA	4-7-22	1410
Received	Nichelle Dolan	OSE	4/7/22	1410
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

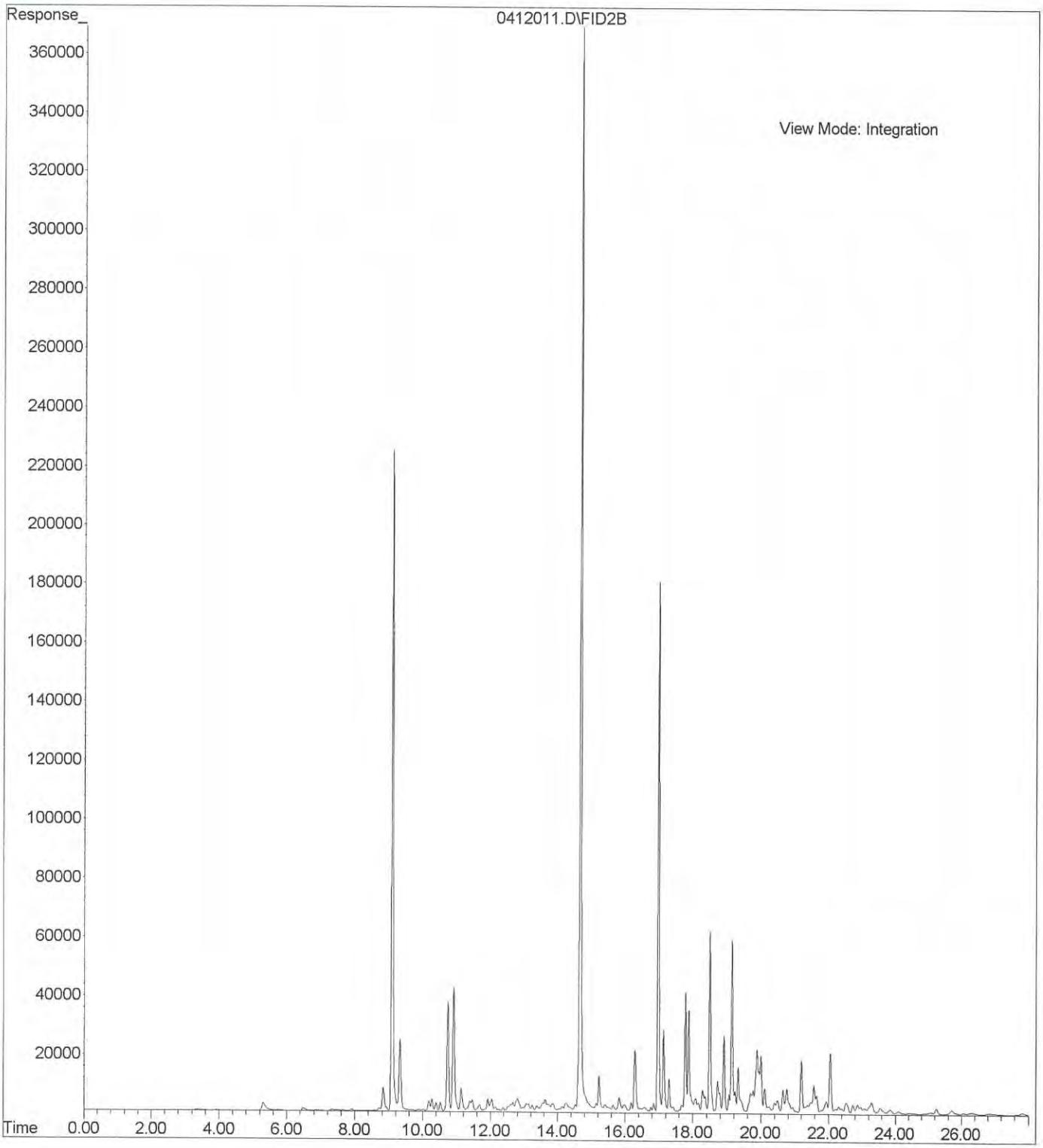
Comments/Special Instructions

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

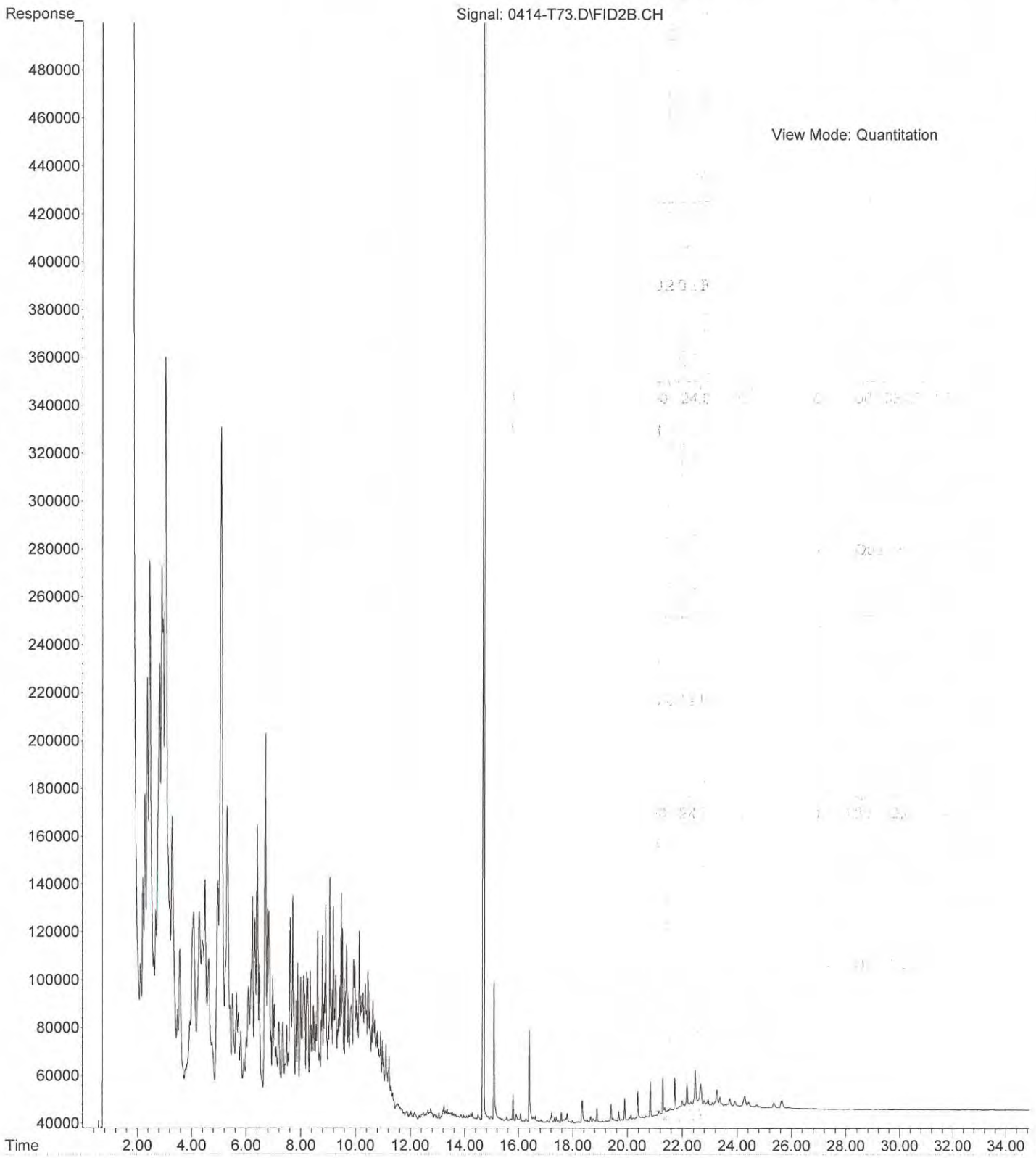
File : X:\BTEX\HOPE\DATA\H220412\0412008.D
Operator :
Acquired : 12 Apr 2022 14:54 using AcqMethod 220329B.M
Instrument : Hope
Sample Name: 04-075-05e RR
Misc Info :
Vial Number: 8



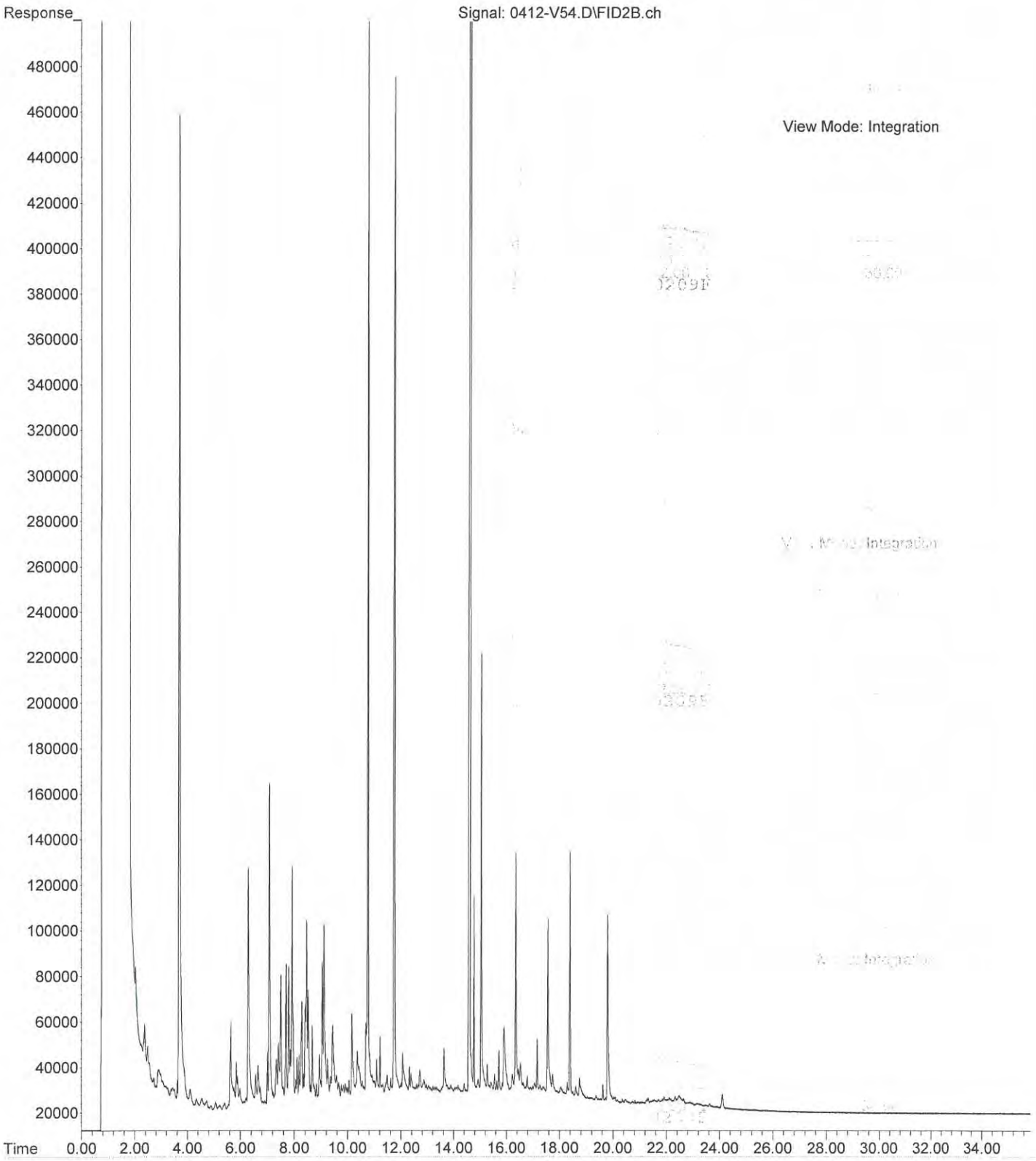
File : X:\BTEX\HOPE\DATA\H220412\0412011.D
Operator :
Acquired : 12 Apr 2022 16:54 using AcqMethod 220329B.M
Instrument : Hope
Sample Name: 04-075-07f RR
Misc Info :
Vial Number: 11



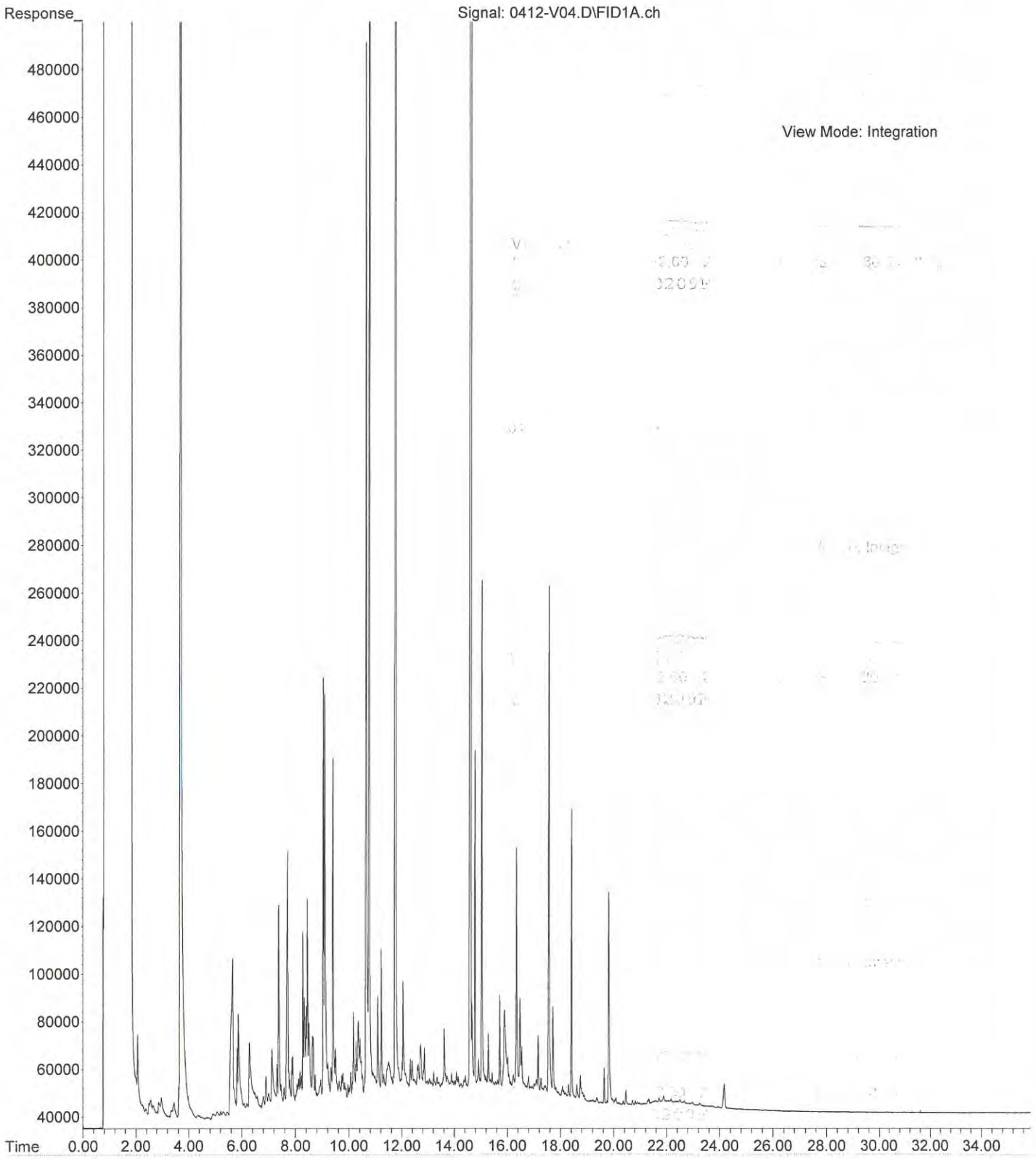
File :C:\msdchem\1\data\T220414.SEC\0414-T73.D
Operator : JP
Acquired : 14 Apr 2022 23:44 using AcqMethod T220201F.M
Instrument : Teri
Sample Name: 04-075-03
Misc Info : RearSamp
Vial Number: 73



File :C:\msdchem\2\data\V220412.SEC\0412-V54.D
Operator : JP
Acquired : 12 Apr 2022 9:27 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-075-05
Misc Info : RearSamp
Vial Number: 54



File :C:\msdchem\2\data\V220412\0412-V04.D
Operator : JP
Acquired : 12 Apr 2022 9:27 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-075-06
Misc Info : Sample
Vial Number: 4



File :C:\msdchem\2\data\V220412\0412-V07.D
Operator : JP
Acquired : 12 Apr 2022 11:26 using AcqMethod V220209F.M
Instrument : Vigo
Sample Name: 04-075-07
Misc Info : Sample
Vial Number: 7