2021 Site Investigation Report – DRAFT Final

Calder Limestone Mine
Calder Bay, Prince of Wales Island, Alaska
Hazard Identification Number 4069
ADEC File Number 1532.38.001

Prepared for:

Columbia River Carbonates
300 North Pekin Road
Woodland, Washington

December 22, 2021

Prepared by:

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HydroCon Project No: 2015-010

Prepared by:

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Principal Geologist

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1.0 INTRODUCTION

This 2021 Site Investigation Report has been prepared to document remedial action and soil and groundwater sampling results performed in 2021 at the Calder Mine facility on Prince of Wales Island, Alaska. Work performed during this phase of the investigation by HydroCon followed the scope of work documented in the approved work plan[1].

1.1 *Site Description*

The site is located in the northwest portion of the Prince of Wales Island in Alaska (Figure 1). It is currently operating as a calcium carbonate mine, owned and operated by Columbia River Carbonates (CRC). The site includes an open-pit calcium carbonate mine, loading/barge area, fueling station, shop area, and camp site. Additional site improvements include gravel access roadways, diesel power generators, and a potable water storage/treatment system (Figure 3).

The potable water supply for the site comes from a spring located in the uplands above the Camp area (Figure 2). Water from the spring is routed via piping to a water treatment system consisting of poly storage tanks and a filtration system prior to use at the Camp. The location of this system is shown on Figure 3.

The Fueling Station (Figure 4) consists of two 20,000-gallon above ground storage tanks (ASTs) that supplies fuel to operate the machinery and generators at the site. This area of the site is located near the top of a ridge along the haul road where limestone is transported to the dock area. The area located on the south side of the haul road contains the two ASTs, fuel pump, and two large diesel generators. This area was blasted with dynamite to remove limestone bedrock to create an area to place these features. The area north of the haul road was likely filled with the blasted material along with rock mined at the site to create a level surface to construct the shop building and large parking area.

1.2 *Geology*

Prince of Wales Island is located within the Alexander Archipelago of Southeast Alaska. This region is composed of complex geology. Some of the region's bedrock was formed within 15 degrees of the equator and has been transported northward via seafloor spreading and ocean plate movement to its present location. The ocean crust conveyor belt moved fragments of original bedrock across the northeastern Pacific and caused their accretion onto ancient North America. Within the last 30,000 years the Archipelago has been scoured and shaped by glaciation and subsequently flooded by sea level rise.

Local geology at the Calder Mine site includes limestone which has locally been overlain by marine sediment. Soil encountered during subsurface excavation in the Camp Generator area consists of fine grain marine sediment, shells, and abundant wood debris. Soil at the Fueling Station consists of limestone fill generated from mining activities overlying native limestone bedrock. The upper 2 to 3 feet of the native

[1] HydroCon, *2019 Soil and Groundwater Sampling and Remedial Action Work Plan*, June 5, 2019.

limestone is weathered and becomes more competent with depth. Perched groundwater is locally present near the contact of the fill and limestone bedrock near the 20,000-gallon ASTs.

1.3 *Site Environmental Investigation History*

This section provides a summary of environmental investigations performed at the site.

1.3.1 Carson Dorn, Inc.

In July 2004, Carson Dorn, Inc. (CDI) conducted a site assessment of the subject site. During the assessment, diesel contaminated soils were observed adjacent to the Camp Generator, downhill from the two 20,000-gallon diesel aboveground storage tanks (ASTs), also known as the Fueling Station, and in an existing stockpile of soil. CDI also noted the presence of a drum storage area west of the Fueling Station. These and other site features are shown on Figure 2.

CDI collected five soil samples during the site assessment. Soil analytical results indicated that the existing 15 cubic yard stockpile (Sample C-1) had a diesel range organics (DRO) concentration of 4,780 milligrams per kilogram (mg/kg). The two soil samples collected from Camp Generator area had a DRO concentration of 9,750 mg/kg near the 500-gallon diesel AST used to supply the generator (Sample G-2) and 485,000 mg/kg at the door of the Camp Generator (Sample G-1). In the Fueling Station area, a sample collected from the end of the westerly 20,000 AST had a DRO concentration of 16,400 mg/kg. The Method Two Alaska Department of Environmental Conservation (ADEC) cleanup level for DRO is 230 mg/kg.

In August 2004, CDI performed a drum inventory at the site. A total of 93 drums were present. Eighty of the drums were located in the drum storage area next to the Fueling Station and the remainder of the drums was located in the Shop area. The contents of the drums included new and used gasoline, diesel, oil, grease, antifreeze, and water. The contents were consolidated into 51 drums and shipped off the island for recycling.

In September 2004, CDI provided oversight for the removal of contaminated soil by excavation from the Camp area and Fueling Station. An estimated total of 100 cubic yards of soil was generated from the two excavations and from the 15 cubic yard stockpile and placed into an approximately 22'W x 60'L x 2'H (~100 cubic yards) bioremediation cell constructed on the site. This stockpile is referred to as the CDI Stockpile.

1.3.2 Due Diligence Investigation

On September 30, 2004, PNG Environmental (PNG) toured the site to observe site features and remedial action taken at the site by CDI as part of a due diligence investigation for a prospective purchaser. Mr. Larry Wilkenson (CDI's representative) and Mr. David Oliver (SeaCal's Vice President) provided access to the site and assistance in explanation of site operations. After the tour was complete, PNG returned to selected areas of potential concern to collect soil samples for chemical analysis. A description of these tasks is provided below.

Areas investigated included walking the fuel delivery line from the fuel header to the two 18,000-gallon diesel ASTs, observation of the former drum storage area, machine shop, laboratory, Fueling Station, landfill, bone yard, rock crushing area, active mining area, bioremediation cell, camp, and the parking area near the small dock used for small watercraft and float plane boarding. The location of these areas is shown on Figures 1 through 5 in the report[2].

PNG collected a total of 22 surface soil samples from selected areas of the site that exhibited hydrocarbon impacts (visible stain and/or odor) to assess soil conditions. PNG purposely collected surface soil samples in areas exhibiting hydrocarbon impact or in locations where worst-case conditions were likely to be present (i.e., under elevated heating oil fuel storage tanks, drum storage area, pipe joints, near aboveground storage tanks, landfill, etc.). Surface soil samples were collected from these potential source areas as well as from two areas where soil remediation was conducted by CDI (Camp Generator and Fueling Station) using a clean shovel and a new pair of nitrile gloves. Samples were placed in labeled laboratory-prepared glass jars and sealed with a Teflon-lined lid. The samples were placed in a chilled cooler and shipped to Friedman & Bruya laboratory in Seattle, Washington along with chain-of-custody documentation for chemical analysis. The soil sample locations are shown on Figures 2 through 4 and the soil analytical data is summarized in Tables 1 through 4 of the report.

As noted in ADEC's request for a work plan[3], several of the soil samples collected during the due diligence investigation had concentrations of petroleum fuel related contaminants above their respective cleanup level. It should be noted that the due diligence soil samples were generally collected in areas of visibly stained surface soil and likely represented the worst-case scenario as far as contaminant concentrations at each location that was sampled.

1.3.3 Independent Cleanup - 2012

In 2012, CRC performed a remedial excavation near the Camp Generators. Visibly stained soil was removed from the area south of the generator. The excavation measured approximately 50' x 30'. The depth of the excavation was approximately 6 feet below ground surface (bgs). No confirmation samples were collected at that time. The contaminated soil was transported to the onsite bioremediation cell staging area. The soil was placed on and covered with heavy gauge plastic sheeting. Two stockpiles were created: 35'L x 16'W x 3.5'H (approximately 135 cubic yards) and 30'L x 10'W x 1.5'H (approximately 16 cubic yards). These stockpiles are referred to as the CRC1 and CRC2 Stockpiles, respectively. Anecdotal information indicated that most of the areas of surface staining identified by PNG during the due diligence investigation were excavated to remove petroleum impacted soil prior to CRC's ownership of the property. However, there's no report documenting this action.

1.3.4 HydroCon Investigation 2015

In August 2015 HydroCon personnel mobilized to the site to provide oversight and direction of remedial excavation in the two areas of known contamination (Camp Generator and Fueling Station)[4]. Southeast

[2] PNG. *Soil Sampling at the Calder Limestone Mine*, November 11, 2004.
[3] ADEC, *Request for Work Plan*, December 18, 2017.
[4] HydroCon. *Remedial Excavation and Soil Sampling Report*, October 25, 2015.

Road Builders Construction Company (subcontractor for CRC) performed the excavation using a Cat 336E trackhoe. All PCS was placed into a dump truck and hauled to the newly constructed biotreatment cell area referred to as the HydroCon Stockpile (Figure 2). Excavation activities were completed in both areas until either field screening indicated that the contamination was no longer present or camp infrastructure (generator and ASTs) presented obstruction for further remedial activities. Confirmation soil samples were collected from both excavation areas. Soil removed from the excavation was placed in the HydroCon stockpile. The soil within the stockpile was fertilized at a rate of 400 pounds urea and 100 pounds of phosphorus potassium fertilizer mix per 100 cubic yards of soil. The soil was mixed using the excavator bucket. After mixing, 10 mm polyethylene liners were placed over the stockpiled soil. In addition, HydroCon completed sampling of the existing stockpiles (CDI, CRC1, and CRC2) to assess remediation progress.

1.3.5 HydroCon Investigations 2016

On April 7, 2016, HydroCon returned to the site to perform additional remedial excavation work. Prior to HydroCon's arrival, CRC moved the generator and AST to a different location at the Camp to provide further access to perform additional remedial excavation work. HydroCon directed remedial excavation of approximately 200 cubic yards of PCS at the Camp Generator area[5]. Excavation began at the northern limit of the 2015 excavation and proceeded northward to as close to the banks of the wetland drainage ditch, Camp mess hall, and water treatment system as possible. Southeast Road Builders Construction Company performed the excavation using a Cat 336E trackhoe. All PCS was placed into a dump truck and hauled to the HydroCon Stockpile (Figure 2). The PCS was placed on top of new 30-mil plastic geomembrane, as described in the approved work plan.

As the soil was excavated (using an approximately 1.5 cubic yard excavator bucket) it was fertilized at a rate of 6 pounds urea and 1.5 pounds of phosphorus potassium fertilizer mix per 1.5 cubic yards of soil. The soil was mixed as it was placed into the truck and again as it was placed into the stockpile. After the completion of excavation activities, 10 mm polyethylene liners were placed over the stockpiled soil.

On September 27, 2016, HydroCon returned to the site to direct the excavation of 9 exploratory test pits (TP-1 through TP-9) to delineate the lateral extent of PCS near the Fueling Station (Figure 3), as requested by ADEC. Southeast Road Builders Construction Company performed the excavations using a Cat 336E trackhoe. The test pits were advanced until bedrock was encountered [ranging from approximately 4 to 5.5 feet below ground surface (bgs)]. One exception was test pit TP-2 where buried electrical lines were encountered at a depth of approximately 3 feet bgs. A soil sample was collected from the bottom of each test pit for analysis. Diesel was detected in three samples (TP2-3, TP4-4, and TP8-4.5) at a concentration up to 160 mg/kg which is below the cleanup level for diesel. Results of the investigation indicated that the lateral extent of petroleum contaminated soil has been fully characterized at the Fueling Station area of the site.

On September 28, 2016, HydroCon sampled the existing stockpiles (CRC1 and HydroCon) to assess remediation progress. Soil analytical results from the CRC1 stockpile indicated that three of the twelve stockpile samples exceeded the cleanup level for DRO. Soil analytical results of the HydroCon stockpile

[5] HydroCon. *Remedial Excavation and Soil Sampling Report,* May 26, 2016.

indicated that all but one sample (HS-18) exceeded the cleanup level for DRO. HydroCon determined that further remediation and sampling was required before the stockpiles could be closed. HydroCon recommended that no additional sample be performed at the stockpiles until enough time (2 years) had passed to allow the enhanced natural attenuation processes to reduce the concentration of COCs in the two stockpiles.

1.3.6 HydroCon Investigation - 2018

In September 2018 HydroCon travelled to the site to perform soil, surface water, and groundwater sampling at the site following ADEC-approved work plan. The approved work plan addressed the request from ADEC to sample the areas of soil and groundwater contamination that exceeded one or more of ADEC's CULs during the PNG due diligence investigation.

Soil sampling was performed at the site to assess soil quality at historic sampling locations that had elevated concentrations of contaminants during the 2004 due diligence investigation and to assess remediation progress in the two soil stockpiles. A groundwater monitoring well (MW-1) was installed at the Fueling Station area near the footprint of the remedial excavation performed in 2016 to assess groundwater conditions. A surface water sample was also collected from the drainage ditch located adjacent (north) of the Camp Generator area where a release of diesel reportedly occurred.

In general, soil analytical results of the sampling at the historic sampling locations indicated that, with the exception CS-4/Camp AST-3 sampling location, the soil quality had improved significantly compared to the 2004 results. However, some of the soil results exceeded their respective ADEC Method 2 cleanup level and remedial action was recommended.

Results of the soil sampling in the two stockpiles indicated that significant progress in contaminant reduction was seen in both stockpiles compared to the previous sampling event. However, further remediation is required to achieve regulatory closure.

Two borings were drilled at the site using an air rotary rig. Boring HC-1 was drilled to 30 feet bgs to observe geologic conditions and the presence of groundwater bearing zones. Results of the drilling indicated that fill soil composed of sand, silt, and gravel is present from ground surface to approximately 7 feet bgs. Limestone bedrock is the original surface in this area and is present from approximately 7 feet bgs to a depth greater than 30 feet bgs. Perched groundwater is present at the interface of the fill and bedrock. Groundwater was not encountered in the limestone to a depth of 30 feet bgs. Monitoring well MW-1 was drilled next to HC-1 and installed to a depth of 8 feet bgs to monitor the perched aquifer. The well was developed and sampled. Groundwater analytical results indicated DRO is present in the well in excess of the ADEC Method 2 cleanup level.

The drainage ditch located north of the Camp Generator was sampled. Analytical results indicated that water quality in the drainage ditch is in compliance with ADEC's Water Quality Standards for Water Supply Aquaculture.

HydroCon prepared a report documenting the results of the investigation[6] including recommendations for remedial action at historic sampling locations that have contamination above ADEC Method 2 cleanup

[6] HydroCon, *Soil and Groundwater Sampling Report – 2018*, November 28, 2018

levels and perform further augmentation and tilling of the soil stockpiles to reduce contaminant concentrations. A conceptual site model (CSM) was prepared for the site and included in the report.

1.3.7 HydroCon Investigation - 2019

In August 2019 HydroCon visited the site to perform remedial excavation work, well installation, groundwater sampling and performance sampling of two soil stockpiles.

Remedial excavations were performed at historic sampling locations that had concentrations of DRO above the CUL including two places in the Fueling Station Area (CS-6 and CS-8) and one place in the Camp Area (CS-4). These sampling locations are referred to as their original sample identification number (CS-4 located on the southwestern corner of the Bunkhouse in the Camp Area; CS-6 located south of the western-most 20,000-gallon AST; and CS-8 located southeast of the SW generator).

Although a significant amount of contamination was removed from each of the three remedial excavations, there is still soil remaining at each location that has DRO above the CUL. Two of the locations (CS-4 in the Camp Area and CS-6 in the Fueling Station area) have a portion of the remaining soil above the CUL that can't be excavated due to physical constraints (i.e., the Bunkhouse at CS-4 and the 20,000-gallon AST at CS-6). Further remedial excavation was performed in 2021 and is documented in Section 2 of this report. Soil from the remedial excavations was placed into a newly constructed stockpile (HydroCon2) located along the Haul Road.

Two monitoring wells (MW-2 and MW-3) were installed in the Fueling Station area to supplement monitoring well MW-1. Monitoring well MW-3 was dry and MW-2 had to be drilled significantly deeper than MW-1 in order to find a water bearing zone. The wells were developed and sampled (MW-1 and MW-2 only).

Soil sampling was performed at the two active soil stockpiles. Results indicated significant reduction in contamination concentrations in both stockpiles. HydroCon prepared a report to document the results of the investigation. A copy of the report[7] was provided to ADEC.

After reviewing the 2019 Investigation Report, HydroCon had a teleconference meeting with ADEC's project manager (Mr. Jeff Barsis) regarding the results of the investigation. Two of the key conclusions of the meeting included the following:

- Blasting of limestone bedrock was required to create a level area to construct the Fueling Station. Perched groundwater sitting on top of the limestone bedrock is locally present in the Fueling Station in depressions created by the blasting and/or excavation areas (i.e., MW-1) and absent in other locations (MW-3). ADEC concluded that this water does not pose a threat to ecological receptors or surface water bodies and is not necessary to monitor. Abandonment of the three monitoring wells was approved.
- The bioremediation of the soil in the HydroCon and CRC1 stockpiles has been successful at reducing contaminants to acceptable levels. Historic CRC2 and CDI soil stockpiles had

[7] HydroCon, *2019 Site Investigation Report*, December 3, 2019.

previously achieved cleanup levels and were no longer being monitored. ADEC concluded that the soil in these stockpiles can be utilized as road fill at the site.

A memorandum[8] was prepared documenting well abandonment and stockpile decommissioning.

1.4 *Approved Work Plan for 2021 Investigation and Remedial Action*

HydroCon prepared a work plan to perform localized remedial action, compliance soil sampling in the soil stockpiles and install and sample monitoring wells in the Camp Area at the site. The number of samples and analytical methods for each area investigated was outlined in the work plan. The work plan was reviewed by ADEC and was finalized on September 17, 2021. On September 17, 2021, ADEC prepared a letter to CRC informing them that the 2021 work plan was approved[9].

2.0 SITE VISIT - 2021

On September 28-30, 2021, HydroCon travelled to the site to perform the work outlined in the approved work plan. A description of the work performed at the site and analytical results is provided below.

2.1 *Pre-Sampling Activities*

2.1.1 Stockpile Management

At HydroCon's direction, CRC performed tilling and supplemental application of soil treatment additives using the following rates: Urea at a rate of 400 pounds per 100 cubic yards of soil; and phosphorus potassium fertilizer (20:20:0 mix) at a rate of 100 pounds per 100 cubic yards of soil.

The calculated volume of fertilizer applied to the HydroCon2 stockpile is provided below.

- 532 pounds of urea
- 133 pounds of phosphorus potassium mix.

Prior to HydroCon's arrival, CRC removed the plastic sheets covering the HydroCon2 stockpile and tilled the soil.

2.1.2 Shipment of Field Supplies to the Site

Field supplies including well materials, sample containers and shipping coolers, and field instrumentation was placed on a barge for shipment to Thorne Bay, Alaska. CRC retrieved the materials prior to HydroCon's arrival and transported them to Calder Mine.

2.2 *Field Screening*

Field screening techniques were utilized by HydroCon during the field investigation to assess if petroleum contamination is present in samples collected during the investigation. Field screening consisted of

[8] HydroCon, *Well Abandonment and Soil Stockpile Decommissioning*, August 16, 2021.
[9] ADEC, *Approval of 2021 Soil and Groundwater Sampling and Remedial Action Work Plan*, September 17, 2021

volatile organic vapor measurements using a photoionization detector (PID), sheen testing, visual observations (staining, etc.), and olfactory observations. The PID was calibrated before use at the site to a test gas standard consisting of 100 ppm isobutylene. A portion of each soil sample was placed in a sealable plastic baggie. The tip of the PID was inserted into the plastic bag in the airspace above the soil sample and the PID measurement was recorded. Sheen testing consisted of placing a small portion of soil in clear water and observing the water for the presence of hydrocarbon sheen. All PID readings, sheen test results, and olfactory observations were documented on the boring logs (Attachment A) and field notes (Attachment B).

2.3 *Remedial Excavation*

Initial plans documented in the approved work plan was to perform localized remedial excavation in three areas that had soil samples collected in 2019 that exceeded one of ADEC's Method 2 cleanup levels (CUL). This included two locations in the Fueling Station area (CS-6 and CS-8) and one location in the Camp Area (CS-4).

The CS-4 location was inspected by HydroCon and CRC personnel and it was determined that it was not safe to perform any additional excavation there. Power and communication lines are present in that area and are vital to operation of the living quarters at the Camp Area.

Inspection of the CS-8 location revealed that further excavation to the west can't be performed due to the presence of fuel and power lines.

2.3.1 CS-6 Locations

A remedial excavation that measured 10 feet by 15 feet by 3 feet deep was performed south of the western-most 20,000-gallon AST. The excavation was advanced 10 feet to the west from the 2019 excavation until field screening indicated no indication of petroleum contamination. Confirmation samples were collected from each sidewall at a depth of approximately 3 feet bgs. A duplicate soil sample (CS6-D-3) was collected from the west sidewall (sample CS6-W2-3). A PID reading of 0.3 ppm was measured in the south sidewall soil.

2.4 *Soil Stockpile Sampling*

HydroCon collected soil samples from the active stockpile (HydroCon2) to assess remediation progress (Figure 5). Field screening using a PID was performed to assess potential areas of elevated contamination (i.e., "hot spots"). Each stockpile was potholed at approximate 10-foot intervals using a shovel and PID measurements were taken. Results of the field screening indicated that PID readings ranged from 1.0 to 3.2 ppm. It should be noted that fertilizer was observed in the stockpiled soil and may be responsible for some of the PID readings. Results of the screening are documented in the field notes (Attachment B). Soil samples were collected at approximately 1-foot bgs using a clean shovel. A new pair of nitrile gloves were used to place the samples into the laboratory prepared glass sample jars. A duplicate sample (HC2-D) was collected from the HC2-SP3 location.

2.5 *Monitoring Well Installation*

On September 28, 2021 three wells (MW-4 through MW-6) were installed at the site using the air rotary drilling method. Each boring was drilled to a depth of approximately 14 feet bgs. Since remedial excavation and extensive soil sampling has been performed in this area no soil samples were collected for laboratory analysis. Drill cuttings were examined continuously during the drilling process for lithologic identification, field screening purposes and moisture observation.

Each boring was completed as a 2-inch diameter monitoring well. The wells are constructed with a 10-foot length of 0.010-inch slotted pre-packed well screen, a threaded bottom cap, and 2-inch diameter solid PVC well casing. Graded (8-12) silica sand was used as a supplemental filter pack to the pre-packed well screen (which is constructed with a stainless-steel mesh screen filled with graded silica sand over the entire length of the well screen). The mesh screen is attached to the well screen section by stainless steel fittings. The filter pack was placed from the bottom of the borehole to approximately 1 foot above the top of the well screen. Hydrated bentonite seal was placed from the top of the sand pack to 1-foot bgs. A flush-grade monument was cemented in place over the top of each well.

Photo documentation is provided in Attachment C. A description of the subsurface soil and bedrock, PID readings, soil sampling depths, and well construction details, and survey data is provided in the attached boring log (Attachment A).

2.6 *Well Development*

On September 28, 2021 HydroCon developed each well by surging and pumping techniques using a new length of low-density polyethylene (LDPE) tubing attached to a clean submersible pump. The submersible pump was cleaned prior to use at each well using potable water and Alconox wash and potable water rinse. Each well was surged by rapidly rising and lowering the submersible pump throughout the screened interval and then pumping. The pump was turned on and water and sediment were removed from the well. This process was repeated until no further improvement in water clarity was observed. Well development details are provided on the Well Development field form (Attachment D).

2.7 *Groundwater Sampling*

On September 29, 2021 HydroCon collected water samples from the three wells using low flow sampling

techniques. Prior to sampling the well cap was removed from each well and the water level was allowed to equilibrate before measurement. A clean electronic water level indicator was used to measure water levels.

HydroCon collected a water sample at each well by placing a new length of LDPE tubing attached to a peristaltic pump. Groundwater parameters (temperature, pH, and conductivity) were measured and recorded on a Groundwater Sample Collection form (Attachment E) along with bottle types and preservatives used. The water produced from the wells was non-turbid and did not exhibit petroleum odor or sheen.

The samples were placed in laboratory prepared and labeled glass jars including preservatives where necessary, sealed with Teflon-lined caps and placed into individual zip lock bags. A duplicate sample (MW-100) was collected from MW-4. A trip blank was placed in the sample cooler. The sample bottles were placed in a chilled cooler along with chain-of-custody documentation and transported to Alaska Air Cargo in Ketchikan Airport for transport to Freidman & Bruya Laboratory in Seattle, Washington for analysis.

2.8 *Laboratory Analysis*

The samples collected from the site were analyzed for one or more of the following analyses:

- GRO using Alaska Method AK101
- DRO using Alaska Method AK102
- RRO using Alaska Method AK103
- VOCs using EPA Method 8260D
- SVOCs and PAHs using EPA Method 8270E

2.9 *Surveying*

The elevation of the top of the PVC casing at the scribed reference mark (north side of well) of each monitoring well was measured using an Arrow Gold GPS tracking unit. This unit has a vertical accuracy of 30 to 60 centimeters and is routinely used at the mine to track mining progress. The elevation is noted on the well logs.

3.0 RESULTS OF INVESTIGATION

This section provides a discussion of the results of the sampling and analysis. The laboratory report and chain-of-custody documentation are included in Attachment F. The laboratory sample receipt temperatures were recorded on the chain-of-custody forms and sample receipt conditions were noted in the case narrative.

3.1 *Soil Analytical Results*

Soil results are reported as milligrams per kilogram (mg/kg) or parts per million (ppm). The results are summarized on Tables 1 and 2.

CS6 Remedial Excavation – There was no GRO, RRO, VOCs or SVOCs detected above the laboratory's method reporting limit (MRL) in any of the samples. DRO (7.6 mg/kg) was detected in the CS6-N2-3 sidewall sample. This concentration is below the ADEC Method 2 cleanup level (CUL) of 230 mg/kg. The results are shown on Figure 4.

HydroCon2 Stockpile – There was no GRO, BTEX or SVOCs detected in any of the samples above their respective MRL. One VOC (methylene chloride) was detected in the HC2-SP3 sample and the duplicate sample (HC2-D) collected from the same location. The laboratory assigned a LC data qualifier on the results as being a laboratory contaminant. DRO was detected in each sample ranging from 25 to 440 mg/kg, with one sample (HC-SP-2) exceeding the CUL. RRO was detected in three samples ranging from 79 to 390 mg/kg. All of these concentrations are below the CUL.

3.2 *Groundwater Conditions*

The water purged from the wells during groundwater sampling activities on September 29, 2021 was non-turbid. There was no field indication of petroleum contamination.

Static water levels in the monitoring wells ranged from 3.00 to 3.80 feet below the top of the PVC well casing. The elevation of the groundwater in the wells was calculated using the elevation of the top of the casing (at the scribed reference mark) and subtracting the depth to water measurement (Table 3).

HydroCon prepared a groundwater elevation contour map from the data set to illustrate the direction of groundwater flow at the Camp Area of the Site (Figure 3). Groundwater flows towards the southwest with an approximate gradient of 0.03 feet/foot.

3.3 *Groundwater Analytical Results*

Groundwater results are reported as micrograms per liter (ug/L) or parts per billion (ppb). The results are summarized on Tables 4 through 6.

Petroleum Fuels

There was no GRO or RRO detected in any of the samples. DRO was detected in each sample except MW100-W (duplicate sample collected from MW-4) at a concentration up to 500 ug/L. The concentration of DRO in the samples are below the CUL of 1,500 ug/L.

Volatile Organic Compounds

There was no detection of any VOC above their respective MRL in the samples. The total BTEX (TAH) was calculated for each sample result using ADEC's guidance approach. Half of the MRL was used for each non detect. The calculated TAH for each sample is 2.675 ug/L as shown on Table 4.

Semi-Volatile Organic Compounds

Five SVOCs were detected in the samples. Fluorene (up to 0.18 ug/L) was detected in the MW5-W and MW6-W samples. Phenanthrene (up to 0.16 ug/L) was detected in every sample except MW4-W.

Pyrene (0.072 ug/L) and diethyl phthalate (4.8 ug/L) were detected in the MW5-W sample. Bis(2ethylhexyl) phthalate (7.8 ug/L) was detected in the MW100-W sample. The laboratory placed a LC data qualifier on this result as being a common laboratory and field contaminant. The concentration of each of the detected SVOCs is below their respective CUL.

The sum total of all PAHs in each sample was calculated using ADEC's guidance approach. Half of the MRL was used for each non detect. Total PAHs ranged from 0.915 ug/L to 1.040 ug/L in the samples. The results are shown on Table 5.

TAqH

The sum of TAH and total PAHs was calculated (TAqH) for each sample result (Table 6). The TAqH for each sample ranged from 3.590 ug/L to 3.942 ug/L, which is below the maximum allowable TAqH of 15 ug/L.

3.4 *Data Quality Review*

HydroCon collected duplicate soil samples from the remedial excavation (CS6-D-3 was collected from the CS6-S2-3 location) and soil stockpile (HC2-D was collected from the HC2-SP3 location). A duplicate water sample (MW100-W) was collected from MW-4. Results of those samples are discussed above and summarized on the attached tables. As stated above, the sample receipt temperatures were recorded on the chain of custody forms and sample receipt conditions were noted in the case narrative.

A trip blank sample accompanied the samples in the sample cooler and was analyzed for BTEX using EPA Method 8260D. There was no detection of these compounds above their respective MRL.

Laboratory Quality Assurance

HydroCon performed a quality assurance/quality control (QA/QC) review of the analytical results, which is presented the attached Laboratory Data Review Checklist (Attachment G). Data qualifiers were placed on sample results by the laboratory including the following:

- LC – results of analysis due to laboratory contamination
- X – the chromatographic pattern does not resemble the fuel standard used for quantitation

The laboratory results are considered to be valid, as reported.

4.0 DISCUSSION

This section provides a discussion of the remedial excavations, stockpile sampling, and groundwater monitoring at the site along with a summary of recommended future action and sampling.

4.1 *Results of Remedial Excavations*

The extent of accessible soil contamination above the CUL has been removed from the CS6 location. A mass of soil contamination above the CUL exists under the western-most 20,000-gallon AST and cannot be accessed.

Further remedial excavation could not be performed to remove the remaining soil above the DRO CUL at

the CS8 location. The presence of fuel and power lines prevented access. It should be noted that the remaining soil contamination (270 mg/kg at CS8-W3) is barely above the CUL.

Further remedial excavation at CS4 location could not be performed due to the presence of communication and electrical lines. This contamination is the result of overfills at a small AST that supplied fuel to the furnace to heat the living quarters. The extent of this contamination appears to be limited to the upper 2 feet of soil (based on the CS4-F-2 sample results). This sample was collected at 2 feet bgs at the floor of the 2019 remedial excavation.

4.2 *Results of Soil Stockpile Sampling*

Tilling and augmentation using fertilizer has been successful in reducing contaminant concentrations in each of the soil stockpiles. Results of the sampling performed at the HydroCon2 stockpile confirms this as well as only one of the four sampling locations (HC2-SP2) had DRO above the CUL. ADEC allowed the decommissioning of the other soil stockpiles with similar DRO concentrations as seen at the HydroCon2 soil stockpile. On behalf of Columbia River Carbonates, HydroCon requests that the HydroCon2 soil stockpile be decommissioned using the same protocols as the previous stockpiles.

4.3 *Results of Groundwater Sampling*

Groundwater near the Camp Area flows southwest towards Shakan Bay. Groundwater analytical results indicate that low concentrations of DRO and five SVOCs below their respective CULs is present in the samples collected from the newly installed wells. These results indicate that the extensive soil remedial excavations in the Camp Area have been successful in reducing contamination in the subsurface to acceptable levels that is protecting groundwater.

4.4 *Request for Regulatory Closure*

In 2004, the first environmental assessments were performed by CDI and PNG. In 2004, CDI performed interim remedial action by removing 93 drums located in the drum storage and Shop areas and providing oversight for the removal of PCS by excavation from the Camp area and Fueling Station. An estimated total of 100 cubic yards of soil generated from the two excavations and from the 15 cubic yard stockpile was placed into a lined and covered bioremediation soil stockpile referred to as the CDI Stockpile. Shortly after completion of the remedial actions, PNG performed a due diligence investigation for a potential real estate transaction. Soil samples were collected from several areas of the Site based on site use, location of product lines and ASTs, spill areas (Fueling Station and Camp Area), etc. Some of the samples contained contaminants that exceeded one or more of the CULs. No further investigation or cleanup was performed for several years.

In 2012, an independent cleanup was performed by the previous property owner. No report was prepared to document this cleanup. Anecdotal information indicated that several remedial excavations were done in areas noted in PNG's due diligence report that documented soil contamination above one or more CULs. The spoils from the excavations were placed into lined and covered stockpiles (CRC1, CRC2).

In 2015 HydroCon was retained by Columbia River Carbonates to assist them in regulatory compliance and cleanup. HydroCon travelled to the site in 2015, 2016, 2018, 2019 and 2021 to perform remedial excavation; soil, surface water and groundwater sampling; well installation; and performance sampling of the bioremediation soil stockpiles.

In 2018, HydroCon performed follow up soil sampling at historic sampling locations that had contamination above one or more of the CULs during PNG's due diligence investigation in 2004. Twelve areas of the site (referred to as CS-1 through CS-12) were explored by test pits or shovel excavations and sampled, depending on access and proximity of underground utility lines. Results indicated that some of the locations no longer had contamination (likely as the result of the 2012 independent cleanup by the previous owner). Some locations had contamination that exceeded the CUL and were the focus of subsequent site characterization and remedial action.

In 2018 and 2019 three monitoring wells were installed at the Fueling Station area to monitor groundwater conditions. Only two wells had water (MW-1 and MW-2). Perched groundwater in the Fueling Station is locally present at the interface of the blast fill and limestone bedrock. Water in the blast cavity is not representative of groundwater in the underlying aquifer. Based on this, ADEC determined that the wells were not necessary and were abandoned in 2020.

In 2021, HydroCon successfully removed the remaining accessible contamination at the site (CS-6). Three groundwater monitoring wells (MW-4 through MW-6) were installed in the Camp Area to assess groundwater conditions. Groundwater samples were collected from each well and analyzed for a thorough list of analyses. Analytical results indicated that low concentrations of DRO and five SVOCs below their respective CULs were detected in one or more of the samples. This indicates that the remedial excavations performed in the Camp Area has been successful at protecting groundwater. Although there are some localized soil sampling locations that have contamination above the CUL and are inaccessible to excavation, they are not adversely affecting groundwater quality.

HydroCon requests that ADEC consider issuing regulatory closure for the site.

- All accessible soil contamination has been removed from the Site and successfully treated in the biotreatment soil stockpiles.
- Groundwater has not been adversely impacted at the Camp Generator Area.
- Site conditions in the Fueling Station includes a thin veneer of soil sitting on top of limestone bedrock. A blast cavity created by the construction of the Fueling Station and Shop locally collects perched groundwater. The uppermost aquifer in the limestone is at a depth greater than the maximum depth explored (30 feet bgs) and is not in contact with the contamination at the Fueling Station. There's over 20 feet (and likely more) of separation between the perched water and the uppermost aquifer in this area of the site.
- The active biotreatment soil stockpile (HydroCon2) has only 1 sample with DRO above the CUL (440 mg/kg). This is similar to the previous soil stockpiles that have been allowed to be decommissioned.

- Potable water is collected from a spring located in the uplands above the Camp area. This water is passed through a filtration system prior to use at the Camp. Groundwater is not used as a potable water source.

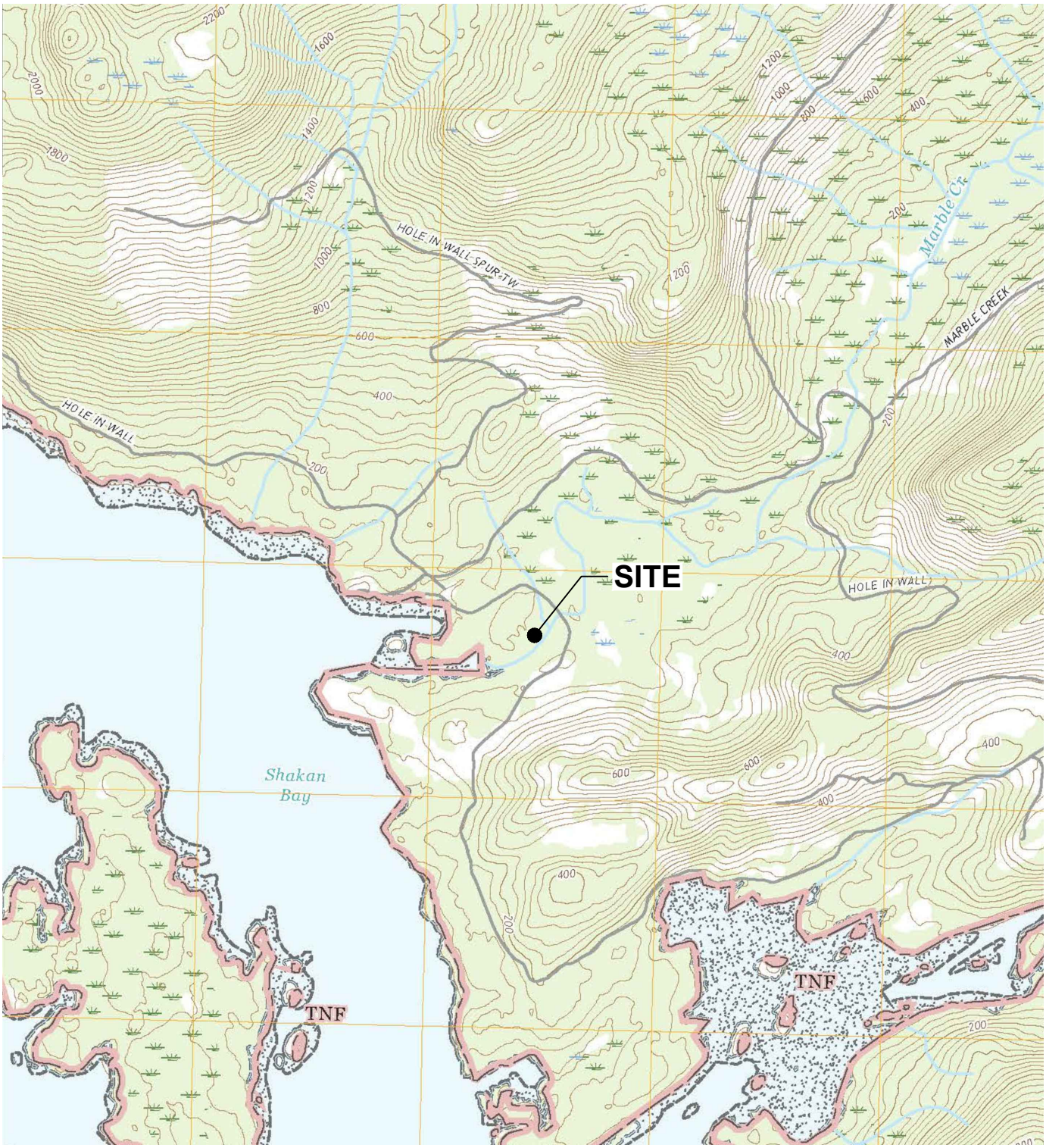
5.0 QUALIFICATIONS

HydroCon's services will be performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. HydroCon makes no warranties, either expressed or implied, regarding the findings, conclusions or recommendations. Please note that HydroCon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report.

Findings and conclusions resulting from these services will be based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this monitoring. Subsurface conditions may vary from those encountered at specific sampling locations or during other surveys, tests, assessments, investigations, or exploratory services; the data, interpretations and findings are based solely upon data obtained at the time and within the scope of these services.

This report is intended for the sole use of **Columbia River Carbonates**. This report may not be used or relied upon by any other party without the written consent of HydroCon. The scope of services performed in execution of this work plan may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

FIGURES



NOTE(S):

USGS, PETERSBURG (A-5) NE QUADRANGLE
ALASKA
1:63 360 SERIES (TOPOGRAPHIC)

0 2000 4000

SCALE IN FEET
1" = 2000'

N
W E
S

HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 2-2-18
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 2015-010

FIGURE 1
SITE LOCATION MAP

CALDER MINE
PRINCE WALES ISLAND
ALASKA

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2015-010 Calder Mine\2016\Oct 2016\2015-010_BM-CMS-012918.dwg 2.17.2014

WATER SOURCE

CAMP GENSET

AREA OF
CONTAMINATION

HYDROCON 1
STOCKPILE

CALDER MINE SITE

HYDROCON 2
STOCKPILE

AREA OF
CONTAMINATION

SHOP AREA

CDI STOCKPILE
CRC1 & CRC2
STOCKPILES

FUELING
STATION

TOPSOIL STOCKPILE

ROCK DUMP

N
W E
S

0 600 1200
SCALE IN FEET
1" = 600'

Hydro Con
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

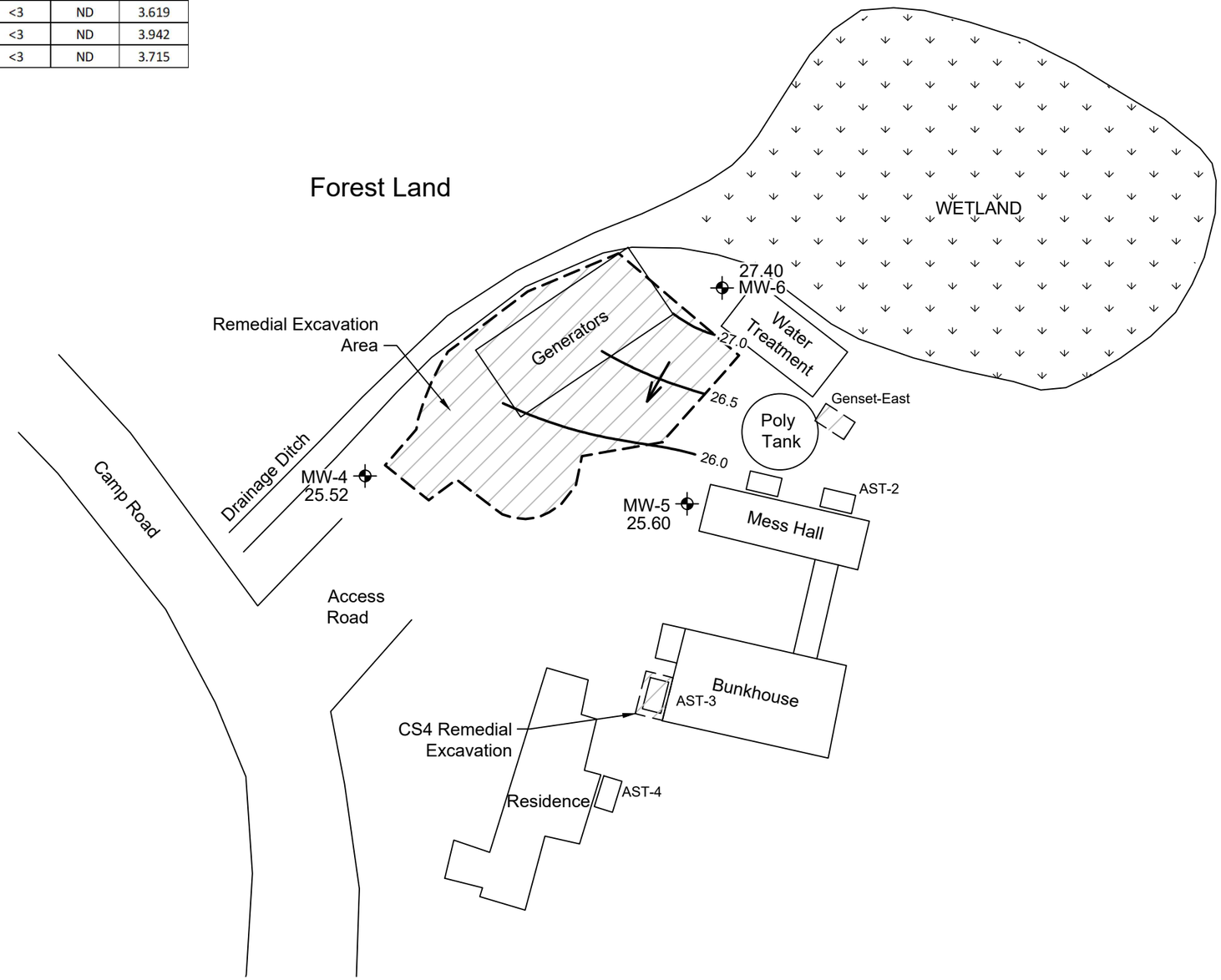
DATE: 3-16-21
DWN: JJT
CHK: CH
APPROVED:
PRJ. MGR: CH
PROJECT NO:
2015-010

FIGURE 2
SITE FEATURES

CALDER MINE
PRINCE OF WALES ISLAND
ALASKA

I:\Autocad Files\Hydrocon-Autocad\2015-010 Calder Mine\2021\Aug 2021\2015-010_BM-CMS-081321.dwg 2.17.2014

Field ID	Date	Groundwater Analytical Results (ug/L)								
		AK 101	AK 102	AK103	8260D					
		GRO	DRO	RRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	VOCs	TAqH
ADEC Method 2		**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**		**15**
MW4-W	9/30/2021	<100	78 x	<250	<0.35	<1	<1	<3	ND	3.590
MW100-W (Dupe MW4-W)	9/30/2021	<100	<50	<250	<0.35	<1	<1	<3	ND	3.619
MW5-W	9/30/2021	<100	500	<250	<0.35	<1	<1	<3	ND	3.942
MW6-W	9/30/2021	<100	120	<250	<0.35	<1	<1	<3	ND	3.715



LEGEND

- MW01 — Monitoring Well
- Groundwater Elevation Contour
- 25.60 — Groundwater Surface Elevation
- Approximate Groundwater Flow Direction
- REMEDIAL EXCAVATION

N W E S

0 20 40

SCALE IN FEET
1" = 20'

HydroCon
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DATE: 11-1-21
DWN: JJT
CHK: CH
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PRJ. MGR: CH
PROJECT NO: 2015-010

FIGURE 3
GROUNDWATER ANALYTICAL RESULTS
FOR SEPTEMBER 30, 2021
CALDER MINE
PRINCE OF WALES ISLAND
ALASKA

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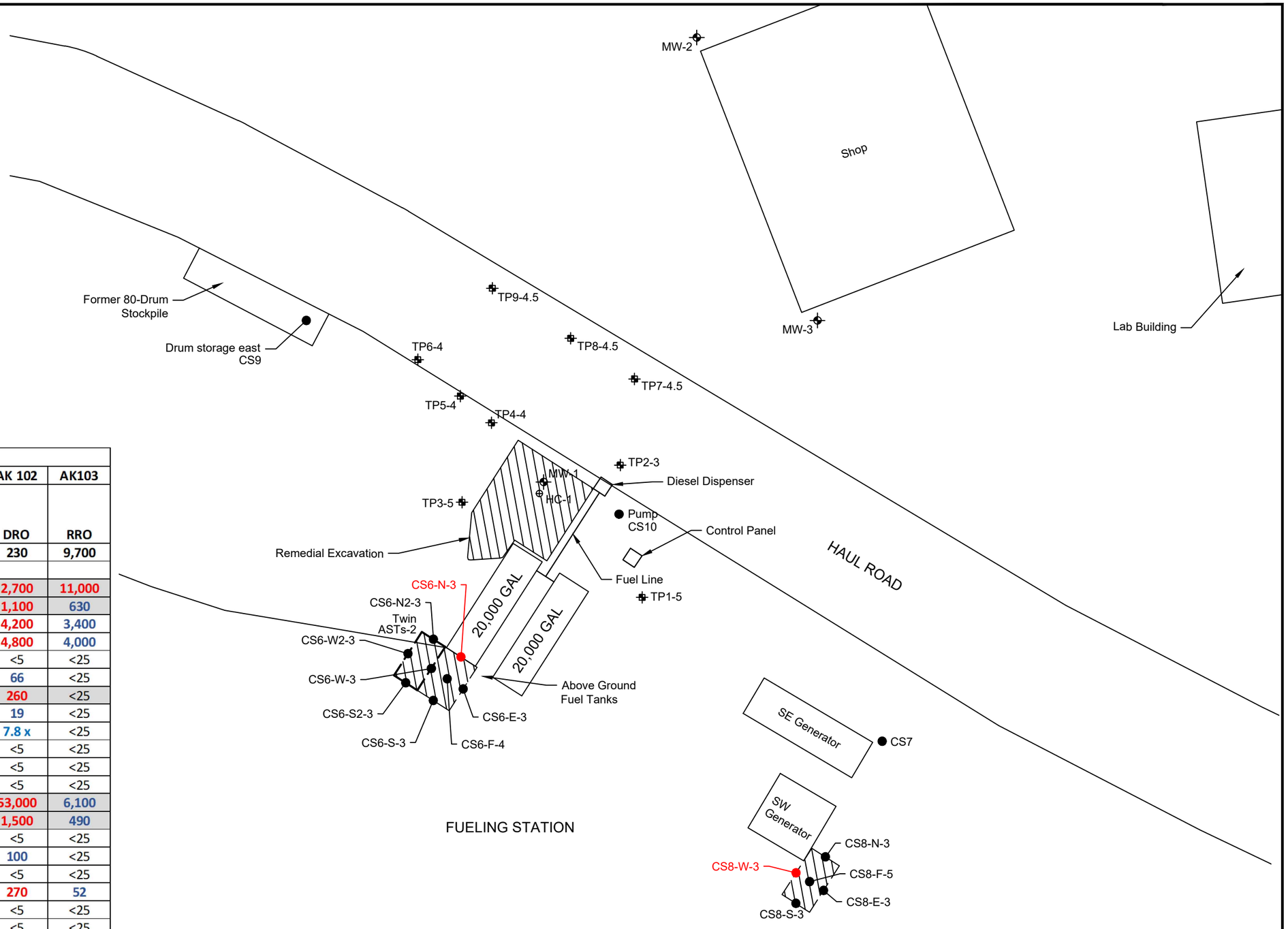
LEGEND

- EXISTING ACCESS ROAD
- EXISTING STRUCTURES
- TP1-5 — TEST PIT LOCATION
- EXCAVATION LOCATION
- MW-1 — MONITORING WELL LOCATION
- CS10 — 2018 SOIL SAMPLING LOCATION
- REMEDIAL EXCAVATION
- PROPOSED REMEDIAL EXCAVATION



Soil Analytical Results (mg/kg)				
		AK 101	AK 102	AK103
Field ID	**Date**	**GRO**	**DRO**	**RRO**
ADEC Method 2 - Over 40" Zone		**230**	**230**	**9,700**
Remedial Excavations - Fueling Station Area				
Twin AST-2[1]	9/30/2004	-	**2,700**	**11,000**
CS6-1[1]	9/18/2018	-	**1,100**	**630**
CS6-N-3	8/6/2019	-	**4,200**	**3,400**
CS6-100 (Dupe CS6-N-3)	8/6/2019	-	**4,800**	**4,000**
CS6-S-3	8/6/2019	-	<5	<25
CS6-E-3	8/6/2019	-	**66**	<25
CS6-W-3[1]	8/6/2019	-	**260**	<25
CS6-F-4	8/6/2019	-	**19**	<25
CS6-N2-3	9/29/2021	<5	**7.8 x**	<25
CS6-W2-3	9/29/2021	<5	<5	<25
CS6-S2-3	9/29/2021	<5	<5	<25
CS6-D-3 (Dupe CS6-S2-3)	9/29/2021	<5	<5	<25
SW Generator[1]	9/30/2004	-	**53,000**	**6,100**
CS8-1[1]	9/18/2018	-	**1,500**	**490**
CS8-N-3	8/6/2019	-	<5	<25
CS8-S-3	8/6/2019	-	**100**	<25
CS8-E-3	8/6/2019	-	<5	<25
CS8-W-3	8/6/2019	-	**270**	**52**
CS8-F-5	8/6/2019	-	<5	<25
CS8-100 (Dupe)	8/6/2019	-	<5	<25

Notes
Gray Shading = Sample locations have been removed by remedial excavation
Red denotes concentration exceeds ADEC Method 2 cleanup level.
Blue denotes concentratin that exceeds the laboratory method reporting limit but is below the ADEC Method 2 cleanup level
ND = not detected above respective laboratory method reporting limits (MRLs)

N W E S

0 30 60
SCALE IN FEET
1" = 30'

HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 11-1-21
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 2015-010

FIGURE 4
FUELING STATION
SOIL ANALYTICAL RESULTS
CALDER MINE
PRINCE WALES ISLAND
ALASKA

I:\Autocad Files\Hydrocon-Autocad\2015-010 Calder Mine\2021\Aug 2021\2015-010_BM-CMS-081321.dwg

Soil Analytical Results (mg/kg)				
		AK 101	AK 102	AK103
Field ID	Date	GRO	DRO	RRO
ADEC Method 2 - Over 40" Zone		**230**	**230**	**9,700**
HydroCon2 Stockpile				
HC2-SP1	9/29/2021	<5	**160 x**	**390**
HC2-SP2	9/29/2021	<5	**440**	**79 x**
HC2-SP3	9/29/2021	<5	**28**	<25
HC2-D (Dupe HC2-SP3)	9/29/2021	<5	**25**	<25
HC2-SP4	9/29/2021	<5	**69 x**	**140**

LEGEND

Existing Access Road

Stockpile

⊗ Stockpile Soil Sample Locations

N W E S

0 15 30

SCALE IN FEET

1" = 15'

HydroCon

510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 11-1-21
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 2015-010

FIGURE 5
HYDROCON 2 STOCKPILE
SOIL ANALYTICAL RESULTS
CALDER MINE
PRINCE OF WALES ISLAND
ALASKA

I:\Autocad Files\Hydrocon-Autocad\2015-010 Calder Mine\2021\Aug 2021\2015-010_BM-CMS-081321.dwg

TABLES

Table 1
Soil Analytical Results
GRO, DRO, RRO, BTEX, and VOCs
Calder Mine
Prince of Wales Island, Alaska

		AK 101	AK 102	AK103	8260D				
		Gasoline Range Organics	Diesel Range Organics	Residual Range Organics	Benzene	Toluene	Ethyl-benzene	Total Xylenes	VOCs
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method 2 - Over 40" Zone		**230**	**230**	**9,700**	**0.022**	**6.7**	**0.13**	**1.5**	
Field ID	**Date**								
Remedial Excavation - Camp Generator Area									
Camp AST-3[1]	9/30/2004	-	**550**	<50	-	-	-	-	-
CS4-1[1]	9/19/2018	-	**480**	**99 x**	-	-	-	-	-
CS4-N-1.5	8/6/2019	-	**1,100**	**100 x**	-	-	-	-	-
CS4-S-1.5	8/6/2019	-	**570**	**68 x**	-	-	-	-	-
CS4-E-1.5	8/6/2019	-	**1,800**	**190 x**	<0.03	<0.05	<0.05	<0.15	ND
CS4-100 (Dupe CS4-E-1.5)	8/6/2019	-	**1,600**	**180 x**	<0.03	<0.05	<0.05	<0.15	**124-TMB**
CS4-W-1.5	8/6/2019	-	**690**	**72 x**	-	-	-	-	-
CS4-F-2	8/6/2019	-	<5	<25	-	-	-	-	-
Remedial Excavations - Fueling Station Area									
Twin AST-2[1]	9/30/2004	-	**2,700**	**11,000**	-	-	-	-	-
CS6-1[1]	9/18/2018	-	**1,100**	**630**	-	-	-	-	-
CS6-N-3	8/6/2019	-	**4,200**	**3,400**	<0.03	<0.05	<0.05	<0.15	ND
CS6-100 (Dupe CS6-N-3)	8/6/2019	-	**4,800**	**4,000**	<0.03	<0.05	<0.05	<0.15	ND
CS6-S-3	8/6/2019	-	<5	<25	-	-	-	-	-
CS6-E-3	8/6/2019	-	**66**	<25	-	-	-	-	-
CS6-W-3[1]	8/6/2019	-	**260**	<25	-	-	-	-	-
CS6-F-4	8/6/2019	-	**19**	<25	-	-	-	-	-
CS6-N2-3	9/29/2021	<5	**7.8 x**	<25	-	-	-	-	-
CS6-W2-3	9/29/2021	<5	<5	<25	-	-	-	-	-
CS6-S2-3	9/29/2021	<5	<5	<25	<0.03	<0.05	<0.05	<0.15	ND
CS6-D-3 (Dupe CS6-S2-3)	9/29/2021	<5	<5	<25	<0.03	<0.05	<0.05	<0.15	ND
SW Generator[1]	9/30/2004	-	**53,000**	**6,100**	-	-	-	-	-
CS8-1[1]	9/18/2018	-	**1,500**	**490**	-	-	-	-	-
CS8-N-3	8/6/2019	-	<5	<25	-	-	-	-	-
CS8-S-3	8/6/2019	-	**100**	<25	-	-	-	-	-
CS8-E-3	8/6/2019	-	<5	<25	-	-	-	-	-
CS8-W-3	8/6/2019	-	**270**	**52**	<0.03	<0.05	<0.05	<0.15	ND
CS8-F-5	8/6/2019	-	<5	<25	-	-	-	-	-
CS8-100 (Dupe)	8/6/2019	-	<5	<25	-	-	-	-	-
Boring MW-2		**Well has been Abandoned**							
MW2-5	8/6/2019	-	**5.5 x**	<25	<0.03	<0.05	<0.05	<0.15	ND
MW2-100 (Dupe MW2-5)	8/6/2019	-	<5	<25	<0.03	<0.05	<0.05	<0.15	ND
MW2-10	8/6/2019	-	**6.2 x**	<25	-	-	-	-	-
MW2-15	8/6/2019	-	**7.1 x**	<25	-	-	-	-	-
MW2-30	8/6/2019	-	**13 x**	**36**	-	-	-	-	-
Boring MW-3		**Well has been Abandoned**							
MW3-5	8/6/2019	-	**5.7 x**	<25	-	-	-	-	-
MW3-10	8/6/2019	-	<5	<25	-	-	-	-	-
MW3-14	8/6/2019	-	**8 x**	<25	<0.03	<0.05	<0.05	<0.15	ND
MW3-100 (Dupe MW3-14)	8/6/2019	-	<5	<25	<0.03	<0.05	<0.05	<0.15	ND
CRC1 Stockpile		**Stockpile has been closed**							
CRC-SP1	8/5/2019	-	**190**	**280**	<0.03	<0.05	<0.05	<0.15	**MC** LC
CRC-SP100 (Dupe CRC-SP1)	8/5/2019	-	**80**	**120**	<0.03	<0.05	<0.05	<0.15	ND
CRC-SP2	8/5/2019	-	**170**	**300**	---	---	---	---	---
CRC-SP3	8/5/2019	-	**240**	**220**	---	---	---	---	---
CRC-SP4	8/5/2019	-	**290**	**460**	---	---	---	---	---
HydroCon Stockpile		**Stockpile has been closed**							
HC-SP1	8/5/2019	-	**270**	**230**	---	---	---	---	---
HC-SP2	8/5/2019	-	**440**	**160**	---	---	---	---	---
HC-SP3	8/5/2019	-	**210**	**160**	---	---	---	---	---
HC-SP4	8/5/2019	-	**230**	**130**	---	---	---	---	---
HC-SP5	8/5/2019	-	**280**	**140**	---	---	---	---	---
HC-SP6	8/5/2019	-	**360**	**310**	---	---	---	---	---
HC-SP100 (Dupe)	8/5/2019	-	**280**	**130**	<0.03	<0.05	<0.05	<0.15	ND
HydroCon2 Stockpile									
HC2-SP1	9/29/2021	<5	**160 x**	**390**	---	---	---	---	---
HC2-SP2	9/29/2021	<5	**440**	**79 x**	---	---	---	---	---
HC2-SP3	9/29/2021	<5	**28**	<25	<0.03	<0.05	<0.05	<0.15	**MC** LC
HC2-D (Dupe HC2-SP3)	9/29/2021	<5	**25**	<25	<0.03	<0.05	<0.05	<0.15	**MC** LC
HC2-SP4	9/29/2021	<5	**69 x**	**140**	---	---	---	---	---

Table 1
Soil Analytical Results
GRO, DRO, RRO, BTEX, and VOCs
Calder Mine
Prince of Wales Island, Alaska

	AK 101	AK 102	AK103	8260D				
	Gasoline Range Organics	Diesel Range Organics	Residual Range Organics	Benzene	Toluene	Ethyl-benzene	Total Xylenes	VOCs
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method 2 - Over 40" Zone	**230**	**230**	**9,700**	**0.022**	**6.7**	**0.13**	**1.5**	
Field ID Date								

Notes

[1]Soil was removed by additional remedial excavation

mg/kg = milligrams per kilogram

Red denotes concentration exceeds ADEC Method 2 cleanup level.

Blue denotes concentratin that exceeds the laboratory method reporting limit but is below the ADEC Method 2 cleanup level

Samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington.

Alaska Department of Environmental Conservation (ADEC) Method 2 Oil Pollution & Hazardous Substances Pollution Control Regulations,Table B2, 18 AAC75, based on >40 inches of rainfall migration to groundwater.

< = not detected at a concentration exceeding the laboratory MRL shown

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

ND = not detected above respective laboratory method reporting limit

--- = not analyzed

124-TMD = 1,2,4-Trimethylbenzene (0.328 mg/kg)

MC = methylene chloride (up to 0.58 mg/kg)

LC = laboratory contamination

Table 2
Soil Analytical Results
Detected PAHs and SVOCs
Calder Mine
Prince of Wales Island, Alaska

		8270E				
		2-Methylnaphthalene	1-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method 2 - Over 40" Zone		**1.27**	**0.41**	**0.038**	**39**	**87**
Field ID	**Date Sampled**					
Remedial Excavations - Camp Generator Area						
CS4-E-1.5	8/6/2019	**0.25**	**0.1**	**0.067**	**0.086**	**0.11**
CS4-100 (Dupe)	8/6/2019	**0.24**	**0.1**	**0.067**	**0.074**	**0.072**
Remedial Excavations - Fueling Station Area						
CS6-N-3	8/6/2019	<0.01	<0.01	<0.01	<0.01	**0.23**
CS6-100 (Dupe CS6-N-3)	8/6/2019	<0.01	<0.01	<0.01	<0.01	**0.30**
CS6-W2-3	9/29/2021	<0.01	<0.01	<0.01	<0.01	<0.01
CS6-D (Dupe CS6-W2-3)	9/29/2021	<0.01	<0.01	<0.01	<0.01	<0.01
CS8-W-3	8/6/2019	<0.01	<0.01	<0.01	<0.01	**0.055**
Boring MW-2		**Well has been Abandoned**				
MW2-5	8/6/2019	<0.01	<0.01	<0.01	<0.01	<0.01
MW2-100 (Dupe)	8/6/2019	<0.01	<0.01	<0.01	<0.01	<0.01
Boring MW-3		**Well has been Abandoned**				
MW3-14	8/6/2019	<0.01	<0.01	<0.01	<0.01	<0.01
MW3-100 (Dupe)	8/6/2019	<0.01	<0.01	<0.01	<0.01	<0.01
CRC1 Stockpile		**Stockpile has been closed**				
CRC-SP1	8/5/2019	**0.028**	**0.012**	<0.01	**0.012**	<0.01
CRC-SP100 (Dupe)	8/5/2019	**0.033**	**0.016**	**0.01**	**0.013**	<0.01
HydroCon Stockpile		**Stockpile has been closed**				
HC-SP100	8/5/2019	<0.01	<0.01	<0.01	<0.01	<0.01
HydroCon2 Stockpile						
HC2-SP3	9/29/2021	<0.01	<0.01	<0.01	<0.01	<0.01
HC2-D (Dupe)	9/29/2021	<0.01	<0.01	<0.01	<0.01	<0.01

Table 2
Soil Analytical Results
Detected PAHs and SVOCs
Calder Mine
Prince of Wales Island, Alaska

	8270E				
	2-Methylnaphthalene	1-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method 2 - Over 40" Zone	**1.27**	**0.41**	**0.038**	**39**	**87**
Field ID **Date Sampled**					

Notes

[1]Soil was removed by additional remedial excavation

Red denotes concentration exceeds ADEC Method 2 cleanup level.

Blue denotes concentratin that exceeds the laboratory method reporting limit but is below the ADEC Method 2 cleanup level

Samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington.

Alaska Department of Environmental Conservation (ADEC) Method 2 Oil Pollution & Hazardous Substances Pollution Control Regulations, Table B2, 18 AAC75, based on >40 inches of rainfall migration to groundwater.

< = not detected at a concentration exceeding the laboratory MRL shown

mg/kg = milligrams per kilogram

Table 3
Depth to Water and Groundwater Elevation
Calder Mine
Prince of Wales Island, Alaska

		Measurements		
		Top of Casing	Depth to Groundwater	Groundwater Elevation
Well ID	Date	Feet	Feet	Feet
MW-4	9/29/21	28.90	3.38	25.52
MW-5	9/29/21	29.40	3.80	25.60
MW-6	9/29/21	30.40	3.00	27.40

Notes:
Surveying done using a Arrow Gold GPS tracking unit.
This unit has a vertical accuary of 30 to 60 centimeters

Table 4
Groundwater Analytical Results
GRO, DRO, RRO, BTEX, and VOCs
Calder Mine
Prince of Wales Island, Alaska

		AK 101	AK 102	AK103	8260D				
		Gasoline Range Organics	Diesel Range Organics	Residual Range Organics	Benzene	Toluene	Ethyl-benzene	Total Xylenes	VOCs
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
ADEC Method 2		**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
Field ID	**Date**								
Fueling Station Area		**Monitoring Wells have been Abandoned**							
MW-1	9/19/2018	---	**7,000**	**390 x**	<0.35	<1	<1	**6**	NA
MW-1	8/7/2019	---	**5,300J**	<250	<0.35	<1	<1	**1.3**	124 TMB 135 TMB
MW100-W (Dupe MW-1)	8/7/2019	---	**7,400J**	**400 x**	<0.35	<1	<1	<3	ND
MW-2	8/8/2019	---	**110**	<250	<0.35	<1	<1	<3	Acetone MEK
MW-3	8/8/2019	---	---	---	---	---	---	---	---
Camp Area		**Newly Installed Monitoring Wells**							**TAH**
MW4-W	9/30/2021	<100	**78 x**	<250	<0.35	<1	<1	<3	ND	2.675
MW100-W (Dupe MW4-W)	9/30/2021	<100	<50	<250	<0.35	<1	<1	<3	ND	2.675
MW5-W	9/30/2021	<100	**500**	<250	<0.35	<1	<1	<3	ND	2.675
MW6-W	9/30/2021	<100	**120**	<250	<0.35	<1	<1	<3	ND	2.675

Table 4
Groundwater Analytical Results
GRO, DRO, RRO, BTEX, and VOCs
Calder Mine
Prince of Wales Island, Alaska

	AK 101	AK 102	AK103	8260D				
	Gasoline Range Organics	Diesel Range Organics	Residual Range Organics	Benzene	Toluene	Ethyl-benzene	Total Xylenes	VOCs
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
ADEC Method 2	2,200	1,500	1,100	4.6	1,100	15	190	
Field ID Date								

Notes
Red denotes concentration exceeds ADEC Method 2 cleanup level.
Blue denotes concentratin that exceeds the laboratory method reporting limit but is below the ADEC Method 2 cleanup level
Samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington.
Alaska Department of Environmental Conservation (ADEC) Method 2 Oil Pollution & Hazardous Substances Pollution Control Regulations,Table B2, 18 AAC75, based on >40 inches of rainfall migration to groundwater.
< = not detected at a concentration exceeding the laboratory MRL shown
ug/L = micrograms per liter
x - The sample chromatographic pattern does not resemble the fuel standard used for quantification.
J = The result is an estimated quantity.
--- = insufficient amount of water in well to sample
ND = not detected above the respective laboratory method reporting limit
NA = not analyzed
124 TMB = 1,2,4-trimethylbenzene (1.5 ug/L)
135 TMB = 1,3,5-trimethylbenzene (1.6 ug/L)
MEK = 2-butanone (19 ug/L)
Acetone (180 ug/L)
TAH = sum of BTEX
Summation of BTEX should include 1/2 of laboratory method reporing limit (MRL) for non detects

Table 5
Groundwater Analytical Results
Detected PAHs and SVOCs
Calder Mine
Prince of Wales Island, Alaska

		8270E										
		2-Methylnaphthalene	1-Methylnaphthalene	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Pyrene	Diethyl phthalate	Di-n-butyl phthalate	
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
ADEC Method 2		**11.1**	**35.9**	**1.65**	**261**	**534**	**294**	**175**	**121**	**1,480**	**902**	
Field ID	**Date Sampled**											
Fueling Station Area		**Monitoring Wells have been Abandoned**										
MW-1	9/19/2018	NA	NA	**0.74**	<0.06	**0.45**	**1.5**	**1.2**	**0.22**	NA	NA	
MW-1	8/7/2019	<0.2	<0.2	<0.2	<0.02	**0.072**	**0.056**	<0.02	**0.073**	<2	<2	
MW100-W (Dupe MW-1)	8/7/2019	<0.2	**0.4**	<0.2	<0.02	**0.088**	**0.31**	<0.02	**0.049**	<2	<2	
MW-2	8/8/2019	<0.2J	<0.2J	<0.2J	<0.02J	<0.02J	<0.02J	<0.02J	<0.02J	**3.2J**	**2.1J**	
MW-3	8/8/2019	---	---	---	---	---	---	---	---	---	---	
Camp Area		**Newly Installed Monitoring Wells**										**Sum of PAHs**
MW4-W	9/30/2021	<0.4	<0.4	<0.4	<0.04	<0.04	<0.04	<0.04	<0.04	<4	<4	0.915
MW100-W (Dupe MW4-W)[1]	9/30/2021	<0.4	<0.4	<0.4	<0.04	<0.04	<0.04	**0.049**	<0.04	<4	<4	0.944
MW5-W	9/30/2021	<0.4	<0.4	<0.4	<0.04	<0.04	**0.18**	**0.16**	**0.072**	**4.80**	<4	1.267
MW6-W	9/30/2021	<0.4	<0.4	<0.4	<0.04	<0.04	**0.076**	**0.089**	<0.04	<4	<4	1.040

Notes
Red denotes concentration exceeds ADEC Method 2 cleanup level.
Blue denotes concentratin that exceeds the laboratory method reporting limit but is below the ADEC Method 2 cleanup level
Samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington.
Alaska Department of Environmental Conservation (ADEC) Method 2 Oil Pollution & Hazardous Substances
Pollution Control Regulations,Table B2, 18 AAC75, based on >40 inches of rainfall migration to groundwater.
< = not detected at a concentration exceeding the laboratory MRL shown
J = The result is an estimated quantity.
ug/L = micrograms per liter
--- = insufficient amount of water in well to sample
NA = not analyzed
[1] = Bis(2ethylhexyl)phthalate detected at concentration of 7.8 ug/L - lab assinged LC data qualifier as being a common lab and field contaminant
Summation of PAHs should include 1/2 of laboratory method reporing limit (MRL) for non detects following the "Guidelines for the Treatment of Non-detect Values, Data Reduction for Multiple Detections and Comparsion of Quantification Limits to Cleanup Values" (ADEC 2017)

Table 6
TAH and TAqH Results
Calder Mine
Prince of Wales Island, Alaska

		TAH	Sum of PAHs	TAqH
Cleanup Level (ug/L)		10		15
Field ID	Date Sampled			
MW4-W	9/30/2021	2.675	0.915	3.590
MW100-W (Duplicate)	9/30/2021	2.675	0.944	3.619
MW5-W	9/30/2021	2.675	1.267	3.942
MW6-W	9/30/2021	2.675	1.040	3.715

Notes:

MRL - Method Reporting Limit (equivalent of limit of quantitation)

TAH = sum of BTEX

TAqH = sum of BTEX and PAHs

Summation of BTEX and PAHs includes 1/2 of MRL for non detects

Summation of PAHs should include 1/2 of laboratory method reporing limit (MRL) for non detects following the "Guidelines for the Treatment of Non-detect Values, Data Reduction for Multiple Detections and Comparsion of Quantification Limits to Cleanup Values" (ADEC 2017)

ATTACHMENT A

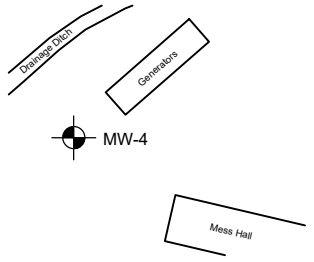
BORING LOGS

HydroCon
1339 Commerce Ave. Suite 211
Longview, WA. 98632
Phone: 360-703-6079

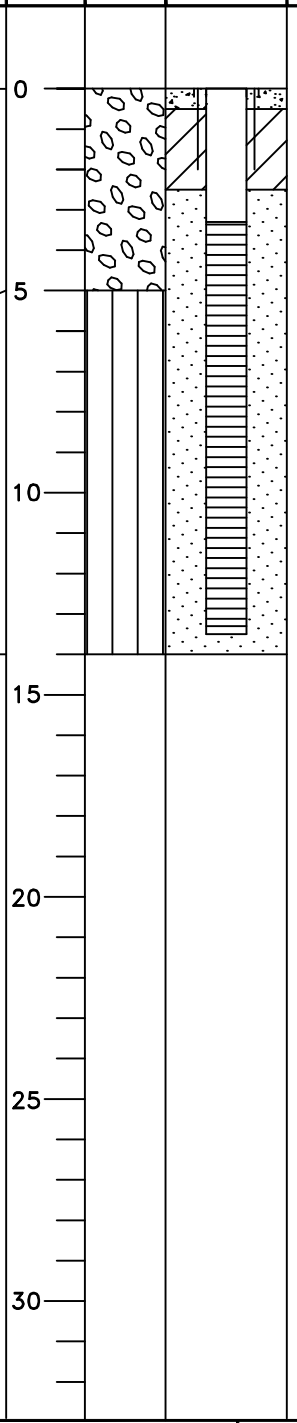
WELL/BORING NUMBER: MW-4

PROJECT NAME: Calder Mine
PROJECT NUMBER: 2015-010
PROJECT LOCATION: Prince of Wales Island, AK.
LOGGED BY: C. Hultgren
REVIEWED BY: C. Hultgren
DATE: 9/28/21

LOCATION MAP



DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	DEPTH (FT.)	SYMBOL	WELL DETAILS	SAMPLE ID	PID	FIRST WATER	BLOW COUNTS	BOREHOLE/WELL CONSTRUCTION DETAILS
Sandy Gravel w/ Cobbles (GP) Gray to white, >70% fine to coarse gravel and cobbles (limestone), <30% fines, low plastic, some organics and wood debris, wet @ 4' bgs, no odor.	0							
Sandy Silt (ML) Brown, 66% low plastic fines, some organics and clam shells, wet, no odor.	5							
BOTTOM OF BORING AT 14' B.G.S.	10							
	15							
	20							
	25							
	30							



WELL CONSTRUCTION

Depths (feet bgs)

Borehole: 14'
Sump: 13.3-13.5
Screen: 3.3-13.3
Casing: 0-3.3
Backfill:
Sand Pack: 2.5-13.5
Bentonite: 0.5-2.5
Concrete: 0 to 0.5
Stabilizers:

MATERIALS USED

Casing: 5' 2" PVC
Well Screen: 10' 0.010" pre-packed
End Cap: Threaded
Sand Pack: 8/12
Bentonite: 2 50lb bags
Concrete: 2 60lb bags
Monument: Flush
Well Cap: J-plug
Other:

DRILLING CONTRACTOR: SE Road Builders
DRILLING METHOD: Air rotary
BOREHOLE DIAMETER: 4 Inch
SAMPLING METHOD: Grab
WELL TAG ID: --

CASING ELEVATION: -- 28.90
GROUND SURFACE ELEVATION: --
NORTHING: --
EASTING: --

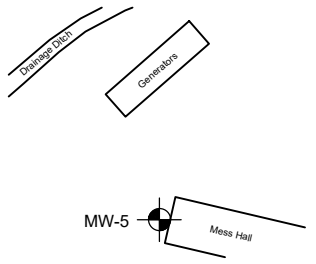
HydroCon

1339 Commerce Ave. Suite 211
Longview, WA. 98632
Phone: 360-703-6079

WELL/BORING NUMBER: MW-5

PROJECT NAME: Calder Mine
PROJECT NUMBER: 2015-010
PROJECT LOCATION: Prince of Wales Island, AK.
LOGGED BY: C. Hultgren
REVIEWED BY: C. Hultgren
DATE: 9/28/21

LOCATION MAP



DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	DEPTH (FT.)	SYMBOL	WELL DETAILS	SAMPLE ID	PID	FIRST WATER	BLOW COUNTS	BOREHOLE/WELL CONSTRUCTION DETAILS
Sandy Gravel w/ Cobbles (GP) Gray to white, >70% fine to coarse gravel and cobbles (limestone), <30% low plastic fines, trace wood, some organics and wood debris, wet @ 4' bgs, no odor.	0					▽		
Sandy Silt (ML) Brown, 66% low plastic fines, <33% fine to coarse sand, some orgasnics and clam shells, wet, no odor.	5							
BOTTOM OF BORING AT 14' B.G.S.	10							
	15							
	20							
	25							
	30							

WELL CONSTRUCTION

Depths (feet bgs)

Borehole: 14'
Sump: 13.1-13.3
Screen: 3.1-13.1
Casing: 0-3.1
Backfill:
Sand Pack: 2.5-13.3
Bentonite: 0.5-2.5
Concrete: 0 to 0.5
Stabilizers:

MATERIALS USED

Casing: 5' 2" PVC
Well Screen: 10' 0.010" pre-packed
End Cap: Threaded
Sand Pack: 8/12
Bentonite: 2 50lb bags
Concrete: 2 60lb bags
Monument: Flush
Well Cap: J-plug
Other:

DRILLING CONTRACTOR: SE Road Builders
DRILLING METHOD: Air rotary
BOREHOLE DIAMETER: 4 Inch
SAMPLING METHOD: Grab
WELL TAG ID: --

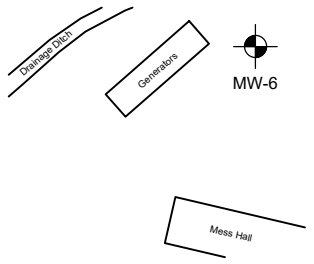
CASING ELEVATION: -- 29.40
GROUND SURFACE ELEVATION: --
NORTHING: --
EASTING: --

HydroCon
1339 Commerce Ave. Suite 211
Longview, WA. 98632
Phone: 360-703-6079

WELL/BORING NUMBER: MW-6

PROJECT NAME: Calder Mine
PROJECT NUMBER: 2015-010
PROJECT LOCATION: Prince of Wales Island, AK.
LOGGED BY: C. Hultgren
REVIEWED BY: C. Hultgren
DATE: 9/28/21

LOCATION MAP



DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	DEPTH (FT.)	SYMBOL	WELL DETAILS	SAMPLE ID	PID	FIRST WATER	BLOW COUNTS	BOREHOLE/WELL CONSTRUCTION DETAILS
Sandy Gravel w/ Cobbles (GP) White to gray, >70% fine to coarse gravel and cobbles (limestone), <30% low fines, some wood and organics, trace clam shells wet @ 3.5' bgs, no odor.	0					▽		
Sandy Silt (ML) Brown, 66% low plastic fines, <33% fine to coarse sand, some organics, wood and clam shells, wet, no odor.	5							
	10							
BOTTOM OF BORING AT 14' B.G.S.	15							
	20							
	25							
	30							

WELL CONSTRUCTION

Depths (feet bgs)

Borehole: 14'
Sump: 13.8-14
Screen: 3.8-13.8
Casing: 0-3.8
Backfill:
Sand Pack: 3-13.8
Bentonite: 1-3
Concrete: 0-1
Stabilizers:

MATERIALS USED

Casing: 5' 2" PVC
Well Screen: 10' 0.010" pre-packed
End Cap: Threaded
Sand Pack: 8/12
Bentonite: 2 50lb bags
Concrete: 2 60lb bags
Monument: Flush
Well Cap: J-plug
Other:

DRILLING CONTRACTOR: SE Road Builders
DRILLING METHOD: Air rotary
BOREHOLE DIAMETER: 4 Inch
SAMPLING METHOD: Grab
WELL TAG ID: --

CASING ELEVATION: -- 30.40
GROUND SURFACE ELEVATION: --
NORTHING: --
EASTING: --

ATTACHMENT B

FIELD NOTES

HydroCon	DAILY FIELD REPORT	HydroCon Job Number: 2015-010
	Project Name: Calder Mine	Date: 9/28/21
Phone: 360.998.2902	Client: Columbia River Carbonates	Page: 1 Of 1
1339 Commerce Ave., Suite 211; Longview, WA		
Prepared By: C. HULTGREN	Location: POW Island, ALASKA	Arrival:
		Departure:
Purpose:	Weather:	Permit:

(1240) Arrive AT Calder mine - Drove From Klawock
meet with Calder personnel & SE Road Builders driller

(1330) Drill mw-4 to 14' bgs
Install well (2" Diameter PVC) 1 X 10' 0.10-slot pre packed well screen
1 X 5' Blank PVC
1 X Threaded Bottom Cap & 1 J Plug
Flush mount
See well log

(1400) Drill mw-5 to 14' BGS - Install well using same materials as mw-4
See well log

(1440) Drill mw-6 to 14' BGS - Install well using same material as other 2 wells - see well log

WELL DEVELOPMENT - See well Development forms

MW-4
Surge well with bailer and purge using submersible whale pump/Repeat
Remove ~ 64 gallons water

mw-5 Surge/Bail well & Purge with whale pump ~ 64 gallons removed

mw-6 Surge/bail wells & Purge with whale pump - ~ 64 gallons removed

HydroCon	DAILY FIELD REPORT	HydroCon Job Number: 2015-010
	Project Name: Calder Mine	Date: 9/29/21
Phone: 360.998.2902 1339 Commerce Ave., Suite 211; Longview, WA	Client: Columbia River Carbonates	Page: 1 Of 2
Prepared By: C. Hultgren	Location: POW ISLAND, ALASKA	Arrival: Departure:
Purpose:	Weather:	Permit:

(0700) START WORK - GET ALL wells opened and allow water level to equilibrate.

DTW measurements

MW-4	3.38
MW-5	3.80
MW-6	3.00

Sample wells — See Groundwater Sample Collection forms

Note: water clarity in All wells is good. Pumping non-turbid water. NO odor or sheen observed in any well.

(1200) Grab Lunch & then go to Fueling STATION Area for EXCAVATION.

CS8 LOCATION — Could NOT EXCAVATE to west due to 2 fuel lines and power lines — NO EXCAVATION work performed

CS6 LOCATION — EXtend Remedial EXCAVATION to the west ~4'. Collect Confirmation Soil Samples

SAMPLE #	PID	
CS6-N2-3	0.0	4 x VOA & 1 x 4oz JAR per sample
CS6-W2-3	0.0	
CS6-D-3 (W2-3 LOCATION)	0.0	
CS6-S2-3	0.3	

CAMP LOCATION — CS4 - LOCATION. Did NOT EXCAVATE due to power & communication lines, ~~pad~~ proximity of Bunkhouse and concrete base of ANTENNA PAD.

HydroCon	DAILY FIELD REPORT	HydroCon Job Number: 2015-010
	Project Name: Calder mine	Date: 9-29-21
Phone: 360.998.2902 1339 Commerce Ave., Suite 211; Longview, WA	Client: Columbia River Carbonates	Page: 2 Of 2
Prepared By: Craig Hultgren	Location: POW Island, AK	Arrival: Departure:
Purpose:	Weather:	Permit:

(1350) Sample Hydrocon 2 STOCKPILE

(1400) HC2-SP1 PID readings 1.0 to 3.2 throughout stockpile.
(1405) HC2-SP2
(1410) HC2-SP3
(1500) HC2-D (from HC2-SP3) NOTE: fertilizer can be seen in soil matrix
(1415) HC2-SP4 ⊗ may be source of PID readings??

NO visible soil staining
Or noticeable hydrocarbon odor

Note: 4 VOAs & 1 x 4oz Jar per sample

ATTACHMENT C

PHOTO DOCUMENTATION

PHOTO 1
CS 6 Remedial Excavation.

PHOTO 2
MW-4 & MW-5.

HydroCon	DATE: 11-2-21 DWN: JJT CHK: CH APPROVED: CH PRJ. MGR: CH PROJECT NO: 2015-010	PHOTOPLATE 1 SITE PHOTOGRAPHS CALDER MINE PRINCE WALES ISLAND ALASKA

I:\Autocad Files\Hydrocon-Autocad\2015-010 Calder Mine\2021\Aug 2021\2015-010_BM-CMS-081321.dwg

PHOTO 3
MW04.

PHOTO 4
MW05.

HydroCon

DATE: 11-2-21
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 2015-010

PHOTOPLATE 2
SITE PHOTOGRAPHS

CALDER MINE
PRINCE WALES ISLAND
ALASKA

PHOTO 5
MW06.

Hydro Con

DATE: 11-2-21
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 2015-010

PHOTOPLATE 3
SITE PHOTOGRAPHS

CALDER MINE
PRINCE WALES ISLAND
ALASKA

ATTACHMENT D

WELL DEVELOPMENT FORMS

WELL DEVELOPMENT

Well ID #: MW-4 | Project name: Cable Mine
Date: 9-28-21 | Project #: 2015-010
Time: 1300 | Engineer: RMG

WELL INFORMATION

Monument condition ✓Good o Needs repair ____
Well cap condition ✓Good o Locked o Replaced o Needs replacement
Headspace reading ✓Not measured ____ ppm
Elevation marko Yes ✓Added o Other ____
Well diameter o 1.5-inch ✓2-inch o 4-inch o Other ____
o Odor None o Comments ____

WELL MEASUREMENTS

Total well depth 14.02 ft o Clean bottom ✓Muddy bottom o Not measured
Depth to product — ft
Depth to water 3.38 ft
Casing volume 10.64 ft (H_2O) X 0.16 gpf = 1.7
Casing volumes 1"=0.04 gpf 1.5"=0.09 gpf 2"=0.16 gpf 4"=0.65 gpf 6"= 1.47 gpf

PURGING INFORMATION

Pump type o Peristaltic ✓Submersible o Centrifugal o Other ____
Purge tubing ✓New LDPE o New HDPE o New Teflon o Other ____
Bailer type o Disposable o Stainless o PVC o Other ____
Bailer cord used o Monofillament o Other ____
Purge start time 1300 Purge stop time 1400 Purge Rate (GPM) 0.5
Total Volume Purged (gallons) 7

FIELD PARAMETERS

Meters used o FlowThru Cell o Hach o Hanna o Other ____

Gallons	pH	Temp.	Conductivity	Turbidity	Dissolved Oxygen	ORP
NR						

NOTES/COMMENTS

Well pumped dry (capacity) very quick to recharge. Turbidity cleared quickly. Well purged using Sub pump.

Engineer's Signature [signature] Date 9-28-21

WELL DEVELOPMENT

Well ID #: MW-5 | Project name: Calder Mine
Date: 9-28-21 | Project #: 2015-016
Time: 1400 | Engineer: RHH

WELL INFORMATION

Monument condition ø Good o Needs repair ____
Well cap condition ø Good o Locked o Replaced o Needs replacement
Headspace reading ø Not measured ____ ppm
Elevation marko Yes ø Added o Other ____
Well diameter o 1.5-inch ø 2-inch o 4-inch o Other ____
o Odor None o Comments ____

WELL MEASUREMENTS

Total well depth 13.28 ft o Clean bottom ø Muddy bottom o Not measured
Depth to product — ft
Depth to water 3.80 ft
Casing volume 9.48 ft (H_2O) X 0.16 gpf = 1.5
Casing volumes 1"=0.04 gpf 1.5"=0.09 gpf 2"=0.16 gpf 4"=0.65 gpf 6"= 1.47 gpf

PURGING INFORMATION

Pump type o Peristaltic ø Submersible o Centrifugal o Other ____
Purge tubing ø New LDPE o New HDPE o New Teflon o Other ____
Bailer type o Disposable o Stainless o PVC o Other ____
Bailer cord used o Monofillament o Other ____
Purge start time 1400 Purge stop time 1500 Purge Rate (GPM) 0.5
Total Volume Purged (gallons) 7

FIELD PARAMETERS

Meters used o FlowThru Cell o Hach o Hanna o Other ____

Gallons	pH	Temp.	Conductivity	Turbidity	Dissolved Oxygen	ORP
NR						

NOTES/COMMENTS

Well pumped dry repeatedly several times to recharge. Turbidity cleared Readily. Well purged using the Sub Pump

Engineer's Signature [signature] Date 9-28-21

Hydro Con

WELL DEVELOPMENT

Well ID #: MW-6
Date: 9-28-21
Time: 1500

Project name: Cedar Mill
Project #: 2015-010
Engineer: RAH

WELL INFORMATION

Monument condition ☑ Good ☐ Needs repair
Well cap condition ☑ Good ☐ Locked ☐ Replaced ☐ Needs replacement
Headspace reading ☑ Not measured ____ ppm
Elevation mark ☐ Yes ☑ Added ☐ Other
Well diameter ☐ 1.5-inch ☑ 2-inch ☐ 4-inch ☐ Other
☐ Odor None ☐ Comments

WELL MEASUREMENTS

Total well depth 13.51 ft ☐ Clean bottom ☑ Muddy bottom ☐ Not measured
Depth to product — ft
Depth to water 3.00 ft
Casing volume 10.51 ft (H_2O) X 0.16 gpf = 1.68
Casing volumes 1"=0.04 gpf 1.5"=0.09 gpf 2"=0.16 gpf 4"=0.65 gpf 6"= 1.47 gpf

PURGING INFORMATION

Pump type ☐ Peristaltic ☑ Submersible ☐ Centrifugal ☐ Other
Purge tubing ☑ New LDPE ☐ New HDPE ☐ New Teflon ☐ Other
Bailer type ☐ Disposable ☐ Stainless ☐ PVC ☐ Other
Bailer cord used ☐ Monofillament ☐ Other
Purge start time 1500 Purge stop time 1600 Purge Rate (GPM) 0.7
Total Volume Purged (gallons) 7

FIELD PARAMETERS

Meters used ☐ FlowThru Cell ☐ Hach ☐ Hanna ☐ Other

Gallons	pH	Temp.	Conductivity	Turbidity	Dissolved Oxygen	ORP
NR						

NOTES/COMMENTS

Well purged dry repeatedly but recharged very quickly. Turbidity cleared quickly. Well surged w/ sub. pump.

Engineer's Signature [signature] Date 9-28-21

ATTACHMENT E

GROUNDWATER SAMPLE COLLECTION FORMS

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW-4

Project Name: Calder Mine
Hydrocon Project #: 2015-010
Date 9.26.21

Sample I.D. MW-4-W Time: 1010
Field Duplicate I.D. MW-100-W Time: 1010
Personnel: TAH / CH

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☑ Not measured _____ ppm ☐ Odor None
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 19.02 ft Bottom: ☑ Hard ☐ Soft ☐ Not measured Screen Interval(s): 19.02 - 4.02
Depth to product — ft
Depth to water 3.38 ft Intake Depth (BTOC) 12 Begin Purging Well: 0937
Casing volume 10.64 ft (H_2O) X 0.16 gal/ft = 1.7 gal. X 3 = _____ gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☐ Drummed ☑ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: None

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	~~mS/cm~~ Sp. Cond. ~~(mS/cm)~~ (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	TDS (ppm) ~~Turbidity (NTU)~~ (± 10% or ≤10)
0940	3.38	20.1	10.9	418	NR	7.44	NR	296
0943	"	"	10.9	406	"	7.34	"	287
0946	"	"	10.9	399	"	7.15	"	283
0949	"	"	11.0	394	"	7.15	"	279
0952	"	"	11.1	396	"	7.15	"	281

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 mL VOA	12	HCl	(No) 0.45 0.10	
500 mL Amber	4	None	(No) 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Hydro Con

Well I.D. Number: MW-5

Project Name: Calder Mine
Hydrocon Project #: 2015-016
Date 9-29-21

Sample I.D. MW-5-W Time: 0930
Field Duplicate I.D. — Time: —
Personnel: RAM / CH

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☑ Not measured _____ ppm ☐ Odor None
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 13.28 ft Bottom: ☑ Hard ☐ Soft ☐ Not measured Screen Interval(s): 13.28 - 3.28
Depth to product — ft
Depth to water 3.80 ft Intake Depth (BTOC) 11 Begin Purging Well: 0900
Casing volume 9.48 ft (H_2O) X 0.16 gal/ft = 1.5 gal. X 3 = _____ gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal:: ☐ Drummed ☑ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: None

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	~~mS/cm~~ µS/cm Sp. Cond. (~~mS/cm~~) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	TDS (ppm) ~~Turbidity~~ (~~NTU~~) (± 10% or ≤10)
0903	3.80	~0.40	10.9	515	NR	7.69	NR	368
0906	"	"	10.8	484	"	7.09	"	342
0909	"	"	11.0	461	"	7.07	"	326
0912	"	"	11.1	462	"	7.04	"	315
0915	"	"	11.0	461	"	7.04	"	320

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 mL VOA	6	HCl	(No) 0.45 0.10	
500 mL Amber	2	None	(No) 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Hydro Con

Well I.D. Number: MW-6

Project Name:. Calder Mine
Hydrocon Project #: 2015-10
Date 9.29.21

Sample I.D. MW-6-W Time: 0845
Field Duplicate I.D. _____ Time: _____
Personnel: RAH / CH

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☑ Not measured _____ ppm ☐ Odor None
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 13.51 ft Bottom: ☑ Hard ☐ Soft ☐ Not measured Screen Interval(s): 13.51 - 3.51
Depth to product — ft
Depth to water 3.00 ft Intake Depth (BTOC) 11 Begin Purging Well: 0803
Casing volume 10.51 ft (H_2O) X 0.16 gal/ft = 1.68 gal. X 3 = _____ gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☐ Drummed ☑ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: None

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	~~mS/cm~~ Sp. Cond. (~~mS/cm~~) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	TDS (ppm) ~~Turbidity~~ (~~NTU~~) (± 10% or ≤10)
0806	3.03	20.86	10.7	693	NR	8.07	NR	464
0809	"	"	11.7	986	"	8.14	"	392
0812	"	"	11.6	709	"	8.09	"	292
0815	"	"	11.7	702	"	8.04	"	275
0818	"	"	11.6	704	"	7.99	"	271

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 mL VOA	6	HCl	(No) 0.45 0.10	
5mL Amber	2	—	(No) 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

ATTACHMENT F

LABORATORY RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

October 21, 2021

Craig Hultgren, Project Manager
HydroCon
1339 Commerce Ave, Suite 211
Longview, WA 98632

Dear Mr Hultgren:

Included is the amended report from the testing of material submitted on October 1, 2021 from the Calder 2015-010, F&BI 110006 project. The benzo(a)pyrene concentration in the water samples was lowered to 0.03 ug/L.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Rob Honsberger
HDC1013R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
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www.friedmanandbruya.com

October 13, 2021

Craig Hultgren, Project Manager
HydroCon
1339 Commerce Ave, Suite 211
Longview, WA 98632

Dear Mr Hultgren:

Included are the results from the testing of material submitted on October 1, 2021 from the Calder 2015-010, F&BI 110006 project. There are 42 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Rob Honsberger
HDC1013R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on October 1, 2021 by Friedman & Bruya, Inc. from the HydroCon Calder 2015-010, F&BI 110006 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	HydroCon
110006 -01	MW4-W
110006 -02	MW5-W
110006 -03	MW6-W
110006 -04	MW100-W
110006 -05	Trip
110006 -06	CS6-N2-3
110006 -07	CS6-W2-3
110006 -08	CS6-D-3
110006 -09	CS6-S2-3
110006 -10	HC2-SP1
110006 -11	HC2-SP2
110006 -12	HC2-SP3
110006 -13	HC2-SP4
110006 -14	HC2-D

The 8260D calibration standard failed the acceptance criteria for hexane. The data were flagged accordingly.

Methylene chloride was detected in the 8260D analysis of several samples. The data were flagged as due to laboratory contamination.

The 8270E calibration standard failed the acceptance criteria for 2,4-dinitrophenol and benzoic acid. The data were flagged accordingly.

The 8270E water laboratory control sample and laboratory control sample duplicate failed the acceptance criteria for benzoic acid. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006
Date Extracted: 10/06/21
Date Analyzed: 10/06/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD AK 101

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range (C_6-C_{10})	Surrogate (% Recovery) (Limit 50-150)
CS6-N2-3 110006-06	<5	100
CS6-W2-3 110006-07	<5	96
CS6-D-3 110006-08	<5	94
CS6-S2-3 110006-09	<5	93
HC2-SP1 110006-10	<5	94
HC2-SP2 110006-11	<5	93
HC2-SP3 110006-12	<5	93
HC2-SP4 110006-13	<5	92
HC2-D 110006-14	<5	96
Method Blank 01-1973 MB	<5	97

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006
Date Extracted: 10/06/21
Date Analyzed: 10/06/21

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD AK 101

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range (C_6-C_{10})	Surrogate (% Recovery) (Limit 50-150)
MW4-W 110006-01	<100	93
MW5-W 110006-02	<100	94
MW6-W 110006-03	<100	92
MW100-W 110006-04	<100	95
Method Blank 01-1974 MB	<100	94

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006
Date Extracted: 10/06/21
Date Analyzed: 10/08/21

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW4-W 110006-01	<250	95
MW5-W 110006-02	<250	124
MW6-W 110006-03	<250	85
MW100-W 110006-04	<250	97
Method Blank 01-2282 MB	<250	134

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006
Date Extracted: 10/06/21
Date Analyzed: 10/07/21

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD AK 102

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 50-150)
MW4-W 110006-01	78 x	83
MW5-W 110006-02	500	100
MW6-W 110006-03	120	72
MW100-W 110006-04	<50	76
Method Blank 01-2282 MB	<50	101

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006
Date Extracted: 10/06/21
Date Analyzed: 10/08/21 and 10/11/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
CS6-N2-3 110006-06	<25	92
CS6-W2-3 110006-07	<25	96
CS6-D-3 110006-08	<25	104
CS6-S2-3 110006-09	<25	91
HC2-SP1 110006-10	390	129
HC2-SP2 110006-11	79 x	94
HC2-SP3 110006-12	<25	98
HC2-SP4 110006-13	140	ip
HC2-D 110006-14	<25	122
Method Blank 01-2279 MB	<25	91

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006
Date Extracted: 10/06/21
Date Analyzed: 10/07/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD AK 102

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 50-150)
CS6-N2-3 110006-06	7.8 x	67
CS6-W2-3 110006-07	<5	73
CS6-D-3 110006-08	<5	56
CS6-S2-3 110006-09	<5	79
HC2-SP1 110006-10	160 x	80
HC2-SP2 110006-11	440	79
HC2-SP3 110006-12	28	70
HC2-SP4 110006-13	69 x	68
HC2-D 110006-14	25	81
Method Blank 01-2279 MB	<5	72

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	CS6-W2-3	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-07
Date Analyzed:	10/04/21	Data File:	100407.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	90	109
Toluene-d8	103	89	112
4-Bromofluorobenzene	96	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25 ca	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	0.25
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	CS6-D-3	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-08
Date Analyzed:	10/04/21	Data File:	100408.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	90	109
Toluene-d8	105	89	112
4-Bromofluorobenzene	100	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25 ca	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	HC2-SP3	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-12
Date Analyzed:	10/04/21	Data File:	100409.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	90	109
Toluene-d8	105	89	112
4-Bromofluorobenzene	99	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25 ca	o-Xylene	<0.05
Methylene chloride	1.2 lc	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	HC2-D	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-14
Date Analyzed:	10/04/21	Data File:	100410.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	90	109
Toluene-d8	103	89	112
4-Bromofluorobenzene	99	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25 ca	o-Xylene	<0.05
Methylene chloride	0.58 lc	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	01-2214 mb
Date Analyzed:	10/04/21	Data File:	100405.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	90	109
Toluene-d8	104	89	112
4-Bromofluorobenzene	101	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25 ca	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-01
Date Analyzed:	10/06/21	Data File:	100614.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	104	87	115
4-Bromofluorobenzene	103	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-02
Date Analyzed:	10/06/21	Data File:	100615.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	103	87	115
4-Bromofluorobenzene	101	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	1.2
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW6-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-03
Date Analyzed:	10/06/21	Data File:	100616.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	101	87	115
4-Bromofluorobenzene	98	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW100-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-04
Date Analyzed:	10/06/21	Data File:	100617.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	104	87	115
4-Bromofluorobenzene	102	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-05
Date Analyzed:	10/06/21	Data File:	100618.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	103	87	115
4-Bromofluorobenzene	104	92	112

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	01-2220 mb
Date Analyzed:	10/06/21	Data File:	100610.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	107	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CS6-W2-3	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-07 1/5
Date Analyzed:	10/05/21	Data File:	100514.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	72	24	111
Phenol-d6	81	37	116
Nitrobenzene-d5	83	38	117
2-Fluorobiphenyl	85	45	117
2,4,6-Tribromophenol	80	11	158
Terphenyl-d14	90	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5 ca
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CS6-D-3	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-08 1/5
Date Analyzed:	10/05/21	Data File:	100515.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	70	24	111
Phenol-d6	78	37	116
Nitrobenzene-d5	76	38	117
2-Fluorobiphenyl	80	45	117
2,4,6-Tribromophenol	83	11	158
Terphenyl-d14	86	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5 ca
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	HC2-SP3	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-12 1/5
Date Analyzed:	10/05/21	Data File:	100516.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	54	24	111
Phenol-d6	62	37	116
Nitrobenzene-d5	60	38	117
2-Fluorobiphenyl	67	45	117
2,4,6-Tribromophenol	83	11	158
Terphenyl-d14	88	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5 ca
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	HC2-D	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	110006-14 1/5
Date Analyzed:	10/05/21	Data File:	100517.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	65	24	111
Phenol-d6	72	37	116
Nitrobenzene-d5	71	38	117
2-Fluorobiphenyl	71	45	117
2,4,6-Tribromophenol	85	11	158
Terphenyl-d14	88	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5 ca
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/04/21	Lab ID:	01-2271 mb 1/5
Date Analyzed:	10/05/21	Data File:	100512.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	86	24	111
Phenol-d6	94	37	116
Nitrobenzene-d5	94	38	117
2-Fluorobiphenyl	97	45	117
2,4,6-Tribromophenol	87	11	158
Terphenyl-d14	107	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5 ca
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW4-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-01 1/2
Date Analyzed:	10/07/21	Data File:	100708.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32	10	60
Phenol-d6	23	10	49
Nitrobenzene-d5	61	15	144
2-Fluorobiphenyl	54	25	128
2,4,6-Tribromophenol	57	10	142
Terphenyl-d14	65	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<4	2,6-Dinitrotoluene	<2
Bis(2-chloroethyl) ether	<0.4	3-Nitroaniline	<40
2-Chlorophenol	<4	Acenaphthene	<0.04
1,3-Dichlorobenzene	<0.4	2,4-Dinitrophenol	<12 ca
1,4-Dichlorobenzene	<0.4	Dibenzofuran	<0.4
1,2-Dichlorobenzene	<0.4	2,4-Dinitrotoluene	<2
Benzyl alcohol	<4	4-Nitrophenol	<12
2,2'-Oxybis(1-chloropropane)	<0.4	Diethyl phthalate	<4
2-Methylphenol	<4	Fluorene	<0.04
Hexachloroethane	<0.4	4-Chlorophenyl phenyl ether	<0.4
N-Nitroso-di-n-propylamine	<0.4	N-Nitrosodiphenylamine	<0.4
3-Methylphenol + 4-Methylphenol	<8	4-Nitroaniline	<40
Nitrobenzene	<0.4	4,6-Dinitro-2-methylphenol	<12
Isophorone	<0.4	4-Bromophenyl phenyl ether	<0.4
2-Nitrophenol	<4	Hexachlorobenzene	<0.4
2,4-Dimethylphenol	<4	Pentachlorophenol	<2
Benzoic acid	<20 ca jl	Phenanthrene	<0.04
Bis(2-chloroethoxy)methane	<0.4	Anthracene	<0.04
2,4-Dichlorophenol	<4	Carbazole	<0.4
1,2,4-Trichlorobenzene	<0.4	Di-n-butyl phthalate	<4
Naphthalene	<0.4	Fluoranthene	<0.04
Hexachlorobutadiene	<0.4	Pyrene	<0.04
4-Chloroaniline	<40	Benzyl butyl phthalate	<4
4-Chloro-3-methylphenol	<4	Benz(a)anthracene	<0.04
2-Methylnaphthalene	<0.4	Chrysene	<0.04
1-Methylnaphthalene	<0.4	Bis(2-ethylhexyl) phthalate	<6.4
Hexachlorocyclopentadiene	<1.2	Di-n-octyl phthalate	<4
2,4,6-Trichlorophenol	<4	Benzo(a)pyrene	<0.03
2,4,5-Trichlorophenol	<4	Benzo(b)fluoranthene	<0.04
2-Chloronaphthalene	<0.4	Benzo(k)fluoranthene	<0.04
2-Nitroaniline	<2	Indeno(1,2,3-cd)pyrene	<0.04
Dimethyl phthalate	<4	Dibenz(a,h)anthracene	<0.04
Acenaphthylene	<0.04	Benzo(g,h,i)perylene	<0.08

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW5-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-02 1/2
Date Analyzed:	10/07/21	Data File:	100709.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	16	10	60
Phenol-d6	19	10	49
Nitrobenzene-d5	77	15	144
2-Fluorobiphenyl	80	25	128
2,4,6-Tribromophenol	52	10	142
Terphenyl-d14	95	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<4	2,6-Dinitrotoluene	<2
Bis(2-chloroethyl) ether	<0.4	3-Nitroaniline	<40
2-Chlorophenol	<4	Acenaphthene	<0.04
1,3-Dichlorobenzene	<0.4	2,4-Dinitrophenol	<12 ca
1,4-Dichlorobenzene	<0.4	Dibenzofuran	<0.4
1,2-Dichlorobenzene	<0.4	2,4-Dinitrotoluene	<2
Benzyl alcohol	<4	4-Nitrophenol	<12
2,2'-Oxybis(1-chloropropane)	<0.4	Diethyl phthalate	4.8
2-Methylphenol	<4	Fluorene	0.18
Hexachloroethane	<0.4	4-Chlorophenyl phenyl ether	<0.4
N-Nitroso-di-n-propylamine	<0.4	N-Nitrosodiphenylamine	<0.4
3-Methylphenol + 4-Methylphenol	<8	4-Nitroaniline	<40
Nitrobenzene	<0.4	4,6-Dinitro-2-methylphenol	<12
Isophorone	<0.4	4-Bromophenyl phenyl ether	<0.4
2-Nitrophenol	<4	Hexachlorobenzene	<0.4
2,4-Dimethylphenol	<4	Pentachlorophenol	<2
Benzoic acid	<20 ca jl	Phenanthrene	0.16
Bis(2-chloroethoxy)methane	<0.4	Anthracene	<0.04
2,4-Dichlorophenol	<4	Carbazole	<0.4
1,2,4-Trichlorobenzene	<0.4	Di-n-butyl phthalate	<4
Naphthalene	<0.4	Fluoranthene	<0.04
Hexachlorobutadiene	<0.4	Pyrene	0.072
4-Chloroaniline	<40	Benzyl butyl phthalate	<4
4-Chloro-3-methylphenol	<4	Benz(a)anthracene	<0.04
2-Methylnaphthalene	<0.4	Chrysene	<0.04
1-Methylnaphthalene	<0.4	Bis(2-ethylhexyl) phthalate	<6.4
Hexachlorocyclopentadiene	<1.2	Di-n-octyl phthalate	<4
2,4,6-Trichlorophenol	<4	Benzo(a)pyrene	<0.03
2,4,5-Trichlorophenol	<4	Benzo(b)fluoranthene	<0.04
2-Chloronaphthalene	<0.4	Benzo(k)fluoranthene	<0.04
2-Nitroaniline	<2	Indeno(1,2,3-cd)pyrene	<0.04
Dimethyl phthalate	<4	Dibenz(a,h)anthracene	<0.04
Acenaphthylene	<0.04	Benzo(g,h,i)perylene	<0.08

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW6-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-03 1/2
Date Analyzed:	10/07/21	Data File:	100711.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	18	10	60
Phenol-d6	20	10	49
Nitrobenzene-d5	73	15	144
2-Fluorobiphenyl	68	25	128
2,4,6-Tribromophenol	48	10	142
Terphenyl-d14	87	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<4	2,6-Dinitrotoluene	<2
Bis(2-chloroethyl) ether	<0.4	3-Nitroaniline	<40
2-Chlorophenol	<4	Acenaphthene	<0.04
1,3-Dichlorobenzene	<0.4	2,4-Dinitrophenol	<12 ca
1,4-Dichlorobenzene	<0.4	Dibenzofuran	<0.4
1,2-Dichlorobenzene	<0.4	2,4-Dinitrotoluene	<2
Benzyl alcohol	<4	4-Nitrophenol	<12
2,2'-Oxybis(1-chloropropane)	<0.4	Diethyl phthalate	<4
2-Methylphenol	<4	Fluorene	0.076
Hexachloroethane	<0.4	4-Chlorophenyl phenyl ether	<0.4
N-Nitroso-di-n-propylamine	<0.4	N-Nitrosodiphenylamine	<0.4
3-Methylphenol + 4-Methylphenol	<8	4-Nitroaniline	<40
Nitrobenzene	<0.4	4,6-Dinitro-2-methylphenol	<12
Isophorone	<0.4	4-Bromophenyl phenyl ether	<0.4
2-Nitrophenol	<4	Hexachlorobenzene	<0.4
2,4-Dimethylphenol	<4	Pentachlorophenol	<2
Benzoic acid	<20 ca jl	Phenanthrene	0.089
Bis(2-chloroethoxy)methane	<0.4	Anthracene	<0.04
2,4-Dichlorophenol	<4	Carbazole	<0.4
1,2,4-Trichlorobenzene	<0.4	Di-n-butyl phthalate	<4
Naphthalene	<0.4	Fluoranthene	<0.04
Hexachlorobutadiene	<0.4	Pyrene	<0.04
4-Chloroaniline	<40	Benzyl butyl phthalate	<4
4-Chloro-3-methylphenol	<4	Benz(a)anthracene	<0.04
2-Methylnaphthalene	<0.4	Chrysene	<0.04
1-Methylnaphthalene	<0.4	Bis(2-ethylhexyl) phthalate	<6.4
Hexachlorocyclopentadiene	<1.2	Di-n-octyl phthalate	<4
2,4,6-Trichlorophenol	<4	Benzo(a)pyrene	<0.03
2,4,5-Trichlorophenol	<4	Benzo(b)fluoranthene	<0.04
2-Chloronaphthalene	<0.4	Benzo(k)fluoranthene	<0.04
2-Nitroaniline	<2	Indeno(1,2,3-cd)pyrene	<0.04
Dimethyl phthalate	<4	Dibenz(a,h)anthracene	<0.04
Acenaphthylene	<0.04	Benzo(g,h,i)perylene	<0.08

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW100-W	Client:	HydroCon
Date Received:	10/01/21	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	110006-04 1/2
Date Analyzed:	10/07/21	Data File:	100710.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	24	10	60
Phenol-d6	19	10	49
Nitrobenzene-d5	44	15	144
2-Fluorobiphenyl	41	25	128
2,4,6-Tribromophenol	45	10	142
Terphenyl-d14	50	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<4	2,6-Dinitrotoluene	<2
Bis(2-chloroethyl) ether	<0.4	3-Nitroaniline	<40
2-Chlorophenol	<4	Acenaphthene	<0.04
1,3-Dichlorobenzene	<0.4	2,4-Dinitrophenol	<12 ca
1,4-Dichlorobenzene	<0.4	Dibenzofuran	<0.4
1,2-Dichlorobenzene	<0.4	2,4-Dinitrotoluene	<2
Benzyl alcohol	<4	4-Nitrophenol	<12
2,2'-Oxybis(1-chloropropane)	<0.4	Diethyl phthalate	<4
2-Methylphenol	<4	Fluorene	<0.04
Hexachloroethane	<0.4	4-Chlorophenyl phenyl ether	<0.4
N-Nitroso-di-n-propylamine	<0.4	N-Nitrosodiphenylamine	<0.4
3-Methylphenol + 4-Methylphenol	<8	4-Nitroaniline	<40
Nitrobenzene	<0.4	4,6-Dinitro-2-methylphenol	<12
Isophorone	<0.4	4-Bromophenyl phenyl ether	<0.4
2-Nitrophenol	<4	Hexachlorobenzene	<0.4
2,4-Dimethylphenol	<4	Pentachlorophenol	<2
Benzoic acid	<20 ca jl	Phenanthrene	0.049
Bis(2-chloroethoxy)methane	<0.4	Anthracene	<0.04
2,4-Dichlorophenol	<4	Carbazole	<0.4
1,2,4-Trichlorobenzene	<0.4	Di-n-butyl phthalate	<4
Naphthalene	<0.4	Fluoranthene	<0.04
Hexachlorobutadiene	<0.4	Pyrene	<0.04
4-Chloroaniline	<40	Benzyl butyl phthalate	<4
4-Chloro-3-methylphenol	<4	Benz(a)anthracene	<0.04
2-Methylnaphthalene	<0.4	Chrysene	<0.04
1-Methylnaphthalene	<0.4	Bis(2-ethylhexyl) phthalate	7.8 fc
Hexachlorocyclopentadiene	<1.2	Di-n-octyl phthalate	<4
2,4,6-Trichlorophenol	<4	Benzo(a)pyrene	<0.03
2,4,5-Trichlorophenol	<4	Benzo(b)fluoranthene	<0.04
2-Chloronaphthalene	<0.4	Benzo(k)fluoranthene	<0.04
2-Nitroaniline	<2	Indeno(1,2,3-cd)pyrene	<0.04
Dimethyl phthalate	<4	Dibenz(a,h)anthracene	<0.04
Acenaphthylene	<0.04	Benzo(g,h,i)perylene	<0.08

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	Calder 2015-010, F&BI 110006
Date Extracted:	10/06/21	Lab ID:	01-2277 mb2
Date Analyzed:	10/06/21	Data File:	100609.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	22	11	65
Phenol-d6	16	11	65
Nitrobenzene-d5	98	50	150
2-Fluorobiphenyl	102	44	108
2,4,6-Tribromophenol	62	10	140
Terphenyl-d14	109	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 ca jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.03
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD AK 101

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	100	95	60-120	5

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD AK 101

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	103	108	60-120	5

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Motor Oil	mg/kg (ppm)	250	80	81	60-120	1

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Motor Oil	ug/L (ppb)	2,500	84	92	60-120	9

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD AK 102

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel	mg/kg (ppm)	500	89	92	60-120	3

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD AK102

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	72	80	60-120	11

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 110006-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	1	<0.5	18	20	10-142	11
Chloromethane	mg/kg (ppm)	1	<0.5	48	48	10-126	0
Vinyl chloride	mg/kg (ppm)	1	<0.05	50	49	10-138	2
Bromomethane	mg/kg (ppm)	1	<0.5	65	68	10-163	5
Chloroethane	mg/kg (ppm)	1	<0.5	60	58	10-176	3
Trichlorofluoromethane	mg/kg (ppm)	1	<0.5	56	57	10-176	2
Acetone	mg/kg (ppm)	5	<5	89	92	10-163	3
1,1-Dichloroethene	mg/kg (ppm)	1	<0.05	78	78	10-160	0
Hexane	mg/kg (ppm)	1	<0.25	48	55	10-137	14
Methylene chloride	mg/kg (ppm)	1	<0.5	39	35	10-156	11
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	<0.05	91	87	21-145	4
trans-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	86	85	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	1	<0.05	88	86	19-140	2
2,2-Dichloropropane	mg/kg (ppm)	1	<0.05	102	95	10-158	7
cis-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	89	88	25-135	1
Chloroform	mg/kg (ppm)	1	<0.05	91	88	21-145	3
2-Butanone (MEK)	mg/kg (ppm)	5	<1	82	89	19-147	8
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	<0.05	90	87	12-160	3
1,1,1-Trichloroethane	mg/kg (ppm)	1	<0.05	91	90	10-156	1
1,1-Dichloropropene	mg/kg (ppm)	1	<0.05	83	84	17-140	1
Carbon tetrachloride	mg/kg (ppm)	1	<0.05	89	86	9-164	3
Benzene	mg/kg (ppm)	1	<0.03	89	86	29-129	3
Trichloroethene	mg/kg (ppm)	1	<0.02	88	89	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	1	<0.05	89	88	30-135	1
Bromodichloromethane	mg/kg (ppm)	1	<0.05	92	90	23-155	2
Dibromomethane	mg/kg (ppm)	1	<0.05	92	90	23-145	2
4-Methyl-2-pentanone	mg/kg (ppm)	5	<1	89	90	24-155	1
cis-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	97	93	28-144	4
Toluene	mg/kg (ppm)	1	<0.05	85	83	35-130	2
trans-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	90	87	26-149	3
1,1,2-Trichloroethane	mg/kg (ppm)	1	<0.05	87	87	10-205	0
2-Hexanone	mg/kg (ppm)	5	<0.5	76	83	15-166	9
1,3-Dichloropropane	mg/kg (ppm)	1	<0.05	88	86	31-137	2
Tetrachloroethene	mg/kg (ppm)	1	<0.025	85	83	20-133	2
Dibromochloromethane	mg/kg (ppm)	1	<0.05	90	87	28-150	3
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	<0.05	88	86	28-142	2
Chlorobenzene	mg/kg (ppm)	1	<0.05	88	84	32-129	5
Ethylbenzene	mg/kg (ppm)	1	<0.05	86	84	32-137	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	88	85	31-143	3
m,p-Xylene	mg/kg (ppm)	2	<0.1	88	85	34-136	3
o-Xylene	mg/kg (ppm)	1	<0.05	89	85	33-134	5
Styrene	mg/kg (ppm)	1	<0.05	89	86	35-137	3
Isopropylbenzene	mg/kg (ppm)	1	<0.05	90	86	31-142	5
Bromoform	mg/kg (ppm)	1	<0.05	87	86	21-156	1
n-Propylbenzene	mg/kg (ppm)	1	<0.05	85	83	23-146	2
Bromobenzene	mg/kg (ppm)	1	<0.05	84	83	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	<0.05	83	83	18-149	0
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	85	83	28-140	2
1,2,3-Trichloropropane	mg/kg (ppm)	1	0.23	43 b	42 b	25-144	2 b
2-Chlorotoluene	mg/kg (ppm)	1	<0.05	84	83	31-134	1
4-Chlorotoluene	mg/kg (ppm)	1	<0.05	83	84	31-136	1
tert-Butylbenzene	mg/kg (ppm)	1	<0.05	84	83	30-137	1
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	<0.05	85	83	10-182	2
sec-Butylbenzene	mg/kg (ppm)	1	<0.05	85	84	23-145	1
p-Isopropyltoluene	mg/kg (ppm)	1	<0.05	86	85	21-149	1
1,3-Dichlorobenzene	mg/kg (ppm)	1	<0.05	86	84	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	1	<0.05	84	82	29-129	2
1,2-Dichlorobenzene	mg/kg (ppm)	1	<0.05	86	84	31-132	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	<0.5	85	84	11-161	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	<0.25	85	79	22-142	7
Hexachlorobutadiene	mg/kg (ppm)	1	<0.25	89	86	10-142	3
Naphthalene	mg/kg (ppm)	1	<0.05	86	82	14-157	5
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	<0.25	83	80	20-144	4

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	1	74	10-146
Chloromethane	mg/kg (ppm)	1	86	27-133
Vinyl chloride	mg/kg (ppm)	1	90	22-139
Bromomethane	mg/kg (ppm)	1	89	38-114
Chloroethane	mg/kg (ppm)	1	90	9-163
Trichlorofluoromethane	mg/kg (ppm)	1	91	10-196
Acetone	mg/kg (ppm)	5	96	52-141
1,1-Dichloroethene	mg/kg (ppm)	1	104	47-128
Hexane	mg/kg (ppm)	1	93	43-142
Methylene chloride	mg/kg (ppm)	1	115	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	99	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	1	106	67-129
1,1-Dichloroethane	mg/kg (ppm)	1	104	68-115
2,2-Dichloropropane	mg/kg (ppm)	1	112	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	1	103	72-127
Chloroform	mg/kg (ppm)	1	102	66-120
2-Butanone (MEK)	mg/kg (ppm)	5	89	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	98	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	1	107	62-131
1,1-Dichloropropene	mg/kg (ppm)	1	99	69-128
Carbon tetrachloride	mg/kg (ppm)	1	107	60-139
Benzene	mg/kg (ppm)	1	100	71-118
Trichloroethene	mg/kg (ppm)	1	103	63-121
1,2-Dichloropropane	mg/kg (ppm)	1	99	72-127
Bromodichloromethane	mg/kg (ppm)	1	103	57-126
Dibromomethane	mg/kg (ppm)	1	103	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	5	97	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	1	104	67-122
Toluene	mg/kg (ppm)	1	94	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	1	100	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	1	99	64-115
2-Hexanone	mg/kg (ppm)	5	82	33-152
1,3-Dichloropropane	mg/kg (ppm)	1	95	72-130
Tetrachloroethene	mg/kg (ppm)	1	95	72-114
Dibromochloromethane	mg/kg (ppm)	1	104	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	96	74-132
Chlorobenzene	mg/kg (ppm)	1	94	76-111
Ethylbenzene	mg/kg (ppm)	1	92	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	95	64-121
m,p-Xylene	mg/kg (ppm)	2	93	78-122
o-Xylene	mg/kg (ppm)	1	97	77-124
Styrene	mg/kg (ppm)	1	94	74-126
Isopropylbenzene	mg/kg (ppm)	1	95	76-127
Bromoform	mg/kg (ppm)	1	98	56-132
n-Propylbenzene	mg/kg (ppm)	1	92	74-124
Bromobenzene	mg/kg (ppm)	1	91	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	92	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	91	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	1	91	61-137
2-Chlorotoluene	mg/kg (ppm)	1	90	74-121
4-Chlorotoluene	mg/kg (ppm)	1	92	75-122
tert-Butylbenzene	mg/kg (ppm)	1	93	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	91	76-125
sec-Butylbenzene	mg/kg (ppm)	1	93	71-130
p-Isopropyltoluene	mg/kg (ppm)	1	93	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	1	93	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	1	91	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	1	92	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	95	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	91	64-135
Hexachlorobutadiene	mg/kg (ppm)	1	96	50-153
Naphthalene	mg/kg (ppm)	1	94	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	91	63-138

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 110030-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	98	50-150
Chloromethane	ug/L (ppb)	10	<10	105	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	117	50-150
Bromomethane	ug/L (ppb)	10	<5	113	50-150
Chloroethane	ug/L (ppb)	10	<1	112	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	112	50-150
Acetone	ug/L (ppb)	50	<50	71	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	102	50-150
Hexane	ug/L (ppb)	10	<5	98	50-150
Methylene chloride	ug/L (ppb)	10	<5	121	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	111	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	106	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	108	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	105	50-150
Chloroform	ug/L (ppb)	10	<1	100	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	98	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	100	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	100	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	121	50-150
Benzene	ug/L (ppb)	10	<0.35	97	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	96	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	94	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	112	50-150
Dibromomethane	ug/L (ppb)	10	<1	98	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	110	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	94	50-150
Toluene	ug/L (ppb)	10	<1	88	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	90	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	93	50-150
2-Hexanone	ug/L (ppb)	50	<10	91	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	91	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	90	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	92	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	87	50-150
Chlorobenzene	ug/L (ppb)	10	<1	93	50-150
Ethylbenzene	ug/L (ppb)	10	<1	92	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	100	50-150
m,p-Xylene	ug/L (ppb)	20	<2	91	50-150
o-Xylene	ug/L (ppb)	10	<1	92	50-150
Styrene	ug/L (ppb)	10	<1	90	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	92	50-150
Bromoform	ug/L (ppb)	10	<5	88	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	93	50-150
Bromobenzene	ug/L (ppb)	10	<1	91	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	93	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	89	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	93	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	92	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	98	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	95	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	95	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	91	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	95	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	95	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	84	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	87	50-150
Naphthalene	ug/L (ppb)	10	1.6	68	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	82	50-150

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	104	99	46-206	5
Chloromethane	ug/L (ppb)	10	101	97	70-142	4
Vinyl chloride	ug/L (ppb)	10	113	107	70-130	5
Bromomethane	ug/L (ppb)	10	113	109	56-197	4
Chloroethane	ug/L (ppb)	10	111	104	70-130	7
Trichlorofluoromethane	ug/L (ppb)	10	116	111	70-130	4
Acetone	ug/L (ppb)	50	64	60	10-140	6
1,1-Dichloroethene	ug/L (ppb)	10	100	94	70-130	6
Hexane	ug/L (ppb)	10	97	90	54-136	7
Methylene chloride	ug/L (ppb)	10	83	75	43-134	10
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	105	99	70-130	6
trans-1,2-Dichloroethene	ug/L (ppb)	10	103	98	70-130	5
1,1-Dichloroethane	ug/L (ppb)	10	106	100	70-130	6
2,2-Dichloropropane	ug/L (ppb)	10	115	109	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	106	101	70-130	5
Chloroform	ug/L (ppb)	10	100	96	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	85	86	17-154	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	110	104	70-130	6
1,1,1-Trichloroethane	ug/L (ppb)	10	109	103	70-130	6
1,1-Dichloropropene	ug/L (ppb)	10	101	92	70-130	9
Carbon tetrachloride	ug/L (ppb)	10	113	107	70-130	5
Benzene	ug/L (ppb)	10	108	102	70-130	6
Trichloroethene	ug/L (ppb)	10	97	92	70-130	5
1,2-Dichloropropane	ug/L (ppb)	10	99	94	70-130	5
Bromodichloromethane	ug/L (ppb)	10	110	102	70-130	8
Dibromomethane	ug/L (ppb)	10	102	94	70-130	8
4-Methyl-2-pentanone	ug/L (ppb)	50	102	88	68-130	15
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	95	69-131	5
Toluene	ug/L (ppb)	10	98	97	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	103	97	70-130	6
1,1,2-Trichloroethane	ug/L (ppb)	10	99	97	70-130	2
2-Hexanone	ug/L (ppb)	50	95	91	45-138	4
1,3-Dichloropropane	ug/L (ppb)	10	99	93	70-130	6
Tetrachloroethene	ug/L (ppb)	10	99	97	70-130	2
Dibromochloromethane	ug/L (ppb)	10	101	97	60-148	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	93	70-130	3
Chlorobenzene	ug/L (ppb)	10	98	98	70-130	0
Ethylbenzene	ug/L (ppb)	10	101	100	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	106	108	70-130	2
m,p-Xylene	ug/L (ppb)	20	100	99	70-130	1
o-Xylene	ug/L (ppb)	10	102	101	70-130	1
Styrene	ug/L (ppb)	10	99	99	70-130	0
Isopropylbenzene	ug/L (ppb)	10	104	102	70-130	2
Bromoform	ug/L (ppb)	10	102	103	69-138	1
n-Propylbenzene	ug/L (ppb)	10	100	99	70-130	1
Bromobenzene	ug/L (ppb)	10	99	95	70-130	4
1,3,5-Trimethylbenzene	ug/L (ppb)	10	107	102	70-130	5
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	98	96	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	97	93	70-130	4
2-Chlorotoluene	ug/L (ppb)	10	102	100	70-130	2
4-Chlorotoluene	ug/L (ppb)	10	99	98	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	101	99	70-130	2
1,2,4-Trimethylbenzene	ug/L (ppb)	10	106	103	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	104	101	70-130	3
p-Isopropyltoluene	ug/L (ppb)	10	106	103	70-130	3
1,3-Dichlorobenzene	ug/L (ppb)	10	103	100	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	100	97	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	104	102	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	112	103	70-130	8
1,2,4-Trichlorobenzene	ug/L (ppb)	10	101	99	70-130	2
Hexachlorobutadiene	ug/L (ppb)	10	96	95	70-130	1
Naphthalene	ug/L (ppb)	10	109	104	70-130	5
1,2,3-Trichlorobenzene	ug/L (ppb)	10	101	98	70-130	3

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 110006-07 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.83	<0.5	87	84	39-127	4
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.83	<0.05	79	80	35-117	1
2-Chlorophenol	mg/kg (ppm)	0.83	<0.5	84	82	30-122	2
1,3-Dichlorobenzene	mg/kg (ppm)	0.83	<0.05	80	77	36-106	4
1,4-Dichlorobenzene	mg/kg (ppm)	0.83	<0.05	80	77	36-106	4
1,2-Dichlorobenzene	mg/kg (ppm)	0.83	<0.05	79	78	38-107	1
Benzyl alcohol	mg/kg (ppm)	2.5	<0.5	82	84	36-121	2
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.83	<0.05	82	80	50-150	2
2-Methylphenol	mg/kg (ppm)	0.83	<0.5	87	83	38-120	5
Hexachloroethane	mg/kg (ppm)	0.83	<0.05	83	79	32-114	5
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.83	<0.05	92	91	50-150	1
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.83	<1	88	85	39-121	3
Nitrobenzene	mg/kg (ppm)	0.83	<0.05	91	83	42-118	9
Isophorone	mg/kg (ppm)	0.83	<0.05	94	89	30-135	5
2-Nitrophenol	mg/kg (ppm)	0.83	<0.5	94	90	22-137	4
2,4-Dimethylphenol	mg/kg (ppm)	0.83	<0.5	90	82	38-124	9
Benzoic acid	mg/kg (ppm)	2.5	<2.5	33	30	10-101	10
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.83	<0.05	92	85	37-121	8
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.5	93	86	24-130	8
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.05	86	82	41-112	5
Naphthalene	mg/kg (ppm)	0.83	<0.01	82	80	34-118	2
Hexachlorobutadiene	mg/kg (ppm)	0.83	<0.05	90	83	39-112	8
4-Chloroaniline	mg/kg (ppm)	2.5	<5	64	64	23-111	0
4-Chloro-3-methylphenol	mg/kg (ppm)	0.83	<0.5	91	89	49-120	2
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.01	82	82	29-130	0
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.01	83	83	37-119	0
Hexachlorocyclopentadiene	mg/kg (ppm)	0.83	<0.15	93	83	10-136	11
2,4,6-Trichlorophenol	mg/kg (ppm)	0.83	<0.5	95	89	15-140	7
2,4,5-Trichlorophenol	mg/kg (ppm)	0.83	<0.5	97	91	20-139	6
2-Chloronaphthalene	mg/kg (ppm)	0.83	<0.05	89	86	42-117	3
2-Nitroaniline	mg/kg (ppm)	2.5	<0.25	104	95	50-150	9
Dimethyl phthalate	mg/kg (ppm)	0.83	<0.5	89	88	50-150	1
Acenaphthylene	mg/kg (ppm)	0.83	<0.01	90	87	45-128	3
2,6-Dinitrotoluene	mg/kg (ppm)	0.83	<0.25	95	89	50-150	7
3-Nitroaniline	mg/kg (ppm)	2.5	<5	78	75	36-110	4
Acenaphthene	mg/kg (ppm)	0.83	<0.01	88	85	36-125	3
2,4-Dinitrophenol	mg/kg (ppm)	1.7	<1.5	71	71	10-135	0
Dibenzofuran	mg/kg (ppm)	0.83	<0.05	77	76	44-120	1
2,4-Dinitrotoluene	mg/kg (ppm)	0.83	<0.25	96	94	50-150	2
4-Nitrophenol	mg/kg (ppm)	1.7	<1.5	106	105	25-139	1
Diethyl phthalate	mg/kg (ppm)	0.83	<0.5	89	89	48-126	0
Fluorene	mg/kg (ppm)	0.83	<0.01	88	87	48-121	1
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.83	<0.05	89	87	50-150	2
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.05	96	90	50-150	6
4-Nitroaniline	mg/kg (ppm)	2.5	<5	85	83	10-150	2
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.83	<1.5	99	92	10-148	7
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.83	<0.05	92	86	50-150	7
Hexachlorobenzene	mg/kg (ppm)	0.83	<0.05	94	88	50-150	7
Pentachlorophenol	mg/kg (ppm)	0.83	<0.25	92	83	23-145	10
Phenanthrene	mg/kg (ppm)	0.83	<0.01	90	87	50-150	3
Anthracene	mg/kg (ppm)	0.83	<0.01	92	88	50-150	4
Carbazole	mg/kg (ppm)	0.83	<0.05	98	93	50-150	5
Di-n-butyl phthalate	mg/kg (ppm)	0.83	<0.5	98	94	43-124	4
Fluoranthene	mg/kg (ppm)	0.83	<0.01	93	90	50-150	3
Pyrene	mg/kg (ppm)	0.83	<0.01	93	89	50-150	4
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.5	88	86	50-150	2
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.01	93	91	50-150	2
Chrysene	mg/kg (ppm)	0.83	<0.01	93	92	50-150	1
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.8	98	93	45-130	5
Di-n-octyl phthalate	mg/kg (ppm)	0.83	<0.5	90	87	25-160	3
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.01	92	90	50-150	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.01	92	90	50-150	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.01	95	94	50-150	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.01	86	86	41-134	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.01	85	87	44-130	2
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.01	84	86	33-131	2

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.83	90	47-128
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.83	85	35-131
2-Chlorophenol	mg/kg (ppm)	0.83	90	58-111
1,3-Dichlorobenzene	mg/kg (ppm)	0.83	84	52-105
1,4-Dichlorobenzene	mg/kg (ppm)	0.83	83	53-106
1,2-Dichlorobenzene	mg/kg (ppm)	0.83	84	54-105
Benzyl alcohol	mg/kg (ppm)	2.5	86	36-147
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.83	87	58-97
2-Methylphenol	mg/kg (ppm)	0.83	92	65-107
Hexachloroethane	mg/kg (ppm)	0.83	89	58-107
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.83	94	70-130
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.83	90	67-109
Nitrobenzene	mg/kg (ppm)	0.83	92	63-112
Isophorone	mg/kg (ppm)	0.83	92	52-128
2-Nitrophenol	mg/kg (ppm)	0.83	96	62-119
2,4-Dimethylphenol	mg/kg (ppm)	0.83	89	53-119
Benzoic acid	mg/kg (ppm)	3.2	69	13-223
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.83	93	65-108
2,4-Dichlorophenol	mg/kg (ppm)	0.83	94	67-109
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	89	58-109
Naphthalene	mg/kg (ppm)	0.83	86	58-108
Hexachlorobutadiene	mg/kg (ppm)	0.83	92	55-108
4-Chloroaniline	mg/kg (ppm)	2.5	78	10-136
4-Chloro-3-methylphenol	mg/kg (ppm)	0.83	94	70-130
2-Methylnaphthalene	mg/kg (ppm)	0.83	87	67-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	87	66-107
Hexachlorocyclopentadiene	mg/kg (ppm)	0.83	91	46-127
2,4,6-Trichlorophenol	mg/kg (ppm)	0.83	99	65-116
2,4,5-Trichlorophenol	mg/kg (ppm)	0.83	96	67-117
2-Chloronaphthalene	mg/kg (ppm)	0.83	94	67-109
2-Nitroaniline	mg/kg (ppm)	2.5	99	46-148
Dimethyl phthalate	mg/kg (ppm)	0.83	91	70-130
Acenaphthylene	mg/kg (ppm)	0.83	94	70-130
2,6-Dinitrotoluene	mg/kg (ppm)	0.83	96	70-130
Acenaphthene	mg/kg (ppm)	0.83	91	66-112
2,4-Dinitrophenol	mg/kg (ppm)	1.7	86	10-233
Dibenzofuran	mg/kg (ppm)	0.83	80	63-117
2,4-Dinitrotoluene	mg/kg (ppm)	0.83	93	63-137
4-Nitrophenol	mg/kg (ppm)	1.7	98	16-187
Diethyl phthalate	mg/kg (ppm)	0.83	90	64-120
Fluorene	mg/kg (ppm)	0.83	91	67-117
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.83	91	70-130
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	94	70-130
4-Nitroaniline	mg/kg (ppm)	2.5	82	45-150
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.83	99	51-152
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.83	96	70-130
Hexachlorobenzene	mg/kg (ppm)	0.83	94	70-130
Pentachlorophenol	mg/kg (ppm)	0.83	94	60-133
Phenanthrene	mg/kg (ppm)	0.83	91	70-130
Anthracene	mg/kg (ppm)	0.83	94	70-130
Carbazole	mg/kg (ppm)	0.83	97	70-130
Di-n-butyl phthalate	mg/kg (ppm)	0.83	85	55-123
Fluoranthene	mg/kg (ppm)	0.83	98	70-130
Pyrene	mg/kg (ppm)	0.83	96	70-130
Benzyl butyl phthalate	mg/kg (ppm)	0.83	91	67-119
Benz(a)anthracene	mg/kg (ppm)	0.83	97	70-130
Chrysene	mg/kg (ppm)	0.83	99	70-130
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	89	59-116
Di-n-octyl phthalate	mg/kg (ppm)	0.83	77	46-129
Benzo(a)pyrene	mg/kg (ppm)	0.83	97	68-120
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	100	69-125
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	102	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	83	67-129
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	87	67-128
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	85	64-127

Date of Report: 10/13/21
Date Received: 10/01/21
Project: Calder 2015-010, F&BI 110006

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	10	10	10-86	0
Bis(2-chloroethyl) ether	ug/L (ppb)	5	91 vo	88	60-88	3
2-Chlorophenol	ug/L (ppb)	5	53	52	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	5	82	80	48-91	2
1,4-Dichlorobenzene	ug/L (ppb)	5	82	81	48-91	1
1,2-Dichlorobenzene	ug/L (ppb)	5	84	83	52-92	1
Benzyl alcohol	ug/L (ppb)	15	36	35	10-72	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	90 vo	86	59-86	5
2-Methylphenol	ug/L (ppb)	5	41	41	10-75	0
Hexachloroethane	ug/L (ppb)	5	81	80	47-92	1
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	103	99	70-130	4
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	31	33	10-66	6
Nitrobenzene	ug/L (ppb)	5	84	81	60-90	4
Isophorone	ug/L (ppb)	5	98	93	70-130	5
2-Nitrophenol	ug/L (ppb)	5	74	71	27-104	4
2,4-Dimethylphenol	ug/L (ppb)	5	71	70	10-84	1
Benzoic acid	ug/L (ppb)	40	4 vo	4 vo	10-102	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	5	73	72	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	5	86	82	56-93	5
Naphthalene	ug/L (ppb)	5	85	85	62-90	0
Hexachlorobutadiene	ug/L (ppb)	5	73	72	48-85	1
4-Chloroaniline	ug/L (ppb)	15	88	83	35-108	6
4-Chloro-3-methylphenol	ug/L (ppb)	5	71	73	18-109	3
2-Methylnaphthalene	ug/L (ppb)	5	89	90	64-93	1
1-Methylnaphthalene	ug/L (ppb)	5	90	90	64-93	0
Hexachlorocyclopentadiene	ug/L (ppb)	5	81	80	49-112	1
2,4,6-Trichlorophenol	ug/L (ppb)	5	67	62	16-112	8
2,4,5-Trichlorophenol	ug/L (ppb)	5	73	70	26-113	4
2-Chloronaphthalene	ug/L (ppb)	5	94	91	67-97	3
2-Nitroaniline	ug/L (ppb)	15	80	96	31-168	18
Dimethyl phthalate	ug/L (ppb)	5	97	99	70-130	2
Acenaphthylene	ug/L (ppb)	5	95	93	70-130	2
2,6-Dinitrotoluene	ug/L (ppb)	5	100	101	70-130	1
3-Nitroaniline	ug/L (ppb)	15	88	90	33-120	2
Acenaphthene	ug/L (ppb)	5	91	89	70-130	2
2,4-Dinitrophenol	ug/L (ppb)	10	55	46	10-120	18
Dibenzofuran	ug/L (ppb)	5	95	95	67-107	0
2,4-Dinitrotoluene	ug/L (ppb)	5	76	80	53-132	5
4-Nitrophenol	ug/L (ppb)	10	12	11	10-89	9
Diethyl phthalate	ug/L (ppb)	5	96	99	70-130	3
Fluorene	ug/L (ppb)	5	93	94	70-130	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	93	94	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	5	97	95	70-130	2
4-Nitroaniline	ug/L (ppb)	15	89	87	32-122	2
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	72	65	10-139	10
4-Bromophenyl phenyl ether	ug/L (ppb)	5	93	90	70-130	3
Hexachlorobenzene	ug/L (ppb)	5	81	81	65-95	0
Pentachlorophenol	ug/L (ppb)	5	59	54	10-129	9
Phenanthrene	ug/L (ppb)	5	94	93	70-130	1
Anthracene	ug/L (ppb)	5	94	91	70-130	3
Carbazole	ug/L (ppb)	5	99	99	70-130	0
Di-n-butyl phthalate	ug/L (ppb)	5	99	84	28-147	16
Fluoranthene	ug/L (ppb)	5	97	96	70-130	1
Pyrene	ug/L (ppb)	5	97	95	70-130	2
Benzyl butyl phthalate	ug/L (ppb)	5	87	90	34-142	3
Benz(a)anthracene	ug/L (ppb)	5	99	100	70-130	1
Chrysene	ug/L (ppb)	5	98	98	70-130	0
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	85	91	53-133	7
Di-n-octyl phthalate	ug/L (ppb)	5	94	95	49-119	1
Benzo(a)pyrene	ug/L (ppb)	5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	5	102	97	70-130	5
Benzo(k)fluoranthene	ug/L (ppb)	5	99	99	70-130	0
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	86	94	70-130	9
Dibenz(a,h)anthracene	ug/L (ppb)	5	88	93	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	5	84	90	70-130	7

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

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

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

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

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

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

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

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

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

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

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

110006

SAMPLE CHAIN OF CUSTODY

10-01-21 E03 / VW3 / B 2 CE3

Page # ____ of ____

Send Report To Craig Hultgren

Company Hydrocon

Address

City, State, ZIP

Phone # Fax #

SAMPLERS (signature)

PROJECT NAME/NO. Calder

PO# 2015-010

REMARKS

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	AK 101	AK 102	AK103	BTEX 8460			Notes
MW4-W	01A-H	9/29/21		water	8				X	X		X	X	X				
MW5-W	02				8				X	X		X	X	X				
MW6-W	03				8				X	X		X	X	X				
MW100-W	04				8				X	X		X	X	X				
Trip	05AB				2							~~X~~	~~X~~	~~X~~	X			only BTEX
CS6-N2-3	06A,E			Soil	5							X	X	X				
CS6-W2-3	07				5				X	X		X	X	X				
CS6-D-3	08				5				X	X		X	X	X				
CS6-S2-3	09				5							X	X	X				
HC2-SP1	10				5							X	X	X				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Craig Hultgren	Hydrocon		9/30/21
Received by:	VINH	FBI	10/1/21	10:00 AM
Relinquished by:				
Received by:		Samples received at 4 °C		

110006

SAMPLE CHAIN OF CUSTODY

10-01-21

Page # 2 of 2

Send Report To Craig Hultgren

Company Hydroco

Address

City, State, ZIP

Phone # Fax #

SAMPLERS (signature)

PROJECT NAME/NO. Calder

PO# 2015-010

REMARKS

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	AK 101	AK 102	AK 103			Notes
HC2-SP2	11A-E	9/29/21		Soil	5							X	X	X			
HC2-SP3	12	↓		↓	5				X	X		X	X	X			
HC2-SP4	13				5							X	X	X			
HC2-D	14				5				X	X		X	X	X			

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Craig Hultgren	Hydroco	9/30/21	
Received by:	VIN 4	FBI	10/1/21	10:30
Relinquished by:				
Received by:		Samples received at 4 °C		

FORMS\COC\COC.DOC

ATTACHMENT G

LABORATORY DATA REVIEW CHECKLIST

Laboratory Data Review Checklist

Completed By:

HydroCon Environmental LLC, Craig Hultgren

Title:

Principal Geologist/Vice President

Date:

October 19, 2021

CS Report Name:

Calder 2015-010, F&BI 110006

Report Date:

October 13, 2021

Consultant Firm:

HydroCon Environmental LLC

Laboratory Name:

Friedman & Bruya, Inc.

Laboratory Report Number:

110006

ADEC File Number:

1532.38.001

Hazard Identification Number:

4069

110006

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   (•) Yes ( ) No Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   ( ) Yes ( ) No Comments:

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   (•) Yes ( ) No Comments:

   b. Correct Analyses requested?

   (•) Yes ( ) No Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   (•) Yes ( ) No Comments:

   Samples received at 4°C.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   (•) Yes ( ) No Comments:

   No documentation of sample preservation in case narrative or chain of custody – assumed that sample preservation was acceptable, since it was not noted otherwise.

   c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

   ( ) Yes (•) No Comments:

   No documentation of sample condition in case narrative or chain of custody – assumed that sample condition was acceptable, since it was not noted otherwise.

110006

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

○ Yes ○ No Comments:

e. Data quality or usability affected?

Comments:

Data quality and usability not affected.

4. Case Narrative

a. Present and understandable?

◉ Yes ○ No Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

◉ Yes ○ No Comments:

Data were flagged by the lab accordingly.

c. Were all corrective actions documented?

◉ Yes ○ No Comments:

Case narrative documented corrective actions.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

No impact to data quality/usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

◉ Yes ○ No Comments:

b. All applicable holding times met?

◉ Yes ○ No Comments:

110006

c. All soils reported on a dry weight basis?

(•) Yes ( ) No Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

(•) Yes ( ) No Comments:

e. Data quality or usability affected?

( ) Yes (•) No Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

(•) Yes ( ) No Comments:

iii. If above LOQ, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

( ) Yes ( ) No Comments:

v. Data quality or usability affected?

Comments:

Data quality/usability not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

(•) Yes ( ) No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

( ) Yes (•) No Comments:

Metals/inorganics were not analyzed.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

( ) Yes ( ) No Comments:

LCS/LCSD - SVOCs (water):

- LCS %R for bis(2-chloroethyl) ether; 2,2'-oxybis(1-chloropropane) were above their respective acceptance criteria. Since none of these compounds were constituents of concern for this project, no qualifiers were applied to the results.
- LCS and LCSD %R for benzoic acid were below the acceptance criteria. Since this compound is not a constituent of concern for this project, no qualifiers were applied to the results.

MS/MSD – VOCs (soil):

- Parent sample = 110006-07. MS and MSD %R for 1,2,3-trichloropropane were within the acceptance criteria but were flagged "b" – the analyte was spiked at a level that was less than five times that present in the sample; matrix spike recoveries are not applicable.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

(•) Yes ( ) No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

( ) Yes ( ) No Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality/usability not affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

(•) Yes ( ) No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

( ) Yes (•) No Comments:

AK 103 (Soil):

- The surrogate recovery for sample HC2-SP4 was flagged "ip" – recovery fell outside of control limits due to sample matrix effects. Results were qualified as estimated (J).

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

(•) Yes ( ) No Comments:

iv. Data quality or usability affected?

Comments:

Data quality/usability not affected.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?
(If not, enter explanation below.)

( ) Yes (•) No Comments:

One water trip blank for VOCs was analyzed – all results were non-detect.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

(•) Yes ( ) No Comments:

iii. All results less than LOQ?

◉ Yes ○ No Comments:

iv. If above LOQ, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

Data quality/usability not affected.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

◉ Yes ○ No Comments:

Parent/Field Duplicate Samples:

- HC2-SP3/HC2-D
- CS6-S2-3/CS6-D-3
- MW4-W/MW100-W

ii. Submitted blind to lab?

◉ Yes ○ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

○ Yes ◉ No Comments:

AK102 (Water):

The RPD for samples MW4-W/MW100-W is not applicable. The absolute difference between the two results is less than the reporting limit; no qualifiers applied.

SVOCs (Water):

The RPD for phenanthrene in samples MW4/MW100-W is not applicable. The absolute difference between the two results is less than the reporting limit; no qualifiers applied.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality/usability not affected.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below).

○ Yes ○ No ◉ Not Applicable

Dedicated sampling equipment used at each location.

i. All results less than LOQ?

○ Yes ○ No Comments:

ii. If above LOQ, what samples are affected?

Comments:

iii. Data quality or usability affected?

Comments:

Data quality/usability not affected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

(•) Yes ( ) No Comments:

Results for DRO using method AK 102 for samples MW4-W, CS6-N2-3, HC2-SP1, and HC2-SP4 and results for RRO using method AK 103 for sample HC2-SP2 were given the lab qualifier "x" defined as – "The sample chromatographic pattern does not resemble the fuel standard used for quantitation."

Results for hexane in samples CS6-W2-3, CS6-D-3, HC2-SP3, HC2-D were given the lab qualifier "ca" defined as – "The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate." Results were non-detect; no qualifers applied.

Results for benzoic acid in samples CS6-W2-3, CS6-D-3, HC2-SP3, HC2-D, MW4-W, MW5-W, MW6-W, MW100-W were given the lab qualifier "ca" defined as – "The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate." Results were non-detect and not a project constituent of concern; no qualifers applied.

Results for 2,4-dinitrophenol in samples CS6-W2-3, CS6-D-3, HC2-SP3, HC2-D, MW4-W, MW5-W, MW6-W, MW100-W were given the lab qualifier "ca" defined as – "The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate." Results were non-detect and not a project constituent of concern; no qualifers applied.

Results for methylene chloride in samples HC2-SP3, HC2-D were given the lab qualifier "lc" defined as – "The presence of the analyte is likely due to laboratory contamination." Results were non-detect; no qualifiers applied.

Results for bis(2-ethylhexyl) phthalate in sample MW100-W was given the lab qualifier "fc" defined as – "The analyte is a common laboratory and field contaminant." This analyte is not a project constituent of concern; no qualifiers applied.