



Summary of Results and Safe Work Considerations

**Bulk Material Sampling and
Air Monitoring, Lytton
Wildfire Response
Lytton, British Columbia**

Emergency Management BC

September 20, 2021

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1. Introduction and Background

GHD Limited (GHD) was retained by Emergency Management BC supported by the British Columbia Ministry of Environment and Climate Change Strategy (BC ENV) on behalf, who were acting on behalf of the Village of Lytton and Lytton First Nations to provide environmental consulting and industrial hygiene (IH) services within the Village of Lytton and Kickumcheen-18 reserve land (IR-18), British Columbia (BC) (Site) in response to wildfires that resulted in significant property damage and the evacuation of approximately 1,100 residents (Incident). The Incident occurred on June 30, 2021, when wildfires progressed through the Site, moving south to north resulting in destruction to most of the infrastructure south of the TransCanada Highway 1 (Highway 1).

As part of the provided services, GHD conducted bulk material sampling (previously referred to as ash/soot or particulate sampling) on Site prior to the planned remedial and restoration activities. The sampling program was intended to provide a preliminary assessment of potential constituents of interest (COI) in the material in the Village of Lytton, prior to contractors entering the area for remedial and restoration activities and to assist in determining waste disposal and remedial options as well as general safe work considerations to support the development of prescriptive safe work procedures once the scope of work for recovery and remediation is generated.

From July 9 to 12, 2021, during the initial assessment and in consultation with BC ENV, the Village of Lytton, and contractors, established eight unique zones (Zones), with Zones 1 through 6 each containing an east (A) and west (B) section. Based on observations during the initial assessment, each of the Zones were identified to have sustained significant damage from the Incident and contain debris and potentially hazardous materials.

The Zones are established as follows:

- Zone 1: North of the Village of Lytton, including IR-18 reserve land north to Jade Springs
- Zone 2: Village of Lytton, IR-18 boundary south to 6th Street
- Zone 3: Village of Lytton, 6th Street south to 4th Street
- Zone 4: Village of Lytton, 4th Street south to 2nd Street
- Zone 5: Village of Lytton, 2nd Street south to Transition Road intersection
- Zone 6: Village of Lytton, south of Transition Road intersection
- Zone 7: Village of Lytton, east of the Canadian Pacific (CP) Railway track, Zone 1B south to Main Street
- Zone 8: Village of Lytton, east of Highway 1, south of Zone 7 to Lytton boundary

A Site location map is presented on Figure 1. A Site layout outlining each zone is provided in Figure 2.

Following the initial Site assessment, GHD collected bulk material samples from each Zone for analysis to assess for the presence of combustion related by-products and hazardous materials at select locations.

The purpose of this report is to summarize the results from the bulk material sampling activities and present general safe work considerations to support the development of prescriptive safe work procedures, once the scope of work for recovery and remediation is generated.

2. Sampling and Monitoring Activities

This section presented the sampling and monitoring activities conducted by GHD during the initial assessment and the bulk material sampling program.

2.1 Field Observations

During Site activities from July 12 to July 23, 2021 (Monitoring Period), temperatures on Site ranged from approximately 20 to 39 degrees Celsius (°C). Conditions ranged from sunny to hazy with moderate cloud coverage and winds varied from light to strong with gusts.

During the Site assessments, GHD made the following general observations:

- Zone 1: Consisted of residential properties. GHD observed damaged buildings with compromised stairs and chimneys remaining, and propane tanks.
- Zone 2: Consisted of institutional and residential properties. GHD observed damaged buildings with compromised stairs and chimneys remaining, and propane tanks.
- Zone 3: Consisted of commercial, institutional, and residential properties. GHD observed damaged buildings with compromised stairs and chimneys remaining. A hazardous material stockpile was created in Zone 3.
- Zone 4: Consisted of commercial, institutional and residential properties. GHD observed propane tanks and damaged buildings.
- Zone 5: Consisted of residential and commercial properties. GHD observed damaged buildings, propane tanks, and air conditioning and refrigeration units.
- Zone 6: Consisted of residential properties. GHD observed damaged vehicles, debris material, and jerry cans.
- Zone 7: Consisted of residential properties. GHD observed damaged vehicles and debris material.
- Zone 8: Consisted of residential properties. GHD observed damaged power lines and debris material.

A photographic log is provided in Attachment A.

2.2 Real-Time Air Monitoring

GHD developed a Site-specific Air Monitoring Plan, dated July 12, 2021, (AMP) and conducted real-time air monitoring as a screening tool to identify the presence of elevated airborne concentrations of Site-specific COI for the purpose of alerting Site personnel to potentially changing conditions in the work environment. The Site-specific COI included particulate matter as total dust (PM total), particulate matter as respirable dust (particulates with an aerodynamic diameter of less than 4 micrometers) (PM4), carbon monoxide (CO), lower explosive limit (LEL) and oxygen (O₂). Action levels for the Site-specific COI were established to facilitate a timely and appropriate response to the detection of airborne hazards associated with the Incident. The action levels identified in the AMP represent conservative, health-based exposure limits and guidelines intended to provide protection to workers. Note that the AMP established an action level for PM_{2.5}; however, GHD conservatively collected air monitoring readings for PM₄ and compared results to the action level for PM_{2.5}. Real-time air monitoring activities were conducted under the direction of a GHD certified industrial hygienist (CIH).

GHD used handheld Honeywell RAE Systems MultiRAEs equipped with photoionization detectors and electrochemical sensors specific for carbon monoxide to conduct real-time air monitoring by documenting airborne concentrations of the following COIs: CO, LEL and O₂. Real-time air monitoring data for particulate matter (PM total and PM₄) was conducted using TSI DustTrak DRX and TSI DustTrakII Aerosol Monitors equipped with a light-scattering laser photometer to detect and quantify airborne particulate and aerosols. Real-time air monitoring for the COIs was performed on Site during the initial hazard assessments and bulk material sampling. Locations where real-time air monitoring was conducted are presented in Figure 3.

Table 2.1 summarizes the air monitoring instruments used on Site, detection methods, and instrument detection limits.

Table 2.1 Real-Time Air Monitoring Instrumentation

Instrument	Detection Method	Parameter	Detection Limit
RAE Systems MultiRAE	Electrochemical Sensor	CO	1 ppm
	Catalytic Bead	LEL	1%
	Electrochemical Sensor	O ₂	0.1 %
DustTrak DRX	Light-Scattering Laser Photometer	PM total and PM ₄ ¹	0.001 mg/m ³
Definitions: ppm – Parts per million mg/m ³ – milligrams per cubic metre CO – Carbon Monoxide LEL – Lower explosive limit Notes: Respirable dust; particulates with an aerodynamic diameter of less than 4 micrometers.			

2.3 Bulk Material Sampling

From July 19 to 22, 2021, following the initial Site assessment, GHD collected 32 composite samples from Zones 1 to 8 (CS-01 through CS-32), in general accordance with the Bulk Ash/Soot Sampling Plan, dated July 15, 2021 (Sampling Plan). Four composite samples were collected in each Zone from various property types (i.e. commercial, industrial, institutional, and residential). Each composite sample consisted of approximately four grab samples from an approximate 25 square metre (m²) area, which were combined and homogenized prior to placing the sample into laboratory supplied jars. The composite sampling methodology was developed based on safety and accessibility limitations (i.e. areas such as inside damaged buildings were not assessed) and in consideration of the large area to be covered in a relatively short time.

Samples were placed on ice and submitted under chain of custody (COC) protocol to EMSL Analytical Inc. (EMSL) in either Mississauga, Ontario or Cinnaminson, New Jersey and Bureau Veritas Laboratories in Burnaby, BC for analysis. Due to the potential for asbestos containing material (ACM) on Site, appropriate safety precautions (i.e. personal protective equipment [PPE], decontamination procedures, double-bagging of samples) were followed during sample collection. An overview of locations where bulk material samples were collected is provided on Figure 4. The locations of samples collected in each Zone are also presented in Figure 4A (Zone 1) through Figure 4H (Zone 8). A sample key for the bulk material samples is provided in Table 1.

The 32 samples were tested for combustion by-products and asbestos. When asbestos was detected in a sample, that sample was not analyzed further by the laboratory, as per their health and safety protocols. When asbestos was not detected in a sample, the sample was further analyzed for the following parameters:

- pH
- Metals
- Dioxins/Furans
- Light and heavy extractable petroleum hydrocarbons (LEPH/HEPH)
- Volatile Petroleum Hydrocarbons (VPH)
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyl (PCBs)
- Silica Dust in Solid
- Speciated Phenols

In addition to the bulk analyses, the laboratory conducted two leachate analyses that involved extracting water from the bulk material samples using the synthetic precipitation leaching procedure (SPLP) and the toxic characteristic leaching procedure (TCLP). SPLP extracts constituents from solid materials with a mixture of sulfuric and nitric acids at a pH comparable to that of acid rain¹. TCLP also extracts constituents with acids using a slightly acidic mixture and agitates samples for a period of at least 18 hours. Both procedures are intended to measure concentrations of chemicals that could potentially release from the bulk material into surface water or sediment pore water, if the material migrated into a waterbody such as the Fraser River. TCLP was also completed for waste characterization purposes. Leachate extracted using SPLP and TCLP were analyzed for metals and VOCs.

3. Assessment Criteria

This section presents the criteria that were used to evaluate the real-time air monitoring data and analytical results from the bulk material samples.

3.1 Air Monitoring Action Levels

Action Levels were established to facilitate a timely and appropriate response to the detection of airborne hazards associated with the COIs. Action Levels were generally set at levels lower than established occupational exposure limits (OEL) and guidelines to ensure that if these levels were detected, they were effectively communicated to appropriate Site personnel so that appropriate action could be taken prior to exceeding the OEL.

When airborne concentrations of the COIs listed in Table 3.1 were detected above the Site-specific Action Level, Stop Work Authority (SWA) was implemented and designated Site personnel, GHD personnel, and a GHD CIH were notified. Appropriate actions defined in the AMP were implemented, as required.

It is important to note that evaluation of readings relative to the established Action Levels are based on an approximate one-minute average of levels measured by the real-time air monitoring instruments. If the readings of a COI are greater than the Action Levels and are sustained for the associated averaging period, they are considered an exceedance.

The Site-specific Action Levels for the Site are listed in Table 3.1.

Table 3.1 Real-Time Air Monitoring Site Action Levels

Analyte	Action Level ⁽¹⁾	Description of Action
Carbon Monoxide	< 25 ppm	<u>Action Level 1</u> - No action required.
	≥ 25 ppm	<u>Action Level 2</u> - Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates carbon monoxide concentrations above the Action Level recommend initiating SWA. If air monitoring readings continue to indicate carbon monoxide concentrations above the action limit consult with a GHD Certified Industrial Hygienist, Toxicologist, or other sufficiently qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.

¹ <https://www.ec.gc.ca/air/default.asp?lang=En&n=7E5E9F00-1#ws700E3C67>

Table 3.1 Real-Time Air Monitoring Site Action Levels

Analyte	Action Level ⁽¹⁾	Description of Action
Particulate Matter (Total Dust)	< 5 mg/m ³	<u>Action Level 1</u> - No action required.
	≥ 5 mg/m ³	<u>Action Level 2</u> - Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates total dust concentrations above the Action Level recommend initiating SWA. If air monitoring readings continue to indicate total dust concentrations above the action limit consult with a GHD Certified Industrial Hygienist, Toxicologist, or other sufficiently qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.
Particulate Matter (Respirable Dust [PM4] [PNOS])	< 1.5 mg/m ³	<u>Action Level 1</u> - No action required.
	≥ 1.5 mg/m ³	<u>Action Level 2</u> - Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates respirable dust concentrations above the Action Level recommend initiating SWA. If air monitoring readings continue to indicate respirable dust concentrations above the action limit consult with a GHD Certified Industrial Hygienist, Toxicologist, or other sufficiently qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.
Particulate Matter (Respirable Dust [PM2.5] [PNOS])	< 1.5 mg/m ³	<u>Action Level 1</u> - No action required.
	≥ 1.5 mg/m ³	<u>Action Level 2</u> - Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates respirable dust concentrations above the Action Level recommend initiating SWA. If air monitoring readings continue to indicate respirable dust concentrations above the action limit consult with a GHD Certified Industrial Hygienist, Toxicologist, or other sufficiently qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.
Propane as LEL (with appropriate correction factor ²)	< 1%	<u>Action Level 1</u> - No action required.
	> 1%	<u>Action Level 2</u> - Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates LEL concentrations above the Action Level recommend initiating SWA. If air monitoring readings continue to indicate LEL concentrations below the action limit consult with a GHD Certified Industrial Hygienist, Toxicologist, or other sufficiently qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.

Table 3.1 Real-Time Air Monitoring Site Action Levels

Analyte	Action Level ⁽¹⁾	Description of Action
Oxygen	> 19.5 – 21.5%	<u>Action Level 1</u> - No action required.
	< 19.5%	<u>Action Level 2</u> – Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates oxygen concentrations above the Action Level recommend initiating SWA. If air monitoring readings continue to indicate oxygen concentrations below the action limit consult with a GHD Certified Industrial Hygienist, Toxicologist, or other sufficiently qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.
Notes: 1. Action Levels are based on sustained (greater than 60 seconds) airborne concentrations. 2. LEL MultiRAE/AreaRAE Propane Correction Factor – 1.4 Definitions: COI – Chemical of interest SWA – Stop work authority ppm – Parts per million mg/m3 – milligrams per cubic metre CIH – Certified Industrial Hygienist VOCs – Volatile organic compounds PNOS – Particles not otherwise specified LEL – Lower Explosive Limit		

3.2 Bulk Material Sample Environmental Screening Levels

Analytical results from bulk material samples were screened against following standards and guidelines for reference purposes.

- BC Contaminated Sites Regulation (CSR), Schedule 3.1 soil standards for industrial land use (IL):
 - Part 1 Matrix Numerical Soil Standards for all potential pathways
 - Part 2 Generic Numerical Soil Standards to Protect Human Health
 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health
- Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (SQG) for the Protection of Environmental and Human Health for industrial land use (IL).
- Criteria for hazardous waste as listed in the BC Hazardous Waste Regulation (HWR).
- BC Approved Water Quality Guidelines (BC WQG) (for SPLP leachate data only)

Given that the BC CSR soil standards and the CCME SQGs are applicable for soil samples, they are not directly applicable to the bulk material sample results; however, they were applied for preliminary screening purposes in the absence of directly applicable standards and guidelines.

Analytical results from leachate extracted using SPLP, were conservatively compared to BC WQG for screening purposes.

To the extent practicable, laboratory detection limits were set at concentrations lower than applicable guidelines. When select laboratory detection limits were unable to be lowered to below guidelines, the corresponding results were flagged.

4. Results

This section presents the analytical results from real-time air monitoring data and the samples collected.

4.1 Real-Time Air Monitoring

Based on the real-time air monitoring data collected during the Monitoring Period, concentrations of COI detected by the instruments were below the action levels established in the AMP.

The results of the real-time air monitoring were communicated to BC ENV representatives and contractors in accordance with the AMP. Summaries of the real-time air monitoring data are provided in Table 4.1. Real-time air monitoring locations are presented on Figure 3.

Table 4.1 Real-Time Air Monitoring Data Results

Monitoring Period: 09:00 PT on July 12, 2021 to 14:00 PT on July 23, 2021					
COI	Total Number of Readings	Action Level	Total Number of Exceedances of Action Levels	Reading Maximum	Units
Carbon Monoxide	1,066	25	0	10	ppm
LEL	1,058	1	0	ND (1)	%
Oxygen	1,096	<19.5	0	21.5	%
Particulate Matter (PM total)	1,028	5	0	0.74	mg/m ³
Particulate Matter (PM4 ¹)	1,016	1.5	0	0.50	mg/m ³
Notes: Respirable dust; particulates with an aerodynamic diameter of less than 4 micrometers. Definitions: COI – Constituent of interest LEL – Lower Explosive Limit ND (1) – Measured concentration is less than instrument detection limit (indicated by value in parentheses) ppm – Parts per million PT – Pacific Time mg/m ³ – Milligrams per cubic metre of air					

4.2 Bulk Material Samples

This report includes analytical data from bulk material samples collected from Zones 1 through 8.

Laboratory certificates of analysis are provided in Attachment B. Data validation memoranda are provided in Attachment C.

4.2.1 Combustion Related By-Products

Note *This report includes combustion related by-product analytical data for each of the 32 samples collected.*

Based on a review of the combustion related by-products analytical data, soot (defined as submicron black powder generally produced as an unwanted by-product of combustion or pyrolysis) was not detected above the laboratory limits of quantification (1%) in any samples collected. Ash (defined as residue left after complete carbonization of the material) was not detected above the limit of quantification (1%) in any sample collected.

Char (defined as particulate larger than 1 micrometre made by incomplete combustion) was detected in samples at concentrations ranging from 2 – 5% (in sample CS-29) to 65 – 75% (in samples CS-13 and CS-18) of the composite sample material.

Opaque/Dark particles were detected in each of the 32 samples at concentrations ranging from 5 – 10% (in samples CS-20 and CS-28) to 40 – 50% (in sample CS-24) of the composite sample material.

The results of the combustion by-product sampling and analysis confirmed the presence of fire-related particulate matter, larger than 1 micrometre in size. A summary of the bulk material analytical results for combustion by-products is presented in Table 2.

4.2.2 Asbestos

Note *This report includes asbestos analytical data for each of the 32 samples collected.*

Based on a review of the asbestos analytical data, asbestos was detected above laboratory detection limits in the following samples:

- Sample CS-03, collected from Zone 1A on Residential Property
- Sample CS-09, collected from Zone 3A on Commercial Property
- Sample CS-18, collected from Zone 5B, on Commercial Property
- Sample CS-30, collected from Zone 8, on Residential Property

In accordance with laboratory health and safety procedures, the samples listed above were not analyzed for additional parameters. The results of the asbestos sampling and analysis confirmed that asbestos is present in bulk material at certain locations at the Site. A summary of bulk material analytical results for asbestos is presented in Table 3.

4.2.3 Bulk Characterization

Note *This report includes analytical data for each of the 28 samples analyzed for the complete analytical list (CS-01, CS-02, CS-04 through CS-06, CS-08, CS-10 through CS-17, CS-19 through CS-29, CS-31, and CS-32), which are located in Zones 1 through 8.*

Based on a review of the bulk material sample analytical data from the 28 samples available to date, a summary of results is provided below:

- Concentrations of the following parameters were below laboratory reporting limits in all 28 samples:
 - PCB
- Concentrations of the following parameters were below BC CSR soil standards and/or CCME SQG in all 28 samples:
 - LEPH
 - HEPH
 - VPH

- Concentrations of the following parameters exceeded the BC CSR soil standards and/or CCME SQG in one or more of the 28 samples:
 - pH
 - VOC: benzene, ethylbenzene, and toluene
 - SVOC: phenol
 - PAH: naphthalene, phenanthrene, and quinoline
 - Metals: antimony, arsenic, barium, chromium, copper, lead, molybdenum, nickel, tin, and zinc
- Concentrations of dioxins and furans (as Total Toxic Equivalency [TEQ]) exceeded the BC CSR soil standards for toxicity to soil invertebrates and plants (2,500 pg/g) and/or the CCME SQG (4 pg/g) in one or more of the 28 samples. In accordance with the provincial and federal standards and guidelines, GHD used the World Health Organization (WHO) toxicity equivalency factors (TEF) to assess results for dioxins and furans in the soil samples. The TEF is the ratio of the toxicity of one dioxin or furan to the toxicity of the most toxic dioxin or furan [2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)]. The concentration of each dioxin and furan was multiplied by the associated TEF to calculate a TEQ. The sum of the TEQs in one sample result represents the Total TEQ for that sample, which was compared to the soil quality standards and guidelines listed in Section 3.2.
- Concentrations of silica dust parameters (quartz, cristobalite, tridymite) were detected in one or more of the 28 samples.
- The following parameters exceeded the criteria for hazardous waste as listed in the BC HWR, in one or more of the 28 samples:
 - pH was measured outside (higher than) the criteria range for hazardous waste as listed in the BC HWR (2.0 to 10.5) in samples CS-10 and CS-11
 - TCLP lead in sample CS-24
- Concentrations of the following parameters exceeded the BC WQG in the leachate extracted using SPLP in one or more of the 28 samples:
 - Metals: Aluminium, arsenic, barium, boron, iron, lead, and selenium

Bulk material analytical results are presented in Table 4 (compared to BC CSR soil standards and the CCME SQG), Table 5 (compared to hazardous waste criteria as listed in the BC HWR), and Table 6 (SPLP data compared to BC WQG). Analytical results for dioxins and furans in the bulk samples are presented in Table 7.

5. Safe Work Considerations

Based on the analytical results, the potentially hazardous parameters in the bulk material at the Site may include but are not limited to the following:

- Asbestos
- pH (above 12.5)
- VOC: benzene, ethylbenzene, and toluene
- SVOC: phenol
- PAH: naphthalene, phenanthrene, and quinoline
- Metals: antimony, arsenic, barium, chromium, copper, lead, molybdenum, nickel, tin, and zinc
- Dioxins and furans (as Total TEQ)
- Silica: quartz, cristobalite, tridymite

Given the variability in bulk material present throughout the Site, GHD recommends that all bulk material on Site be treated consistently, based on the most hazardous analytical results, unless a subsequent comprehensive sampling program is completed.

GHD reviewed the available analytical results from the bulk material samples collected and has prepared general safe work considerations to support the development of prescriptive safe work procedures, once the scope of work for recovery and remediation is generated. GHD understands that the scope of work for abatement and recovery are currently under development by the Village and are accordingly not available for inclusion in the report. A detailed scope of work would be required to prepare a prescriptive safe work procedure. Once this information is available, a safe work procedure should be prepared that outlines the scope of work, hazards involved, control measures, and applicable requirements as per the applicable regulations and guidelines. Furthermore, a comprehensive sampling plan may be considered to further refine the safe work procedures. In addition, the prescriptive safe work procedures should include exposure control plans for hazards that may be encountered during the work as required by WorkSafeBC, such as (but not limited to) asbestos, respirable crystalline silica, lead, and heat stress.

The general considerations provided below are applicable for workers only and do not apply to the public, or areas located outside of Zones 1 through 8. These general considerations are made assuming that workers at the Site will be in direct contact with the bulk material during their work activities and/or activities may be ongoing during their on Site work that results in a disturbance of the bulk material, such as abatement and recovery.

5.1 General Asbestos Considerations

The results of the asbestos sampling and analysis confirmed that asbestos is present in bulk material at certain locations at the Site. This bulk material where asbestos was detected is identified as asbestos containing material. At a minimum, asbestos containing material should be abated as a moderate-risk work activity in accordance with WorkSafeBC regulations and guidelines; however, a comprehensive risk assessment should be completed prior to finalizing risk level. Moderate risk work activities and procedures are outlined in the WorkSafeBC document Safe Work Practices for Handling Asbestos (WorkSafeBC 2020). Given the variability in bulk material present throughout the Site, GHD recommends that all bulk material on Site be treated as asbestos containing material (unless obviously not asbestos-containing, such as wood or metal, and surfaces are cleaned prior to disposal), and abated in accordance with WorkSafeBC regulations and guidelines, where removal is necessary, unless a subsequent comprehensive sampling program is conducted, which should be tailored to specific tasks within the scope of work. Furthermore, GHD recommends considering collecting occupational air samples for asbestos fibres during the abatement and recovery activities, as per WorkSafeBC document Safe Work Practices for Handling Asbestos (WorkSafeBC 2020).

5.2 Designated Work Area Exposure Control

In addition to the asbestos control measures outlined in the WorkSafeBC document Safe Work Practices for Handling Asbestos (WorkSafeBC 2020), GHD recommends considering the following designated work area exposure control measures to isolate the designated work area to the extent possible and mitigate exposure to members of the public or other workers outside the designated work area:

- Site contractors should establish a designated work area, isolate the designated work area, and demarcate the extents of the designated work area using caution tape, signage, or similar.
- Access to the designated work area will be restricted to workers donning appropriate PPE, which will be discussed in Section 5.3.
- Establish a three-stage decontamination procedure for equipment and workers including a facility with shower.
- Establish a decontamination facility for all equipment leaving the Site.
- Contractors should have a water source available for dust control as required.

- In the event of rain, runoff from the designated work area should be controlled to the extent possible to mitigate migration of material related impacts into waterbodies and storm water infrastructure. Drainage control measures may include sediment traps in catch basins, catch basin covers, sediment fencing, and/or pumps and vacuum trucks.

5.3 Personal Protective Equipment (PPE)

In addition to the asbestos control measures outlined in the WorkSafeBC document Safe Work Practices for Handling Asbestos (WorkSafeBC 2020), GHD recommends considering the following PPE to be implemented during future work activities at the Site.

At the onset, workers within a designated work area are recommended to wear a minimum of Level C PPE. Level C PPE was selected to provide sufficient level of skin, respiratory, and eye protection.

The following PPE components constitute Level C equipment:

- Half face air purifying respirators (National Institute of Occupational Safety and Health [NIOSH] approved) with appropriate P100 cartridges (fit tested)
- Hooded chemical resistant clothing (i.e. Tyvek coveralls)
- Chemical-resistant inner suit (optional)
- Gloves, outer, chemical resistant
- Gloves, inner, chemical resistant (optional)
- Boots, outer, chemical resistant, steel toe and shank
- Boot covers, outer, chemical resistant, disposable (optional)
- Hard hat
- Safety glasses or goggles

Workers in the Village of Lytton outside of a designated work area will require Level D PPE, plus an air purifying respirator, consisting of the items specified below:

- Half face air purifying respirators (NIOSH approved) with appropriate P100 cartridges (fit tested)
- Coveralls (optional)
- Gloves, chemical resistant
- Boots/shoes, steel toe and shank
- Boots, outer, chemical resistant, disposable (optional)
- Hard hat
- Safety glasses or goggles

All used disposable PPE should be placed into designated containers for subsequent transportation and disposal off Site.

5.4 Air Monitoring and Sampling

GHD recommends considering implementing real-time air monitoring and sampling measures during future activities at the Site. The primary objectives of air quality monitoring and sampling are to:

- Determine representative exposure of workers to the COI during remedial and restoration activities
- Assess the effectiveness of workplace control measures and PPE

Real-time air monitoring is recommended to be conducted in the designated work area and at the perimeter of the designated work area during work activities, for the following COI: total and respirable particulate matter (as asbestos, silica, metals, and PAH) and total VOCs.

Air monitoring and sampling should be conducted using appropriate real time monitoring and/or sampling equipment in accordance with industry standards and WorkSafeBC requirements. Air sampling for asbestos should be conducted in accordance with WorkSafeBC document Safe Work Practices for Handling Asbestos (WorkSafeBC 2020). Instruments should be calibrated and operated in accordance with the manufacturer's specifications or applicable test/method specifications.

GHD used the analytical data from the bulk material sample results to refine the recommended monitoring/sampling methods and action levels used during the initial hazard assessment at the Site. The considerations for each COI are outlined below.

Asbestos

Given that asbestos was detected in the bulk material analytical results, air sampling for asbestos fibres may be considered as per WorkSafeBC document Safe Work Practices for Handling Asbestos (WorkSafeBC 2020). Sampling and analysis should be completed using an acceptable method to WorkSafeBC such as NIOSH Method 7400, Asbestos and Other Fibers by Phase Contrasting Microscopy (PCM).

Metals

No real-time methods exist for detection of the individual metals. Measuring the total particulate concentration provides the quickest means of screening potential exposure to workers on Site. The total particulate concentration which may indicate an exceedance of the action level has been estimated from the Site-specific bulk material sampling data. This estimate is based on calculating the Equivalent Airborne Dust Concentration based on the applicable exposure limit (EADC_{EL}). The EADC_{EL} calculation determines what dust level would equal the exposure limit for a specific metal contaminant, in this instance, multiple metals were identified in the bulk material samples. The following equation shows the relationship of metal contaminant to airborne particulate concentrations.

As an example, the maximum anticipated manganese (Mn) particulate concentration is estimated to be 920 mg_{manganese} /kg_{particulate}. Using the equation above, the EADC_{EL} is calculated as shown below:

$$\text{Total particulate} = \text{EADC}_{EL} = \frac{\text{mg}_{\text{particulate}}}{\text{m}^3_{\text{air}}} = \left(\frac{0.02 \text{ mg}_{\text{Mn}}}{\text{m}^3_{\text{air}}} \right) \left(\frac{\text{kg}_{\text{particulate}}}{920 \text{ mg}_{\text{Mn}}} \right) \left(\frac{10^6 \text{ mg}_{\text{Mn}}}{\text{kg}_{\text{particulate}}} \right) = 21.739$$

Where: EL = The ACGIH TLV-TWA Level of 0.02 mg/m³
 Conc⁻¹ = One kg of particulate contains up to 132,000 mg of Mn
 10⁶ = The amount (in mg) of solid material in a kg of particulate

Table 5.1 shows the relationship between the various metals detected in the bulk material samples, the maximum detected metal concentration in the particulate and the corresponding EADC_{EL}.

Table 5.1 Observed Metal Concentrations in Bulk Material Samples and Corresponding EADC_{EL} Values

Detected Metal (mg/kg)	Concentration (mg/kg)	EADC _{EL} measured as total particulate in mg/m ³ and sustained for 8-hours to reach OEL (mg/m ³)
Aluminum	24,100	20,746
Antimony	400	1,250.000
Arsenic	351	28.490
Beryllium	0.46	108.695
Barium	1600	312.500
Boron	1990	1,005.025

Table 5.1 Observed Metal Concentrations in Bulk Material Samples and Corresponding EADC_{EL} Values

Detected Metal (mg/kg)	Concentration (mg/kg)	EADC _{EL} measured as total particulate in mg/m ³ and sustained for 8-hours to reach OEL (mg/m ³)
Bismuth	1.28	NE
Cadmium	1.39	1438.840
Calcium	227,000	44.052
Cobalt	24.6	813.008
Copper	6,900	144.927
Iron	37,600	132.978
Lead	5,320	9.398
Lithium	21.2	1,179.245
Magnesium	30,000	100.000
Manganese	920	21.739
Nickel	205	243.902
Phosphorous	2,800	NE
Silver	1.2	8,333.330
Sodium	13,700	NE
Strontium	933	NE
Tin	243	8,230.452
Titanium	5700	1,754.386
Tungsten	1.27	362,204.724
Uranium	1.6	125,000.000
Zinc	9,210	NE
Zirconium	14	35,714.285
Definitions: mg/kg – milligram per kilogram mg/m ³ – milligram per cubic metre NE – not established (no established exposure limit)		

Therefore, based on the data and calculations presented above, the airborne particulate concentration established in the action level in Table 3.1 of < 5 mg/m³ is adequate in being protective from airborne heavy metal exposure from the bulk material. Integrated air sampling may be considered to supplement the real-time air monitoring data. Air samples could be collected and analyzed for total dust (respirable) and select individual metals. Samples should be collected and analyzed in accordance with established methods (i.e. NIOSH 7303 for metals and NIOSH 0600 for respirable dust). A field blank should be collected and provided to the laboratory for sample comparison for each analyte sampled.

Polycyclic Aromatic Hydrocarbons

No real-time air monitoring methods exist for detection of individual PAH. Measuring the total particulate concentration provides the quickest means of screening potential exposure to workers on Site.

PAHs are a class of chemicals, each of which has its own unique toxicological properties. For simplification purposes, and to be conservatively protective, cleanup standards are typically referenced to the chemical within this class that has the highest toxicity. This is known as the indicator compound approach. With this approach, GHD added the detected PAH from the sample analytical results and assumed it was all benzo(a)pyrene (i.e. the most toxic PAH).

As an example, the sum of the detected PAH data collected across the samples is 5.9316 mg_{PAH} /kg_{particulate}. Using the equation above, the EADC_{EL} is calculated as shown below:

$$\text{Total particulate} = \text{EADC}_{EL} = \frac{mg_{particulate}}{m_{air}^3} = \left(\frac{0.1 \text{ mg}_{PAH}}{m_{air}^3} \right) \left(\frac{kg_{particulate}}{5.9316 \text{ mg}_{PAH}} \right) \left(\frac{10^6 mg_{PAH}}{kg_{particulate}} \right) = 16,858.857$$

Where: EL = The NIOSH REL-TWA Level for benzo(a)pyrene of 0.01 mg/m³
 Conc⁻¹ = One kg of particulate contains up to 5.9316 mg of benzo(a)pyrene.
 10⁶ = The amount (in mg) of solid material in a kg of particulate

Therefore, based on these data, the airborne particulate concentration established in the action level in Table 3.1 of < 5 mg/m³ is adequate in being protective of airborne PAH from the bulk material. Integrated air sampling may be considered to supplement the real-time air monitoring data. Air samples could be collected and analyzed for total dust (respirable), and individual PAHs. Samples should be collected and analyzed in accordance with established methods (i.e. NIOSH 5506 or 5515 for PAHs and NIOSH 0600 for respirable dust). A field blank should be collected and provided to the laboratory for sample comparison for each analyte sampled.

Dioxins and Furans

No real-time air monitoring methods exist for detection of individual dioxins and furans. Measuring the total particulate concentration provides the quickest means of screening potential exposure to workers on Site.

An EADC_{EL} for dioxins/furans was calculated using the maximum detected dioxin/furan concentration (measured as TEQ) from the bulk samples. Because an occupational exposure limit has not been established for dioxins/furans, a proposed occupational exposure limit for 2,3,7,8-TCDD (Leung, 1988) of 2x10⁻⁷ mg/m³ was utilized.

As an example, the maximum anticipated dioxin/furan particulate concentration is estimated to be 0.002912 mg_{dioxin/furan(TEQ)} /kg_{particulate}. Using the equation discussed above, the EADC_{EL} is calculated as shown below:

$$\text{Total particulate} = \text{EADC}_{EL} = \frac{mg_{particulate}}{m_{air}^3} = \left(\frac{2x10^{-7} \text{ mg}_{dioxins}}{m_{air}^3} \right) \left(\frac{kg_{particulate}}{0.002912 \text{ mg}_{Mn}} \right) \left(\frac{10^6 mg_{Mn}}{kg_{particulate}} \right) = 68.68$$

Where: EL = Proposed occupational exposure limit of 2x10⁻⁷ mg/m³
 Conc⁻¹ = One kg of particulate contains up to 0.002912 mg of dioxin/furan
 10⁶ = The amount (in mg) of solid material in a kg of particulate

Therefore, based on these data, the airborne particulate concentration established in the action level in Table 3.1 of < 5 mg/m³ is adequate in being protective of airborne dioxin/furans from the bulk material.

Silica

Given that silica components, including quartz, cristobalite, and tridymite, were detected in the bulk material analytical results, air sampling for silica during abatement may be considered. Sampling and analysis should be completed using an acceptable method to WorkSafeBC such as NIOSH Method 7500, Silica, Crystalline by X-ray Diffraction (XRD) or NIOSH Method 7602, Silica, Crystalline, by Infrared Spectrometry (IR).

Volatile Organic Compounds

The VOC analysis of the bulk material samples indicates the detection of several low-level VOC. Benzene, a component of gasoline, was detected at an estimated concentration of 7.2 ppm. Benzene has the lowest occupational exposure limit of the detected VOCs and would be the driver for worker exposure. It is important to note that the VOC samples were not collected in open air and do not represent airborne conditions at the site. Additionally, weathering of VOC over time will continue to dissipate volatiles. The WorkSafeBC occupational exposure limit for benzene is 0.5 ppm (8-hour time weighted average).

5.5 First Aid and Emergencies

As required by WorkSafeBC, unless one prime contractor is established for the work, each employer is required to assess the circumstances of the workplace in accordance with applicable occupational health and safety regulations for the purpose of providing first aid. Furthermore, each employer must keep up-to-date written procedures for providing first aid at the worksite as well as provide first aid equipment, supplies, facilities, first aid attendants and services based on the first aid assessment.

GHD recommends ensuring that an emergency procedure is in place including an evacuation and muster plan and a spill response plan.

5.6 Waste Characterization

Once final analytical results from the bulk material samples are available from the laboratory, including dioxins and furans, GHD recommends using analytical data from the samples collected to characterize the bulk material in accordance with the federal Transportation of Dangerous Goods Regulations and the BC ENV Hazardous Waste Regulation to assist in developing an appropriate and safe waste management plan for the Site. A comprehensive sampling plan may be considered to further refine the waste classifications and waste management plan.

5.7 Environmental Assessment

GHD recommends assessing the environmental impact of the bulk material and other potential environmental concerns at the Site that may impact the future health and safety of residents in the Village of Lytton and in areas nearby. This may be completed following or simultaneously with the abatement and recovery of bulk material. This may include but is not limited to conducting confirmatory soil sampling to assess soil impacts and groundwater/potable water sampling to assess drinking water quality.

6. References

American Conference of Governmental Industrial Hygienists (ACGIH). 2001. Air sampling instruments for evaluation of atmospheric contaminants. 9th ed. Cincinnati, Ohio.

ACGIH. 2020 TLVs and BEIs: Based on the Documentation of the Threshold Limit values for Chemical Substances and Physical Agents and Biological Exposure Indices. Cincinnati, Ohio.

ACGIH. 2020. Guide to Occupational Exposure Values 2020. Cincinnati, Ohio.

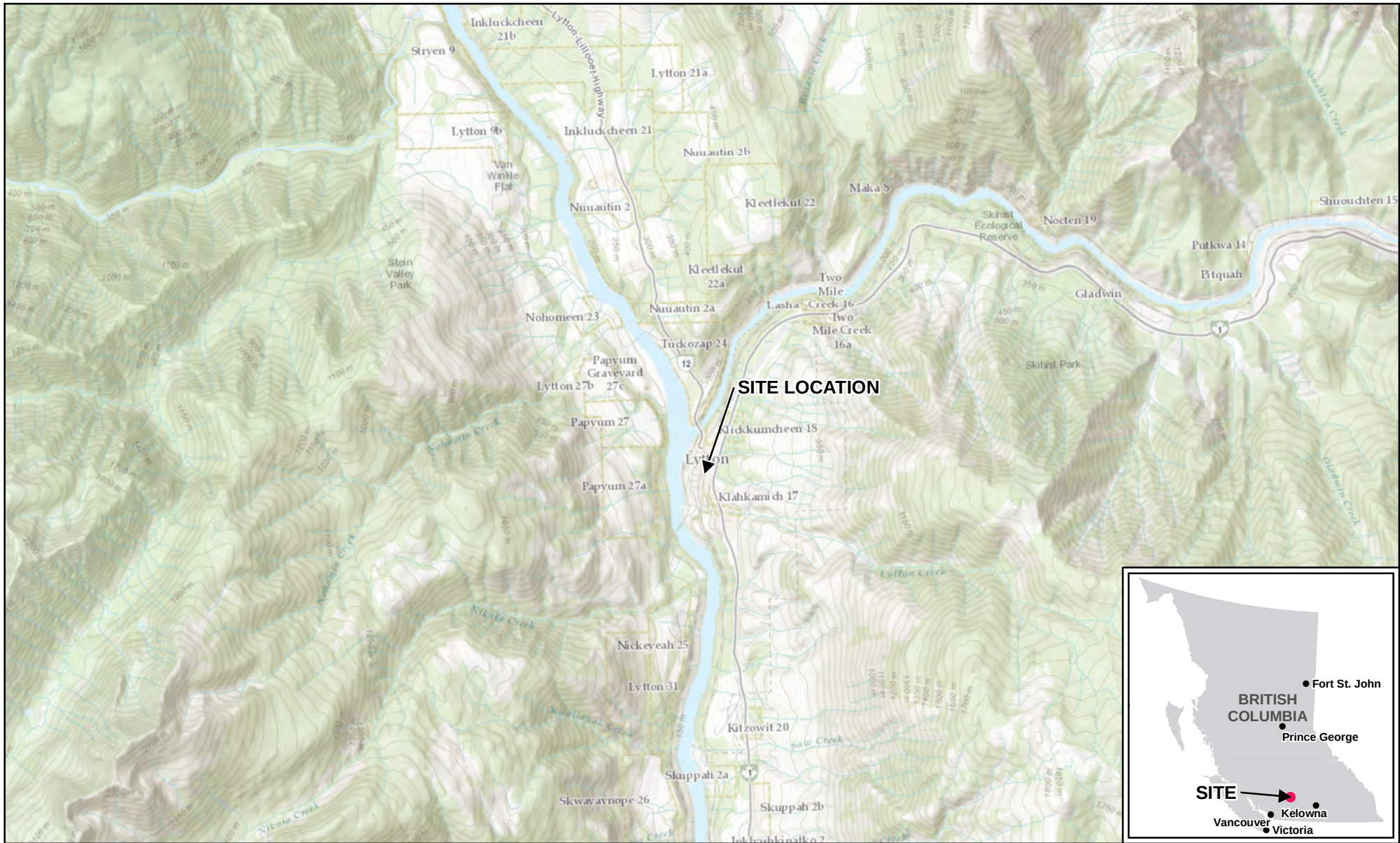
British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). 2009. Technical Guidance on Contaminated Sites, Site Characterization and Confirmation Testing.

BC ENV. 2019. Contaminated Sites Regulation (CSR) [includes amendments up to B.C. Reg. 13/2019, January 24, 2019].

Canadian Council of Ministers of the Environment (CCME). Soil Quality Guidelines for the Protection of Environmental and Human Health. WorkSafeBC. 2020. Safe Work Practices for Handling Asbestos, April 2020.

Leung HW, Murray FJ, Paustenbach DJ. A proposed occupational exposure limit for 2,3,7,8-tetrachlorodibenzo-p-dioxin. American Industrial Hygiene Association Journal. September 1998.

Figures



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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 10N

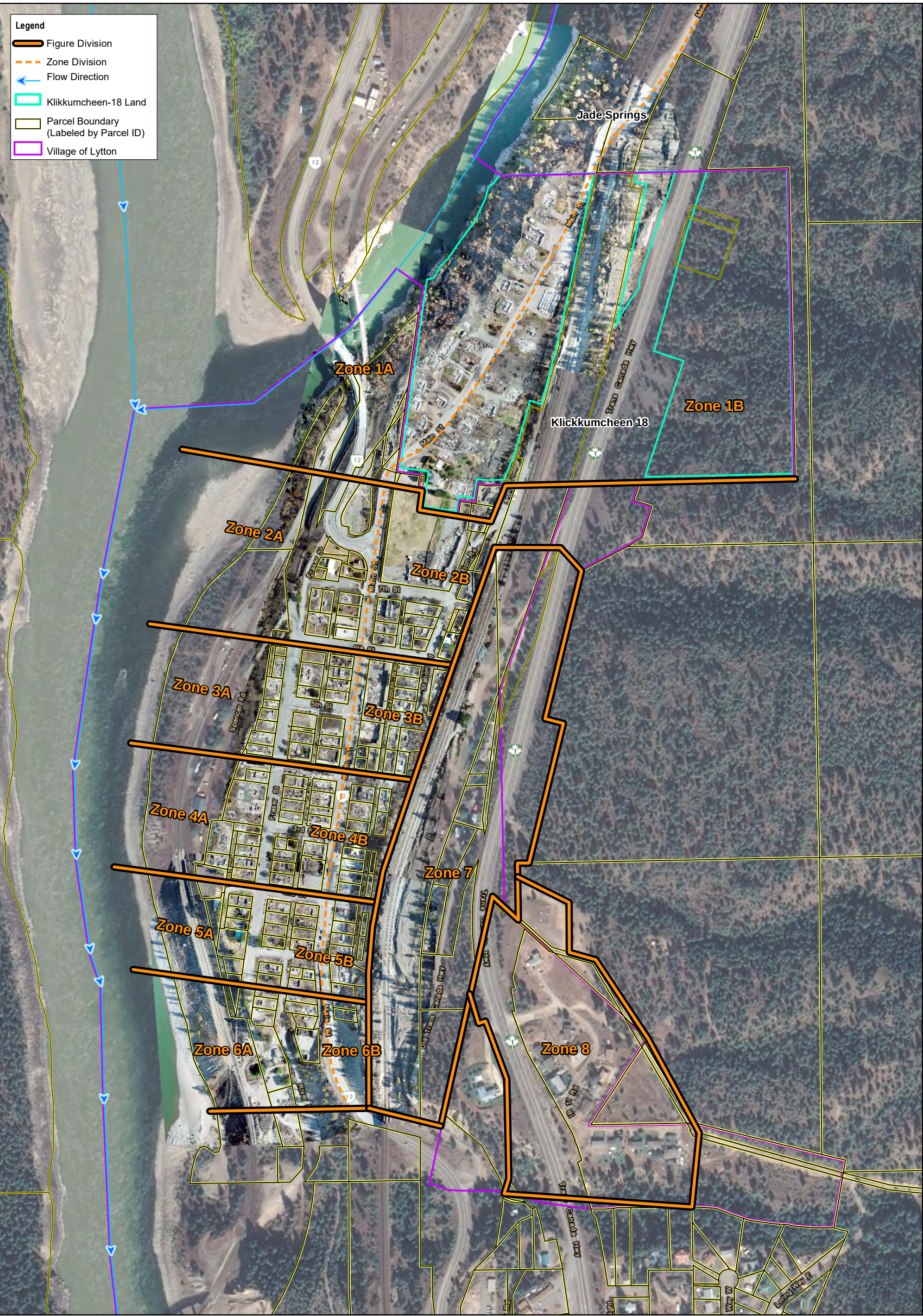


EMERGENCY MANAGEMENT BC
LYTTON, BRITISH COLUMBIA

SITE LOCATION MAP

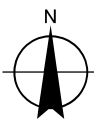
Project No. 11230615
Revision No. -
Date Jul 10, 2021

FIGURE 1



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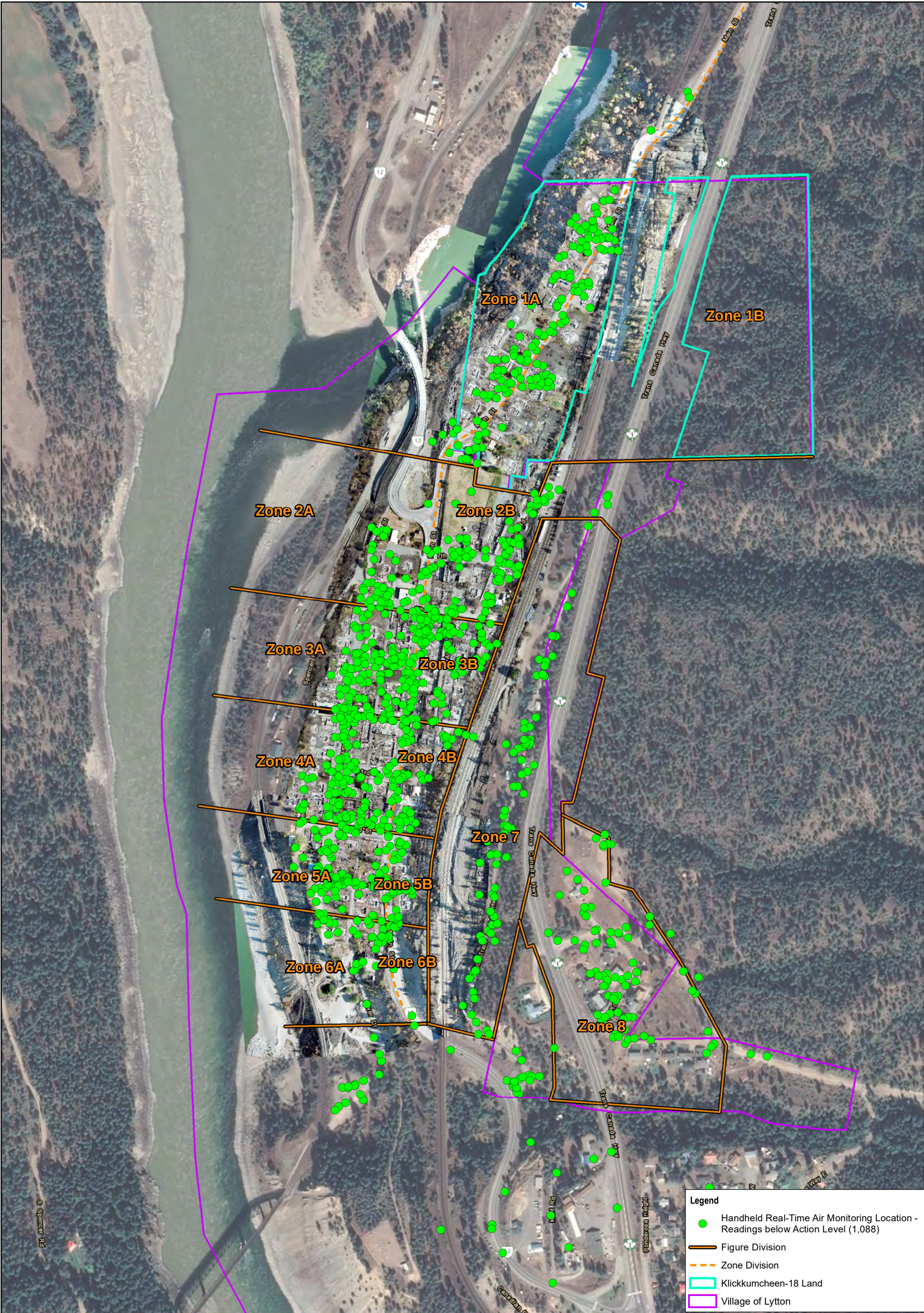


EMERGENCY MANAGEMENT BC
LYTTON, BRITISH COLUMBIA

SITE PLAN

Project No. 11230615
Revision No. -
Date Jul 22, 2021

FIGURE 2



NOTES:
1. > AL = Above Action Level
2. Action Level for PM4 is ≥ 1.5 mg/m³
3. Action Level for PM Total is ≥ 5 mg/m³
4. Action Level for CO Total is ≥ 25 ppm
5. Action Level for LEL is $> 0\%$
6. Action Level for Oxygen is $< 19.5\%$
7. All readings were below Action Levels.

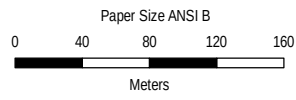
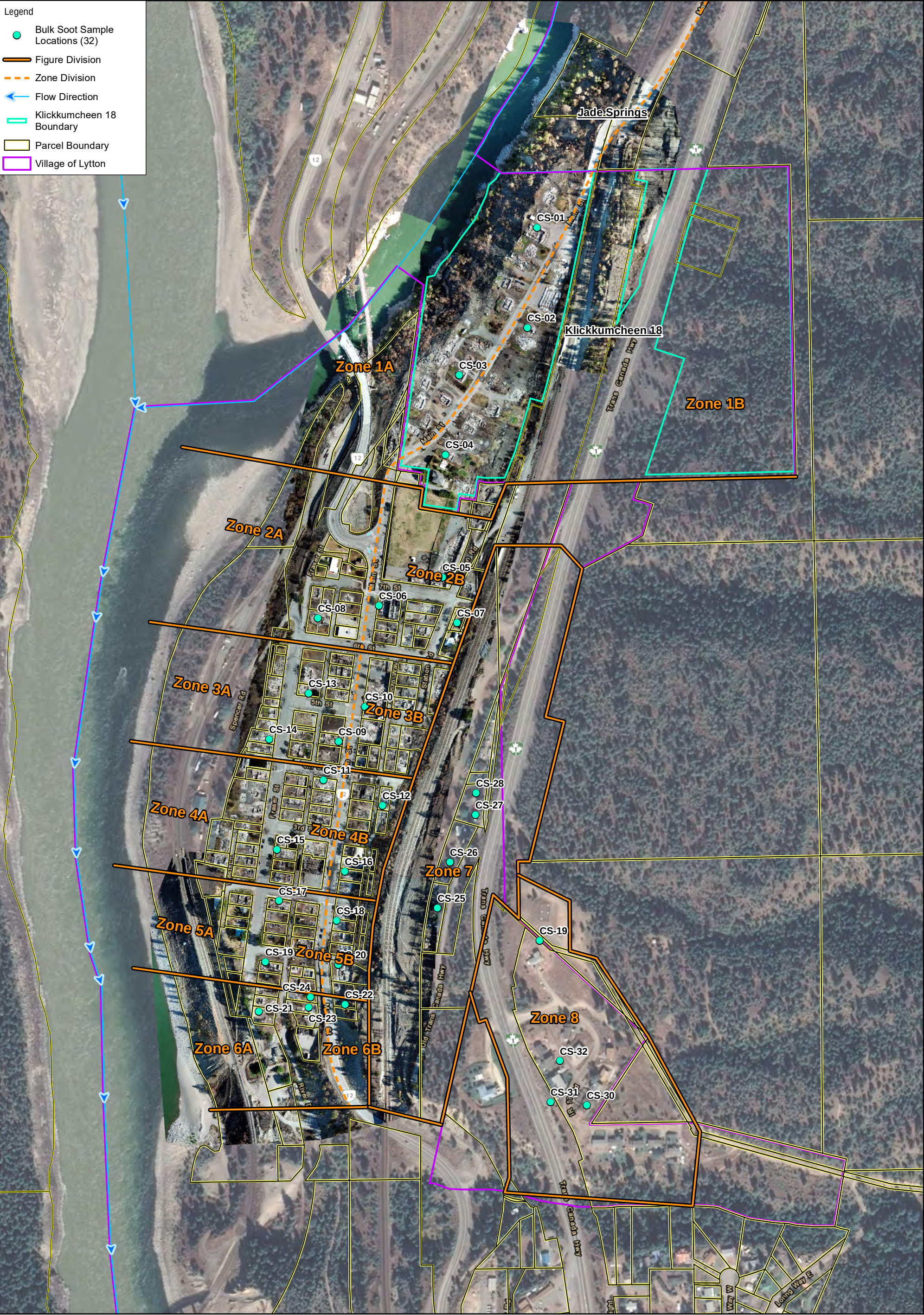
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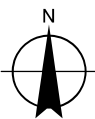
BEMERGENCY MANAGEMENT BC
LYTTON, BRITISH COLUMBIA
REAL-TIME AIR
MONITORING LOCATIONS
JULY 12 TO 23, 2021

Project No. 11230615
Revision No. -
Date Aug 11, 2021

FIGURE 3



Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 10N

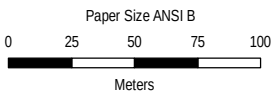
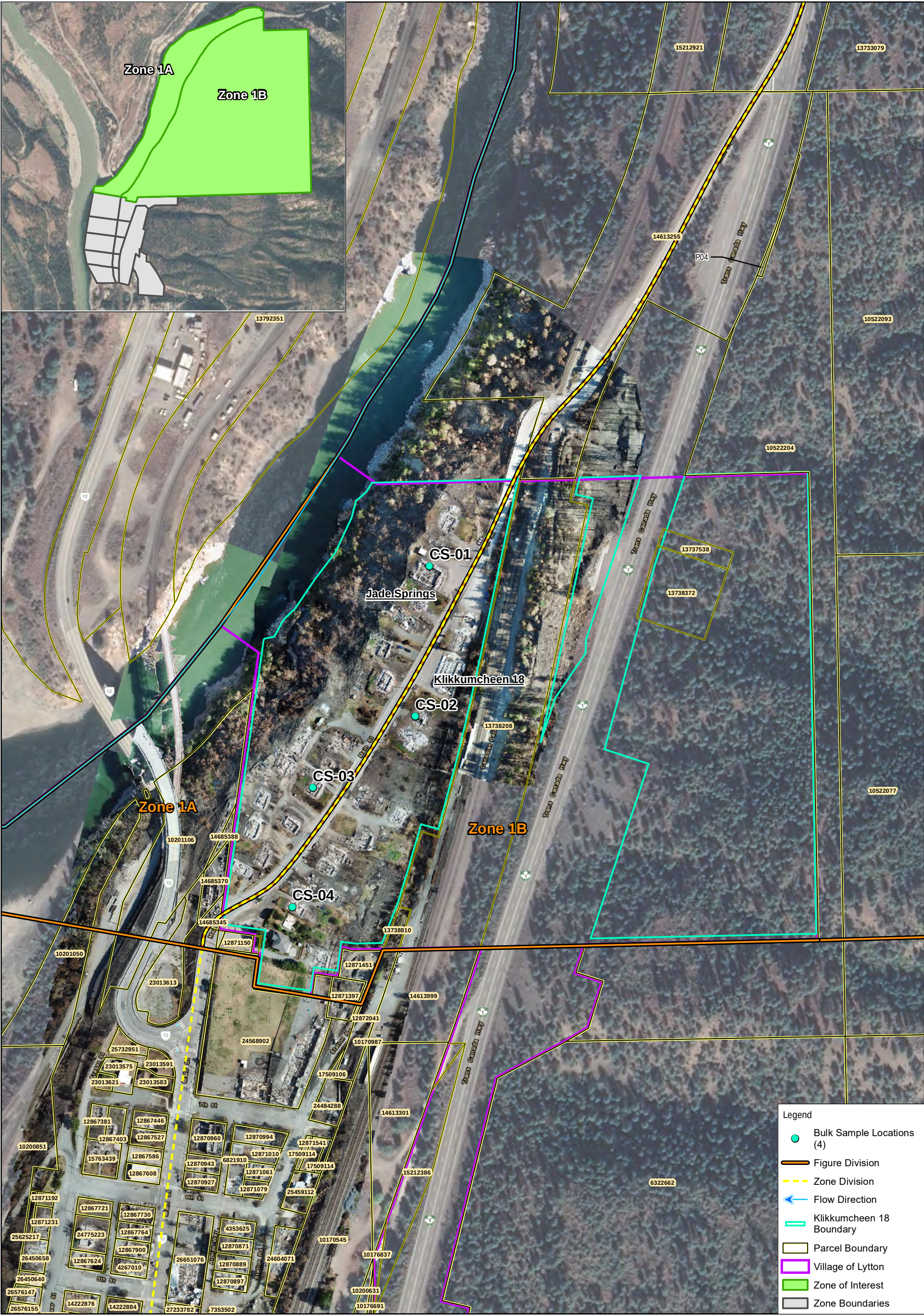


EMERGENCY MANAGEMENT BC
LYTTON, BRITISH COLUMBIA

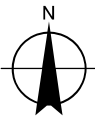
BULK SAMPLING LOCATIONS

Project No. 11230615
Revision No. -
Date Aug 12, 2021

FIGURE 4



Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 10N

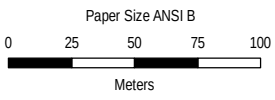
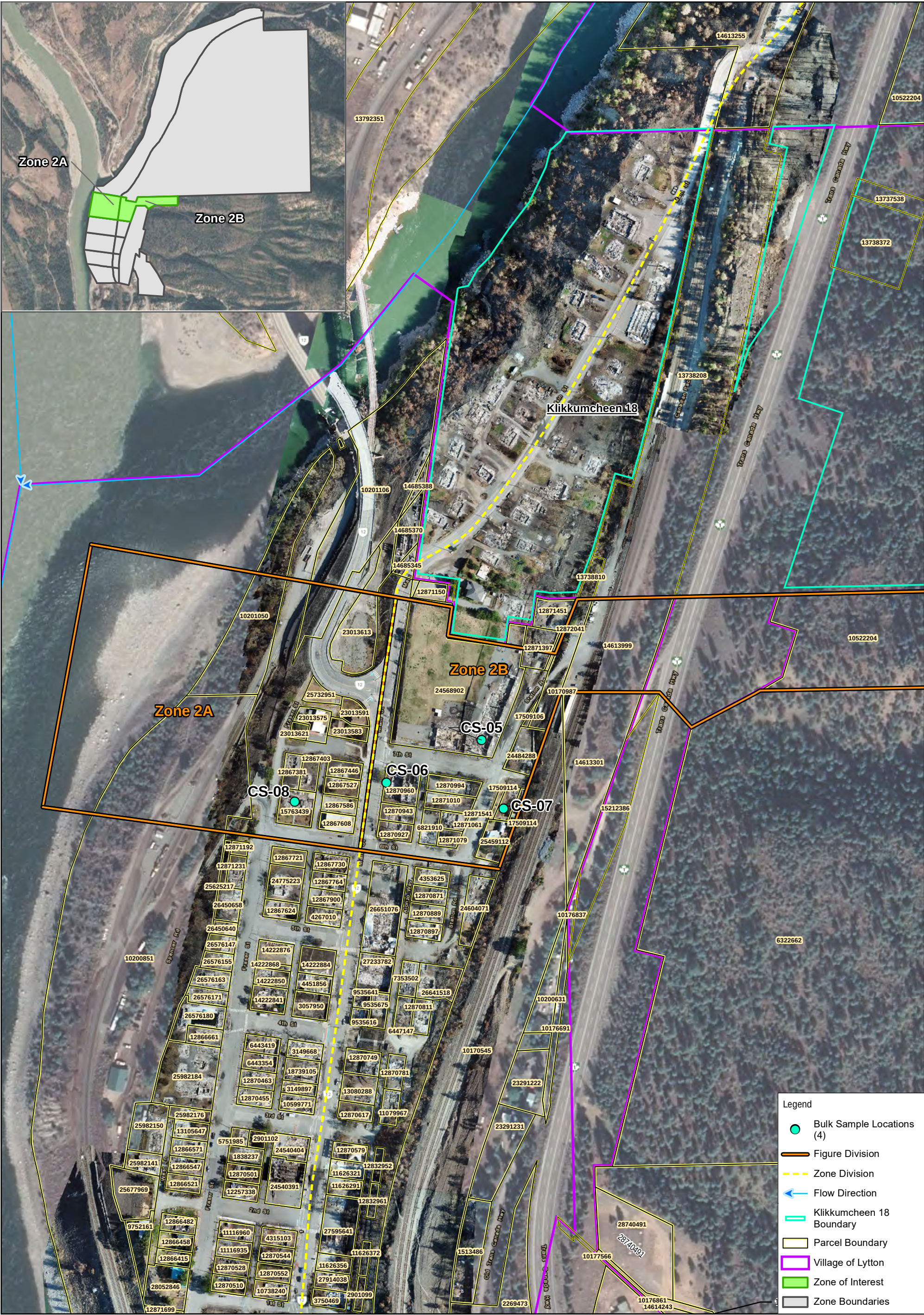


EMERGENCY MANAGEMENT BC
LYTTON, BRITISH COLUMBIA

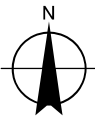
BULK SAMPLING LOCATIONS
ZONE 1

Project No. 11230615
Revision No. -
Date Aug 12, 2021

FIGURE 4A



Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 10N



EMERGENCY MANAGEMENT BC
LYTTON, BRITISH COLUMBIA

**BULK SAMPLING LOCATIONS
ZONE 2**

Project No. 11230615
Revision No. -
Date Aug 12, 2021

FIGURE 4B













Tables

Table 1

Field Sample Key
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Location Identification	Sample Date	Sample Identification	Zone	Land Parcel Number	Property Type	Sample Matrix	Latitude	Longitude	Analysis
CS-01	19-Jul-21	CS-11230615-071921-CT-01	1A	N/A	Commercial	Bulk	50.237365	121.577421	Complete analytical list
CS-02	19-Jul-21	CS-11230615-071921-CT-02	1B	N/A	Institutional	Bulk	50.236416	121.577940	Complete analytical list
CS-03	19-Jul-21	CS-11230615-071921-CT-03	1A	N/A	Residential	Bulk	50.235867	121.578783	Asbestos and combustion related by-products only
CS-04	19-Jul-21	CS-11230615-071921-CT-04	1B	N/A	Residential	Bulk	50.234960	121.579701	Complete analytical list
CS-05	19-Jul-21	CS-11230615-071921-CT-05	2B	24568902	Institutional	Bulk	50.2335522	121.5793949	Complete analytical list
CS-06	19-Jul-21	CS-11230615-071921-CT-06	2B	12870960	Institutional	Bulk	50.2333022	121.5803770	Complete analytical list
CS-07	19-Jul-21	CS-11230615-071921-CT-07	2B	12871541	Residential	Bulk	50.233263	121.579143	Complete analytical list
CS-08	19-Jul-21	CS-11230615-071921-CT-08	2A	15763439	Residential	Bulk	50.233304	121.5816922	Complete analytical list
CS-09	20-Jul-21	CS-11230615-072021-CT-09	3A	4451856	Commercial	Bulk	50.233305	121.5812569	Asbestos and combustion related by-products only
CS-10	20-Jul-21	CS-11230615-072021-CT-10	3B	26651076	Institutional	Bulk	50.233306	121.5806404	Complete analytical list
CS-11	20-Jul-21	CS-11230615-072021-CT-11	4A	3149688	Institutional	Bulk	50.233307	121.581496	Complete analytical list
CS-12	20-Jul-21	CS-11230615-072021-CT-12	4B	12870781	Residential	Bulk	50.2309868	121.5804979	Complete analytical list
CS-13	20-Jul-21	CS-11230615-072021-CT-13	3A	12867624	Residential	Bulk	50.2323349	121.581741	Complete analytical list
CS-14	20-Jul-21	CS-11230615-072021-CT-14	3A	16576163	Residential	Bulk	50.231684	121.582443	Complete analytical list
CS-15	20-Jul-21	CS-11230615-072021-CT-15	4A	183237	Residential	Bulk	50.230359	121.582508	Complete analytical list
CS-16	20-Jul-21	CS-11230615-072021-CT-16	4B	11626291	Commercial	Bulk	50.230024	121.581365	Complete analytical list
CS-17	21-Jul-21	CS-11230615-072121-CT-17	5A	11116960	Residential	Bulk	50.229850	121.582493	Complete analytical list
CS-18	21-Jul-21	CS-11230615-072121-CT-18	5B	11626356	Commercial	Bulk	50.22964379	121.58148677	Asbestos and combustion related by-products only
CS-19	21-Jul-21	CS-11230615-072121-CT-19	5A	12871753	Residential	Bulk	50.229189	121.582736	Complete analytical list
CS-20	21-Jul-21	CS-11230615-072121-CT-20	5B	25645099	Residential	Bulk	50.228976	121.581449	Complete analytical list
CS-21	21-Jul-21	CS-11230615-072121-CT-21	6A	19052375	Residential	Bulk	50.229244	121.583043	Complete analytical list
CS-22	21-Jul-21	CS-11230615-072121-CT-22	6B	9790187	Residential	Bulk	50.228651	121.581539	Complete analytical list
CS-23	21-Jul-21	CS-11230615-072121-CT-23	6A	12871761	Residential	Bulk	50.228466	121.581862	Complete analytical list
CS-24	21-Jul-21	CS-11230615-072121-CT-24	6A	12871796	Residential	Bulk	50.228693	121.581920	Complete analytical list
CS-25	21-Jul-21	CS-11230615-072121-CT-25	7	1513486	Residential	Bulk	50.22982861	121.57964059	Complete analytical list
CS-26	21-Jul-21	CS-11230615-072121-CT-26	7	23291231	Residential	Bulk	50.2308969	121.5788661	Complete analytical list
CS-27	21-Jul-21	CS-11230615-072121-CT-27	7	23291222	Residential	Bulk	50.231217	121.578921	Complete analytical list
CS-28	21-Jul-21	CS-11230615-072121-CT-28	7	23291222	Residential	Bulk	50.231817	121.578536	Complete analytical list
CS-29	22-Jul-21	CS-11230615-072221-CT-29	8	P07	Residential	Bulk	50.229176	-121.577668	Complete analytical list
CS-30	22-Jul-21	CS-11230615-072221-CT-30	8	P07, Lot 357	Residential	Bulk	50.227293	-121.576944	Asbestos and combustion related by-products only
CS-31	22-Jul-21	CS-11230615-072221-CT-31	8	P07	Residential	Bulk	50.227420	-121.577592	Complete analytical list
CS-32	22-Jul-21	CS-11230615-072221-CT-32	8	P07	Residential	Bulk	50.227866	-121.577521	Complete analytical list

Notes:

Complete analytical list: Asbestos, combustion related by-products, pH, metals, dioxins and furans, Light and heavy extractable petroleum hydrocarbons (LEPH/HEPH), Volatile Petroleum Hydrocarbons (VPH), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs), Polychlorinated biphenyl (PCBs), Silica Dust in Solid, Speciated Phenols
Toxicity Characteristic Leachable Procedure (TCLP) metals and VOCs, Synthetic Precipitation Leaching Procedure (SPLP) metals and VOCs

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-01	CS-02	CS-03
Sample Identification:	CS-11230615-071921-CT-01	CS-11230615-071921-CT-02	CS-11230615-071921-CT-03
Sample Date:	07/19/2021	07/19/2021	07/19/2021
Sample Description:	Zone 1A - Commercial	Zone 1B - Institutional	Zone 1A - Residential

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	10-15	40-50	30-40
Carbonized Material (Ash)	%	<1	<1	<1
Opaque/Dark Particles	%	25-30	25-30	40-45

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-04	CS-05	CS-06
Sample Identification:	CS-11230615-071921-CT-04	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06
Sample Date:	07/19/2021	07/19/2021	07/19/2021
Sample Description:	Zone 1B - Residential	Zone 2B - 24568902	Zone 2B - 12870960

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	40-50	50-60	40-50
Carbonized Material (Ash)	%	<1	<1-1	<1
Opaque/Dark Particles	%	30-35	20-25	10-15

Notes:
-- Sample not analyzed for the associated parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-07	CS-08	CS-09
Sample Identification:	CS-11230615-071921-CT-07	CS-11230615-071921-CT-08	CS-11230615-072021-CT-09
Sample Date:	07/19/2021	07/19/2021	07/20/2021
Sample Description:	Zone 2B - 12871541	Zone 2B - 15763439	Zone 3A - 4451856

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	50-60	55-65	25-35
Carbonized Material (Ash)	%	<1	<1	<1-1
Opaque/Dark Particles	%	15-20	20-25	30-35

Notes:
-- Sample not analyzed for the associated parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-10	CS-11	CS-12
Sample Identification:	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12
Sample Date:	07/20/2021	07/20/2021	07/20/2021
Sample Description:	Zone 3B - 3149688	Zone 4A - 3149688	Zone 4B - 12870781

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	40-50	10-15	60-70
Carbonized Material (Ash)	%	<1	<1	<1-1
Opaque/Dark Particles	%	10-20	25-30	10-15

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-13	CS-14	CS-15
Sample Identification:	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15
Sample Date:	07/20/2021	07/20/2021	07/20/2021
Sample Description:	Zone 3A - 12867624	Zone 3A - 26576163	Zone 4A - 183237

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	65-75	20-30	60-70
Carbonized Material (Ash)	%	<1	<1	<1-1
Opaque/Dark Particles	%	10-15	30-40	10-15

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-16	CS-17	CS-18
Sample Identification:	CS-11230615-072021-CT-16	CS-11230615-072121-CT-17	CS-11230615-072121-CT-18
Sample Date:	07/20/2021	07/21/2021	07/21/2021
Sample Description:	Zone 4B - 11626291	Zone 5A - Residential - 11116960	Zone 5B - Commercial - 11626356

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	25-35	50-60	65-75
Carbonized Material (Ash)	%	<1	<1	<1-1
Opaque/Dark Particles	%	30-40	15-20	10-15

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-19	CS-20	CS-21
Sample Identification:	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20	CS-11230615-072121-CT-21
Sample Date:	07/21/2021	07/21/2021	07/21/2021
Sample Description:	Zone 5A - Residential - 12874753	Zone 5B - Residential - 25645099	Zone 6A - Residential - 19052375

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	40-50	65-75	45-55
Carbonized Material (Ash)	%	<1	<1	<1-1
Opaque/Dark Particles	%	40-45	5-10	20-30

Notes:
-- Sample not analyzed for the associated parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-22	CS-23	CS-24
Sample Identification:	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24
Sample Date:	07/21/2021	07/21/2021	07/21/2021
Sample Description:	Zone 6B - Residential - 9790187	Zone 6A - Residential - 112871761	Zone 6A - Residential - 12871796

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	60-70	20-30	5-10
Carbonized Material (Ash)	%	<1	<1-1	<1
Opaque/Dark Particles	%	10-15	35-40	40-50

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-25	CS-26	CS-27
Sample Identification:	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072121-CT-27
Sample Date:	07/21/2021	07/21/2021	07/21/2021
Sample Description:	Zone 7 - Residential - 1513486	Zone 7 - Residential - 23291231	Zone 7 - Residential - 23291222

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	55-65	55-65	10-15
Carbonized Material (Ash)	%	<1	<1	<1
Opaque/Dark Particles	%	20-25	20-30	40-50

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-28	CS-29	CS-30
Sample Identification:	CS-11230615-072121-CT-28	CS-11230615-072221-CT-29	CS-11230615-072221-CT-30
Sample Date:	07/21/2021	07/22/2021	07/22/2021
Sample Description:	Zone 7 - Residential - 23291222	Zone 8 - Residential - P07	Zone 8 - Residential - P07 / 357

Parameters	Units			
Black Carbon (Soot)	%	--	--	--
Carbonized Material (Char)	%	55-65	2-5	10-15
Carbonized Material (Ash)	%	<1	<1	<1-1
Opaque/Dark Particles	%	5-10	30-35	25-30

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Summary of Combustion Related By-products Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-31	CS-32
Sample Identification:	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32
Sample Date:	07/22/2021	07/22/2021
Sample Description:	Zone 8 - Residential - P07	Zone 8 - Residential - P07

Parameters	Units		
Black Carbon (Soot)	%	--	--
Carbonized Material (Char)	%	60-70	20-30
Carbonized Material (Ash)	%	<1-1	<1
Opaque/Dark Particles	%	10-15	25-30

Notes:
-- Sample not analyzed for the associated
parameter
% Per cent

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-01				CS-02				CS-03			
Sample Identification		CS-11230615-071921-CT-01				CS-11230615-071921-CT-02				CS-11230615-071921-CT-03			
Sample Date		7/19/2021				7/19/2021				7/19/2021			
Sample Description		Zone 1A - Commercial				Zone 1B - Institutional				Zone 1A - Residential			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1278.00	395.00	675.00	208.00	951.00	117.00	594.00	240.00	639.00	244.00	290.00	105.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	Detected	None Detected	Detected	Detected
PLM Final Concentration	%	<0.25	<0.08	<0.13	<0.04	<0.25	<0.03	<0.16	<0.06	<0.25	<0.1	0.11	0.04

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-04				CS-05				CS-06			
Sample Identification		CS-11230615-071921-CT-04				CS-11230615-071921-CT-05				CS-11230615-071921-CT-06			
Sample Date		7/19/2021				7/19/2021				7/19/2021			
Sample Description		Zone 1B - Residential				Zone 2B - 24568902				Zone 2B - 12870960			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1388.00	454.00	731.00	203.00	886.00	369.00	433.00	84.00	899.00	439.00	300.00	160.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.08	<0.13	<0.04	<0.25	<0.1	<0.12	<0.02	<0.25	<0.12	<0.08	<0.04

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-07				CS-08				CS-09			
Sample Identification		CS-11230615-071921-CT-07				CS-11230615-071921-CT-08				CS-11230615-071921-CT-09			
Sample Date		7/19/2021				7/19/2021				7/20/2021			
Sample Description		Zone 2B - 12871541				Zone 2B - 15763439				Zone 3A - 4451856			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1139.00	121.00	732.00	286.00	1054.00	299.00	644.00	111.00	1330.00	401.00	712.00	217.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	Detected	Detected	Detected	Detected
PLM Final Concentration	%	<0.25	<0.03	<0.16	<0.06	<0.25	<0.07	<0.15	<0.03	0.25	0.08	0.13	0.04

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-10				CS-11				CS-12			
Sample Identification		CS-11230615-072021-CT-10				CS-11230615-072021-CT-11				CS-11230615-072021-CT-12			
Sample Date		7/20/2021				7/20/2021				7/20/2021			
Sample Description		Zone 3B - 26651076				Zone 4A - 3149688				Zone 4B - 1280781			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	894.00	147.00	587.00	160.00	942.00	302.00	524.00	116.00	890.00	457.00	355.00	78.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.04	<0.16	<0.04	<0.25	<0.08	<0.14	<0.03	<0.25	<0.13	<0.1	<0.02

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-13				CS-14				CS-15			
Sample Identification		CS-11230615-072021-CT-13				CS-11230615-072021-CT-14				CS-11230615-072021-CT-15			
Sample Date		7/20/2021				7/20/2021				7/20/2021			
Sample Description		Zone 3A - 12867624				Zone 3A - 26576163				Zone 4A - 183237			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1610.00	274.00	1020.00	316.00	1335.00	436.00	739.00	160.00	1868.00	1188.00	554.00	126.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.04	<0.16	<0.05	<0.25	<0.08	<0.14	<0.03	<0.25	<0.16	<0.07	<0.02

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-16				CS-17				CS-18			
Sample Identification		CS-11230615-072021-CT-16				CS-11230615-072121-CT-17				CS-11230615-072121-CT-18			
Sample Date		7/20/2021				7/21/2021				7/21/2021			
Sample Description		Zone 4B - 11626291				Zone 5A - Residential - 11116960				Zone 5B - Commercial - 11626356			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	680.00	358.00	253.00	69.00	1128.00	155.00	693.00	280.00	1250.00	229.00	681.00	340.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	Detected	None Detected	None Detected	Detected
PLM Final Concentration	%	<0.25	<0.13	<0.09	<0.03	<0.25	<0.03	<0.15	<0.06	<0.25	<0.05	<0.14	0.07

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-19				CS-20				CS-21			
Sample Identification		CS-11230615-072121-CT-19				CS-11230615-072121-CT-20				CS-11230615-072121-CT-21			
Sample Date		7/21/2021				7/21/2021				7/21/2021			
Sample Description		Zone 5A - Residential - 12874753				Zone 5B - Residential - 25645099				Zone 6A - Residential - 19052375			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	700.00	203.00	418.00	79.00	1036.00	453.00	578.00	5.00	669.00	271.00	309.00	89.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.07	<0.15	<0.03	<0.25	<0.11	<0.14	<0.001	<0.25	<0.1	<0.12	<0.03

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-22				CS-23				CS-24			
Sample Identification		CS-11230615-072121-CT-22				CS-11230615-072121-CT-23				CS-11230615-072121-CT-24			
Sample Date		7/21/2021				7/21/2021				7/21/2021			
Sample Description		Zone 6B - Residential - 1790187				Zone 6A - Residential - 112871761				Zone 6A - Residential - 12871796			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1404.00	506.00	737.00	161.00	1521.00	347.00	998.00	176.00	1254.00	255.00	755.00	244.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.09	<0.13	<0.03	<0.25	<0.06	<0.16	<0.03	<0.25	<0.05	<0.15	<0.05

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-25				CS-26				CS-27			
Sample Identification		CS-11230615-072121-CT-25				CS-11230615-072121-CT-26				CS-11230615-072121-CT-27			
Sample Date		7/21/2021				7/21/2021				7/21/2021			
Sample Description		Zone 7 - Residential - 1513486				Zone 7 - Residential - 23291231				Zone 7 - Residential - 23291222			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1567.00	269.00	925.00	373.00	571.00	140.00	347.00	84.00	1312.00	306.00	947.00	59.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.04	<0.15	<0.06	<0.25	<0.06	<0.15	<0.04	<0.25	<0.06	<0.18	<0.01

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-28				CS-29				CS-30			
Sample Identification		CS-11230615-072121-CT-28				CS-11230615-072221-CT-29				CS-11230615-072221-CT-30			
Sample Date		7/21/2021				7/22/2021				7/22/2021			
Sample Description		Zone 7 - Residential - 23291222				Zone 8 - Residential - P07				Zone 8 - Residential - P07, Lot 357			
Parameters	Units												
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1394.00	453.00	846.00	95.00	1806.00	631.00	1086.00	89.00	--	272.00	1142.00	--
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	--	Detected	None Detected	--
PLM Final Concentration	%	<0.25	<0.08	<0.15	<0.02	<0.25	<0.09	<0.15	<0.01	--	0.19	<0.2	--

Table 3
Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location		CS-31				CS-32			
Sample Identification		CS-11230615-072221-CT-31				CS-11230615-072221-CT-32			
Sample Date		7/22/2021				7/22/2021			
Sample Description		Zone 8 - Residential - P07				Zone 8 - Residential - P07			
Parameters	Units								
Fraction		Total	Coarse	Medium	Fine	Total	Coarse	Medium	Fine
Sieved Weight	g	1080.00	259.00	755.00	66.00	1100.00	302.00	558.00	240.00
Asbestos	--	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
PLM Final Concentration	%	<0.25	<0.06	<0.17	<0.02	<0.25	<0.07	<0.13	<0.05

Summary of Asbestos Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Notes:

a	British Columbia Occupational Health and Safety Regulation (B.C. Reg. 296/97)
--	Sample not analyzed for the associated parameter
%	Per cent
g	Grams
PLM	Polarized Light Microscopy

Table 4
Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

										CS-01	CS-02	CS-04	CS-05	CS-06	CS-08
										CS-11230615-071921-CT-01	CS-11230615-071921-CT-02	CS-11230615-071921-CT-04	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	CS-11230615-071921-CT-08
										07/19/2021	07/19/2021	07/19/2021	07/19/2021	07/19/2021	07/19/2021
										Zone 1A - Commercial	Zone 1B - Institutional	Zone 1B - Residential	Zone 2B - 24568902	Zone 2B - 12870960	Zone 2B - 15763439
Sample Location:		CCME			BC CSR 3.1 IL										
Sample Identification:		IL			MW										
Sample Date:															
Sample Description:															
Parameters	Units	a	b	c	d	e	f	g	h						
General Chemistry															
Moisture	%	--	--	--	--	--	--	--	--	0.40	ND (0.30)	0.40	0.30	0.30	0.60
Observation of visible product	none	--	--	--	--	--	--	--	--	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)
pH (leachable)	s.u.	6.0-8.0	--	--	--	--	--	--	--	10.3 ^a	9.48 ^a	10.4 ^a	11.2 ^a	11.0 ^a	10.3 ^a
Total Metals															
Aluminum	µg/g	--	--	--	--	--	--	250000	--	13200	13200	12700	14300	15600	17600
Antimony	µg/g	40	--	--	--	--	--	40000	40	4.79	3.67	1.86	49.3 ^{ah}	129 ^{ah}	4.59
Arsenic	µg/g	12	10	10	400	10	40	--	--	35.1 ^{abcef}	15.6 ^{bce}	7.54	83.3 ^{abcef}	8.15	10.9 ^{bce}
Barium	µg/g	2000	350	3500	1000000	1500	1500	--	--	148	1600 ^{def}	179	248	364 ^b	344
Beryllium	µg/g	8	[a]	[a]	15000	[a]	350	--	--	0.33	0.29	0.28	0.28	0.29	0.40
pH >= 8.0	µg/g	--	2500	500	--	350000	--	--	--	0.33	0.29	0.28	0.28	0.29	0.40
Bismuth	µg/g	--	--	--	--	--	--	--	--	ND (0.10)	0.66	0.16	0.39	1.02	0.17
Boron	µg/g	--	--	--	--	--	--	1000000	--	47.4	36.0	48.4	75.7	160	40.5
Cadmium	µg/g	22	[a]	[a]	3500	[a]	75	--	--	0.299	1.12	1.39	0.353	1.37	0.638
pH >= 8.0	µg/g	--	70	50	--	200	--	--	--	0.299	1.12	1.39	0.353	1.37	0.638
Calcium	µg/g	--	--	--	--	--	--	--	--	84400	30500	39700	35400	72300	56300
Chromium	µg/g	87	60	60	20000	60	250	--	--	114 ^{abce}	58.1	36.2	278 ^{abcef}	54.7	57.7
Cobalt	µg/g	300	25	25	2000	25	200	--	--	11.3	12.5	9.36	13.8	13.3	24.6
Copper	µg/g	91	[a]	[a]	700000	[a]	300	--	--	306 ^{ef}	112 ^a	120 ^a	6900 ^{ef}	2590 ^{ef}	160 ^a
pH >= 7.0	µg/g	--	100000	--	--	1500	--	--	--	306	112	120	6900 ^a	2590 ^a	160
pH >= 7.5	µg/g	--	--	7500	--	--	--	--	--	306	112	120	6900	2590	160
Iron	µg/g	--	--	--	--	--	--	150000	--	30500	24600	27900	25800	27900	32700
Lead	µg/g	600	[a]	[a]	4000	[a]	1000	--	--	18.0	5320 ^{def}	92.6	1650 ^{ef}	302	3290 ^{ef}
pH >= 7.0	µg/g	--	--	--	--	15000	--	--	--	18.0	5320	92.6	1650	302	3290
pH >= 7.5	µg/g	--	8500	90000	--	--	--	--	--	18.0	5320	92.6	1650	302	3290
Lithium	µg/g	--	--	--	--	--	--	450	--	9.07	8.30	8.16	8.15	11.0	8.75
Magnesium	µg/g	--	--	--	--	--	--	--	--	8130	6490	6600	10000	11200	8850
Manganese	µg/g	--	2000	--	1000000	--	2000	--	--	545	470	512	719	616	613
Mercury	µg/g	50	--	--	2000	--	75	--	--	0.055	0.074	0.242	ND (0.050)	ND (0.050)	0.060
Molybdenum	µg/g	40	15	650	35000	650	150	--	--	3.71	1.89	2.81	2.15	45.3 ^{ab}	3.29
Nickel	µg/g	89	[a]	[a]	80000	[a]	250	--	--	44.9	32.5	33.7	52.7	53.0	74.0
pH >= 8.0	µg/g	--	500	9500	--	500	--	--	--	44.9	32.5	33.7	52.7	53.0	74.0
Phosphorus	µg/g	--	--	--	--	--	--	--	--	1460	2680	2800	1050	1120	1170
Potassium	µg/g	--	--	--	--	--	--	--	--	3600	3740	2860	2660	2050	3230
Selenium	µg/g	2.9	1	1	35000	1	2	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Silver	µg/g	40	--	--	--	--	--	35000	40	0.154	0.369	0.307	0.408	0.580	0.229
Sodium	µg/g	--	15000	--	1000000	--	1000	--	--	1390 ^f	1540 ^f	2250 ^f	2970 ^f	4160 ^f	2700 ^f
Strontium	µg/g	--	--	--	--	--	--	150000	--	119	144	117	120	273	102
Thallium	µg/g	1	--	--	--	--	--	--	25	0.067	0.053	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Tin	µg/g	300	--	--	--	--	--	1000000	300	3.44	48.3	9.56	138	32.4	36.2
Titanium	µg/g	--	--	--	--	--	--	--	--	991	909	504	1260	1380	2690
Tungsten	µg/g	--	--	--	--	--	--	200	--	0.58	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Uranium	µg/g	300	30	150	20000	150	2000	--	--	0.497	0.708	0.446	0.750	1.04	0.773
Vanadium	µg/g	130	100	--	35000	--	300	--	--	98.8	51.9	48.7	62.2	65.7	86.2
Zinc	µg/g	410	[a]	[a]	1000000	[a]	450	--	--	274	2490 ^{af}	741 ^{af}	1020 ^{af}	1350 ^{af}	822 ^{af}
pH >= 8.0	µg/g	--	5500	3000	--	200	--	--	--	274 ^e	2490 ^e	741 ^a	1020 ^a	1350 ^e	822 ^a
Zirconium	µg/g	--	--	--	--	--	--	--	--	5.62	4.43	ND (0.50)	8.47	7.75	10.0
PCBs															
Aroclor-1016 (PCB-1016)	µg/g	--	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1221 (PCB-1221)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1232 (PCB-1232)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1242 (PCB-1242)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1248 (PCB-1248)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1254 (PCB-1254)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1260 (PCB-1260)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1262 (PCB-1262)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Aroclor-1268 (PCB-1268)	µg/g	33	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Total PCBs	µg/g	33	--	--	900	--	35	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.10)
Petroleum Products															
Extractable Petroleum Hydrocarbons (C10-C19)	µg/g	--	--	--	--	--	--	--	--	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J
Extractable Petroleum Hydrocarbons (C19-C32)	µg/g	--	--	--	--	--	--	--	--	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J
HEPH (C19-C32 less PAH)	µg/g	--	--	--	--	--	--	5000	5000	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J
LEPH (C10-C19 less PAH)	µg/g	--	--	--	--	--	--	2000	2000	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J
Total Petroleum Hydrocarbons VPH (C6-C10)LessBTEX	µg/g	--	--	--	--	--	--	200	200	ND (10) J	ND (10) J	ND (10) J	ND (35)	ND (10) J	ND (10) J
Total Petroleum Hydrocarbons VH (C6-C10)	µg/g	--	--	--	--	--	--	--	--	ND (10) J	13 J	ND (10) J	ND (35)	ND (10) J	ND (10) J
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	µg/g	--	--	--	--	--	--	1500	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,1,1-Trichloroethane	µg/g	50	--	--	--	--	--	1000000	50	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,1,2,2-Tetrachloroethane	µg/g	50	--	--	--	--	--	150	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,1,2-Trichloroethane	µg/g	50	--	--	--	--	--	30000	50	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,1-Dichloroethane	µg/g	50	--	--	--	--	--	50000	50	ND (0.025) J	ND (0.025) J	ND (0.025) J	ND (0.088)	ND (0.025) J	ND (0.025) J
1,1-Dichloroethene	µg/g	50	--	--	--	--	--	350000	50	ND (0.025) J	ND (0.025) J	ND (0.025) J	ND (0.088)	ND (0.025) J	ND (0.025) J
1,2,3-Trichlorobenzene	µg/g	10	--	--	--	--	--	10000	10	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.11)	ND (0.030) J	ND (0.030) J
1,2,4-Trichlorobenzene	µg/g	10	--	--	--	--	--	70000	10	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.11)	ND (0.030) J	ND (0.030) J
1,2-Dibromoethane (Ethylene dibromide)	µg/g	--	--	--	--	--	--	15	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,2-Dichlorobenzene	µg/g	10	--	--	--	--	--	650000	10	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,2-Dichloroethane	µg/g	50	--	--	--	--	--	350	50	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,2-Dichloropropane	µg/g	50	--	--	--	--	--	10000	50	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J
1,3,5-Trimethylbenzene	µg/g	--	--	--	--	--	--	2500	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J	ND (0.20) J

Table 4
Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:										CS-01	CS-02	CS-04	CS-05	CS-06	CS-08
Sample Identification:										CS-11230615-071921-CT-01	CS-11230615-071921-CT-02	CS-11230615-071921-CT-04	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	CS-11230615-071921-CT-08
Sample Date:										07/19/2021	07/19/2021	07/19/2021	07/19/2021	07/19/2021	07/19/2021
Sample Description:										Zone 1A - Commercial	Zone 1B - Institutional	Zone 1B - Residential	Zone 2B - 24568902	Zone 2B - 12870960	Zone 2B - 15763439
Parameters	Units	CCME	DWP	FW	INTK	BC CSR 3.1 IL	TOX	HH	EH						
		IL	a	b	c	d	e	f	g	h					
1,3-Dichlorobenzene	µg/g	10	--	--	--	--	--	--	200000	10	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J
1,4-Dichlorobenzene	µg/g	10	--	--	--	--	--	--	800000	10	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J
Benzene	µg/g	0.030 C / 0.0068 F	0.035	2.5	6500	6.5	250	--	--	--	0.0062 J	7.2 J ^{abce}	0.50 J ^{ab}	1.7 ^{ab}	0.97 J ^{ab}
Bromobenzene	µg/g	--	--	--	--	--	--	--	2000	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J
Bromodichloromethane	µg/g	--	--	--	--	--	--	--	550	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.18)	ND (0.050) J
Bromoform	µg/g	--	--	--	--	--	--	--	4000	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.18)	ND (0.050) J
Bromomethane (Methyl bromide)	µg/g	--	--	--	--	--	--	--	300	--	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (1.1)	ND (0.30) J
Carbon tetrachloride	µg/g	50	--	--	--	--	--	--	5000	50	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J
Chlorobenzene	µg/g	10	--	--	--	--	--	--	150000	10	ND (0.020) J	ND (0.021) J	ND (0.020) J	ND (0.070)	ND (0.020) J
Chloroethane	µg/g	--	--	--	--	--	--	--	--	--	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.35)	ND (0.10) J
Chloroform (Trichloromethane)	µg/g	50	--	--	--	--	--	--	70000	50	ND (0.030) J	ND (0.035) J	ND (0.045) J	ND (0.070)	ND (0.035) J
Chloromethane (Methyl chloride)	µg/g	--	--	--	--	--	--	--	--	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	0.29	ND (0.050) J
cis-1,2-Dichloroethene	µg/g	--	--	--	--	--	--	--	15000	50	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.11)	ND (0.030) J
cis-1,3-Dichloropropene	µg/g	--	--	--	--	--	--	--	--	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J
Dibromochloromethane	µg/g	--	--	--	--	--	--	--	400	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J
Ethylbenzene	µg/g	0.082 C / 0.018 F	15	200	700000	200	650	--	--	--	ND (0.010) J	0.29 J ^a	0.060 J	0.19 J ^a	0.73 J ^a
Hexachlorobutadiene	µg/g	--	--	--	--	--	--	--	85	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J
Isopropyl benzene	µg/g	--	--	--	--	--	--	--	25000	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J
m&p-Xylenes	µg/g	--	--	--	--	--	--	--	--	--	ND (0.040) J	0.26 J	0.073 J	0.16	0.58 J
Methyl tert butyl ether (MTBE)	µg/g	--	--	--	--	--	--	--	20000	--	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.35)	ND (0.10) J
Methylene chloride	µg/g	50	--	--	--	--	--	--	40000	50	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.28)	ND (0.080) J
o-Xylene	µg/g	--	--	--	--	--	--	--	--	--	ND (0.040) J	0.12 J	ND (0.040) J	ND (0.14)	0.11 J
Styrene	µg/g	50	--	--	--	--	--	--	1000000	50	ND (0.030) J	0.084 J	ND (0.030) J	ND (0.11)	0.85 J
Tetrachloroethene	µg/g	0.6	--	2.5	40000	2.5	30	--	--	--	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.035)	ND (0.010) J
Toluene	µg/g	0.37 C / 0.08 F	6	0.5	550000	200	450	--	--	--	ND (0.050) J	2.5 J ^{bc}	0.22 J	0.49 J ^a	1.5 J ^{bc}
trans-1,2-Dichloroethene	µg/g	--	--	--	--	--	--	--	150000	50	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.11)	ND (0.030) J
trans-1,3-Dichloropropene	µg/g	--	--	--	--	--	--	--	--	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J
Trichloroethene	µg/g	0.01	--	0.3	3500	0.3	25	--	--	--	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090)	ND (0.0090) J
Trichlorofluoromethane (CFC-11)	µg/g	--	--	--	--	--	--	--	70000	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J
Vinyl chloride	µg/g	--	--	--	--	--	--	--	45	--	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.14)	ND (0.040) J
Xylenes (total)	µg/g	11 C / 2.4 F	6.5	20	1000000	20	600	--	--	--	ND (0.040) J	0.38 J	0.073 J	0.16	0.69 J
PAHs															
1-Methylnaphthalene	µg/g	--	--	--	--	--	--	--	1000	--	ND (0.050) J	ND (0.050) J	R	R	0.054 J-
2-Methylnaphthalene	µg/g	--	--	--	--	--	--	--	950	--	ND (0.020) J	0.034 J-	R	R	0.034 J-
Acenaphthene	µg/g	0.28 SQGEFL	--	--	--	--	--	--	15000	--	ND (0.0050) J	ND (0.0050) J	0.0092 J-	R	0.0085 J-
Acenaphthylene	µg/g	320 SQGEFL	--	--	--	--	--	--	--	--	ND (0.0050) J	ND (0.0050) J	0.0080 J-	R	0.020 J-
Anthracene	µg/g	32 SQGE	--	--	--	1000000	--	30	--	--	ND (0.0040) J	0.0040 J-	R	R	R
Benzo(a)anthracene	µg/g	10 SQGE	--	--	--	--	--	500	10	--	ND (0.020) J	ND (0.020) J	R	R	R
Benzo(a)pyrene	µg/g	72 SQGE	--	--	--	50	--	70	--	--	ND (0.020) J	ND (0.020) J	R	R	R
Benzo(b)fluoranthene	µg/g	10 SQGE	--	--	--	--	--	--	--	--	ND (0.020) J	ND (0.020) J	R	R	R
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	--	--	--	--	--	--	500	10	--	ND (0.020) J	ND (0.020) J	R	R	R
Benzo(b)pyridine (Quinoline)	µg/g	--	--	--	--	--	--	10	--	--	ND (0.050) J	0.091 J-	R	R	R
Benzo(g,h,i)perylene	µg/g	--	--	--	--	--	--	--	--	--	ND (0.050) J	ND (0.050) J	R	R	R
Benzo(k)fluoranthene	µg/g	10 Interim	--	--	--	--	--	500	10	--	ND (0.020) J	ND (0.020) J	R	R	R
Chrysene	µg/g	--	--	--	--	--	--	4500	--	--	ND (0.020) J	ND (0.020) J	R	R	R
Dibenz(a,h)anthracene	µg/g	10 Interim	--	--	--	--	--	50	10	--	ND (0.020) J	ND (0.020) J	R	R	R
Fluoranthene	µg/g	180 SQGE	--	--	--	300000	--	200	--	--	ND (0.020) J	0.032 J-	R	R	R
Fluorene	µg/g	0.25 SQGEFL	--	--	--	--	--	9500	--	--	ND (0.020) J	ND (0.020) J	R	R	R
Indeno(1,2,3-cd)pyrene	µg/g	10 Interim	--	--	--	--	--	500	10	--	ND (0.020) J	ND (0.020) J	R	R	R
Naphthalene	µg/g	0.013 SQGEFL	100	75	150000	75	20	--	--	--	0.031 J- ^a	0.33 J- ^a	0.10 J- ^a	0.052 J- ^a	0.24 J- ^a
Perylene	µg/g	--	--	--	--	--	--	--	--	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	R	R
Phenanthrene	µg/g	0.046 SQGEFL	--	--	--	--	--	--	300000	50	0.030 J-	0.086 J- ^a	0.017 J-	R	0.014 J-
Pyrene	µg/g	100 Interim	--	--	--	--	--	--	200000	100	ND (0.020) J	ND (0.020) J	R	R	R
Semi-Volatile Organic Compounds															
1,2,3,4-Tetrachlorobenzene	µg/g	10	--	--	--	--	--	--	25000	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R
1,2,3,5-Tetrachlorobenzene	µg/g	10	--	--	--	--	--	--	3500	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R
1,2,3-Trichlorobenzene	µg/g	10	--	--	--	--	--	--	10000	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R
1,2,4,5-Tetrachlorobenzene	µg/g	10	--	--	--	--	--	--	70	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R
1,2,4-Trichlorobenzene	µg/g	10	--	--	--	--	--	--	70000	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R
1,2-Dichlorobenzene	µg/g	10	--	--	--	--	--	--	650000	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R
1,3,5-Trichlorobenzene	µg/g	10	--	--	--	--	--	--	55000	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R
1,3-Dichlorobenzene	µg/g	10	--	--	--	--	--	--	200000	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R
1,4-Dichlorobenzene	µg/g	10	--	--	--	--	--	--	800000	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R
1-Chloronaphthalene	µg/g	--	--	--	--	--	--	--	--	--	ND (1.0) J	ND (2.0) J	ND (2.0) J	ND (1.0) J	R
1-Methylnaphthalene	µg/g	--	--	--	--	--	--	--	1000	--	ND (0.10) J	ND (0.20) J	ND (0. ND		

Table 4
Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location: Sample Identification: Sample Date: Sample Description: Parameters	Units	BC CSR 3.1 IL								CS-01	CS-02	CS-04	CS-05	CS-06	CS-08
		CCME	DWP	FW	INTK	MW	TOX	HH	EH	CS-11230615-071921-CT-01	CS-11230615-071921-CT-02	CS-11230615-071921-CT-04	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	CS-11230615-071921-CT-08
		IL								07/19/2021	07/19/2021	07/19/2021	07/19/2021	07/19/2021	07/19/2021
a	b	c	d	e	f	g	h			Zone 1A - Commercial	Zone 1B - Institutional	Zone 1B - Residential	Zone 2B - 24568902	Zone 2B - 12870960	Zone 2B - 15763439
2,6-Dinitrotoluene	µg/g	--	--	--	--	--	--	20	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
2-Chloronaphthalene	µg/g	--	--	--	--	--	--	20000	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
2-Chlorophenol	µg/g	--	--	--	--	--	--	35000	5	ND (0.0050) J / ND (0.10) J	0.0050 J- / ND (0.20) J	ND (0.0050) J / ND (0.20) J	ND (0.0050) J / ND (0.10) J	0.016 J- / R	R / 0.028 J-
2-Methylnaphthalene	µg/g	--	--	--	--	--	--	950	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	0.056 J-	0.069 J-
2-Methylphenol	µg/g	10	--	--	--	--	--	350000	10	ND (0.050) J / ND (0.20) J	ND (0.050) J / ND (0.40) J	ND (0.050) J / ND (0.40) J	ND (0.050) J / ND (0.20) J	0.11 J- / 0.081 J-	0.10 J- / 0.065 J-
2-Nitrophenol	µg/g	10	--	--	--	--	--	10	10	ND (0.050) J / ND (0.50) J	ND (0.050) J / ND (1.0) J	ND (1.0) J / ND (0.050) J	ND (0.050) J / ND (0.50) J	ND (0.050) J / R	R / ND (0.050) J
3&4-Methylphenol	µg/g	--	--	--	--	--	--	--	--	ND (0.050) J / 0.021 J	ND (0.40) J / 0.052 J-	ND (0.050) J / ND (0.40) J	ND (0.050) J / 0.032 J	0.12 J- / 0.28 J-	0.16 J- / 0.18 J-
3,3'-Dichlorobenzidine	µg/g	--	--	--	--	--	--	75	--	ND (0.50) J	ND (1.0) J	ND (1.0) J	ND (0.50) J	R	R
3,4,5-Trichlorophenol	µg/g	5	--	--	--	--	--	7000	5	ND (0.0050) J / ND (0.10) J	ND (0.20) J / ND (0.0050) J	ND (0.0050) J / ND (0.20) J	ND (0.10) J / ND (0.0050) J	ND (0.0050) J / R	R / ND (0.0050) J
3,4-Dichlorophenol	µg/g	5	--	--	--	--	--	20000	5	ND (0.10) J / ND (0.0050) J	ND (0.0050) J / ND (0.20) J	ND (0.20) J / ND (0.0050) J	ND (0.0050) J / ND (0.10) J	ND (0.0050) J / R	ND (0.0050) J / R
3,4-Dimethylphenol	µg/g	--	--	--	--	--	--	7000	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J
3,5-Dichlorophenol	µg/g	5	--	--	--	--	--	20000	5	ND (0.0050) J / ND (0.10) J	ND (0.0050) J / ND (0.20) J	ND (0.20) J / ND (0.0050) J	ND (0.10) J / ND (0.0050) J	ND (0.0050) J / R	ND (0.0050) J / R
3/4-Chlorophenol	µg/g	--	--	--	--	--	--	--	--	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	0.0080 J-
4,6-Dinitro-2-methylphenol	µg/g	--	--	--	--	--	--	20	10	ND (0.50) J / ND (0.050) J	ND (1.0) J / ND (0.050) J	ND (0.050) J / ND (1.0) J	ND (0.050) J / ND (0.50) J	R / ND (0.050) J	ND (0.050) J / R
4-Bromophenyl phenyl ether	µg/g	--	--	--	--	--	--	--	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
4-Chloro-3-methylphenol	µg/g	--	--	--	--	--	--	25000	--	ND (5.0) J / ND (0.10) J	ND (5.0) J / ND (0.20) J	ND (0.20) J / ND (5.0) J	ND (0.10) J / ND (5.0) J	R / ND (5.0) J	ND (5.0) J / R
4-Chloroaniline	µg/g	--	--	--	--	--	--	30	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.40) J	ND (0.20) J	R
4-Chlorophenyl phenyl ether	µg/g	--	--	--	--	--	--	--	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
4-Nitrophenol	µg/g	10	--	--	--	--	--	10	10	ND (0.50) J / ND (0.050) J	ND (0.050) J / ND (1.0) J	ND (0.050) J / ND (1.0) J	ND (0.050) J / ND (0.50) J	ND (0.050) J / R	ND (0.050) J / R
Acenaphthene	µg/g	0.28 SQGEFL	--	--	--	--	--	15000	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	0.013 J-
Acenaphthylene	µg/g	320 SQGEFL	--	--	--	--	--	--	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	0.033 J-	0.023 J-
Anthracene	µg/g	32 SQGE	--	--	1000000	--	30	--	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Benzo(a)anthracene	µg/g	10 SQGE	--	--	--	--	--	500	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Benzo(a)pyrene	µg/g	72 SQGE	--	--	50	--	70	--	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	--	--	--	--	--	--	500	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Benzo(b)pyridine (Quinoline)	µg/g	--	--	--	--	--	--	10	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
Benzo(g,h,i)perylene	µg/g	--	--	--	--	--	--	--	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Benzo(k)fluoranthene	µg/g	10 Interim	--	--	--	--	--	500	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Biphenyl (1,1-Biphenyl)	µg/g	--	--	--	--	--	--	100000	--	0.011 J	0.15 J	ND (0.20) J	0.016 J	0.078 J-	0.075 J-
bis(2-Chloroethoxy)methane	µg/g	--	--	--	--	--	--	700	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
bis(2-Chloroethyl)ether	µg/g	--	--	--	--	--	--	6	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
bis(2-Ethylhexyl)phthalate (DEHP)	µg/g	--	--	--	--	--	--	30000	--	ND (0.50) J	0.026 J	ND (1.0) J	ND (0.50) J	0.38 J-	0.027 J-
Butyl benzylphthalate (BBP)	µg/g	--	--	--	--	--	--	15000	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
Chlorophenols	µg/g	5	--	--	--	--	--	--	--	ND (0.0050) J	0.0050 J-	ND (0.0050) J	ND (0.0050) J	0.016 J-	0.036 J-
Chlorophenols (total)	µg/g	--	--	--	--	--	--	--	--	ND (0.0050) J	0.0050 J-	ND (0.0050) J	ND (0.0050) J	0.022 J-	0.060 J-
Chrysene	µg/g	--	--	--	--	--	--	4500	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Dibenz(a,h)anthracene	µg/g	10 Interim	--	--	--	--	--	50	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Dichlorophenols	µg/g	--	--	--	--	--	--	--	--	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	0.010 J-
Diethyl phthalate	µg/g	--	--	--	--	--	--	200000	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
Dimethyl phthalate	µg/g	--	--	--	--	--	--	--	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
Di-n-butylphthalate (DBP)	µg/g	--	--	--	--	--	--	700000	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	0.011 J-	R
Di-n-octyl phthalate (DnOP)	µg/g	--	--	--	--	--	--	2500	--	ND (0.50) J	ND (1.0) J	ND (1.0) J	ND (0.50) J	R	R
Fluoranthene	µg/g	180 SQGE	--	--	300000	--	200	--	--	0.012 J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Fluorene	µg/g	0.25 SQGEFL	--	--	--	--	--	9500	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Hexachlorobenzene	µg/g	10	--	--	--	--	--	450	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
Hexachlorobutadiene	µg/g	--	--	--	--	--	--	85	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Hexachlorocyclopentadiene	µg/g	--	--	--	--	--	--	1500	--	ND (0.50) J	ND (1.0) J	ND (1.0) J	ND (0.50) J	R	R
Hexachloroethane	µg/g	--	--	--	--	--	--	150	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Hydroquinone	µg/g	--	--	--	--	--	--	550	--	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J
Indeno(1,2,3-cd)pyrene	µg/g	10 Interim	--	--	--	--	--	500	10	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Isophorone	µg/g	--	--	--	--	--	--	35000	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Naphthalene	µg/g	0.013 SQGEFL	100	75	150000	75	20	--	--	0.032 J ^a	0.24 J ^a	0.057 J ^a	0.041 J ^a	0.30 J ^a	0.26 J ^a
Nitrobenzene	µg/g	--	--	--	--	--	--	450	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Nitrosodiphenylamine/Diphenylamine	µg/g	--	--	--	--	--	--	--	--	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
N-Nitrosodi-n-propylamine	µg/g	--	--	--	--	--	--	4.5	--	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
PAH high molecular weight	µg/g	--	--	--	--	--	--	--	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J
PAH low molecular weight	µg/g	--	--	--	--	--	--	--	--	0.061 J-	0.54 J-	0.16 J-	0.052 J-	0.35 J-	0.17 J-
Pentachlorobenzene	µg/g	10	--	--	--	--	--	5500	10	ND (0.20) J	ND (0.40) J	ND (0.40) J	ND (0.20) J	R	R
Pentachlorophenol	µg/g	7.6	[a]	[a]	900	[a]	55	--	--	ND (0.20) J / ND (0.0050) J	ND (0.40) J / ND (0.0050) J	ND (0.0050) J / ND (0.40) J	ND (0.0050) J / R	R / ND (0.0050) J	R / ND (0.0050) J
pH >= 6.5	µg/g	--	--	0.1	--	0.1	--	--	--	ND (0.20) J / ND (0.0050) J	ND (0.40) J / ND (0.0050) J	ND (0.0050) J / ND (0.40) J	ND (0.0050) J / R	R / ND (0.0050) J	R / ND (0.0050) J
pH >= 7.0	µg/g	--	--	--	--	--	--	--	--	ND (0.20) J / ND (0.0050) J	ND (0.40) J / ND (0.0050) J	ND (0.0050) J / ND (0.40) J	ND (0.0050) J / R	R / ND (0.0050) J	R / ND (0.0050) J
Phenanthrene	µg/g	0.046 SQGEFL	--	--	--	--	--	300000	50	0.018 J	0.030 J	0.027 J	ND (0.10) J	0.016 J	0.019 J-
Phenol	µg/g	3.8	7.5	15	1000000	15	200	--	--	0.12 J- / 0.057 J	0.47 J- / 0.15 J	0.30 J- / 0.15 J	0.13 J- / 0.085 J	3.7 J- / 2.0 J-	0.60 J- / 1.0 J-
Phenolics (total)	µg/g	10	--	--	--	--	--	--	--	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J
Pyrene	µg/g	100 Interim	--	--	--	--	--	200000	100	ND (0.10) J	ND (0.20) J	ND (0.20) J	ND (0.10) J	R	R
Tetrachlorophenol	µg/g	5	--	--	--	--	--	--	--	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J
Total PAH	µg/g	--	--	--	--	--	--	--	--	0.061 J-	0.57 J-	0.16 J-	0.052 J-	0.35 J-	0.17 J-
Total unchlorinated phenols-OC	µg/g	--	--	--	--	--	--	--	--	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J	ND (5.0) J
Trichlorophenol (DOT)	µg/g	--	--	--	--	--	--	--	--	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	ND (0.0050) J	0.0070 J-	0.015 J-
Silica															
Cristobalite	%wt	--	--	--	--	--	--	--	--	ND (1.1)	ND (0.80)	ND (0.80)	ND (0.25)	ND (0.70)	ND (1.3)
Quartz	%wt	--	--	--	--	--	--	--	--	3.4	5.5	26	0.72	9.9	7.6
Quartz and Cristobalite (total)	%wt	--	--	--	--	--	--	--	--	3.4	5.5	26	0.72	9.9	7.6
Tridymite	%wt	--	--	--	--	--	--	--	--	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)

Table 4
Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-10	CS-11	CS-12	CS-13	CS-14	CS-15	CS-16	CS-17	CS-19	CS-20
Sample Identification:	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	CS-11230615-072121-CT-17	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20
Sample Date:	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/21/2021	07/21/2021	07/21/2021
Sample Description:	Zone 3B - 3149688	Zone 4A - 3149688	Zone 4B - 12870781	Zone 3A - 12867624	Zone 3A - 26576163	Zone 4A - 183237	Zone 4B - 11626291	Zone 5A - 11116960	Zone 5A - 12871753	Zone 5B - 25645099
Parameters	Units									
General Chemistry										
Moisture	%	1.0	0.80	0.80	0.40	1.1	0.90	3.5	34	6.2
Observation of visible product	none	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)
pH (leachable)	s.u.	12.6 ^a	12.6 ^a	11.1 ^a	10.6 ^a	10.3 ^a	11.9 ^a	10.9 ^a	9.27 ^a	11.2 ^a
Total Metals										
Aluminum	µg/g	8350	8580	16300	17600	11300	17900	24100	14600	15900
Antimony	µg/g	9.26	5.96	9.44	10.9	5.73	26.7	400 ^{ah}	65.2 ^{ah}	74.6 ^{ah}
Arsenic	µg/g	9.09	15.4 ^{abce}	12.9 ^{abce}	14.1 ^{abce}	130 ^{abcef}	19.2 ^{abce}	239 ^{abcef}	152 ^{abcef}	51.4 ^{abcef}
Barium	µg/g	76.8	74.0	296	299	143	149	371 ^b	662 ^b	859 ^b
Beryllium	µg/g	ND (0.20)	0.46	ND (0.20)	0.40	0.25	0.25	0.29	0.37	0.37
pH >= 8.0	µg/g	ND (0.20)	0.46	ND (0.20)	0.40	0.25	0.25	0.29	0.37	0.37
Bismuth	µg/g	ND (0.10)	ND (0.10)	0.59	0.11	ND (0.10)	0.14	1.28	0.40	0.17
Boron	µg/g	733	463	1990	136	109	280	274	18.5	530
Cadmium	µg/g	0.155	0.069	0.824	0.317	0.385	0.551	1.20	1.64	1.57
pH >= 8.0	µg/g	0.155	0.069	0.824	0.317	0.385	0.551	1.20	1.64	1.57
Calcium	µg/g	227000	183000	195000	23100	59000	136000	106000	47200	124000
Chromium	µg/g	102 ^{abce}	16.3	28.2	68.8 ^{bce}	97.2 ^{bce}	55.6	391 ^{abcef}	51.3	86.7 ^{bce}
Cobalt	µg/g	7.83	4.42	9.82	17.4	10.8	9.26	15.2	18.4	29.6 ^{bce}
Copper	µg/g	134 ^a	54.5	445 ^{af}	536 ^{af}	295 ^a	1790 ^{af}	523 ^{af}	204 ^a	327 ^{af}
pH >= 7.0	µg/g	134	54.5	445	536	295	1790 ^a	523	204	327
pH >= 7.5	µg/g	134	54.5	445	536	295	1790	523	204	327
Iron	µg/g	10200	10400	14500	37600	22100	23300	19000	30000	28000
Lead	µg/g	14.7	7.38	142	262	19.7	24.0	67.3	1320 ^{af}	417
pH >= 7.0	µg/g	14.7	7.38	142	262	19.7	24.0	67.3	1320	417
pH >= 7.5	µg/g	14.7	7.38	142	262	19.7	24.0	67.3	1320	417
Lithium	µg/g	5.05	8.24	21.2	8.72	8.02	8.86	6.72	8.55	7.86
Magnesium	µg/g	30000	3520	14700	11100	8690	7790	8980	8910	10700
Manganese	µg/g	317	177	591	904	450	451	920	534	936
Mercury	µg/g	ND (0.050)	ND (0.050)	0.071	ND (0.050)	0.748	ND (0.050)	ND (0.050)	0.547 J+	0.178 J+
Molybdenum	µg/g	10.9	1.86	3.17	1.83	2.50	1.79	8.61	10.7	3.92
Nickel	µg/g	205 ^a	16.3	21.4	58.7	57.9	37.6	42.2	52.0	55.6
pH >= 8.0	µg/g	205	16.3	21.4	58.7	57.9	37.6	42.2	52.0	55.6
Phosphorus	µg/g	849	196	2470	1550	1700	1590	2110	1310	1370
Potassium	µg/g	2310	1580	4210	2530	1470	1690	4280	2420	3880
Selenium	µg/g	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Silver	µg/g	1.20	ND (0.050)	0.143	0.198	0.095	0.219	0.521	0.400	0.689
Sodium	µg/g	10000 ^f	2550 ^f	13700 ^f	1250 ^f	645	1570 ^f	6190 ^f	1010 ^f	4080 ^f
Strontium	µg/g	577	205	933	95.3	155	331	717	120	230
Thallium	µg/g	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.136	ND (0.050)
Tin	µg/g	5.30	2.80	6.31	7.29	17.6	8.85	243	11.5	134
Titanium	µg/g	894	264	1030	1120	1230	1280	5700	704	1990
Tungsten	µg/g	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	1.27	ND (0.50)	ND (0.50)
Uranium	µg/g	1.38	1.60	0.663	0.770	0.700	1.03	0.793	0.770	1.21
Vanadium	µg/g	107 ^b	35.9	28.7	96.1	52.7	103 ^b	73.6	86.3	76.5
Zinc	µg/g	662 ^{af}	380	1760 ^{af}	665 ^{af}	173	345	9210 ^{af}	1190 ^{af}	2060 ^{af}
pH >= 8.0	µg/g	662 ^a	380 ^e	1760 ^a	665 ^a	173	345 ^a	9210 ^{bce}	1190 ^a	2060 ^e
Zirconium	µg/g	8.10	4.55	14.0	7.66	5.47	9.44	13.7	5.38	7.84
PCBs										
Aroclor-1016 (PCB-1016)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1221 (PCB-1221)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1232 (PCB-1232)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1242 (PCB-1242)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1248 (PCB-1248)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1254 (PCB-1254)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1260 (PCB-1260)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1262 (PCB-1262)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Aroclor-1268 (PCB-1268)	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Total PCBs	µg/g	ND (0.010)	ND (0.010)	ND (0.17)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.010)
Petroleum Products										
Extractable Petroleum Hydrocarbons (C10-C19)	µg/g	ND (100)	ND (100)	ND (100) J	ND (100)	ND (100)	ND (100)	ND (100)	ND (100) J	1300 J-
Extractable Petroleum Hydrocarbons (C19-C32)	µg/g	ND (100)	ND (100)	ND (100) J	ND (100)	100	ND (100)	ND (100)	ND (100) J	140 J-
HEPH (C19-C32 less PAH)	µg/g	ND (100)	ND (100)	ND (100)	ND (100)	100	ND (100)	ND (100)	ND (100) J	130 J-
LEPH (C10-C19 less PAH)	µg/g	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100) J	1100 J-
Total Petroleum Hydrocarbons VPH (C6-C10)LessBTEX	µg/g	ND (10) J	ND (10) J	13 J	ND (10)	ND (10) J	ND (10) J	ND (10) J	ND (34)	ND (10)
Total Petroleum Hydrocarbons VH (C6-C10)	µg/g	ND (10) J	ND (10) J	36 J	ND (10)	ND (10) J	R	ND (10) J	ND (34)	21
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)
1,1,1-Trichloroethane	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)
1,1,2,2-Tetrachloroethane	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)
1,1,2-Trichloroethane	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)
1,1-Dichloroethane	µg/g	ND (0.025) J	ND (0.025) J	ND (0.025) J	ND (0.025)	ND (0.025) J	R	ND (0.025) J	ND (0.086)	ND (0.084)
1,1-Dichloroethene	µg/g	ND (0.025) J	ND (0.025) J	ND (0.025) J	ND (0.025)	ND (0.025) J	R	ND (0.025) J	ND (0.086)	ND (0.084)
1,2,3-Trichlorobenzene	µg/g	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030)	ND (0.030) J	R	ND (0.030) J	ND (0.10)	ND (0.10)
1,2,4-Trichlorobenzene	µg/g	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030)	ND (0.030) J	R	ND (0.030) J	ND (0.10)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)
1,2-Dichlorobenzene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	0.034 J	ND (0.069)	ND (0.067)
1,2-Dichloroethane	µg/g	ND (0.020) J	ND (0.020) J	0.047 J	ND (0.020)	ND (0.020) J	0.023 J	ND (0.020) J	ND (0.069)	ND (0.067)
1,2-Dichloropropane	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)
1,3,5-Trimethylbenzene	µg/g	ND (0.20) J	ND (0.20) J	0.28 J	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	0.25

Table 4
Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location: Sample Identification: Sample Date: Sample Description: Parameters	Units	CS-10	CS-11	CS-12	CS-13	CS-14	CS-15	CS-16	CS-17	CS-19	CS-20
		CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	CS-11230615-072121-CT-17	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20
		07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/21/2021	07/21/2021	07/21/2021
		Zone 3B - 3149688	Zone 4A - 3149688	Zone 4B - 12870781	Zone 3A - 12867624	Zone 3A - 26576163	Zone 4A - 183237	Zone 4B - 11626291	Zone 5A - 11116960	Zone 5A - 12871753	Zone 5B - 25645099
1,3-Dichlorobenzene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	0.031 J	ND (0.069)	ND (0.067)	ND (0.020)
1,4-Dichlorobenzene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)
Benzene	µg/g	0.010 J	0.22 J ^{ab}	5.3 J ^{abc}	0.73 ^{ab}	0.42 J ^{ab}	0.67 J ^{ab}	0.70 J ^{ab}	6.2 ^{abc}	5.8 ^{abc}	2.0 ^{ab}
Bromobenzene	µg/g	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	ND (0.20)
Bromodichloromethane	µg/g	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050)	ND (0.050) J	R	ND (0.050) J	ND (0.17)	ND (0.17)	ND (0.050)
Bromoform	µg/g	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050)	ND (0.050) J	R	ND (0.050) J	ND (0.17)	ND (0.17)	ND (0.050)
Bromomethane (Methyl bromide)	µg/g	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30)	ND (0.30) J	R	ND (0.30) J	ND (1.0) J	ND (1.0)	ND (0.30)
Carbon tetrachloride	µg/g	ND (0.020) J	ND (0.020) J	0.037 J	ND (0.020)	ND (0.020) J	0.054 J	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)
Chlorobenzene	µg/g	ND (0.020) J	ND (0.020) J	0.038 J	ND (0.020)	0.022 J	R	0.11 J	ND (0.069)	0.13	0.069
Chloroethane	µg/g	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10)	ND (0.10) J	R	ND (0.10) J	ND (0.34) J	ND (0.34)	ND (0.10)
Chloroform (Trichloromethane)	µg/g	ND (0.035) J	ND (0.060) J	ND (0.080) J	ND (0.020)	ND (0.040) J	0.13 J	ND (0.045) J	ND (0.069)	ND (0.067)	ND (0.079)
Chloromethane (Methyl chloride)	µg/g	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050)	ND (0.050) J	0.25 J	ND (0.050) J	ND (0.17) J	ND (0.17)	ND (0.050)
cis-1,2-Dichloroethene	µg/g	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030)	ND (0.030) J	R	ND (0.030) J	ND (0.10)	ND (0.10)	ND (0.030)
cis-1,3-Dichloropropene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)
Dibromochloromethane	µg/g	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050)	ND (0.050) J	R	ND (0.050) J	ND (0.17)	ND (0.17)	ND (0.050)
Ethylbenzene	µg/g	ND (0.010) J	0.031 J	6.7 J ^a	0.26 ^a	0.045 J	0.085 J ^a	0.15 J ^a	0.73 ^a	0.68 ^a	3.1 ^a
Hexachlorobutadiene	µg/g	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	ND (0.20)
Isopropyl benzene	µg/g	ND (0.20) J	ND (0.20) J	1.9 J	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	0.40
m&p-Xylenes	µg/g	ND (0.040) J	ND (0.040) J	ND (0.040) J	0.14	ND (0.040) J	R	0.10 J	0.37	0.26	1.5
Methyl tert butyl ether (MTBE)	µg/g	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10)	ND (0.10) J	R	ND (0.10) J	ND (0.34)	ND (0.34)	ND (0.10)
Methylene chloride	µg/g	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080)	ND (0.080) J	R	ND (0.080) J	ND (0.27)	ND (0.27)	ND (0.080)
o-Xylene	µg/g	ND (0.040) J	ND (0.040) J	0.36 J	0.062	ND (0.040) J	R	0.11 J	0.16	0.20	0.59
Styrene	µg/g	ND (0.030) J	ND (0.030) J	2.7 J	0.25	ND (0.030) J	R	0.15 J	0.21	0.21	3.2
Tetrachloroethene	µg/g	ND (0.010) J	ND (0.010) J	0.017 J	0.012	ND (0.010) J	0.014 J	ND (0.010) J	ND (0.034)	0.039	ND (0.010)
Toluene	µg/g	ND (0.050) J	ND (0.16) J	7.0 J ^{abc}	0.62 ^{bc}	0.072 J	0.19 J	0.46 J ^a	2.3 ^{bc}	1.8 ^{bc}	6.0 ^{bc}
trans-1,2-Dichloroethene	µg/g	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030)	ND (0.030) J	R	ND (0.030) J	ND (0.10)	ND (0.10)	ND (0.030)
trans-1,3-Dichloropropene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)
Trichloroethene	µg/g	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090)	ND (0.0090) J	R	ND (0.0090) J	ND (0.031) ^a	ND (0.030) ^a	ND (0.0090)
Trichlorofluoromethane (CFC-11)	µg/g	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	ND (0.20)
Vinyl chloride	µg/g	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040)	ND (0.040) J	R	ND (0.040) J	ND (0.14) J	ND (0.13)	ND (0.040)
Xylenes (total)	µg/g	ND (0.040) J	ND (0.040) J	1.4 J	0.20	ND (0.040) J	R	0.21 J	0.52	0.45	2.1
PAHs											
1-Methylnaphthalene	µg/g	0.12 J-	ND (0.050)	R	R	0.12	ND (0.050)	0.16 J-	ND (0.050) J	R	28 J-
2-Methylnaphthalene	µg/g	0.12 J-	0.048	R	R	0.15	0.044	0.17 J-	ND (0.020) J	0.027 J-	51 J-
Acenaphthene	µg/g	0.015 J-	0.0088	R	R	0.020	ND (0.0050)	0.040 J-	0.0076 J-	0.0085 J-	21 J ^a
Acenaphthylene	µg/g	0.070 J-	0.031	R	R	0.0059	ND (0.0050)	0.0096 J-	0.0088 J-	0.0066 J-	3.2 J-
Anthracene	µg/g	0.0079 J-	0.0082	R	R	0.030	0.0041	0.018 J-	0.011 J-	R	2.0 J-
Benzo(a)anthracene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	0.34 J-
Benzo(a)pyrene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J
Benzo(b)fluoranthene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	0.054 J-
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	0.077 J-
Benzo(b)pyridine (Quinoline)	µg/g	R	ND (0.050)	0.13 J-	R	0.32	ND (0.050)	ND (0.050) J	ND (0.050) J	R	0.50 J-
Benzo(g,h,i)perylene	µg/g	R	ND (0.050)	R	R	ND (0.050)	ND (0.050)	ND (0.050) J	ND (0.050) J	R	ND (0.050) J
Benzo(k)fluoranthene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J
Chrysene	µg/g	R	ND (0.020)	R	R	0.038	0.034	0.021 J-	ND (0.020) J	R	0.56 J-
Dibenz(a,h)anthracene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J
Fluoranthene	µg/g	0.024 J-	0.030	R	R	0.17	0.026	0.055 J-	0.037 J-	R	4.3 J-
Fluorene	µg/g	0.028 J-	ND (0.020)	R	R	0.034	ND (0.020)	0.054 J-	ND (0.020) J	R	7.3 J ^a
Indeno(1,2,3-cd)pyrene	µg/g	R	ND (0.020)	R	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J
Naphthalene	µg/g	0.56 J ^a	0.21 ^a	0.023 J ^a	0.058 J ^a	0.25 ^a	0.045 ^a	0.45 J ^a	0.019 J ^a	0.14 J ^a	140 J ^{abcef}
Perylene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J
Phenanthrene	µg/g	0.089 J ^a	0.086 ^a	R	R	0.25 ^a	0.061 ^a	0.18 J ^a	0.048 J ^a	R	25 J ^a
Pyrene	µg/g	R	ND (0.020)	R	R	0.10	ND (0.020)	0.041 J-	0.026 J-	R	2.3 J-
Semi-Volatile Organic Compounds											
1,2,3,4-Tetrachlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J
1,2,3,5-Tetrachlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J
1,2,3-Trichlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J
1,2,4,5-Tetrachlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J
1,2,4-Trichlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	0.046 J-	ND (0.20) J
1,2-Dichlorobenzene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	0.11 J-	ND (0.10) J
1,3,5-Trichlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J
1,3-Dichlorobenzene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	0.15 J-	ND (0.10) J
1,4-Dichlorobenzene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	0.11 J-	ND (0.10) J
1-Chloronaphthalene	µg/g	R	R	R	R	ND (2.0) J	R	R	ND (1.0) J	R	ND (1.0) J
1-Methylnaphthalene	µg/g	0.11 J-	R	0.15 J-	R	0.27 J-	R	0.029 J-	ND (0.10) J	0.032 J-	4.7 J-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R	ND (0.10) J
2,3,4,5-Tetrachlorophenol	µg/g	R / R	ND (0.0050) / R	R / R	ND (0.050) / R	ND (0.0050) / ND (0.20) J	R / ND (0.0050)	ND (0.0050) / R	ND (0.10) J / ND (0.0050)	R / ND (0.0050) J	R / ND (0.10) J
2,3,4,6-Tetrachlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	ND (0.050) / R	ND (0.0050) / ND (0.20) J	ND (0.0050)	0.0094 / R	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	R / ND (0.10) J
2,3,4-Trichlorophenol	µg/g	R / R	ND (0.0050)	R / R	R / ND (0.050)	ND (0.20) J / ND (0.0050)	R / ND (0.0050)	R / ND (0.0050)	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	ND (0.10) J / R
2,3,5,6-Tetrachlorophenol	µg/g	R / R	ND (0.0050) / R	R / R	ND (0.050) / R	ND (0.20) J / ND (0.0050)	R / ND (0.0050)	ND (0.0050) / R	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	ND (0.10) J / R
2,3,5-Trichlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	R / ND (0.050)	ND (0.20) J / ND (0.0050)	ND (0.0050) / R	ND (0.0050) / R	ND (0.10) J / ND (0.0050)	ND (0.0050) J / R	R / ND (0.10) J
2,3,6-Trichlorophenol	µg/g	R / R	ND (0.0050) / R	R / R	R / ND (0.050)	ND (0.20) J / ND (0.0050)	R / ND (0.0050)	ND (0.0050) / R	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	R / ND (0.10) J
2,3-Dichlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	R / ND (0.050)	ND (0.20) J / ND (0.0050)	R / ND (0.0050) / R	ND (0.0050) / R	ND (0.10) J / ND (0.0050)	R / ND (0.0050) J	R / ND (0.10) J
2,4,5-Trichlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	ND (0.050) / R	ND (0.0050) / ND (0.20) J	R / ND (0.0050)	R / ND (0.0050)	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	R / ND (0.10) J
2,4,6-Trichlorophenol	µg/g	R / R	ND (0.0050) / R	R / R	R / ND (0.050)	ND (0.20) J / 0.0065	R / ND (0.0050)	R / ND (0.0050)	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	R / ND (0.10) J
2,4/2,5-Dichlorophenol	µg/g	R	ND (0.0050)	R	ND (0.050)	0.0073	ND (0.0050)	0.022	ND (0.0050)	ND (0.0050) J	R
2,4-Dichlorophenol	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R	ND (0.10) J
2,4-Dimethylphenol	µg/g	0.16 J- / R	R / ND (0.050)	R / R	ND (0.50) / R	0.20 / 0.65 J-	ND (0.050) / R	R / ND (0.050)	ND (0.10) J / ND (0.050)	R / 0.11 J-	0.076 J- / ND (0.10) J
2,4-Dinitrophenol	µg/g	R / R	R / ND (0.050)	R / R	ND (0.50) / R	ND (0.050) / ND (2.0) J	ND (0.050) / R	R / ND (0.050)	ND (0.050) / ND (1.0) J	ND (0.050) J / R	ND (1.0) J / R
2,4-Dinitrotoluene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R	ND (0.10) J
2,5-Dichlorophenol	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R	ND (0.10) J
2,6-Dichlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	ND (0.050) / R	ND (0.20) J / 0.0063 J	R / ND (0.0050)	R / 0.013 J	ND (0.0050) / ND (0.10) J	ND (0.0050) J / R	R / ND (0.10) J
2,6-Dimethylphenol	µg/g	R	ND (0.050)	R	ND (0.50)	0.086	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050) J	R

Table 4

Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-10	CS-11	CS-12	CS-13	CS-14	CS-15	CS-16	CS-17	CS-19	CS-20
Sample Identification:	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	CS-11230615-072121-CT-17	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20
Sample Date:	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/21/2021	07/21/2021	07/21/2021
Sample Description:	Zone 3B - 3149688	Zone 4A - 3149688	Zone 4B - 12870781	Zone 3A - 12867624	Zone 3A - 26576163	Zone 4A - 183237	Zone 4B - 11626291	Zone 5A - 11116960	Zone 5A - 12871753	Zone 5B - 25645099
Parameters	Units									
2,6-Dinitrotoluene	µg/g	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R	ND (0.10) J
2-Chloronaphthalene	µg/g	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R	ND (0.10) J
2-Chlorophenol	µg/g	R / 0.018 J-	R / ND (0.0050)	R / R	R / ND (0.050)	ND (0.20) J / 0.016	R / ND (0.0050)	R / 0.014	ND (0.10) J / ND (0.0050)	0.042 J- / 0.0092 J-
2-Methylnaphthalene	µg/g	0.11 J-	R	0.13 J-	R	0.26 J-	R	R	ND (0.10) J	0.046 J-
2-Methylphenol	µg/g	0.20 J- / 0.16 J-	ND (0.050) / R	0.081 J- / R	ND (0.50) / R	1.1 J- / 0.45	R / ND (0.050)	R / ND (0.050)	ND (0.20) J / ND (0.050)	0.32 J- / 0.12 J-
2-Nitrophenol	µg/g	R / R	ND (0.050) / R	R / R	ND (0.50) / R	ND (0.050) / ND (1.0) J	ND (0.050) / R	ND (0.050) / R	ND (0.50) J / ND (0.050)	ND (0.050) J / R
3&4-Methylphenol	µg/g	0.18 J- / 0.33 J-	0.041 J- / 0.086	R / 0.12 J-	ND (0.50) / R	0.85 / 3.5 J-	R / ND (0.050)	R / ND (0.050)	ND (0.050) / ND (0.20) J	0.18 J- / 0.71 J-
3,3'-Dichlorobenzidine	µg/g	R	R	R	R	ND (1.0) J	R	R	ND (0.50) J	R
3,4,5-Trichlorophenol	µg/g	R / R	ND (0.0050) / R	R / R	R / ND (0.050)	ND (0.0050) / ND (0.20) J	R / ND (0.0050)	ND (0.0050) / R	ND (0.0050) / ND (0.10) J	R / ND (0.0050) J
3,4-Dichlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	R / ND (0.050)	ND (0.20) J / ND (0.0050)	ND (0.0050) / R	ND (0.0050) / R	ND (0.10) J / ND (0.0050)	R / ND (0.0050) J
3,4-Dimethylphenol	µg/g	R	ND (0.050)	R	ND (0.50)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	R
3,5-Dichlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	R / ND (0.050)	ND (0.20) J / ND (0.0050)	R / ND (0.0050)	R / ND (0.0050)	ND (0.10) J / ND (0.0050)	R / ND (0.0050) J
3/4-Chlorophenol	µg/g	0.0081 J-	ND (0.0050)	R	ND (0.050)	0.011 J	ND (0.0050)	0.016 J	ND (0.0050)	ND (0.0050) J
4,6-Dinitro-2-methylphenol	µg/g	R / R	R / ND (0.050)	R / R	R / ND (0.50)	ND (0.050) / ND (1.0) J	ND (0.050) / R	R / ND (0.050)	ND (0.50) J / ND (0.050)	R / ND (0.050) J
4-Bromophenyl phenyl ether	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
4-Chloro-3-methylphenol	µg/g	R / R	R / ND (5.0)	R / R	R / ND (5.0)	ND (5.0) / ND (0.20) J	R / ND (5.0)	R / ND (5.0)	ND (5.0) / ND (0.10) J	R / ND (5.0) J
4-Chloroaniline	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
4-Chlorophenyl phenyl ether	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
4-Nitrophenol	µg/g	R / R	ND (0.050) / R	R / R	R / ND (0.50)	ND (1.0) J / ND (0.050)	R / ND (0.050)	R / ND (0.050)	ND (0.50) J / ND (0.050)	R / ND (0.050) J
Acenaphthene	µg/g	0.017 J-	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Acenaphthylene	µg/g	0.085 J-	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Anthracene	µg/g	0.019 J-	R	R	R	0.040 J	R	R	ND (0.10) J	R
Benzo(a)anthracene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Benzo(a)pyrene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Benzo(b)pyridine (Quinoline)	µg/g	R	R	R	R	0.37 J	R	R	ND (0.20) J	R
Benzo(g,h,i)perylene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Benzo(k)fluoranthene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Biphenyl (1,1-Biphenyl)	µg/g	0.24 J-	0.022 J-	R	R	0.59 J-	0.011 J-	0.023 J-	0.037 J	0.051 J-
bis(2-Chloroethoxy)methane	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
bis(2-Chloroethyl)ether	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
bis(2-Ethylhexyl)phthalate (DEHP)	µg/g	0.20 J-	R	R	R	0.049 J	0.013 J-	R	ND (0.50) J	0.038 J-
Butyl benzylphthalate (BBP)	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
Chlorophenols	µg/g	0.027	ND (0.0050)	ND (0.0050)	ND (0.050)	0.027	ND (0.0050)	0.030	ND (0.0050)	0.0090
Chlorophenols (total)	µg/g	0.027	ND (0.0050)	ND (0.0050)	ND (0.050)	0.047	ND (0.0050)	0.14	ND (0.0050)	0.0090
Chrysene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Dibenz(a,h)anthracene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Dichlorophenols	µg/g	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.050)	0.014	ND (0.0050)	0.035	ND (0.0050)	ND (0.0050)
Diethyl phthalate	µg/g	0.012 J-	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
Dimethyl phthalate	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
Di-n-butylphthalate (DBP)	µg/g	0.011 J-	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
Di-n-octyl phthalate (DnOP)	µg/g	R	R	R	R	ND (1.0) J	R	R	ND (0.50) J	R
Fluoranthene	µg/g	0.048 J-	R	R	R	0.12 J	R	0.013 J-	0.024 J	R
Fluorene	µg/g	0.032 J-	R	R	R	0.091 J	R	R	ND (0.10) J	R
Hexachlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
Hexachlorobutadiene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Hexachlorocyclopentadiene	µg/g	R	R	R	R	ND (1.0) J	R	R	ND (0.50) J	R
Hexachloroethane	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Hydroquinone	µg/g	R	ND (5.0)	R	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	R
Indeno(1,2,3-cd)pyrene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Isophorone	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Naphthalene	µg/g	0.53 J- ^a	R	1.1 J- ^a	R	0.18 J- ^a	R	0.061 J ^a	0.060 J ^a	0.21 J- ^a
Nitrobenzene	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
Nitrosodiphenylamine/Diphenylamine	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
N-Nitrosodi-n-propylamine	µg/g	R	R	R	R	ND (0.20) J	R	R	ND (0.10) J	R
PAH high molecular weight	µg/g	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.31	0.061	0.12	0.063	ND (0.050)
PAH low molecular weight	µg/g	1.2	0.39	0.15	0.058	1.2	0.15	1.1	0.095	0.19
Pentachlorobenzene	µg/g	R	R	R	R	ND (0.40) J	R	R	ND (0.20) J	R
Pentachlorophenol	µg/g	R / R	R / ND (0.0050)	R / R	ND (0.050) / R	ND (0.0050) / ND (0.40) J	R / ND (0.0050)	ND (0.0050) / R	ND (0.20) J / ND (0.0050)	R / ND (0.0050) J
pH >= 6.5	µg/g	R / R	R / ND (0.0050)	R / R	ND (0.050) / R	ND (0.0050) / ND (0.40) J	R / ND (0.0050)	ND (0.0050) / R	ND (0.20) J / ND (0.0050)	R / ND (0.0050) J
pH >= 7.0	µg/g	R / R	R / ND (0.0050)	R / R	ND (0.050) / R	ND (0.0050) / ND (0.40) J	R / ND (0.0050)	ND (0.0050) / R	ND (0.20) J / ND (0.0050)	R / ND (0.0050) J
Phenanthrene	µg/g	0.16 J- ^a	0.024 J-	R	R	0.28 J- ^a	0.023 J-	0.039 J-	0.048 J ^a	R
Phenol	µg/g	2.2 J- / 6.5 J- ^a	0.32 / 0.14 J-	0.67 J- / 0.55 J-	0.056 J- / ND (0.50)	3.1 / 7.1 J- ^a	ND (0.050) / R	0.28 / 0.086 J-	ND (0.050) / ND (0.20) J	2.4 J- / 2.5 J-
Phenolics (total)	µg/g	7.0	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Pyrene	µg/g	0.035 J-	R	R	R	0.080 J	R	R	0.012 J	R
Tetrachlorophenol	µg/g	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.050)	ND (0.0050)	ND (0.0050)	0.0090	ND (0.0050)	ND (0.0050)
Total PAH	µg/g	1.2	0.42	0.15	0.058	1.5	0.21	1.2	0.16	0.19
Total unchlorinated phenols-OC	µg/g	7.0	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Trichlorophenol (DOT)	µg/g	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.050)	0.0060	ND (0.0050)	0.062	ND (0.0050)	ND (0.0050)
Silica										
Cristobalite	%wt	ND (0.90)	ND (0.50)	ND (0.25)	ND (1.9)	ND (0.60)	ND (2.7)	ND (0.25)	ND (1.6)	ND (0.50)
Quartz	%wt	11	24	2.4	9.7	25	25	1.3	17	7.5
Quartz and Cristobalite (total)	%wt	11	24	2.4	24	9.7	25	1.3	17	7.5
Tridymite	%wt	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)

Table 4
Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:		CS-21	CS-22	CS-23	CS-24	CS-25	CS-26	CS-27	CS-28	CS-29	CS-31	CS-32
Sample Identification:		CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072221-CT-27	CS-11230615-072221-CT-28	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32
Sample Date:		07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/22/2021	07/22/2021	07/22/2021
Sample Description:		Zone 6A - 19052375	Zone 6B - 9790187	Zone 6A - 12871761	Zone 6A - 12871796	Zone 7 - 1513486	Zone 7 - 23291231	Zone 7 - 23291222	Zone 7 - 23291222	Zone 8 - P07	Zone 8 - P07	Zone 8 - P07
Parameters		Units										
General Chemistry												
Moisture	%	1.9	0.40	0.80	3.6	0.50	9.6	4.1	0.30	2.0	5.7	1.1
Observation of visible product	none	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)	ND (0)
pH (leachable)	s.u.	9.28 ^a	10.3 ^a	11.9 ^a	9.44 ^a	10.8 ^a	9.48 ^a	9.94 ^a	10.9 ^a	10.7 ^a	12.0 ^a	12.1 ^a
Total Metals												
Aluminum	µg/g	18400	14500	14000	15500	12600	17400	20900	19500	14100	13800	18400
Antimony	µg/g	73.3 ^{ah}	86.6 ^{ah}	13.0	399 ^{ah}	38.0	39.8	3.99	3.09	13.8	34.1	15.6
Arsenic	µg/g	31.5 ^{abce}	23.6 ^{bce}	35.0 ^{abce}	28.7 ^{abce}	10.4 ^{abcef}	119 ^{abcef}	7.64	4.97	12.8 ^{abce}	34.5 ^{bce}	14.7 ^{abce}
Barium	µg/g	1090 ^b	207	714 ^b	260	346	299	199	436 ^b	173	220	435 ^b
Beryllium	µg/g	0.31	0.28	0.26	0.29	0.34	0.30	0.26	ND (0.20)	0.23	ND (0.20)	0.23
pH >= 8.0	µg/g	0.31	0.28	0.26	0.29	0.34	0.30	0.26	ND (0.20)	0.23	ND (0.20)	0.23
Bismuth	µg/g	1.72	0.14	0.17	0.72	0.32	0.20	ND (0.10)	0.26	0.22	0.86	0.24
Boron	µg/g	142	22.0	30.0	47.8	22.7	43.2	72.5	95.1	552	116	74.2
Cadmium	µg/g	3.74	0.553	0.362	0.706	0.749	1.28	0.436	2.97	0.778	0.880	0.360
pH >= 8.0	µg/g	3.74	0.553	0.362	0.706	0.749	1.28	0.436	2.97	0.778	0.880	0.360
Calcium	µg/g	52300	15800	39000	12500	52200	27700	67200	159000	68200	84500	106000
Chromium	µg/g	102 ^{abce}	51.4	47.0	68.2 ^{bce}	43.2	52.8	37.9	24.8	37.1	67.3 ^{bce}	22.4
Cobalt	µg/g	51.7 ^{bce}	25.5 ^{bce}	11.4	11.3	16.2	17.2	9.77	8.81	137 ^{bce}	11.7	9.26
Copper	µg/g	679 ^{af}	62.2	119 ^a	195 ^a	368 ^{af}	646 ^{af}	4060 ^{af}	160 ^a	133 ^a	143 ^a	5900 ^{af}
pH >= 7.0	µg/g	679	62.2	119	195	368	646	4060 ^a	160	133	143	5900 ^a
pH >= 7.5	µg/g	679	62.2	119	195	368	646	4060	160	133	143	5900
Iron	µg/g	21200	30800	24800	26000	23800	24300	21800	14800	23600	18500	25000
Lead	µg/g	6100 ^{adf}	46.4	102	7680 ^{adf}	333	127	163	69.0	29.4	20.1	28.1
pH >= 7.0	µg/g	6100	46.4	102	7680	333	127	163	69.0	29.4	20.1	28.1
pH >= 7.5	µg/g	6100	46.4	102	7680	333	127	163	69.0	29.4	20.1	28.1
Lithium	µg/g	15.0	12.3	9.30	8.59	7.62	8.37	7.96	5.40	7.57	5.74	6.33
Magnesium	µg/g	10600	11300	8220	7150	7310	8770	7870	16400	9310	7780	7710
Manganese	µg/g	928	569	515	585	576	526	472	608	507	665	575
Mercury	µg/g	0.105 J+	0.072 J+	0.092 J+	0.152 J+	ND (0.050)	0.050 J+	0.077 J+	0.053 J+	ND (0.050)	ND (0.050)	ND (0.050)
Molybdenum	µg/g	4.80	1.01	4.06	1.41	6.36	9.55	1.68	4.85	3.08	2.34	3.68
Nickel	µg/g	101 ^a	62.4	47.0	40.5	42.5	41.6	37.2	30.2	34.1	64.0	26.3
pH >= 8.0	µg/g	101	62.4	47.0	40.5	42.5	41.6	37.2	30.2	34.1	64.0	26.3
Phosphorus	µg/g	1710	644	956	1080	2000	958	1340	4210	8730	1170	1580
Potassium	µg/g	4960	896	1610	2110	3400	2270	3300	24000	10900	3420	3810
Selenium	µg/g	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Silver	µg/g	1.34	0.092	0.243	0.499	0.570	0.358	0.289	0.453	0.267	0.360	0.384
Sodium	µg/g	7160 ^f	383	744	1130 ^f	2950 ^f	1400 ^f	913	1870 ^f	7530 ^f	2770 ^f	3370 ^f
Strontium	µg/g	439	48.8	121	60.5	134	90.0	228	822	250	192	306
Thallium	µg/g	ND (0.050)	0.066	0.057	0.076	0.073	0.068	0.052	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Tin	µg/g	48.2	1.24	8.76	19.3	10.2	7.90	72.4	22.3	18.9	44.0	93.1
Titanium	µg/g	4080	582	815	1250	775	3490	3490	542	823	1860	131
Tungsten	µg/g	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	1.18	ND (0.50)	ND (0.50)
Uranium	µg/g	0.614	0.359	0.742	0.760	1.02	0.580	0.922	0.277	0.503	0.474	0.634
Vanadium	µg/g	51.1	53.9	66.4	53.6	48.3	46.6	58.0	36.2	39.4	55.6	88.2
Zinc	µg/g	14800 ^{af}	1520 ^{af}	1320 ^{af}	827 ^{af}	1710 ^{af}	3450 ^{af}	414 ^a	747 ^{af}	502 ^{af}	1230 ^{af}	2350 ^{af}
pH >= 8.0	µg/g	14800 ^{bce}	1520 ^e	1320 ^e	827 ^e	1710 ^e	3450 ^{ce}	414 ^e	747 ^e	502 ^e	1230 ^e	2350 ^a
Zirconium	µg/g	14.6	4.36	2.85	5.84	6.30	6.38	8.14	3.21	5.88	9.89	5.21
PCBs												
Aroclor-1016 (PCB-1016)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1221 (PCB-1221)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1232 (PCB-1232)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1242 (PCB-1242)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1248 (PCB-1248)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1254 (PCB-1254)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1260 (PCB-1260)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1262 (PCB-1262)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Aroclor-1268 (PCB-1268)	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Total PCBs	µg/g	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.010)	ND (0.010)
Petroleum Products												
Extractable Petroleum Hydrocarbons (C10-C19)	µg/g	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J
Extractable Petroleum Hydrocarbons (C19-C32)	µg/g	320 J-	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	330 J-	ND (100) J
HEPH (C19-C32 less PAH)	µg/g	320 J-	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	330 J-	ND (100) J
LEPH (C10-C19 less PAH)	µg/g	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J	ND (100) J
Total Petroleum Hydrocarbons VPH (C6-C10)LessBTEX	µg/g	ND (31)	ND (10)	ND (10)	ND (10)	ND (24)	ND (28)	ND (22)	ND (10)	ND (10)	ND (35)	ND (10)
Total Petroleum Hydrocarbons VH (C6-C10)	µg/g	ND (31)	ND (10)	ND (10)	ND (10)	ND (24)	ND (28)	ND (22)	ND (10)	ND (10)	ND (35)	ND (10)
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.070)	ND (0.020)
1,1,1-Trichloroethane	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.070)	ND (0.020)
1,1,2,2-Tetrachloroethane	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.070)	0.069 J
1,1,2-Trichloro-D												

Table 4

Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-21	CS-22	CS-23	CS-24	CS-25	CS-26	CS-27	CS-28	CS-29	CS-31	CS-32
Sample Identification:	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072121-CT-27	CS-11230615-072121-CT-28	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32
Sample Date:	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/22/2021	07/22/2021	07/22/2021
Sample Description:	Zone 6A - 19052375	Zone 6B - 9790187	Zone 6A - 12871761	Zone 6A - 12871796	Zone 7 - 1513486	Zone 7 - 23291231	Zone 7 - 23291222	Zone 7 - 23291222	Zone 8 - P07	Zone 8 - P07	Zone 8 - P07
Parameters	Units										
1,3-Dichlorobenzene	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.020)
1,4-Dichlorobenzene	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.020)
Benzene	µg/g	3.9 ^{abc}	0.050 ^{ab}	0.43 ^{ab}	0.025	0.39 ^{ab}	1.0 ^{ab}	0.34 ^{ab}	0.061 ^{ab}	0.24 ^{ab}	0.99 ^{ab}
Bromobenzene	µg/g	ND (0.62)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.20)	ND (0.20)
Bromodichloromethane	µg/g	ND (0.16)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.12)	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.050)	ND (0.050)
Bromoform	µg/g	ND (0.16)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.12)	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.050)	ND (0.050)
Bromomethane (Methyl bromide)	µg/g	ND (0.93)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.72)	ND (0.85)	ND (0.66)	ND (0.30)	ND (0.30)	ND (0.30)
Carbon tetrachloride	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.020)
Chlorobenzene	µg/g	ND (0.038)	ND (0.020)	0.045	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	0.052	ND (0.070)
Chloroethane	µg/g	ND (0.31)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.24)	ND (0.28)	ND (0.22)	ND (0.10)	ND (0.10)	ND (0.10)
Chloroform (Trichloromethane)	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.020)
Chloromethane (Methyl chloride)	µg/g	ND (0.16)	ND (0.050)	0.12	ND (0.050)	0.33	ND (0.14)	ND (0.11)	ND (0.050)	0.083	ND (0.18)
cis-1,2-Dichloroethene	µg/g	ND (0.093)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.072)	ND (0.085)	ND (0.066)	ND (0.030)	ND (0.11)	ND (0.030)
cis-1,3-Dichloropropene	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.020)
Dibromochloromethane	µg/g	ND (0.16)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.12)	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.050)	ND (0.050)
Ethylbenzene	µg/g	0.34 ^a	0.026	0.13 ^a	0.012	ND (0.024)	0.37 ^a	0.52 ^a	0.043	1.1 ^a	0.092 ^a
Hexachlorobutadiene	µg/g	ND (0.62)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.20)	ND (0.20)
Isopropyl benzene	µg/g	ND (0.62)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.20)	ND (0.20)
m&p-Xylenes	µg/g	0.28	ND (0.040)	0.16	ND (0.040)	ND (0.096)	0.46	1.0	0.041	ND (0.040)	0.13
Methyl tert butyl ether (MTBE)	µg/g	ND (0.31)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.24)	ND (0.28)	ND (0.22)	ND (0.10)	ND (0.35)	ND (0.10)
Methylene chloride	µg/g	ND (0.25)	ND (0.080)	ND (0.080)	ND (0.080)	ND (0.19)	ND (0.23)	ND (0.18)	ND (0.080)	ND (0.28)	0.16
o-Xylene	µg/g	ND (0.12)	ND (0.040)	0.075	ND (0.040)	ND (0.096)	0.23	0.31	ND (0.040)	ND (0.040)	ND (0.040)
Styrene	µg/g	0.24	0.11	0.070	0.034	ND (0.072)	0.57	0.34	0.092	2.9	0.062
Tetrachloroethene	µg/g	0.049	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.024)	ND (0.028)	ND (0.022)	ND (0.010)	ND (0.010)	ND (0.035)
Toluene	µg/g	1.6 ^{ac}	ND (0.050)	0.60 ^{ac}	ND (0.050)	ND (0.12)	1.4 ^{ac}	1.6 ^{ac}	0.097	0.52 ^{ac}	0.28
trans-1,2-Dichloroethene	µg/g	ND (0.093)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.072)	ND (0.085)	ND (0.066)	ND (0.030)	ND (0.11)	ND (0.030)
trans-1,3-Dichloropropene	µg/g	ND (0.062)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.020)	ND (0.020)
Trichloroethene	µg/g	ND (0.028) ^a	ND (0.0090)	ND (0.0090)	ND (0.0090)	ND (0.0090)	ND (0.022) ^a	ND (0.025) ^a	ND (0.0090)	ND (0.0090)	ND (0.0090)
Trichlorofluoromethane (CFC-11)	µg/g	ND (0.62)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.70)	ND (0.20)
Vinyl chloride	µg/g	ND (0.12)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.096)	ND (0.11)	ND (0.088)	ND (0.040)	ND (0.14)	ND (0.040)
Xylenes (total)	µg/g	0.28	ND (0.040)	0.23	ND (0.040)	ND (0.096)	0.69	1.3	0.041	ND (0.14)	0.13
PAHs											
1-Methylnaphthalene	µg/g	0.063 J-	ND (0.050) J	ND (0.050) J	0.26 J-	R	0.056 J-	0.054 J-	0.085 J-	ND (0.050) J	0.19 J-
2-Methylnaphthalene	µg/g	0.087 J-	ND (0.020) J	0.49 J-	0.49 J-	R	0.076 J-	0.057 J-	ND (0.020) J	0.28 J-	ND (0.020) J
Acenaphthene	µg/g	0.018 J-	ND (0.0050) J	0.0058 J-	1.9 J- ^a	R	0.011 J-	ND (0.0050) J	0.064 J-	ND (0.0050) J	0.11 J-
Acenaphthylene	µg/g	0.052 J-	ND (0.0050) J	0.0051 J-	0.087 J-	R	0.019 J-	ND (0.0050) J	0.030 J-	ND (0.0050) J	0.085 J-
Anthracene	µg/g	0.010 J-	ND (0.0040) J	0.0053 J-	1.5 J-	R	0.014 J-	0.0061 J-	0.021 J-	ND (0.0040) J	0.080 J-
Benzo(a)anthracene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.73 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(a)pyrene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.22 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(b)fluoranthene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.40 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.58 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(b)pyridine (Quinoline)	µg/g	0.059 J-	ND (0.050) J	0.057 J-	0.072 J-	R	0.079 J-	ND (0.050) J	R	0.050 J-	0.094 J-
Benzo(g,h,i)perylene	µg/g	ND (0.050) J	ND (0.050) J	ND (0.050) J	0.086 J-	R	ND (0.050) J	ND (0.050) J	R	ND (0.050) J	ND (0.050) J
Benzo(k)fluoranthene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.18 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Chrysene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.82 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Dibenz(a,h)anthracene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.027 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Fluoranthene	µg/g	0.039 J-	ND (0.020) J	0.036 J-	5.9 J-	R	0.044 J-	ND (0.020) J	R	ND (0.020) J	0.49 J-
Fluorene	µg/g	0.026 J-	ND (0.020) J	ND (0.020) J	3.3 J- ^a	R	0.024 J-	ND (0.020) J	0.027 J-	ND (0.020) J	0.098 J-
Indeno(1,2,3-cd)pyrene	µg/g	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.085 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Naphthalene	µg/g	0.49 J- ^a	ND (0.010) J	0.070 J- ^a	0.58 J- ^a	0.019 J- ^a	0.28 J- ^a	0.12 J- ^a	0.59 J- ^a	0.052 J- ^a	0.77 J- ^a
Perylene	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	ND (0.20) J	R	ND (0.20) J	R
Phenanthrene	µg/g	0.11 J- ^a	ND (0.010) J	0.055 J- ^a	17 J- ^a	R	0.043 J-	0.11 J- ^a	0.12 J- ^a	0.93 J- ^a	ND (0.010) J
Pyrene	µg/g	0.023 J-	ND (0.020) J	0.026 J-	2.8 J-	R	0.032 J-	ND (0.020) J	R	0.22 J-	ND (0.020) J
Semi-Volatile Organic Compounds											
1,2,3,4-Tetrachlorobenzene	µg/g	0.030 J-	ND (0.20) J	ND (0.20) J	0.021 J						

Table 4

Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:	CS-21	CS-22	CS-23	CS-24	CS-25	CS-26	CS-27	CS-28	CS-29	CS-31	CS-32
Sample Identification:	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072121-CT-27	CS-11230615-072121-CT-28	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32
Sample Date:	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/22/2021	07/22/2021	07/22/2021
Sample Description:	Zone 6A - 19052375	Zone 6B - 9790187	Zone 6A - 12871761	Zone 6A - 12871796	Zone 7 - 1513486	Zone 7 - 23291231	Zone 7 - 23291222	Zone 7 - 23291222	Zone 8 - P07	Zone 8 - P07	Zone 8 - P07
Parameters	Units										
2,6-Dinitrotoluene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J	R
2-Chloronaphthalene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J	R
2-Chlorophenol	µg/g	ND (0.0050) / 0.19 J-	ND (0.10) J / 0.024 J-	ND (0.10) J / ND (0.0050)	ND (0.10) J / ND (0.034 J	ND (0.0050) J / ND (0.50) J	ND (0.10) J / 0.0080	0.014 / ND (0.10) J	ND (0.0050) J / R	ND (0.50) J / 0.0051	ND (0.10) J / ND (0.0050)
2-Methylnaphthalene	µg/g	0.39 J-	ND (0.10) J	ND (0.10) J	20 J-	ND (0.50) J	0.15 J-	0.047 J	R	ND (0.50) J	0.42 J-
2-Methylphenol	µg/g	1.2 J- / ND (0.050)	0.096 J- / ND (0.20) J	ND (0.20) J / ND (0.050)	ND (0.050) / 0.50 J-	ND (0.050) J / ND (1.0) J	0.061 J / 0.25	0.023 J / ND (0.050)	0.057 J- / R	ND (0.050) / ND (1.0) J	ND (0.20) J / ND (0.050)
2-Nitrophenol	µg/g	0.11 J- / ND (0.050)	ND (0.50) J / ND (0.050) J	ND (0.50) J / ND (0.050)	ND (0.50) J / ND (0.050)	ND (0.50) J / ND (2.5) J	ND (0.50) J / ND (0.050)	ND (0.050) / ND (0.50) J	ND (0.050) J / R	ND (2.5) J / ND (0.050)	ND (0.50) J / ND (0.050)
3&4-Methylphenol	µg/g	2.8 J- / ND (0.050)	ND (0.20) J / ND (0.21 J-	0.032 J / 0.059	0.051 / 1.2 J-	ND (1.0) J / ND (0.050) J	0.64 / 0.098 J	ND (0.050) / 0.064 J	0.11 J- / R	ND (0.050) / ND (1.0) J	0.051 J / ND (0.050)
3,3'-Dichlorobenzidine	µg/g	R	ND (0.50) J	ND (0.50) J	ND (0.50) J	ND (2.5) J	ND (0.50) J	ND (0.50) J	R	ND (2.5) J	R
3,4,5-Trichlorophenol	µg/g	ND (0.0050) / R	ND (0.10) J / ND (0.0050) J	ND (0.10) J / ND (0.0050)	ND (0.0050) / ND (0.10) J	ND (0.50) J / ND (0.0050) J	ND (0.10) J / ND (0.0050)	ND (0.10) J / ND (0.0050)	ND (0.0050) J / R	ND (0.0050) / ND (0.50) J	ND (0.0050) / ND (0.10) J
3,4-Dichlorophenol	µg/g	R / ND (0.0050)	ND (0.10) J / ND (0.0050) J	ND (0.10) J / ND (0.0050)	ND (0.0050) / ND (0.10) J	ND (0.50) J / ND (0.0050) J	ND (0.10) J / ND (0.0050)	ND (0.0050) / ND (0.10) J	R / ND (0.0050) J	ND (0.050) J / ND (0.0050)	ND (0.10) J / ND (0.0050)
3,4-Dimethylphenol	µg/g	ND (0.050)	ND (0.050) J	ND (0.050)	ND (0.050)	ND (0.050) J	0.053	ND (0.050)	ND (0.050) J	ND (0.050)	ND (0.050)
3,5-Dichlorophenol	µg/g	ND (0.0050) / R	ND (0.10) J / ND (0.0050) J	ND (0.10) J / ND (0.0050)	ND (0.0050) / ND (0.10) J	ND (0.50) J / ND (0.0050) J	ND (0.10) J / ND (0.0050)	ND (0.10) J / ND (0.0050)	R / ND (0.0050) J	ND (0.50) J / ND (0.0050)	ND (0.050) J / ND (0.10) J
3/4-Chlorophenol	µg/g	ND (0.0050)	0.022 J-	ND (0.0050)	ND (0.0050)	ND (0.0050) J	ND (0.0050)	0.022	ND (0.0050) J	0.011	ND (0.0050)
4,6-Dinitro-2-methylphenol	µg/g	R / ND (0.050)	ND (0.050) J / ND (0.50) J	ND (0.50) J / ND (0.050)	ND (0.50) J / ND (0.050)	ND (2.5) J / ND (0.050) J	ND (0.050) J / ND (0.50) J	ND (0.50) J / ND (0.050)	ND (0.0050) J / R	ND (2.5) J / ND (0.050)	ND (0.50) J / ND (0.050)
4-Bromophenyl phenyl ether	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	ND (0.50) J	R
4-Chloro-3-methylphenol	µg/g	R / ND (5.0)	ND (0.10) J / ND (5.0) J	ND (5.0) / ND (0.10) J	ND (5.0) / ND (0.10) J	ND (5.0) J / ND (0.50) J	ND (5.0) / ND (0.10) J	ND (0.10) J / ND (5.0)	ND (5.0) J / R	ND (0.50) J / ND (5.0)	ND (0.10) J / ND (5.0)
4-Chloroaniline	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	R	ND (0.20) J	R	ND (1.0) J
4-Chlorophenyl phenyl ether	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	R	ND (0.10) J
4-Nitrophenol	µg/g	ND (0.050) / R	ND (0.50) J / ND (0.050) J	ND (0.050) J / ND (0.50) J	ND (0.050) J / ND (0.50) J	ND (2.5) J / ND (0.050) J	ND (0.050) J / ND (0.50) J	ND (0.50) J / ND (0.050)	R / ND (0.050) J	ND (2.5) J / ND (0.050)	ND (0.50) J / ND (0.050)
Acenaphthene	µg/g	R	ND (0.10) J	ND (0.10) J	6.3 J- ^a	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	R	0.26 J-
Acenaphthylene	µg/g	0.074 J-	ND (0.10) J	ND (0.10) J	1.2 J-	ND (0.50) J	0.044 J	R	0.011 J	ND (0.50) J	0.11 J-
Anthracene	µg/g	R	ND (0.10) J	ND (0.10) J	1.3 J-	ND (0.50) J	0.031 J	ND (0.10) J	R	ND (0.50) J	2.2 J-
Benzo(a)anthracene	µg/g	R	ND (0.10) J	ND (0.10) J	0.32 J-	ND (0.50) J	ND (0.10) J	R	R	0.12 J	R
Benzo(a)pyrene	µg/g	R	ND (0.10) J	ND (0.10) J	0.028 J	ND (0.50) J	ND (0.10) J	R	R	0.069 J	0.060 J
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	R	ND (0.10) J	ND (0.10) J	0.14 J-	ND (0.50) J	ND (0.10) J	R	R	0.18 J	0.33 J-
Benzo(b)pyridine (Quinoline)	µg/g	0.070 J-	ND (0.20) J	ND (0.20) J	0.53 J-	ND (1.0) J	0.10 J	ND (0.20) J	R	ND (1.0) J	0.12 J
Benzo(g,h,i)perylene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	R	R	0.098 J	ND (0.10) J
Benzo(k)fluoranthene	µg/g	R	ND (0.10) J	ND (0.10) J	0.034 J	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	ND (0.50) J	0.098 J
Biphenyl (1,1-Biphenyl)	µg/g	0.44 J-	ND (0.10) J	ND (0.10) J	4.9 J-	ND (0.50) J	1.8 J-	0.027 J	0.012 J-	0.091 J	0.34 J-
bis(2-Chloroethoxy)methane	µg/g	0.14 J-	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J
bis(2-Chloroethyl)ether	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	R	R	ND (1.0) J	ND (0.20) J
bis(2-Ethylhexyl)phthalate (DEHP)	µg/g	0.36 J-	ND (0.50) J	ND (0.50) J	0.051 J	ND (0.50) J	0.048 J	R	R	ND (2.5) J	0.058 J
Butyl benzylphthalate (BBP)	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	R	R	ND (1.0) J	ND (0.20) J
Chlorophenols	µg/g	ND (0.0050)	0.047	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0080	0.036	ND (0.0050)	0.016	ND (0.0050)
Chlorophenols (total)	µg/g	ND (0.0050)	0.075	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0080	0.089	ND (0.0050)	0.041	ND (0.0050)
Chrysene	µg/g	R	ND (0.10) J	ND (0.10) J	0.36 J-	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	0.25 J	0.99 J-
Dibenz(a,h)anthracene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	0.16 J	ND (0.10) J
Dichlorophenols	µg/g	ND (0.0050)	0.012	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.024	ND (0.0050)	0.0060	ND (0.0050)
Diethyl phthalate	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	ND (0.20) J	R	ND (1.0) J	ND (0.20) J
Dimethyl phthalate	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	0.029 J	R	ND (1.0) J	ND (0.20) J
Di-n-butylphthalate (DBP)	µg/g	R	ND (0.20) J	0.010 J	ND (0.20) J	ND (1.0) J	ND (0.20) J	ND (0.20) J	R	ND (1.0) J	ND (0.20) J
Di-n-octyl phthalate (DnOP)	µg/g	R	ND (0.50) J	ND (0.50) J	ND (0.50) J	ND (2.5) J	ND (0.50) J	ND (0.50) J	R	ND (2.5) J	0.050 J
Fluoranthene	µg/g	R	ND (0.10) J	ND (0.10) J	4.9 J-	ND (0.50) J	0.039 J	0.037 J	R	0.10 J	15 J-
Fluorene	µg/g	R	ND (0.10) J	ND (0.10) J	2.8 J- ^a	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	0.77 J- ^a
Hexachlorobenzene	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	ND (0.20) J	R	ND (1.0) J	ND (0.20) J
Hexachlorobutadiene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J
Hexachlorocyclopentadiene	µg/g	R	ND (0.50) J	ND (0.50) J	ND (0.50) J	ND (2.5) J	ND (0.50) J	ND (0.50) J	R	ND (2.5) J	ND (0.50) J
Hexachloroethane	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J
Hydroquinone	µg/g	ND (5.0)	ND (5.0) J	ND (5.0)	ND (5.0)	ND (5.0) J	ND (5.0)	ND (5.0)	ND (5.0) J	ND (5.0)	ND (5.0)
Indeno(1,2,3-cd)pyrene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	ND (0.10) J	R	ND (0.50) J	ND (0.50) J
Isophorone	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J	R
Naphthalene	µg/g	1.6 J- ^a	ND (0.10) J	ND (0.10) J	50 J- ^a	ND (0.50) J	0.52 J- ^a	0.097 J ^a	0.023 J- ^a	ND (0.50) J	1.2 J- ^a
Nitrobenzene	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J	R
Nitrosodiphenylamine/Diphenylamine	µg/g	R	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	R	ND (1.0) J	ND (0.20) J	R
N-Nitrosodi-n-propylamine	µg/g	R	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.50) J	ND (0.10) J	R	ND (0.50) J	ND (0.10) J	R
PAH high molecular weight	µg/g	0.062	ND (0.050)	0.062	11	ND (0.050)	0.076	ND (0.050)	ND (0.050)	0.74	ND (0.050)
PAH low molecular weight	µg/g	0.92	ND (0.050)	0.24	26	ND (0.050)	0.67	0.28	1.0	0.13	0.051
Pentachlorobenzene	µg/g	R	ND (0.20) J	ND (0.20) J	0.020 J	ND (1.0) J	ND (0.20) J	R	R	ND (1.0) J	R
Pentachlorophenol	µg/g	ND (0.0050) / R	ND (0.20) J / ND (0.0050) J	ND (0.20) J / ND (0.0050)	ND (0.0050) / ND (0.20) J	ND (1.0) J / ND (0.0050) J	ND (0.20) J / ND (0.0050)	ND (0.20) J / ND (0.0050)	ND (0.0050) J / R	ND (0.0050) / ND (1.0) J	ND (0.20) J / ND (0.0050)
pH >= 6.5	µg/g	ND (0.0050) / R	ND (0.20) J / ND (0.0050) J	ND (0.20) J / ND (0.0050)	ND (0.0050) / ND (0.20) J	ND (1.0) J / ND (0.0050) J	ND (0.20) J / ND (0.0050)	ND (0.20) J / ND (0.0050)	ND (0.0050) J / R	ND (0.0050) / ND (1.0) J	ND (0.20) J / ND (0.0050)
pH >= 7.0	µg/g	ND (0.0050) / R	ND (0.20) J / ND (0.0050) J	ND (0.20) J / ND (0.0050)	ND (0.0050) / ND (0.20) J	ND (1.0) J / ND (0.0050) J	ND (0.20) J / ND (0.0050)	ND (0.20) J / ND (0.0050)	ND (0.0050) J / R	ND (0.0050) / ND (1.0) J	ND (0.20) J / ND (0.0050)
Phenanthrene	µg/g	0.045 J-	ND (0.10) J	ND (0.10) J	13 J- ^a	ND (0.50) J	0.32 J- ^a	0.046 J	R	0.40 J	17 J- ^a
Phenol	µg/g	ND (0.050) / 9.1 J- ^{ab}	ND (0.20) J / 1.4 J-	0.25 / 0.11 J	1.2 J- / 0.19	0.11 J- / 0.23 J	1.5 / 0.97 J-	0.23 / 0.22 J-	0.56 J- / 0.056 J-	0.25 / 0.72 J	ND (0.050) / 0.087 J
Phenolics (total)	µg/g	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Pyrene	µg/g	R	ND (0.10) J	ND (0.10) J	2.3 J-	ND (0.50) J	0.038 J	0.033 J	R	0.12 J	8.4 J-
Tetrachlorophenol	µg/g	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Total PAH	µg/g	0.98	ND (0.050)	0.30	37	ND (0.050)	0.74	0.28	1.0	0.13	0.051
Total unchlorinated phenols-OC	µg/g	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Trichlorophenol (DOT)	µg/g	ND (0.0050)	0.017	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.029	ND (0.0050)	0.019	ND (0.0050)
Silica											
Cristobalite	%wt	ND (0.35)	ND (1.0)	ND (0.45)	ND (0.65)	ND (0.25)	ND (0.90)	ND (0.75)	ND (2.3)	ND (1.1)	ND (0.25)
Quartz	%wt	8.4	13	4.0	8.3	1.9	15	8.0	22	12	0.28
Quarts and Cristobalite (total)	%wt	8.4	13	4.0	8.3	1.9	15	8.0	22	12	0.28
Tridymite	%wt	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)

Table 4

Summary of Bulk Material Analytical Results - CCME/BC CSR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Notes:	
a	Canadian Council of Ministers of the Environment Soil Quality Guidelines for the Protection of Human and Environmental Health - Industrial Soil Quality Guidelines (CCME IL SQG)
b	BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Drinking Water Protection (BC CSR IL DW)
c	BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Groundwater Flow to Surface Water Used by Freshwater Aquatic Life (BC CSR IL FW)
d	BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Intake of Contaminated Soil (BC CSR IL INTK)
e	BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Groundwater flow to surface water used by marine water aquatic life
f	BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Toxicity to Soil Invertebrates and Plants (BC CSR IL TOX)
g	BC ENV CSR Schedule 3.1 Part 2 - Generic Numerical Soil Standards to Protect Human Health - Industrial Land Use (BC CSR IL HH)
h	BC ENV CSR Schedule 3.1 Part 3 - Generic Numerical Soil Standards to Protect Ecological Health - Industrial Land Use (BC CSR IL EH)
-	Sample not analyzed for the associated parameter
--	No standard available for associated parameter
J	Estimated concentration
ND (0)	Not detected at the associated reporting limit
10.3 ^a	Result exceeds standard or guideline indicated by superscript
%	Per cent
BTEX	Benzene, toluene, ethylbenzene, xylene
VH	Volatile hydrocarbons
VPH	Volatile petroleum hydrocarbons
PAH	Polycyclic aromatic hydrocarbons
EPH	Extractable petroleum hydrocarbons
LEPH	Light extractable petroleum hydrocarbons
HEPH	Heavy extractable petroleum hydrocarbons
PHC	Petroleum Hydrocarbon
C6 - C10	6 to 10 carbon atom range
C10 - C19	10 to 19 carbon atom range
C19 - C32	19 to 32 carbon atom range
m BGS	Metres below ground surface
µg/g	Microgram per gram
mg/L	Miligram per litre
R	Rejected
SPLP	Synthetic Precipitation Leaching Procedure
PCB	Polychlorinated biphenyl
HCl	Hydrochloric acid
µg/L	Microgram per litre
[a]	Limit varies with pH
s.u.	Standard units
%w/w	Per cent weight per weight
C	Coarse grained
F	Fine grained
SQGE	Soil Quality Guidelines - Environmental
SQGEFL	Soil Quality Guidelines for Environmental Health Guidelines for Protection of Freshwater Life

Table 5
Summary of Bulk Material Analytical Results - HWR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:			CS-01		CS-02		CS-04		CS-05		CS-06		CS-08		CS-10		CS-11		CS-12	
Sample Identification:			CS-11230615-071921-CT-01		CS-11230615-071921-CT-02		CS-11230615-071921-CT-04		CS-11230615-071921-CT-05		CS-11230615-071921-CT-06		CS-11230615-071921-CT-08		CS-11230615-072021-CT-10		CS-11230615-072021-CT-11		CS-11230615-072021-CT-12	
Sample Date:			07/19/2021		07/19/2021		07/19/2021		07/19/2021		07/19/2021		07/19/2021		07/20/2021		07/20/2021		07/20/2021	
Parameters			BC-HWR-63-88																	
Units			a																	
General Chemistry																				
Moisture	%	--	0.40		ND (0.30)		0.40		0.30		0.30		0.60		1.0		0.80		0.80	
Observation of visible product	none	--	ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)	
pH (leachable)	s.u.	2.0-12.5	10.3		9.48		10.4		11.2		11.0		10.3		12.6 ^a		12.6 ^a		11.1	
General Chemistry-TCLP																				
pH (after HCL)	s.u.	--	2.38		2.07		2.62		2.23		2.68		2.12		11.8		9.95		1.69	
pH (final)	s.u.	--	6.97		6.11		6.50		7.41		7.59		8.23		12.0		6.92		7.06	
pH (initial)	s.u.	--	10.9		9.20		9.29		11.5		11.3		11.2		12.5		12.3		11.4	
pH (leachable)	s.u.	2.0-12.5	4.93		4.93		4.93		4.93		4.93		4.93		2.85		2.85		4.93	
pH, soluble (2:1)	s.u.	2.0-12.5	11.2		8.63		8.97		10.4		12.3		10.8		12.6 ^a		12.6 ^a		12.5	
Total Metals-TCLP																				
Antimony	mg/L	--	0.033		0.047		ND (0.10)		0.68		0.80		0.042		ND (0.10)		0.084		0.10	
Arsenic	mg/L	2.5	2.74 ^a		0.0532		0.0293		0.32		0.0069		0.0121		ND (0.10)		0.0076		0.0138	
Barium	mg/L	100.0	0.59		1.67		0.38		1.18		0.12		0.69		0.36		0.17		0.57	
Beryllium	mg/L	--	ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
Boron	mg/L	500.0	0.75		0.85		0.84		2.86		8.04		1.10		4.41		2.86		5.12	
Cadmium	mg/L	0.5	ND (0.10)		0.0053		ND (0.10)		ND (0.10)		0.0090		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
Chromium	mg/L	5.0	0.75		ND (0.10)		ND (0.10)		0.74		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
Cobalt	mg/L	--	ND (0.10)		0.050		0.019		0.021		ND (0.10)		ND (0.10)		ND (0.10)		0.024		0.024	
Copper	mg/L	100	0.0400		0.0176		0.0167		0.0109		0.0919		0.0075		0.0056		0.0157		0.0259	
Iron	mg/L	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)	
Lead	mg/L	5.0	0.00145		1.40		0.0897		0.15		0.0258		0.0192		0.00418		0.00399		0.0495	
Mercury	mg/L	0.1	0.0021		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)	
Molybdenum	mg/L	--	0.049		0.022		0.041		0.029		0.12		0.043		0.12		0.031		ND (0.10)	
Nickel	mg/L	--	0.025		0.033		0.024		0.024		0.021		ND (0.10)		ND (0.10)		0.27		0.046	
Selenium	mg/L	1.0	0.0020		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		0.0021		ND (0.10)		ND (0.10)	
Silver	mg/L	5.0	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
Thallium	mg/L	--	ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
Uranium	mg/L	10.0	ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
Vanadium	mg/L	--	0.23		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
Zinc	mg/L	500.0	ND (0.10)		26.1		0.68		1.57		0.67		ND (0.10)		ND (0.10)		1.32		3.08	
Zirconium	mg/L	--	ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)	
PCBs																				
Aroclor-1016 (PCB-1016)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1221 (PCB-1221)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1232 (PCB-1232)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1242 (PCB-1242)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1248 (PCB-1248)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1254 (PCB-1254)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1260 (PCB-1260)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1262 (PCB-1262)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Aroclor-1268 (PCB-1268)	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Total PCBs	µg/g	--	ND (0.50)		ND (0.50)		ND (0.50)		ND (2.0)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.17)	
Volatile Organic Compounds																				
1,1,1,2-Tetrachloroethane	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	
1,1,1-Trichloroethane	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	
1,1,2,2-Tetrachloroethane	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	
1,1,2-Trichloroethane	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	
1,1-Dichloroethane	µg/g	--	ND (0.025) J		ND (0.025) J		ND (0.025) J		ND (0.088)		ND (0.025) J		ND (0.025) J		ND (0.025) J		ND (0.025) J		ND (0.025) J	
1,1-Dichloroethene	µg/g	--	ND (0.025) J		ND (0.025) J		ND (0.025) J		ND (0.088)		ND (0.025) J		ND (0.025) J		ND (0.025) J		ND (0.025) J		ND (0.025) J	
1,2,3-Trichlorobenzene	µg/g	--	ND (0.030) J		ND (0.030) J		ND (0.030) J		ND (0.11)		ND (0.030) J		ND (0.030) J		ND (0.030) J		ND (0.030) J		ND (0.030) J	
1,2,4-Trichlorobenzene	µg/g	--	ND (0.030) J		ND (0.030) J		ND (0.030) J		ND (0.11)		ND (0.030) J		ND (0.030) J		ND (0.030) J		ND (0.030) J		ND (0.030) J	
1,2-Dibromoethane (Ethylene dibromide)	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	
1,2-Dichlorobenzene	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	
1,2-Dichloroethane	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		0.047 J	
1,2-Dichloropropane	µg/g	--	ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.070)		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J		ND (0.020) J	

Table 5
Summary of Bulk Material Analytical Results - HWR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:		CS-01		CS-02		CS-04		CS-05		CS-06		CS-08		CS-10		CS-11		CS-12	
Sample Identification:		CS-11230615-071921-CT-01		CS-11230615-071921-CT-02		CS-11230615-071921-CT-04		CS-11230615-071921-CT-05		CS-11230615-071921-CT-06		CS-11230615-071921-CT-08		CS-11230615-072021-CT-10		CS-11230615-072021-CT-11		CS-11230615-072021-CT-12	
Sample Date:		07/19/2021		07/19/2021		07/19/2021		07/19/2021		07/19/2021		07/19/2021		07/20/2021		07/20/2021		07/20/2021	
		BC-HWR-63-88																	
Parameters		Units	a																
1,3,5-Trimethylbenzene		µg/g	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	0.28 J		
1,3-Dichlorobenzene		µg/g	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.050) J	ND (0.050) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	
1,4-Dichlorobenzene		µg/g	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.050) J	ND (0.050) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	
Benzene		µg/g	25	0.0062 J	7.2 J	0.50 J	1.7	0.97 J	0.20 J	0.10 J	0.22 J	0.10 J	0.22 J	0.10 J	0.22 J	0.10 J	0.22 J	0.10 J	5.3 J
Bromobenzene		µg/g	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	
Bromodichloromethane		µg/g	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.18)	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	
Bromoform		µg/g	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.18)	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	
Bromomethane (Methyl bromide)		µg/g	--	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (1.1)	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	
Carbon tetrachloride		µg/g	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	
Chlorobenzene		µg/g	--	ND (0.020) J	ND (0.021) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	0.038 J
Chloroethane		µg/g	--	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.35)	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	
Chloroform (Trichloromethane)		µg/g	--	ND (0.030) J	ND (0.035) J	ND (0.045) J	ND (0.070)	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.035) J	ND (0.060) J	ND (0.080) J	
Chloromethane (Methyl chloride)		µg/g	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	0.29	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	
cis-1,2-Dichloroethene		µg/g	--	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.11)	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	
cis-1,3-Dichloropropene		µg/g	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	
Dibromochloromethane		µg/g	--	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	ND (0.050) J	
Ethylbenzene		µg/g	250	ND (0.010) J	0.29 J	0.060 J	0.19	0.73 J	0.055 J	0.10 J	0.031 J	0.055 J	0.10 J	0.031 J	0.055 J	0.10 J	0.031 J	0.055 J	6.7 J
Hexachlorobutadiene		µg/g	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	
Isopropyl benzene		µg/g	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	1.9 J
m&p-Xylenes		µg/g	--	ND (0.040) J	0.26 J	0.073 J	0.16	0.58 J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	1.0 J
Methyl tert butyl ether (MTBE)		µg/g	--	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.35)	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	
Methylene chloride		µg/g	--	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.28)	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	ND (0.080) J	
o-Xylene		µg/g	--	ND (0.040) J	0.12 J	ND (0.040) J	ND (0.14)	0.11 J	0.052 J	0.052 J	0.040 J	0.052 J	0.052 J	0.040 J	0.052 J	0.040 J	0.052 J	0.040 J	0.36 J
Styrene		µg/g	--	ND (0.030) J	0.084 J	ND (0.030) J	ND (0.11)	0.85 J	0.051 J	0.051 J	0.040 J	0.051 J	0.051 J	0.040 J	0.051 J	0.040 J	0.051 J	0.040 J	2.7 J
Tetrachloroethene		µg/g	--	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.035)	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	ND (0.010) J	0.017 J
Toluene		µg/g	150	ND (0.050) J	2.5 J	0.22 J	0.49	1.5 J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	ND (0.14) J	7.0 J
trans-1,2-Dichloroethene		µg/g	--	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.11)	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	ND (0.030) J	
trans-1,3-Dichloropropene		µg/g	--	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.070)	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	ND (0.020) J	
Trichloroethene		µg/g	--	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	ND (0.0090) J	
Trichlorofluoromethane (CFC-11)		µg/g	--	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.70)	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	ND (0.20) J	
Vinyl chloride		µg/g	--	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.14)	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	ND (0.040) J	
Xylenes (total)		µg/g	250	ND (0.040) J	0.38 J	0.073 J	0.16	0.69 J	0.052 J	0.052 J	0.040 J	0.052 J	0.052 J	0.040 J	0.052 J	0.040 J	0.052 J	0.040 J	1.4 J
PAHs																			
1-Methylnaphthalene		µg/g	--	ND (0.050) J	ND (0.050) J	R	R	0.054 J-	R	0.054 J-	R	0.12 J-	R	0.12 J-	ND (0.050)	R	ND (0.050)	R	
2-Methylnaphthalene		µg/g	--	ND (0.020) J	0.034 J-	0.026 J-	R	0.034 J-	0.021 J-	0.034 J-	0.021 J-	0.12 J-	0.048	0.12 J-	0.048	R	0.048	R	
Acenaphthene		µg/g	--	ND (0.0050) J	ND (0.0050) J	0.0092 J-	R	0.0085 J-	R	0.0085 J-	R	0.015 J-	0.0088	0.015 J-	0.0088	R	0.0088	R	
Acenaphthylene		µg/g	--	ND (0.0050) J	ND (0.0050) J	0.0080 J-	R	0.020 J-	0.0074 J-	0.020 J-	0.0074 J-	0.070 J-	0.031	0.070 J-	0.031	R	0.031	R	
Anthracene		µg/g	--	ND (0.0040) J	0.0040 J-	R	R	R	R	R	R	0.0079 J-	0.0082	0.0079 J-	0.0082	R	0.0082	R	
Benzo(a)anthracene		µg/g	--	ND (0.020) J	ND (0.020) J	R	R	R	R	R	R	R	ND (0.020)	R	ND (0.020)	R	ND (0.020)	R	
Benzo(a)pyrene		µg/g	--	ND (0.020) J	ND (0.020) J	R	R	R	R	R	R	R	ND (0.020)	R	ND (0.020)	R	ND (0.020)	R	
Benzo(b)fluoranthene		µg/g	--	ND (0.020) J	ND (0.020) J	R	R	R	R	R	R	R	ND (0.020)	R	ND (0.020)	R	ND (0.020)	R	
Benzo(b)fluoranthene/Benzo(j)fluoranthene		µg/g	--	ND (0.020) J	ND (0.020) J	R	R	R	R	R	R	R	ND (0.020)	R	ND (0.020)	R	ND (0.020)	R	
Benzo(b)pyridine (Quinoline)		µg/g	--	ND (0.050) J	0.091 J-	R	R	0.091 J-	R	R	R	R	ND (0.050)	R	ND (0.050)	R	ND (0.050)	R	0.13 J-
Benzo(g,h,i)perylene		µg/g	--	ND (0.050) J	ND (0.050) J	R	R	R	R	R	R	R	ND (0.050)	R	ND (0.050)	R	ND (0.050)	R	
Benzo(k)fluoranthene		µg/g	--	ND (0.020) J	ND (0.020) J	R	R	R	R	R	R	R	ND (0.020)	R	ND (0.020)	R	ND (0.020)	R	
Chrysene		µg/g	--	ND (0.020) J	ND (0.020) J	R	R	R	R	R	R	R	ND (0.020)	R	ND (0.020)	R	ND (0.020)	R	
Dibenz(a,h)anthracene		µg/g	--	ND (0.020) J	td														

Table 5
Summary of Bulk Material Analytical Results - HWR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:			CS-13		CS-14		CS-15		CS-16		CS-17		CS-19		CS-20		CS-21		CS-22	
Sample Identification:			CS-11230615-072021-CT-13		CS-11230615-072021-CT-14		CS-11230615-072021-CT-15		CS-11230615-072021-CT-16		CS-11230615-072121-CT-17		CS-11230615-072121-CT-19		CS-11230615-072121-CT-20		CS-11230615-072121-CT-21		CS-11230615-072121-CT-22	
Sample Date:			07/20/2021		07/20/2021		07/20/2021		07/20/2021		07/21/2021		07/21/2021		07/21/2021		07/21/2021		07/21/2021	
Parameters		Units	BC-HWR-63-88 a																	
General Chemistry																				
Moisture	%	--		0.40		1.1		0.90		3.5		34		1.8		6.2		1.9		0.40
Observation of visible product	none	--		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)		ND (0)
pH (leachable)	s.u.	2.0-12.5		10.6		10.3		11.9		10.9		9.27		9.18		11.2		9.28		10.3
General Chemistry-TCLP																				
pH (after HCL)	s.u.	--		1.63		2.19		2.31		2.31		1.59		1.79		2.43		2.15		1.66
pH (final)	s.u.	--		5.42		7.34		9.98		9.07		5.78		6.84		7.31		6.70		6.89
pH (initial)	s.u.	--		9.32		10.7		11.9		10.7		8.66		9.28		11.5		9.71		9.67
pH (leachable)	s.u.	2.0-12.5		4.93		4.93		4.93		4.93		4.93		4.93		4.93		4.93		4.93
pH, soluble (2:1)	s.u.	2.0-12.5		10.3		8.00		12.5		9.85		8.55		9.33		11.4		8.92		8.93
Total Metals-TCLP																				
Antimony	mg/L	--		0.040		0.099		0.21		0.21		0.17		0.13		0.17		0.16		2.94
Arsenic	mg/L	2.5		0.0150		0.39		0.0588		0.14		0.15		0.0299		0.0090		0.0039		0.13
Barium	mg/L	100.0		1.36		0.81		0.44		0.50		5.85		1.09		0.32		0.62		0.43
Beryllium	mg/L	--		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		0.0021
Boron	mg/L	500.0		1.40		4.74		6.69		3.41		1.11		2.49		4.99		1.63		2.12
Cadmium	mg/L	0.5		0.0038		ND (0.10)		ND (0.10)		ND (0.10)		0.0108		0.0093		ND (0.10)		0.0188		0.0100
Chromium	mg/L	5.0		ND (0.10)		0.075		0.090		0.039		ND (0.10)		0.041		ND (0.10)		ND (0.10)		ND (0.10)
Cobalt	mg/L	--		0.044		ND (0.10)		ND (0.10)		ND (0.10)		0.083		0.072		0.014		0.25		0.67
Copper	mg/L	100		0.0280		0.0408		0.0171		0.0047		0.0118		0.0179		ND (0.10)		0.20		0.0067
Iron	mg/L	--		0.56		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)		ND (0.50)
Lead	mg/L	5.0		0.0612		0.00241		ND (0.10)		ND (0.10)		3.45		0.0213		0.00275		1.90		0.0542
Mercury	mg/L	0.1		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)		ND (0.0020)
Molybdenum	mg/L	--		ND (0.10)		0.034		ND (0.10)		0.11		0.024		0.041		0.094		0.036		ND (0.10)
Nickel	mg/L	--		0.045		0.026		ND (0.10)		0.021		0.044		0.073		0.029		0.073		0.065
Selenium	mg/L	1.0		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		0.0025		ND (0.10)		ND (0.10)		0.0025
Silver	mg/L	5.0		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)
Thallium	mg/L	--		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)
Uranium	mg/L	10.0		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)
Vanadium	mg/L	--		ND (0.10)		0.10		0.13		0.18		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)
Zinc	mg/L	500.0		2.32		ND (0.10)		ND (0.10)		ND (0.10)		25.7		9.34		2.47		172		104
Zirconium	mg/L	--		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)		ND (0.10)
PCBs																				
Aroclor-1016 (PCB-1016)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1221 (PCB-1221)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1232 (PCB-1232)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1242 (PCB-1242)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1248 (PCB-1248)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1254 (PCB-1254)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1260 (PCB-1260)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1262 (PCB-1262)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Aroclor-1268 (PCB-1268)	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Total PCBs	µg/g	--		ND (0.050)		ND (0.10)		ND (0.10)		ND (0.50)		ND (0.10)		ND (0.010)		ND (0.010)		ND (0.10)		ND (0.10)
Volatile Organic Compounds																				
1,1,1,2-Tetrachloroethane	µg/g	--		ND (0.020)		ND (0.020) J		R		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,1,1-Trichloroethane	µg/g	--		ND (0.020)		ND (0.020) J		R		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,1,2,2-Tetrachloroethane	µg/g	--		ND (0.020)		ND (0.020) J		R		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,1,2-Trichloroethane	µg/g	--		ND (0.020)		ND (0.020) J		R		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,1-Dichloroethane	µg/g	--		ND (0.025)		ND (0.025) J		R		ND (0.025) J		ND (0.086)		ND (0.084)		ND (0.025)		ND (0.078)		ND (0.025)
1,1-Dichloroethene	µg/g	--		ND (0.025)		ND (0.025) J		R		ND (0.025) J		ND (0.086)		ND (0.084)		ND (0.025)		ND (0.078)		ND (0.025)
1,2,3-Trichlorobenzene	µg/g	--		ND (0.030)		ND (0.030) J		R		ND (0.030) J		ND (0.10)		ND (0.10)		ND (0.030)		ND (0.093)		ND (0.030)
1,2,4-Trichlorobenzene	µg/g	--		ND (0.030)		ND (0.030) J		R		ND (0.030) J		ND (0.10)		ND (0.10)		ND (0.030)		ND (0.093)		ND (0.030)
1,2-Dibromoethane (Ethylene dibromide)	µg/g	--		ND (0.020)		ND (0.020) J		R		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,2-Dichlorobenzene	µg/g	--		ND (0.020)		ND (0.020) J		R		0.034 J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,2-Dichloroethane	µg/g	--		ND (0.020)		ND (0.020) J		0.023 J		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)
1,2-Dichloropropane	µg/g	--		ND (0.020)		ND (0.020) J		R		ND (0.020) J		ND (0.069)		ND (0.067)		ND (0.020)		ND (0.062)		ND (0.020)

Table 5

**Summary of Bulk Material Analytical Results - HWR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia**

Sample Location:			CS-13	CS-14	CS-15	CS-16	CS-17	CS-19	CS-20	CS-21	CS-22
Sample Identification:			CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	CS-11230615-072121-CT-17	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22
Sample Date:			07/20/2021	07/20/2021	07/20/2021	07/20/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021
BC-HWR-63-88											
Parameters	Units	a									
1,3,5-Trimethylbenzene	µg/g	--	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	0.25	ND (0.62)	ND (0.20)
1,3-Dichlorobenzene	µg/g	--	ND (0.020)	ND (0.020) J	R	0.031 J	ND (0.069)	ND (0.067)	ND (0.020)	ND (0.062)	ND (0.020)
1,4-Dichlorobenzene	µg/g	--	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)	ND (0.062)	ND (0.020)
Benzene	µg/g	25	0.73	0.42 J	0.67 J	0.70 J	6.2	5.8	2.0	3.9	0.050
Bromobenzene	µg/g	--	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	ND (0.20)	ND (0.62)	ND (0.20)
Bromodichloromethane	µg/g	--	ND (0.050)	ND (0.050) J	R	ND (0.050) J	ND (0.17)	ND (0.17)	ND (0.050)	ND (0.16)	ND (0.050)
Bromoform	µg/g	--	ND (0.050)	ND (0.050) J	R	ND (0.050) J	ND (0.17)	ND (0.17)	ND (0.050)	ND (0.16)	ND (0.050)
Bromomethane (Methyl bromide)	µg/g	--	ND (0.30)	ND (0.30) J	R	ND (0.30) J	ND (1.0) J	ND (1.0)	ND (0.30)	ND (0.93)	ND (0.30)
Carbon tetrachloride	µg/g	--	ND (0.020)	ND (0.020) J	0.054 J	ND (0.020) J	ND (0.067)	ND (0.067)	ND (0.020)	ND (0.062)	ND (0.020)
Chlorobenzene	µg/g	--	ND (0.020)	0.022 J	R	0.11 J	ND (0.069)	0.13	0.069	ND (0.038)	ND (0.020)
Chloroethane	µg/g	--	ND (0.10)	ND (0.10) J	R	ND (0.10) J	ND (0.34) J	ND (0.34)	ND (0.10)	ND (0.31)	ND (0.10)
Chloroform (Trichloromethane)	µg/g	--	ND (0.020)	ND (0.040) J	0.13 J	ND (0.045) J	ND (0.069)	ND (0.067)	ND (0.079)	ND (0.062)	ND (0.020)
Chloromethane (Methyl chloride)	µg/g	--	ND (0.050)	ND (0.050) J	0.25 J	ND (0.050) J	ND (0.17) J	ND (0.17)	ND (0.050)	ND (0.16)	ND (0.050)
cis-1,2-Dichloroethene	µg/g	--	ND (0.030)	ND (0.030) J	R	ND (0.030) J	ND (0.10)	ND (0.10)	ND (0.030)	ND (0.093)	ND (0.030)
cis-1,3-Dichloropropene	µg/g	--	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)	ND (0.062)	ND (0.020)
Dibromochloromethane	µg/g	--	ND (0.050)	ND (0.050) J	R	ND (0.050) J	ND (0.17)	ND (0.17)	ND (0.050)	ND (0.16)	ND (0.050)
Ethylbenzene	µg/g	250	0.26	0.045 J	0.085 J	0.15 J	0.73	0.68	3.1	0.34	0.026
Hexachlorobutadiene	µg/g	--	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	ND (0.20)	ND (0.62)	ND (0.20)
Isopropyl benzene	µg/g	--	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	0.40	ND (0.62)	ND (0.20)
m&p-Xylenes	µg/g	--	0.14	ND (0.040) J	R	0.10 J	0.37	0.26	1.5	0.28	ND (0.040)
Methyl tert butyl ether (MTBE)	µg/g	--	ND (0.10)	ND (0.10) J	R	ND (0.10) J	ND (0.34)	ND (0.34)	ND (0.10)	ND (0.31)	ND (0.10)
Methylene chloride	µg/g	--	ND (0.080)	ND (0.080) J	R	ND (0.080) J	ND (0.27)	ND (0.27)	ND (0.080)	ND (0.25)	ND (0.080)
o-Xylene	µg/g	--	0.062	ND (0.040) J	R	0.11 J	0.16	0.20	0.59	ND (0.12)	ND (0.040)
Styrene	µg/g	--	0.25	ND (0.030) J	R	0.15 J	0.21	0.21	3.2	0.24	0.11
Tetrachloroethene	µg/g	--	0.012	ND (0.010) J	0.014 J	ND (0.010) J	ND (0.034)	0.039	ND (0.010)	0.049	ND (0.010)
Toluene	µg/g	150	0.62	0.072 J	0.19 J	0.46 J	2.3	1.8	6.0	1.6	ND (0.050)
trans-1,2-Dichloroethene	µg/g	--	ND (0.030)	ND (0.030) J	R	ND (0.030) J	ND (0.10)	ND (0.10)	ND (0.030)	ND (0.093)	ND (0.030)
trans-1,3-Dichloropropene	µg/g	--	ND (0.020)	ND (0.020) J	R	ND (0.020) J	ND (0.069)	ND (0.067)	ND (0.020)	ND (0.062)	ND (0.020)
Trichloroethene	µg/g	--	ND (0.0090)	ND (0.0090) J	R	ND (0.0090) J	ND (0.031)	ND (0.030)	ND (0.0090)	ND (0.028)	ND (0.0090)
Trichlorofluoromethane (CFC-11)	µg/g	--	ND (0.20)	ND (0.20) J	R	ND (0.20) J	ND (0.69)	ND (0.67)	ND (0.20)	ND (0.62)	ND (0.20)
Vinyl chloride	µg/g	--	ND (0.040)	ND (0.040) J	R	ND (0.040) J	ND (0.14) J	ND (0.13)	ND (0.040)	ND (0.12)	ND (0.040)
Xylenes (total)	µg/g	250	0.20	ND (0.040) J	R	0.21 J	0.52	0.45	2.1	0.28	ND (0.040)
PAHs											
1-Methylnaphthalene	µg/g	--	R	0.12	ND (0.050)	0.16 J-	ND (0.050) J	R	28 J-	0.063 J-	ND (0.050) J
2-Methylnaphthalene	µg/g	--	R	0.15	0.044	0.17 J-	ND (0.020) J	0.027 J-	51 J-	0.087 J-	ND (0.020) J
Acenaphthene	µg/g	--	R	0.020	ND (0.0050)	0.040 J-	0.0076 J-	0.0085 J-	21 J-	0.018 J-	ND (0.0050) J
Acenaphthylene	µg/g	--	R	0.0059	ND (0.0050)	0.0096 J-	0.0088 J-	0.0066 J-	3.2 J-	0.052 J-	ND (0.0050) J
Anthracene	µg/g	--	R	0.030	0.0041	0.018 J-	0.011 J-	R	2.0 J-	0.010 J-	ND (0.0040) J
Benzo(a)anthracene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	0.34 J-	ND (0.020) J	ND (0.020) J
Benzo(a)pyrene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J	ND (0.020) J
Benzo(b)fluoranthene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	0.054 J-	ND (0.020) J	ND (0.020) J
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	0.077 J-	ND (0.020) J	ND (0.020) J
Benzo(b)pyridine (Quinoline)	µg/g	--	R	0.32	ND (0.050)	ND (0.050) J	ND (0.050) J	R	0.50 J-	0.059 J-	ND (0.050) J
Benzo(g,h,i)perylene	µg/g	--	R	ND (0.050)	ND (0.050)	ND (0.050) J	ND (0.050) J	R	ND (0.050) J	ND (0.050) J	ND (0.050) J
Benzo(k)fluoranthene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J	ND (0.020) J
Chrysene	µg/g	--	R	0.038	0.034	0.021 J-	ND (0.020) J	R	0.56 J-	ND (0.020) J	ND (0.020) J
Dibenz(a,h)anthracene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J	ND (0.020) J
Fluoranthene	µg/g	--	R	0.17	0.026	0.055 J-	0.037 J-	R	4.3 J-	0.039 J-	ND (0.020) J
Fluorene	µg/g	--	R	0.034	ND (0.020)	0.054 J-	ND (0.020) J	R	7.3 J-	0.026 J-	ND (0.020) J
Indeno(1,2,3-cd)pyrene	µg/g	--	R	ND (0.020)	ND (0.020)	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J	ND (0.020) J
Naphthalene	µg/g	--	0.058 J-	0.25	0.045	0.45 J-	0.019 J-	0.14 J-	140 J-	0.49 J-	ND (0.010) J
Perylene	µg/g	--	R	ND (0.40) J	R	R	ND (0.20) J	R	ND (0.20) J	R	ND (0.20) J
Phenanthrene	µg/g	--	R	0.25	0.061	0.18 J-	0.048 J-	R	25 J-	0.11 J-	ND (0.010) J
Pyrene	µg/g	--	R	0.10	ND (0.020)	0.041 J-	0.026 J-	R	2.3 J-	0.023 J-	ND (0.020) J
PAH - TEQ	µg/g	100	R	0.0469	0.0469	0.0467	0.0467	R	0.0898	0.0467	0.0467

Table 5
Summary of Bulk Material Analytical Results - HWR
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:			CS-23	CS-24	CS-25	CS-26	CS-27	CS-28	CS-29	CS-31	CS-32
Sample Identification:			CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072121-CT-27	CS-11230615-072121-CT-28	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32
Sample Date:			07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/22/2021	07/22/2021	07/22/2021
Parameters		Units	BC-HWR-63-88								
			a								
1,3,5-Trimethylbenzene	µg/g	--		ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.70)	0.53
1,3-Dichlorobenzene	µg/g	--		ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	ND (0.020)
1,4-Dichlorobenzene	µg/g	--		ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	ND (0.020)
Benzene	µg/g	25		0.43	0.025	0.39	1.0	0.34	0.061	0.24	0.52
Bromobenzene	µg/g	--		ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.70)	ND (0.20)
Bromodichloromethane	µg/g	--		ND (0.050)	ND (0.050)	ND (0.12)	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.18)	ND (0.050)
Bromoform	µg/g	--		ND (0.050)	ND (0.050)	ND (0.12)	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.18)	ND (0.050)
Bromomethane (Methyl bromide)	µg/g	--		ND (0.30)	ND (0.30)	ND (0.72)	ND (0.85)	ND (0.66)	ND (0.30)	ND (1.1)	ND (0.30)
Carbon tetrachloride	µg/g	--		ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	ND (0.020)
Chlorobenzene	µg/g	--		0.045	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	0.038
Chloroethane	µg/g	--		ND (0.10)	ND (0.10)	ND (0.24)	ND (0.28)	ND (0.22)	ND (0.10)	ND (0.35)	ND (0.10)
Chloroform (Trichloromethane)	µg/g	--		ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	ND (0.020)
Chloromethane (Methyl chloride)	µg/g	--		0.12	ND (0.050)	0.33	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.18)	0.052
cis-1,2-Dichloroethene	µg/g	--		ND (0.030)	ND (0.030)	ND (0.072)	ND (0.085)	ND (0.066)	ND (0.030)	ND (0.11)	ND (0.030)
cis-1,3-Dichloropropene	µg/g	--		ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	ND (0.020)
Dibromochloromethane	µg/g	--		ND (0.050)	ND (0.050)	ND (0.12)	ND (0.14)	ND (0.11)	ND (0.050)	ND (0.18)	ND (0.050)
Ethylbenzene	µg/g	250		0.13	0.012	ND (0.024)	0.37	0.52	0.043	0.092	0.044
Hexachlorobutadiene	µg/g	--		ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.70)	ND (0.20)
Isopropyl benzene	µg/g	--		ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.70)	ND (0.20)
m&p-Xylenes	µg/g	--		0.16	ND (0.040)	ND (0.096)	0.46	1.0	0.041	ND (0.14)	0.13
Methyl tert butyl ether (MTBE)	µg/g	--		ND (0.10)	ND (0.10)	ND (0.24)	ND (0.28)	ND (0.22)	ND (0.10)	ND (0.35)	ND (0.10)
Methylene chloride	µg/g	--		ND (0.080)	ND (0.080)	ND (0.19)	ND (0.23)	ND (0.18)	ND (0.080)	ND (0.28)	0.16
o-Xylene	µg/g	--		0.075	ND (0.040)	ND (0.096)	0.23	0.31	ND (0.040)	ND (0.14)	ND (0.040)
Styrene	µg/g	--		0.070	0.034	ND (0.072)	0.57	0.34	0.092	ND (0.11)	0.062
Tetrachloroethene	µg/g	--		ND (0.010)	ND (0.010)	ND (0.024)	ND (0.028)	ND (0.022)	ND (0.010)	ND (0.035)	ND (0.010)
Toluene	µg/g	150		0.60	ND (0.050)	ND (0.12)	1.4	1.6	0.097	0.28	0.19
trans-1,2-Dichloroethene	µg/g	--		ND (0.030)	ND (0.030)	ND (0.072)	ND (0.085)	ND (0.066)	ND (0.030)	ND (0.11)	ND (0.030)
trans-1,3-Dichloropropene	µg/g	--		ND (0.020)	ND (0.020)	ND (0.048)	ND (0.057)	ND (0.044)	ND (0.020)	ND (0.070)	ND (0.020)
Trichloroethene	µg/g	--		ND (0.0090)	ND (0.0090)	ND (0.022)	ND (0.025)	ND (0.020)	ND (0.0090)	ND (0.032)	ND (0.0090)
Trichlorofluoromethane (CFC-11)	µg/g	--		ND (0.20)	ND (0.20)	ND (0.48)	ND (0.57)	ND (0.44)	ND (0.20)	ND (0.70)	ND (0.20)
Vinyl chloride	µg/g	--		ND (0.040)	ND (0.040)	ND (0.096)	ND (0.11)	ND (0.088)	ND (0.040)	ND (0.14)	ND (0.040)
Xylenes (total)	µg/g	250		0.23	ND (0.040)	ND (0.096)	0.69	1.3	0.041	ND (0.14)	0.13
PAHs											
1-Methylnaphthalene	µg/g	--		ND (0.050) J	0.26 J-	R	0.056 J-	0.054 J-	0.085 J-	ND (0.050) J	ND (0.050) J
2-Methylnaphthalene	µg/g	--		0.040 J-	0.49 J-	R	0.076 J-	0.057 J-	0.11 J-	ND (0.020) J	ND (0.020) J
Acenaphthene	µg/g	--		0.0058 J-	1.9 J-	R	0.011 J-	ND (0.0050) J	0.064 J-	ND (0.0050) J	ND (0.0050) J
Acenaphthylene	µg/g	--		0.0051 J-	0.087 J-	R	0.019 J-	ND (0.0050) J	0.030 J-	ND (0.0050) J	0.020 J-
Anthracene	µg/g	--		0.0053 J-	1.5 J-	R	0.014 J-	0.0061 J-	0.021 J-	ND (0.0040) J	ND (0.0040) J
Benzo(a)anthracene	µg/g	--		ND (0.020) J	0.73 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(a)pyrene	µg/g	--		ND (0.020) J	0.22 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(b)fluoranthene	µg/g	--		ND (0.020) J	0.40 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(b)fluoranthene/Benzo(j)fluoranthene	µg/g	--		ND (0.020) J	0.58 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Benzo(b)pyridine (Quinoline)	µg/g	--		0.057 J-	0.072 J-	R	0.079 J-	ND (0.050) J	R	0.050 J-	0.094 J-
Benzo(g,h,i)perylene	µg/g	--		ND (0.050) J	0.086 J-	R	ND (0.050) J	ND (0.050) J	R	ND (0.050) J	ND (0.050) J
Benzo(k)fluoranthene	µg/g	--		ND (0.020) J	0.18 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Chrysene	µg/g	--		ND (0.020) J	0.82 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Dibenz(a,h)anthracene	µg/g	--		ND (0.020) J	0.027 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Fluoranthene	µg/g	--		0.036 J-	5.9 J-	R	0.044 J-	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Fluorene	µg/g	--		ND (0.020) J	3.3 J-	R	0.024 J-	ND (0.020) J	0.027 J-	ND (0.020) J	ND (0.020) J
Indeno(1,2,3-cd)pyrene	µg/g	--		ND (0.020) J	0.085 J-	R	ND (0.020) J	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
Naphthalene	µg/g	--		0.070 J-	0.58 J-	0.019 J-	0.28 J-	0.12 J-	0.59 J-	0.052 J-	0.031 J-
Perylene	µg/g	--		ND (0.20) J	ND (0.20) J	ND (1.0) J	ND (0.20) J	ND (0.20) J	R	ND (1.0) J	R
Phenanthrene	µg/g	--		0.055 J-	17 J-	R	0.11 J-	0.043 J-	0.12 J-	0.030 J-	ND (0.010) J
Pyrene	µg/g	--		0.026 J-	2.8 J-	R	0.032 J-	ND (0.020) J	R	ND (0.020) J	ND (0.020) J
PAH - TEQ	µg/g	100		0.0467	0.3956	R	0.0467	0.0467	R	0.0468	0.0467

Summary of Bulk Material Sample Analytical Results
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Notes:

a	BC Hazardous Waste Regulations (BC-HWR-63-88)
-	Sample not analyzed for the associated parameter
--	No standard available for associated parameter
J	Estimated concentration
ND (0)	Not detected at the associated reporting limit
12.6 ^a	Result exceeds standard or guideline indicated by superscript
µg/g	Micrograms per gram
%	Per cent
BTEX	Benzene, toluene, ethylbenzene, xylene
VH	Volatile hydrocarbons
VPH	Volatile petroleum hydrocarbons
PAH	Polycyclic aromatic hydrocarbons
EPH	Extractable petroleum hydrocarbons
LEPH	Light extractable petroleum hydrocarbons
HEPH	Heavy extractable petroleum hydrocarbons
PHC	Petroleum Hydrocarbon
C6 - C10	6 to 10 carbon atom range
C10 - C19	10 to 19 carbon atom range
C19 - C32	19 to 32 carbon atom range
m BGS	Metres below ground surface
µg/g	Microgram per gram
µg/L	Microgram per litre
R	Rejected
SPLP	Synthetic Precipitation Leaching Procedure
PCB	Polychlorinated biphenyl
HCl	Hydrochloric acid
s.u.	Standard units
TEQ	Toxicity equivalent

Table 6

Summary of Bulk Material Analytical Results - BC WQG Emergency Management BC Lytton Wildfire Response Lytton, British Columbia												
Sample Location:												
Sample Identification:												
Sample Date:												
Sample Description:												
Parameters	Units	DW a	BC WQG FAW LTA b	FAW STM c	CS-01 CS-11230615-071921-CT-01 07/19/2021 Zone 1A - Commercial	CS-02 CS-11230615-071921-CT-02 07/19/2021 Zone 1B - Institutional	CS-04 CS-11230615-071921-CT-04 07/19/2021 Zone 1B - Residential	CS-05 CS-11230615-071921-CT-05 07/19/2021 Zone 2B - 24568902	CS-06 CS-11230615-071921-CT-06 07/19/2021 Zone 2B - 12870960	CS-08 CS-11230615-071921-CT-08 07/19/2021 Zone 2B - 15763439	CS-10 CS-11230615-072021-CT-10 07/20/2021 Zone 3B - 3149688	CS-11 CS-11230615-072021-CT-11 07/20/2021 Zone 4A - 3149688
Total Metals-Leachable SPLP												
Aluminum	µg/L	9500	--	--	779	310	2200	1710	1120	64900 ^a	644	152
Antimony	µg/L	--	--	--	8.5	11.9	11.7	110	3.8	4.7	ND (1)	ND (1)
Arsenic	µg/L	10	5	5	136 ^{abc}	19.5 ^{abc}	5.1 ^{bc}	13.9 ^{abc}	1.4	ND (1)	ND (1)	ND (1)
Barium	µg/L	--	1000 w	--	33	170	48	170	200	350	300	160
Beryllium	µg/L	--	0.13 w	--	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b
Boron	µg/L	5000	1200	--	250	270	340	950	2310 ^b	ND (500)	1010	ND (500)
Cadmium	µg/L	5	--	--	0.017	0.029	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Calcium	µg/L	--	--	--	76400	50800	83000	274000	749000	538000	1670000	806000
Chromium	µg/L	--	--	--	949	4.5	1.4	998	3.1	ND (1)	6.8	43.3
Cobalt	µg/L	--	4	110	ND (1)	ND (1)	1.9	1	ND (1)	ND (1)	ND (1)	ND (1)
Copper	µg/L	1000 AO	[b]	[b]	47.6	51.4	17.7	110	48.1	ND (2)	ND (2)	2.9
Iron	µg/L	300 AO	--	1000	ND (50)	86	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Lead	µg/L	10	[b]	[b]	ND (1)	150 ^a	ND (1)	3.4	ND (1)	ND (1)	9.7	48.8 ^a
Magnesium (soluble) (2:1)	µg/L	--	--	--	390	4100	2700	280	450	230	ND (1000)	ND (1000)
Manganese	µg/L	50 AO	[b]	[b]	7.2	14.4	7.7	7.5	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Mercury	µg/L	1	[f]	--	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Molybdenum	µg/L	250	1000	2000	20.9	15.4	27.2	24.2	134	25.7	98.9	23.6
Nickel	µg/L	--	[b] w	--	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Selenium	µg/L	10	2	--	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Silver	µg/L	--	[b]	[b]	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Sodium	µg/L	--	--	--	51400	13800	31400	42600	120000	54800	272000	48200
Thallium	µg/L	--	0.8 w SS	--	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Titanium	µg/L	--	--	--	ND (100)	130 J+	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)
Uranium	µg/L	--	8.5 w	--	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vanadium	µg/L	--	--	--	107	10	39	33	25	ND (10)	ND (10)	ND (10)
Zinc	µg/L	5000 AO	[b]	[b]	ND (10)	74 J+	ND (10)	11 J+	ND (10)	ND (10)	30 J+	54 J+
Volatile Organic Compounds-Leachable SPLP												
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,1,2-Trichloroethane	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,1-Dichloroethane	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,1-Dichloroethene	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J
1,2-Dichlorobenzene	µg/L	--	0.7 w	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,2-Dichloroethane	µg/L	--	100 w	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,2-Dichloropropane	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
1,4-Dichlorobenzene	µg/L	--	26 w	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
Benzene	µg/L	5	40 Interim	--	ND (0.40)	1.8	0.67	ND (0.40)	ND (0.40)	1.4	ND (0.40)	0.72
Bromomethane (Methyl bromide)	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
Carbon tetrachloride	µg/L	--	13.3 w	--	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J
Chloroform (Trichloromethane)	µg/L	--	1.8 w	--	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J
cis-1,2-Dichloroethene	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
cis-1,3-Dichloropropene	µg/L	--	--	--	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J
Ethylbenzene	µg/L	140 / 1.6 MAC/AO	200 Interim	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
m&p-Xylenes	µg/L	--	30	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
o-Xylene	µg/L	--	30	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Tetrachloroethene	µg/L	--	110 w	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
Toluene	µg/L	60 / 24 MAC/AO	0.5	--	ND (0.40)	0.48	ND (0.40)	ND (0.40)	ND (0.40)	0.65 ^b	ND (0.40)	ND (0.40)
trans-1,2-Dichloroethene	µg/L	--	--	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
trans-1,3-Dichloropropene	µg/L	--	--	--	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J
Trichloroethene	µg/L	--	21 w	--	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J
Xylenes (total)	µg/L	90 / 20 MAC/AO	30	--	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)

Table 6

Summary of Bulk Material Analytical Results - BC WQG Emergency Management BC Lytton Wildfire Response Lytton, British Columbia																				
Sample Location:					CS-12		CS-13		CS-14		CS-15		CS-16		CS-17		CS-19		CS-20	
Sample Identification:					CS-11230615-072021-CT-12		CS-11230615-072021-CT-13		CS-11230615-072021-CT-14		CS-11230615-072021-CT-15		CS-11230615-072121-CT-16		CS-11230615-072121-CT-17		CS-11230615-072121-CT-19		CS-11230615-072121-CT-20	
Sample Date:					07/20/2021		07/20/2021		07/20/2021		07/20/2021		07/20/2021		07/21/2021		07/21/2021		07/21/2021	
Sample Description:					Zone 4B - 12870781		Zone 3A - 12867624		Zone 3A - 26576163		Zone 4A - 183237		Zone 4B - 11626291		Zone 5A - 11116960		Zone 5A - 12871753		Zone 5B - 25645099	
Parameters					Units	DW a	BC WQG FAW LTA b	FAW STM c												
Total Metals-Leachable SPLP																				
Aluminum	µg/L	9500	--	--		21200 ^a	763	81	960	833	182	8240	9090							
Antimony	µg/L	--	--	--		21.1	17.8	22	3.3	1.8	78.9	49.5	5.2							
Arsenic	µg/L	10	5	5		2.1	10.7 ^{abc}	11.2 ^{abc}	3.4	15.5 ^{abc}	48.9 ^{abc}	6.4 ^{bc}	1							
Barium	µg/L	--	1000 w	--		120	23	240	220	1030 ^b	680	780	170							
Beryllium	µg/L	--	0.13 w	--		ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b							
Boron	µg/L	5000	1200	--		780	810	2010 ^b	1060	800	200	1420 ^b	300							
Cadmium	µg/L	5	--	--		ND (0.02)	0.014	ND (0.02)	ND (0.02)	ND (0.02)	0.012	0.019	ND (0.02)							
Calcium	µg/L	--	--	--		274000	40100	381000	274000	1750000	136000	240000	168000							
Chromium	µg/L	--	--	--		ND (1)	3.7	206	62.3	658	38.8	5.5	4.6							
Cobalt	µg/L	--	4	110		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)							
Copper	µg/L	1000 AO	[b]	[b]		9.2	18.4	23.7	25	ND (2)	6.8	16.4	ND (2)							
Iron	µg/L	300 AO	--	1000		ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	2870 ^{bc}	ND (50)							
Lead	µg/L	10	[b]	[b]		ND (1)	0.88	ND (1)	0.42	ND (1)	0.92	ND (1)	0.69							
Magnesium (soluble) (2:1)	µg/L	--	--	--		ND (1000)	ND (1000)	2400	ND (1000)	690	4900	13200	ND (1000)							
Manganese	µg/L	50 AO	[b]	[b]		ND (5.0)	6.9	ND (5.0)	ND (5.0)	ND (5.0)	28.6	24.3	ND (5.0)							
Mercury	µg/L	1	[f]	--		ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)							
Molybdenum	µg/L	250	1000	2000		19.9	7.5	25.5	9.8	126	28.1	35.4	38.4							
Nickel	µg/L	--	[b] w	--		ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)							
Selenium	µg/L	10	2	--		ND (1)	ND (1)	1.3	1.2	ND (1)	1.6	1.1	ND (1)							
Silver	µg/L	--	[b]	[b]		ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)							
Sodium	µg/L	--	--	--		59500	9100	20900	27700	113000	11700	65400	14600							
Thallium	µg/L	--	0.8 w SS	--		ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)							
Titanium	µg/L	--	--	--		ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)							
Uranium	µg/L	--	8.5 w	--		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)							
Vanadium	µg/L	--	--	--		21	43	110	ND (10)	44	49	31	13							
Zinc	µg/L	5000 AO	[b]	[b]		ND (10)	ND (10)	ND (10)	12 J+	ND (10)	ND (10)	14	15							
Volatile Organic Compounds-Leachable SPLP																				
1,1,1,2-Tetrachloroethane	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,1,2,2-Tetrachloroethane	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,1,2-Trichloroethane	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,1-Dichloroethane	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,1-Dichloroethene	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--		ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19)	ND (0.19)	ND (0.19)							
1,2-Dichlorobenzene	µg/L	--	0.7 w	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,2-Dichloroethane	µg/L	--	100 w	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,2-Dichloropropane	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
1,4-Dichlorobenzene	µg/L	--	26 w	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
Benzene	µg/L	5	40 Interim	--		1.7	ND (0.40)	2.1	ND (0.40)	0.57	ND (0.40)	0.49	1.5							
Bromomethane (Methyl bromide)	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
Carbon tetrachloride	µg/L	--	13.3 w	--		ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19) J	ND (0.19)	ND (0.19)	ND (0.19)							
Chloroform (Trichloromethane)	µg/L	--	1.8 w	--		ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90) J	ND (0.90)	ND (0.90)	ND (0.90)							
cis-1,2-Dichloroethene	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
cis-1,3-Dichloropropene	µg/L	--	--	--		ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30)	ND (0.30)	ND (0.30)							
Ethylbenzene	µg/L	140 / 1.6 MAC/AO	200 Interim	--		ND (0.40) J	ND (0.40) J	0.47 J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	1.7							
m&p-Xylenes	µg/L	--	30	--		ND (0.40)	ND (0.40)	0.61	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	8.6							
o-Xylene	µg/L	--	30	--		ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	6.9							
Tetrachloroethene	µg/L	--	110 w	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
Toluene	µg/L	60 / 24 MAC/AO	0.5	--		0.53 ^b	ND (0.40)	3.2 ^b	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	1.2 ^b							
trans-1,2-Dichloroethene	µg/L	--	--	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
trans-1,3-Dichloropropene	µg/L	--	--	--		ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30) J	ND (0.30)	ND (0.30)	ND (0.30)							
Trichloroethene	µg/L	--	21 w	--		ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40) J	ND (0.40)	ND (0.40)	ND (0.40)							
Xylenes (total)	µg/L	90 / 20 MAC/AO	30	--		ND (0.60)	ND (0.60)	0.61	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	15							

Table 6

Summary of Bulk Material Analytical Results - BC WQG Emergency Management BC Lytton Wildfire Response Lytton, British Columbia														
					CS-21	CS-22	CS-23	CS-24	CS-25	CS-26	CS-27	CS-28		
					CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072121-CT-27	CS-11230615-072121-CT-28		
					07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	
					Zone 6A - 19052375	Zone 6B - 9790187	Zone 6A - 12871761	Zone 6A - 12871796	Zone 7 - 1513486	Zone 7 - 23291231	Zone 7 - 23291222	Zone 7 - 23291222		
Sample Location:														
Sample Identification:														
Sample Date:														
Sample Description:														
Parameters	Units	DW a	BC WQG FAW LTA b	FAW STM c										
Total Metals-Leachable SPLP														
Aluminum	µg/L	9500	--	--	3870	177	174	4000	3860	1810	24400 ^a		26200 ^a	
Antimony	µg/L	--	--	--	217	1280	1.9	98.4	344	201	4.5		14.3	
Arsenic	µg/L	10	5	5	8.7 ^{bc}	90.7 ^{abc}	3.8	1.7	24.4 ^{abc}	16.1 ^{abc}	1.6		7.3 ^{bc}	
Barium	µg/L	--	1000 w	--	1310 ^b	250	610	150	54	210	420		ND (100)	
Beryllium	µg/L	--	0.13 w	--	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b	ND (1) ^b		ND (1) ^b	
Boron	µg/L	5000	1200	--	660	950	ND (500)	460	210	2290 ^b		1260 ^b	430	
Cadmium	µg/L	5	--	--	0.018	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.018	0.016		0.086	
Calcium	µg/L	--	--	--	201000	325000	579000	84500	73200	415000	1100000		24000	
Chromium	µg/L	--	--	--	3.3	ND (1)	21.5	ND (1)	14.6	2.4	2.8		ND (1)	
Cobalt	µg/L	--	4	110	1.1	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)		ND (1)	
Copper	µg/L	1000 AO	[b]	[b]	177	ND (2)	70.1	38.1	25.5	3.3	123		14.6	
Iron	µg/L	300 AO	--	1000	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)		ND (50)	
Lead	µg/L	10	[b]	[b]	3.8	ND (1)	3.3	34.6 ^a	0.66	ND (1)	ND (1)		0.68	
Magnesium (soluble) (2:1)	µg/L	--	--	--	9500	1300	ND (1000)	4600	ND (1000)	14400	910		220	
Manganese	µg/L	50 AO	[b]	[b]	8.4	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	10.5	ND (5.0)		ND (5.0)	
Mercury	µg/L	1	[f]	--	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)		ND (0.10)	
Molybdenum	µg/L	250	1000	2000	46.4	9.9	55.2	ND (5)	48.1	46.7	29.1		29.7	
Nickel	µg/L	--	[b] w	--	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)		ND (10)	
Selenium	µg/L	10	2	--	ND (1)	3.4 ^b	ND (1)	ND (1)	1.3	ND (1)	ND (1)		ND (1)	
Silver	µg/L	--	[b]	[b]	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)		ND (0.1)	
Sodium	µg/L	--	--	--	112000	17200	11800	19500	99600	17900	24700		11200	
Thallium	µg/L	--	0.8 w SS	--	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)		ND (0.1)	
Titanium	µg/L	--	--	--	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)		ND (100)	
Uranium	µg/L	--	8.5 w	--	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)		ND (1)	
Vanadium	µg/L	--	--	--	ND (10)	19	15	ND (10)	63	15	21		54	
Zinc	µg/L	5000 AO	[b]	[b]	ND (10)	ND (10)	52	ND (10)	11	ND (10)	ND (10)		ND (10)	
Volatile Organic Compounds-Leachable SPLP														
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,1,2-Trichloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,1-Dichloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,1-Dichloroethene	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)		ND (0.19)	
1,2-Dichlorobenzene	µg/L	--	0.7 w	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,2-Dichloroethane	µg/L	--	100 w	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,2-Dichloropropane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
1,4-Dichlorobenzene	µg/L	--	26 w	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
Benzene	µg/L	5	40 Interim	--	0.46	ND (0.40)	0.65	ND (0.40)	1.5	ND (0.40)	1.2		0.85	
Bromomethane (Methyl bromide)	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
Carbon tetrachloride	µg/L	--	13.3 w	--	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)		ND (0.19)	
Chloroform (Trichloromethane)	µg/L	--	1.8 w	--	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)		ND (0.90)	
cis-1,2-Dichloroethene	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
cis-1,3-Dichloropropene	µg/L	--	--	--	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)		ND (0.30)	
Ethylbenzene	µg/L	140 / 1.6 MAC/AO	200 Interim	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
m&p-Xylenes	µg/L	--	30	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
o-Xylene	µg/L	--	30	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
Tetrachloroethene	µg/L	--	110 w	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
Toluene	µg/L	60 / 24 MAC/AO	0.5	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	0.94 ^b	ND (0.40)	ND (0.40)		ND (0.40)	
trans-1,2-Dichloroethene	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
trans-1,3-Dichloropropene	µg/L	--	--	--	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)		ND (0.30)	
Trichloroethene	µg/L	--	21 w	--	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)		ND (0.40)	
Xylenes (total)	µg/L	90 / 20 MAC/AO	30	--	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)		ND (0.60)	

Table 6

Summary of Bulk Material Analytical Results - BC WQG
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:					CS-29	CS-31	CS-32
Sample Identification:					CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32
Sample Date:					07/22/2021	07/22/2021	07/22/2021
Sample Description:					Zone 8 - P07	Zone 8 - P07	Zone 8 - P07
Parameters	Units	DW a	BC WQG FAW LTA b	FAW STM c			
Total Metals-Leachable SPLP							
Aluminum	µg/L	9500	--	--	6010	252	7490
Antimony	µg/L	--	--	--	13.6	ND (1)	6.1
Arsenic	µg/L	10	5	5	1.5	1.5	ND (1)
Barium	µg/L	--	1000 w	--	300	990	1030 ^b
Beryllium	µg/L	--	0.13 w	--	ND (1) ^b	ND (1) ^b	ND (1) ^b
Boron	µg/L	5000	1200	--	8310 ^{ab}	180	ND (500)
Cadmium	µg/L	5	--	--	ND (0.02)	ND (0.02)	ND (0.02)
Calcium	µg/L	--	--	--	1020000	1530000	354000
Chromium	µg/L	--	--	--	20.3	49.5	1.2
Cobalt	µg/L	--	4	110	ND (1)	ND (1)	ND (1)
Copper	µg/L	1000 AO	[b]	[b]	21.9	3	10.4
Iron	µg/L	300 AO	--	1000	ND (50)	ND (50)	ND (50)
Lead	µg/L	10	[b]	[b]	ND (1)	3.7	3.6
Magnesium (soluble) (2:1)	µg/L	--	--	--	570	ND (1000)	ND (1000)
Manganese	µg/L	50 AO	[b]	[b]	ND (5.0)	ND (5.0)	ND (5.0)
Mercury	µg/L	1	[f]	--	ND (0.10)	ND (0.10)	ND (0.10)
Molybdenum	µg/L	250	1000	2000	46.4	38.3	33.5
Nickel	µg/L	--	[b] w	--	ND (10)	ND (10)	ND (10)
Selenium	µg/L	10	2	--	ND (1)	ND (1)	ND (1)
Silver	µg/L	--	[b]	[b]	ND (0.1)	ND (0.1)	ND (0.1)
Sodium	µg/L	--	--	--	145000	42800	63100
Thallium	µg/L	--	0.8 w SS	--	ND (0.1)	ND (0.1)	ND (0.1)
Titanium	µg/L	--	--	--	ND (100)	ND (100)	ND (100)
Uranium	µg/L	--	8.5 w	--	ND (1)	ND (1)	ND (1)
Vanadium	µg/L	--	--	--	ND (10)	ND (10)	ND (10)
Zinc	µg/L	5000 AO	[b]	[b]	13	57	53
Volatile Organic Compounds-Leachable SPLP							
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
1,1,2-Trichloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
1,1-Dichloroethane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
1,1-Dichloroethene	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	ND (0.19)	ND (0.19)	ND (0.19)
1,2-Dichlorobenzene	µg/L	--	0.7 w	--	ND (0.40)	ND (0.40)	ND (0.40)
1,2-Dichloroethane	µg/L	--	100 w	--	ND (0.40)	ND (0.40)	ND (0.40)
1,2-Dichloropropane	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
1,4-Dichlorobenzene	µg/L	--	26 w	--	ND (0.40)	ND (0.40)	ND (0.40)
Benzene	µg/L	5	40 Interim	--	0.82	ND (0.40)	ND (0.40)
Bromomethane (Methyl bromide)	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
Carbon tetrachloride	µg/L	--	13.3 w	--	ND (0.19)	ND (0.19)	ND (0.19)
Chloroform (Trichloromethane)	µg/L	--	1.8 w	--	ND (0.90)	ND (0.90)	ND (0.90)
cis-1,2-Dichloroethene	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
cis-1,3-Dichloropropene	µg/L	--	--	--	ND (0.30)	ND (0.30)	ND (0.30)
Ethylbenzene	µg/L	140 / 1.6 MAC/AO	200 Interim	--	0.48	ND (0.40)	ND (0.40)
m&p-Xylenes	µg/L	--	30	--	ND (0.40)	ND (0.40)	ND (0.40)
o-Xylene	µg/L	--	30	--	ND (0.40)	ND (0.40)	ND (0.40)
Tetrachloroethene	µg/L	--	110 w	--	ND (0.40)	ND (0.40)	ND (0.40)
Toluene	µg/L	60 / 24 MAC/AO	0.5	--	0.52 ^b	ND (0.40)	ND (0.40)
trans-1,2-Dichloroethene	µg/L	--	--	--	ND (0.40)	ND (0.40)	ND (0.40)
trans-1,3-Dichloropropene	µg/L	--	--	--	ND (0.30)	ND (0.30)	ND (0.30)
Trichloroethene	µg/L	--	21 w	--	ND (0.40)	ND (0.40)	ND (0.40)
Xylenes (total)	µg/L	90 / 20 MAC/AO	30	--	ND (0.60)	ND (0.60)	ND (0.60)

Summary of Bulk Material Sample Analytical Results - SPLP
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Notes:	
a	British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture - Drinking Water
b	British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture - Freshwater Aquatic Life Long Term Average
c	British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture - Freshwater Aquatic Life Short Term Average
-	Sample not analyzed for the associated parameter
--	No standard available for associated parameter
J	Estimated concentration
ND (0)	Not detected at the associated reporting limit
ND (1) ^b	- Applicable guideline is lower than laboratory detection limit
4.93 ^{bc}	Result exceeds standard or guideline indicated by superscript
µg/g	Micrograms per gram
%	Per cent
mg/L	Miligram per litre
R	Rejected
SPLP	Synthetic Precipitation Leaching Procedure
HCl	Hydrochloric acid
µg/L	Microgram per litre
[b]	Limit varies with Hardness
[f]	Limit varies with Methyl Mercury
s.u.	Standard units
w	Working guideline
MAC	Maximum acceptable concentration
AO	Aesthetic objective
SS	Site-Specific
calcd	3.31+(Exp(1.273*LOG(HARDNESS)-4.704))

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:							CS-01		CS-02		CS-04		CS-05	
Sample Identification:							CS-11230615-071921-CT-01		CS-11230615-071921-CT-02		CS-11230615-071921-CT-04		CS-11230615-071921-CT-05	
Sample Date:							07/19/2021		07/19/2021		07/19/2021		07/19/2021	
Sample Description:		BC ENV CSR Schedule 3.1 IL					Zone 1A - Commercial		Zone 1B - Institutional		Zone 1B - Residential		Zone 2B - 24568902	
		CCME	IL	TOX	BC HWR	WHO (2005) TEF Value	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ
Parameters		IL a	INTK b	TOX c	d									
Dioxins														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	26.2	0.01	199	0.06	116	0.03	8.75 J	0.00
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	9.10 J	0.09	81.1 J	0.81	34.5 J	0.35	4.34 J	0.04
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	0.745 J	0.07	3.16 J	0.32	0.846 J	0.08	ND (0.535)	0.05
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	0.909 J	0.09	4.96 J	0.50	1.29 J	0.13	ND (0.538)	0.05
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	1.10 J	0.11	6.54 J	0.65	1.73	0.17	ND (1.07)	0.11
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	0.912 J	0.91	2.95 J	2.95	ND (0.749)	0.75	ND (0.537)	0.54
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	ND (0.581)	0.58	0.830 J	0.83	ND (0.585)	0.59	ND (0.577)	0.58
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	19.6 J	-	197 J	-	59.4 J	-	11.2 J	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	18.9 J	-	75.1 J	-	12.1 J	-	7.13 J	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	32.2 J	-	38.3 J	-	2.37 J	-	5.02 J	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	94.3	-	29.0	-	2.47 J	-	30.4	-
Furans														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	6.53 J	0.00	3.97 J	0.00	5.08 J	0.00	ND (1.19)	0.00
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	10.5 J	0.11	4.23 J	0.04	5.44 J	0.05	2.60 J	0.03
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	1.48 J	0.01	ND (0.633)	0.01	ND (0.574)	0.01	ND (0.581)	0.01
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	2.82 J	0.28	1.18 J	0.12	ND (0.585)	0.06	ND (0.847)	0.08
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	3.16 J	0.32	0.958 J	0.10	ND (0.614)	0.06	0.828 J	0.08
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	ND (0.602)	0.06	ND (0.531)	0.05	ND (0.599)	0.06	ND (0.593)	0.06
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	2.59 J	0.08	1.15 J	0.03	ND (0.600)	0.02	ND (1.10)	0.03
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	3.99 J	0.40	1.12 J	0.11	ND (0.567)	0.06	1.25 J	0.13
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	3.56 J	1.07	1.22 J	0.37	ND (0.544)	0.16	1.01 J	0.30
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	3.22 J / ND (25.6)	2.56	ND (8.08) / 1.16 J	0.81	ND (1.23)	0.12	1.33 J / ND (8.65)	0.87
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	17.2 J	-	8.12 J	-	9.22 J	-	3.51 J	-
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	29.9 J	-	5.63 J	-	4.72 J	-	5.75 J	-
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	57.7 J	-	13.3 J	-	3.64 J	-	14.7 J	-
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	130	-	39.2	-	1.98 J	-	46.0	-
Total TEQ	pg/g	4	15000	2500	100,000	--	-	6.75 ^a	-	7.75 ^a	-	2.70	-	2.96

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:							CS-06		CS-08		CS-10		CS-11	
Sample Identification:							CS-11230615-071921-CT-06		CS-11230615-071921-CT-08		CS-11230615-072021-CT-10		CS-11230615-072021-CT-11	
Sample Date:							07/19/2021		07/19/2021		07/20/2021		07/20/2021	
Sample Description:		BC ENV CSR Schedule 3.1 IL					Zone 2B - 12870960		Zone 2B - 15763439		Zone 3B - 3149688		Zone 4A - 3149688	
Parameters	Units	CCME	IL	TOX	BC HWR	WHO (2005) TEF Value	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ
		IL a	INTK b	c	d									
Dioxins														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	258	0.08	31.3 J	0.01	131	0.04	6.61 J	0.00
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	90.4 J	0.90	14.9 J	0.15	92.7 J	0.93	3.97 J	0.04
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	7.63 J	0.76	2.21 J	0.22	10.2 J	1.02	ND (0.962)	0.10
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	12.2 J	1.22	2.54 J	0.25	16.4 J	1.64	ND (0.964)	0.10
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	12.0 J	1.20	3.27 J	0.33	14.9 J	1.49	ND (0.956)	0.10
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	13.0 J	13.00	5.33 J	5.33	16.6 J	16.60	ND (0.986)	0.99
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	5.14	5.14	2.55 J	2.55	6.32	6.32	ND (1.16)	1.16
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	219 J	-	34.5 J	-	234 J	-	9.93 J	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	420 J	-	45.4 J	-	631 J	-	16.2 J	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	1150 J	-	93.6 J	-	1360 J	-	35.4 J	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	5460	-	249	-	4130	-	113	-
Furans														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	22.0 J	0.01	8.93 J	0.00	33.1 J	0.01	1.68 J	0.00
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	48.9 J	0.49	25.9 J	0.26	93.8 J	0.94	3.73 J	0.04
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	6.45 J	0.06	5.11 J	0.05	11.7 J	0.12	ND (0.725)	0.01
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	20.8 J	2.08	18.4 J	1.84	37.8	3.78	1.57 J	0.16
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	18.1 J	1.81	16.7 J	1.67	34.8	3.48	1.85 J	0.19
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	1.45 J	0.15	1.45 J	0.15	2.18 J	0.22	ND (1.07)	0.11
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	18.8 J	0.56	28.2	0.85	31.6	0.95	ND (1.12)	0.03
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	19.3 J	1.93	12.9 J	1.29	44.2	4.42	2.18 J	0.22
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	ND (24.7)	7.41	28.5	8.55	47.1	14.13	2.87 J	0.86
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	22.7 / ND (277)	27.70	42.8 / ND (176)	17.60	27.7 / 372 J	37.20	ND (22.8) / 2.33 J	2.28
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	77.2 J	-	43.5 J	-	149 J	-	4.84 J	-
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	176 J	-	132 J	-	358 J	-	12.9 J	-
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	441 J	-	354 J	-	879 J	-	33.9 J	-
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	1320	-	1060	-	1670	-	108	-
Total TEQ	pg/g	4	15000	2500	100,000	--	-	64.50 ^a	-	41.09 ^a	-	93.28 ^a	-	6.36 ^a

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:							CS-12		CS-13		CS-14		CS-15	
Sample Identification:							CS-11230615-072021-CT-12		CS-11230615-072021-CT-13		CS-11230615-072021-CT-14		CS-11230615-072021-CT-15	
Sample Date:							07/20/2021		07/20/2021		07/20/2021		07/20/2021	
Sample Description:		BC ENV CSR Schedule 3.1 IL					Zone 4B - 12870781		Zone 3A - 12867624		Zone 3A - 26576163		Zone 4A - 183237	
		CCME	IL	TOX	BC HWR	WHO (2005) TEF Value	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ
Parameters	Units	IL a	INTK b	TOX c	d									
Dioxins														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	32.8 J	0.01	40.3 J	0.01	359	0.11	3900	1.17
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	22.3 J	0.22	17.9 J	0.18	168 J	1.68	1240 J	12.40
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	2.26 J	0.23	1.80 J	0.18	14.9 J	1.49	117	11.70
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	3.17 J	0.32	1.91 J	0.19	21.6 J	2.16	161 J+	16.10
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	3.67 J	0.37	1.97 J	0.20	15.9 J	1.59	175	17.50
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	4.07 J	4.07	3.10 J	3.10	18.5 J	18.50	175	175.00
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	2.83 J	2.83	2.05 J	2.05	5.31	5.31	47.8	47.80
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	57.1 J	-	47.2 J	-	344 J	-	2500 J	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	76.7 J	-	37.1 J	-	315 J	-	2180 J	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	147 J	-	44.9 J	-	414 J	-	2600 J	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	493	-	134	-	683	-	3230	-
Furans														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	4.98 J	0.00	5.09 J	0.00	108	0.03	2560	0.77
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	14.1 J	0.14	14.4 J	0.14	434 J	4.34	3960 J	39.60
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	1.37 J	0.01	2.95 J	0.03	28.9	0.29	332	3.32
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	6.77 J	0.68	7.11 J	0.71	76.2	7.62	675	67.50
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	7.39 J	0.74	8.11 J	0.81	102	10.20	881	88.10
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	ND (0.966)	0.10	1.20 J	0.12	3.61 J	0.36	37.1	3.71
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	13.4 J	0.40	12.1 J	0.36	62.4	1.87	624	18.72
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	7.41 J	0.74	8.36 J	0.84	138	13.80	944	94.40
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	14.4 J	4.32	16.9 J	5.07	103	30.90	801	240.30
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	29.8 / ND (110)	11.00	87.1 / 19.8	8.71	66.6 / ND (388)	38.80	609 / ND (2930)	293.00
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	18.4 J	-	26.9 J	-	559 J	-	5620 J	-
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	71.1 J	-	84.1 J	-	983 J	-	8050 J	-
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	173 J	-	178 J	-	1190 J	-	10300 J	-
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	657	-	512	-	2040	-	18500	-
Total TEQ	pg/g	4	15000	2500	100,000	--	-	26.17 ^a	-	22.71 ^a	-	139.05 ^a	-	1131.09 ^a

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:		BC ENV CSR Schedule 3.1 IL					CS-16	CS-17		CS-19	CS-20			
Sample Identification:							CS-11230615-072021-CT-16	CS-11230615-072121-CT-17		CS-11230615-072121-CT-19	CS-11230615-072121-CT-20			
Sample Date:							07/20/2021	07/21/2021		07/21/2021	07/21/2021			
Sample Description:							Zone 4B - 11626291	Zone 5A - 11116960		Zone 5A - 12871753	Zone 5B - 25645099			
Parameters	Units	CCME IL a	INTK b	TOX c	BC HWR d	WHO (2005) TEF Value	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ
Dioxins														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	771	0.23	24.7 J	0.01	217	0.07	2480	0.74
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	1160 J	11.60	23.2 J	0.23	136 J	1.36	1550 J	15.50
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	284	28.40	5.07 J	0.51	15.1 J	1.51	86.4	8.64
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	426 J+	42.60	6.1 J	0.61	19 J	1.90	134	13.40
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	643 J	64.30	5.69 J	0.57	15.9 J	1.59	167	16.70
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	666	666.00	11.5 J	11.50	24.4 J	24.40	99.7	99.70
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	188	188.00	6.35	6.35	11.1	11.10	25.7	25.70
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	2180 J	-	53.9 J	-	313 J	-	4960 J	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	4550 J	-	116 J	-	308 J	-	3030 J	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	9430 J	-	296	-	452	-	1550	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	14700	-	1160	-	1330	-	816	-
Furans														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	497	0.15	ND (5.71) J	0.00	64.9 J	0.02	39.4 J	0.01
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	1860 J	18.60	24.2 J	0.24	445	4.45	55.5	0.56
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	291	2.91	4.5 J	0.05	32	0.32	5.87 J	0.06
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	2500 J	250.00	40.8 J	4.08	162 J	16.20	28.7 J	2.87
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	1270	127.00	19.4 J	1.94	180 J	18.00	11.3 J	1.13
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	92.1	9.21	ND (1.04)	0.10	5.54 J	0.55	ND (0.883)	0.09
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	1770	53.10	29 J	0.87	153 J	4.59	6.77 J	0.20
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	999	99.90	18.6 J	1.86	233 J	23.30	17.4 J	1.74
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	1750	525.00	35.6 J	10.68	234 J	70.20	9.45 J	2.84
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	2390 / 8250	825.00	272 J / 39.8	27.20	936 J / 111	93.60	46.4 J / 5.37	4.64
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	2880 J	-	28.7 J	-	606 J	-	120 J	-
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	9780 J	-	163 J	-	1300 J	-	145 J	-
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	21800 J	-	428 J	-	2620 J	-	296 J	-
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	49500	-	1520 J	-	5750 J	-	242 J	-
Total TEQ	pg/g	4	15000	2500	100,000	--	-	2912.00 ^{ac}	-	66.80 ^a	-	273.16 ^a	-	194.52 ^a

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:							CS-21		CS-22		CS-23		CS-24	
Sample Identification:							CS-11230615-072121-CT-21		CS-11230615-072121-CT-22		CS-11230615-072121-CT-23		CS-11230615-072121-CT-24	
Sample Date:							07/21/2021		07/21/2021		07/21/2021		07/21/2021	
Sample Description:		BC ENV CSR Schedule 3.1 IL					Zone 6A - 19052375		Zone 6B - 9790187		Zone 6A - 12871761		Zone 6A - 12871796	
Parameters	Units	CCME	IL	TOX	BC HWR	WHO (2005) TEF Value	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ
		IL a	INTK b	c	d									
Dioxins														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	1940	0.58	12 J	0.00	95.9	0.03	501	0.15
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	1150 J	11.50	5.62 J	0.06	34 J	0.34	399 J	3.99
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	104	10.40	ND (2.3)	0.23	ND (1.78)	0.18	34.2	3.42
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	130	13.00	ND (2.3)	0.23	ND (1.78)	0.18	54.9	5.49
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	132	13.20	ND (2.28)	0.23	ND (1.77)	0.18	58	5.80
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	152	152.00	ND (1.98)	1.98	ND (1.39)	1.39	51.8	51.80
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	61.9	61.90	ND (1.47)	1.47	ND (2.26)	2.26	18.4	18.40
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	2570 J	-	5.62 J	-	109 J	-	919 J	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	2310 J	-	2.8 J	-	22.5 J	-	1140 J	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	2830	-	ND (1.98)	-	3.54 J	-	1310	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	5030	-	5.05	-	30.2	-	1610	-
Furans														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	475 J	0.14	9.18 J	0.00	6.51 J	0.00	ND (302) J	0.09
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	1930	19.30	27.9	0.28	6.68 J	0.07	829	8.29
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	163	1.63	ND (2.31)	0.02	ND (1.39)	0.01	100	1.00
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	622 J	62.20	9.02 J	0.90	2.85 J	0.29	302 J	30.20
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	ND (709) J	70.90	7.57 J	0.76	2.11 J	0.21	306 J	30.60
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	27	2.70	ND (1.87)	0.19	ND (1.67)	0.17	21.3 J	2.13
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	722 J	21.66	ND (3.43) J	0.10	ND (3.11) J	0.09	350 J	10.50
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	724 J	72.40	8.61 J	0.86	2.16 J	0.22	347 J	34.70
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	866 J	259.80	8.52 J	2.56	ND (2.82) J	0.85	352 J	105.60
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	859 / 3540 J	354.00	5.07 / 22.3 J	2.23	1.5 / ND (9) J	0.90	1810 J / 506	181.00
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	2640 J	-	27.9 J	-	6.68 J	-	1210 J	-
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	4510 J	-	62.9 J	-	16.6 J	-	2640 J	-
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	10900 J	-	59.4 J	-	3.92 J	-	4330 J	-
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	23100 J	-	110 J	-	14.3 J	-	9010 J	-
Total TEQ	pg/g	4	15000	2500	100,000	--	-	1127.31 ^a	-	12.10 ^a	-	7.35 ^a	-	493.16 ^a

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location:							CS-25		CS-26		CS-27		CS-28		
Sample Identification:							CS-11230615-072121-CT-25		CS-11230615-072121-CT-26		CS-11230615-072121-CT-27		CS-11230615-072121-CT-28		
Sample Date:							07/21/2021		07/21/2021		07/21/2021		07/21/2021		
Sample Description:		BC ENV CSR Schedule 3.1 IL					Zone 7 - 1513486		Zone 7 - 23291231		Zone 7 - 23291222		Zone 7 - 23291222		
		CCME	IL	BC HWR	WHO (2005) TEF Value										
Parameters	Units	IL a	INTK b	TOX c	d		Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ	
Dioxins															
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	12.9 J	0.00	166	0.05	741	0.22	36.6 J	0.01	
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	5.24 J	0.05	95.9 J	0.96	92.9 J	0.93	31 J	0.31	
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	ND (0.569)	0.06	9.15 J	0.92	4.17 J	0.42	2.62 J	0.26	
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	0.69 J	0.07	15.6 J	1.56	6.42 J	0.64	3.42 J	0.34	
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	1.16 J	0.12	26.7	2.67	8.88 J	0.89	8.52 J	0.85	
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	0.648 J	0.65	13.7 J	13.70	6.55 J	6.55	2.69 J	2.69	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	ND (0.535)	0.54	4.09 J	4.09	2.26 J	2.26	0.809 J	0.81	
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	11.6 J	-	200 J	-	182 J	-	86.7 J	-	
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	12.4 J	-	287 J	-	88 J	-	73.9 J	-	
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	10.5 J	-	351	-	97.5	-	41.9	-	
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	16.6	-	604	-	236	-	25.4	-	
Furans															
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	4.6 J	0.00	135 J	0.04	145 J	0.04	ND (1.06) J	0.00	
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	5.02 J	0.05	192	1.92	198	1.98	1.9 J	0.02	
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	0.917 J	0.01	28.5	0.29	27.1	0.27	ND (0.739)	0.01	
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	2.66 J	0.27	165 J	16.50	88.8 J	8.88	1.06 J	0.11	
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	ND (1.15) J	0.12	68.7 J	6.87	31.7 J	3.17	ND (0.517) J	0.05	
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	ND (0.679)	0.07	5.51 J	0.55	2.58 J	0.26	ND (0.562)	0.06	
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	0.859 J	0.03	58.2 J	1.75	24.5 J	0.74	ND (0.61) J	0.02	
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	ND (2.1) J	0.21	93.5 J	9.35	44.3 J	4.43	ND (0.489) J	0.05	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	1.06 J	0.32	ND (74.5) J	22.35	28.5 J	8.55	ND (0.486) J	0.15	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	ND (4.35) J	0.44	ND (384) J / 61.3 J	38.40	48.1 J / ND (145) J	14.50	1.9 J	0.19	
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	7.66 J	-	319 J	-	262 J	-	3.05 J	-	
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	7.15 J	-	681 J	-	356 J	-	3.09 J	-	
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	12.4 J	-	1150 J	-	358 J	-	2.26 J	-	
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	20.8 J	-	2180 J	-	880 J	-	6.89 J	-	
Total TEQ	pg/g	4	15000	2500	100,000	--	-	2.98	-	121.96 ^a	-	54.73 ^a	-	5.92 ^a	

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

Sample Location: Sample Identification: Sample Date: Sample Description:		BC ENV CSR Schedule 3.1 IL					CS-29 CS-11230615-072221-CT-29 07/22/2021 Zone 8 - P07		CS-31 CS-11230615-072221-CT-31 07/22/2021 Zone 8 - P07		CS-32 CS-11230615-072221-CT-32 07/22/2021 Zone 8 - P07	
Parameters	Units	CCME IL a	INTK b	TOX c	BC HWR d	WHO (2005) TEF Value	Analytical Result	TEQ	Analytical Result	TEQ	Analytical Result	TEQ
Dioxins												
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (O	pg/g	--	--	--	--	0.0003	6760	2.03	2370	0.71	38.6 J	0.01
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	pg/g	--	--	--	--	0.01	3310 J	33.10	2790 J	27.90	25.4 J	0.25
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	288	28.80	311	31.10	2.68 J	0.27
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	453	45.30	458	45.80	3.21 J	0.32
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxC	pg/g	--	--	--	--	0.1	725	72.50	819	81.90	7.89 J	0.79
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	pg/g	--	--	--	--	1.0	352	352.00	279	279.00	3.27 J	3.27
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	1.0	66.4	66.40	33.4	33.40	1.19 J	1.19
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	5420 J	-	5410 J	-	54.8 J	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	14900 J	-	6390 J	-	70.1 J	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	20700	-	5560	-	88.2	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	50500	-	5480	-	156	-
Furans												
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDI	pg/g	--	--	--	--	0.0003	4510 J	1.35	ND (890) J	0.27	39 J	0.01
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	4730	47.30	2390	23.90	108	1.08
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	pg/g	--	--	--	--	0.01	562	5.62	463	4.63	9.68 J	0.10
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	2440 J	244.00	2010 J	201.00	ND (91.6) J	9.16
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	816 J	81.60	873 J	87.30	ND (24.1) J	2.41
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	48.6 J	4.86	82.7	8.27	1.31 J	0.13
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.03	447 J	13.41	538 J	16.14	16.8 J	0.50
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	0.1	1040 J	104.00	1140 J	114.00	38.9 J	3.89
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	0.3	ND (628) J	188.40	674 J	202.20	24.4 J	7.32
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	0.1	ND (3170) J / 407 J	317.00	434 J / ND (2940) J	294.00	22.5 J / ND (131) J	13.10
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	6380 J	-	4030 J	-	134 J	-
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	8500 J	-	8060 J	-	182 J	-
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	8190 J	-	10700 J	-	378 J	-
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	16100 J	-	15100 J	-	772 J	-
Total TEQ	pg/g	4	15000	2500	100,000	--	-	1607.67 ^a	-	1451.52 ^a	-	43.81 ^a

Table 7

Summary of Bulk Material Analytical Results – Dioxins/Furans
Emergency Management BC
Lytton Wildfire Response
Lytton, British Columbia

- Notes:**
- a** CCME Soil Quality Guidelines for the Protection of Human and Environmental Health - Industrial Land Use (CCME IL)
 - b** BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Intake of Contaminated Soil (IL INTK)
 - c** BC ENV CSR Schedule 3.1 Part 1 - Matrix Numerical Soil Standards - Industrial Land Use - Toxicity of soil invertebrates and plants (IL TOX)
 - d** BC Hazardous Waste Regulations (BC-HWR-63-88)
- WHO (2005)** The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
- CCME Canadian Council of Ministers of the Environment
- BC ENV CSR British Columbia Ministry of Environment and Climate Change Strategy Contaminated Sites Regulations
- WHO World Health Organization
- TEQ Toxicity equivalent - The concentration of each dioxin and furan was multiplied by the associated TEF to calculate a TEQ
- TEF Toxicity equivalent factor - The TEF is the ratio of the toxicity of one dioxin or furan to the toxicity of the most toxic dioxin or furan
-
- Sample not analyzed for the associated parameter
 - No standard available for associated parameter
 - J Estimated concentration
- 22.7 / 277 Sample analyzed twice for the same compound, both results shown. The higher value was taken when calculating TEQ.
- 6.75^a

pg/g Picogram per gram

Attachments

Attachment A

Photographic Log – July 12 to 21, 2021

Site Photographs



Photo 1 View of GHD conducting air monitoring for Site personnel | Facing east | July 12, 2021



Photo 2 View of burnt structures | Facing west | July 12, 2021



Photo 3 View of suspected asbestos | Facing west | July 13, 2021



Photo 4 View of the Village of Lytton | Facing northwest | July 15, 2021



Photo 5 View of damaged building and hazardous goods | Facing northeast | July 15, 2021



Photo 6 View of Superior transporting propane tank near Health Centre off Site | Facing northeast | July 16, 2021



Photo 7 View of damaged building and hydro pole | Facing southeast | July 17, 2021



Photo 8 View of damaged vehicles in Zone 6A | Facing south | July 18, 2021



Photo 9 View of View of GHD conducting bulk particulate sampling in Zone 2B | Facing west | July 19, 2021



Photo 10 View of GHD conducting bulk particulate sampling in Zone 3B | Facing south | July 20, 2021



Photo 11 View of GHD conducting air quality monitoring during bulk particulate sampling in Zone 4 | Facing south | July 20, 2021



Photo 12 View of GHD conducting bulk particulate sampling in Zone 5A | Facing southeast | July 21, 2021



Photo 13 View of GHD conducting air quality monitoring during bulk particulate sampling in Zone 5B | Facing southwest | July 21, 2021



Photo 14 View of GHD conducting bulk particulate sampling in Zone 8 | Facing south | July 22, 2021



Photo 15 View of former hazardous materials stockpile area in Zone 3A | Facing southeast | July 22, 2021



Photo 16 View of GHD conducting air quality monitoring in Zone 4 | Facing southeast | July 23, 2021

Attachment B

Laboratory Certificates of Analysis



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Collected: **7/19/2021-7/20/2021**
Received: **7/22/2021**
Analyzed: **7/23/2021**

Project: **BC ENV LYTTON**

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Procurement of Samples and Analytical Overview:

The samples for analysis (sixteen, bulk) arrived at EMSL Analytical (Cinnaminson, NJ) on July 22, 2021. The package arrived in satisfactory condition with no evidence of damage to the contents. The purpose of the analysis is to determine the presence of combustion-by-products associated with fire residues. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment: ASTM D6602-13 (Mod)
 AIHA Technical Guide for Wildfire Impact Investigations for the OEHS Professional
 Stereomicroscopy
 Polarized Light Microscopy (PLM)
 epi-Reflected Light Microscopy (RLM)

Analyzed by:



Christen Helou
Assistant Laboratory Manager

July 26, 2021

Date

Reviewed/Approved by :



Eugenia Mirica, Ph.D.
Laboratory Manager

July 26, 2021

Date





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- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Sample Description:

Sixteen bulk were submitted for analysis.

The purpose of the analysis was to identify the components associated with fire debris (char, ash, and black carbon/soot).



Figure 1. Images of the as-received sample "CS-11230615-071921-CT-01"



Figure 2. Images of the as-received sample "CS-11230615-071921-CT-02"



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Figure 3. Images of the as-received sample "CS-11230615-071921-CT-03"



Figure 4. Images of the as-received sample "CS-11230615-071921-CT-04"



Figure 5. Images of the as-received sample "CS-11230615-071921-CT-05"



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Figure 6. Images of the as-received sample "CS-11230615-071921-CT-06"



Figure 7. Images of the as-received sample "CS-11230615-071921-CT-07"



Figure 8. Images of the as-received sample "CS-11230615-071921-CT-08"



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Figure 9. Images of the as-received sample "CS-11230615-072021-CT-09"



Figure 10. Images of the as-received sample "CS-11230615-072021-CT-10"



Figure 11. Images of the as-received sample "CS-11230615-072021-CT-11"



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Figure 12. Images of the as-received sample "CS-11230615-072021-CT-12"



Figure 13. Images of the as-received sample "CS-11230615-072021-CT-13"



Figure 14. Images of the as-received sample "CS-11230615-072021-CT-14"



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Figure 15. Images of the as-received sample "CS-11230615-072021-CT-15"



Figure 16. Images of the as-received sample "CS-11230615-072021-CT-16"

Sample Preparation Procedures:

Each sample was initially observed in the as-received condition to observe general constituency and homogeneity.

Due to the amount of sample submitted, each sample needed a modified quartering procedure to obtain the representative amount amenable to analysis.



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Results and Discussions:

EMSL Sample ID	Sample ID	Description	Analyte	Concentration (%)	Comments (sample specific)
692101737-0001	CS-11230615-071921-CT-01	ZONE 1A – COMMERCIAL	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 10-15 <1 25-30	The opaque particles in the sample are composed of molted metal and thermally degraded construction dust, and rust.-see Note 1
692101737-0002	CS-11230615-071921-CT-02	ZONE 1B – INSTITUTIONAL	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 40-50 <1 25-30	The opaque particles in the sample are composed of molted metal, thermally degraded construction dust, rust, and paint.-see Note 1. Melted glass is also present.
692101737-0003	CS-11230615-071921-CT-03	ZONE 1A – RESIDENTIAL	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 30-40 <1 40-45	The opaque particles in the sample are composed of paint, thermally degraded construction dust and clays, molted metal, and rust.-see Note 1
692101737-0004	CS-11230615-071921-CT-04	ZONE 1B – RESIDENTIAL	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 40-50 <1 30-35	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1 . Melted glass is also present.
692101737-0005	CS-11230615-071921-CT-05	ZONE 2B – 24568902	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 50-60 <1-1 20-25	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1. . Melted glass is also present.

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.



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- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

EMSL Sample ID	Sample ID	Description	Analyte	Concentration (%)	Comments (sample specific)
692101737-0006	CS-11230615-071921-CT-06	ZONE 2B – 12870960	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 40-50 <1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1
692101737-0007	CS-11230615-071921-CT-07	ZONE 2B – 12871541	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 50-60 <1 15-20	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and rust.- see Note 1. . Melted glass is also present.
692101737-0008	CS-11230615-071921-CT-08	ZONE 2B – 15763439	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 55-65 <1 20-25	The opaque particles in the sample are composed of, thermally degraded clays and construction dust, paint, molted metal, and rust.-see Note 1
692101737-0009	CS-11230615-072021-CT-09	ZONE 3A – 4451856	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 25-35 <1-1 30-35	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and rust.- see Note 1
692101737-0010	CS-11230615-072021-CT-10	ZONE 3B – 3149688	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 40-50 <1 10-20	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and rust.- see Note 1

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.



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 Analyzed: **7/23/2021**

Project: **BC ENV LYTTON**

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

EMSL Sample ID	Sample ID	Description	Analyte	Concentration (%)	Comments (sample specific)
692101737-0011	CS-11230615-072021-CT-11	ZONE 4A – 3149688	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 10-15 <1 25-30	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and rust.- see Note 1
692101737-0012	CS-11230615-072021-CT-12	ZONE 4B – 12870781	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 60-70 <1-1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, melted plastic, paint, and rust.-see Note 1. . Melted glass is also present.
692101737-0013	CS-11230615-072021-CT-13	ZONE 3A – 12867624	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 65-75 <1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, rust, and paint.-see Note 1
692101737-0014	CS-11230615-072021-CT-14	ZONE 3A – 26576163	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 20-30 <1 30-40	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, rust, and non-specific organic dust.-see Note 1
692101737-0015	CS-11230615-072021-CT-15	ZONE 4A – 183237	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 60-70 <1-1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, melted glass, and rust.-see Note 1

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.

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- Laboratory Report -
Combustion By-Products
(Char, Ash, Black Carbon/Soot*)

<i>EMSL Sample ID</i>	<i>Sample ID</i>	<i>Description</i>	<i>Analyte</i>	<i>Concentration (%)</i>	<i>Comments (sample specific)</i>
692101737-0016	CS-11230615-072021-CT-16	ZONE 4B – 11626291	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 25-35 <1 30-40	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, melted plastic, and rust.-see Note 1. . Melted glass is also present.

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.



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EMSL Order: **692101737**
Customer ID: **55CRAC22**
Customer PO: -

Attn: **Airesse MacPhee**
GHD Limited
455 Phillip Street
Waterloo, ON N2L 3X2

Phone: **519-884-0510**
Email: **Airesse.macphee@ghd.com**

Project: **BC ENV LYTTON**

Collected: **7/19/2021-7/20/2021**
Received: **7/22/2021**
Analyzed: **7/23/2021**

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Terms and Definitions:

None Detected (ND): absence of an analyte in the subsample analyzed. Trace levels of the analyte may be present in the sample below the limit of quantitation (LOQ).

Limit of Detection (LOD): minimum concentration that can be theoretically achieved for a given analytical procedure in the absence of matrix or sample processing effects. Particle analysis is limited to a single occurrence of an analyte particle in the sub-sample analyzed.

Limit of Quantitation (LOQ): minimum concentration of an analyte that can be measured within specified limits of precision and accuracy during routine laboratory operating conditions

Trace concentration: denotes the presence of an analyte above LOD but below LOQ. When results are reported as Trace Concentration, at least one particle was detected in the collection of particles that represents the sample.

Concentrations for bulk samples are derived by Visual Area Estimation (VAE) unless otherwise noted. Air sample concentrations are calculated to particles per unit volume. VAE technique estimates the relative projected area of a certain type of particulate from a mixture of particulate by comparison to data derived from analysis of calibration materials having similar texture and particulate content. Due to bi-dimensional nature of the measurements, in some cases the particle thickness could affect the results.

Black Carbon (Soot): submicron black powder generally produced as *an unwanted by-product of combustion or pyrolysis*. It consists of various quantities of carbonaceous and inorganic solids in conjunction with adsorbed and occluded organic tars and resins; it commonly has a spherical to pseudo-spherical (aciform) morphology. Examples of soot are carbon residues from diesel and gasoline engines, industrial flares, sludge pits, candles, and plastics.

Carbon Black: *an engineered material*, primarily composed of elemental carbon, obtained from the partial combustion or thermal decomposition of hydrocarbons, existing in the form of aggregates of aciform morphology which are composed of spheroidal primary particles characterized by uniformity of primary particle sizes within a given aggregate and turbostratic layering within the primary particles.

Char: particulate larger than 1 µm made by incomplete combustion which may not de-agglomerate or disperse by ordinary techniques, may contain material which is not black, and may contain some of the original material's cell structure, minerals, ash, cinders, and so forth

Ash: residue left after complete carbonization of the material. It does not maintain its original form. Wood ash contains calcium carbonate as its major component. It also contains potash, phosphate; there are trace elements of iron, manganese, zinc, copper and some heavy metals. The concentrations vary depending on the combustion temperature and wood type.

Carbonized material (char and ash) are analyzed using optical microscopy (epi-reflected and polarized light microscopy). The samples are analyzed for traits such as color, size, morphology, evidence of cellular morphology.

Typically, all the particles that are extracted from the as-received sampling media are considered as part of the sample when deriving the concentrations. Therefore, due to regular environmental dust accumulation, the concentrations of the combustion by-products present in a certain area will diminish in time even if no remediation/cleaning were involved.

Sample received in acceptable condition unless otherwise noted. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. EMSL Analytical, Inc. bears no responsibility for sample collection activities. **Sample Retention:** Samples analyzed by EMSL Analytical, Inc. will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling may be returned to the client immediately. EMSL Analytical, Inc. reserves the right to charge a sample disposal fee or return samples to the client. **Change Orders and Cancellation:** All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL Analytical, Inc. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL Analytical, Inc. will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL Analytical, Inc. is not responsible for holding times that are exceeded due to such changes. **Warranty:** EMSL Analytical, Inc. warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures and with reasonable care in accordance with applicable federal, state and local laws. The foregoing express warranty is exclusive and is given in lieu of all other warranties, express or implied. EMSL Analytical, Inc. disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability. **Limits of Liability:** In no event shall EMSL Analytical, Inc. be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL Analytical, Inc. and whether EMSL Analytical, Inc. has been informed of the possibility of such damages, arising out of or in connection with EMSL Analytical, Inc.'s services there under or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL Analytical, Inc. will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to ensure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL Analytical, Inc., the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL Analytical, Inc. be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL Analytical, Inc. by client there under.



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- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Annex: Micrographs of the analytes of interest in samples:

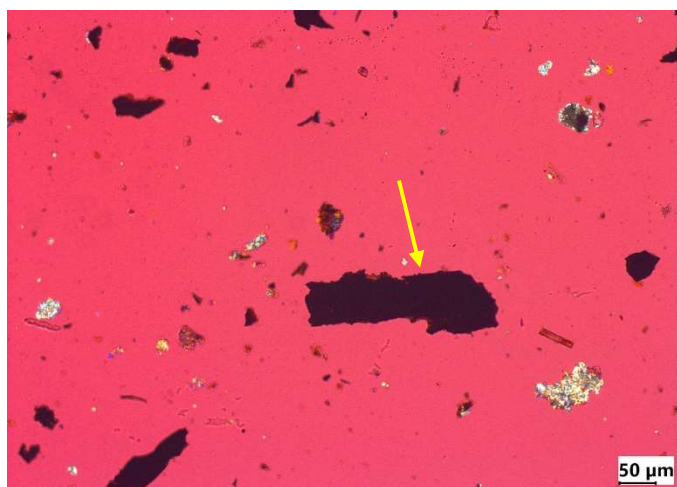


Figure 17: PLM image of char in sample "CS-11230615-071921-CT-01"

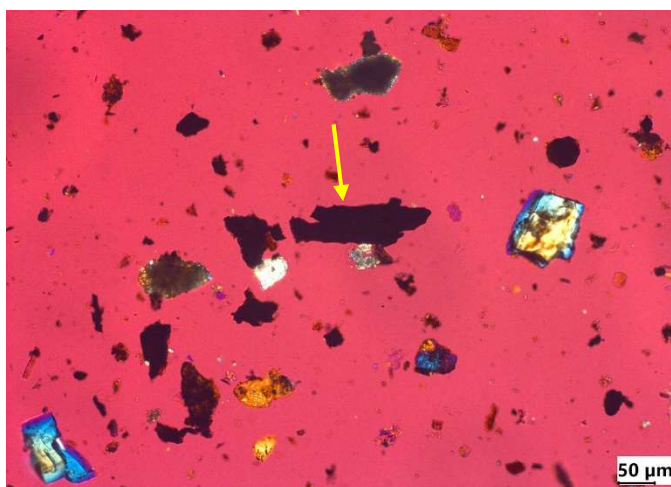


Figure 18: PLM image of char in sample "CS-11230615-071921-CT-02"

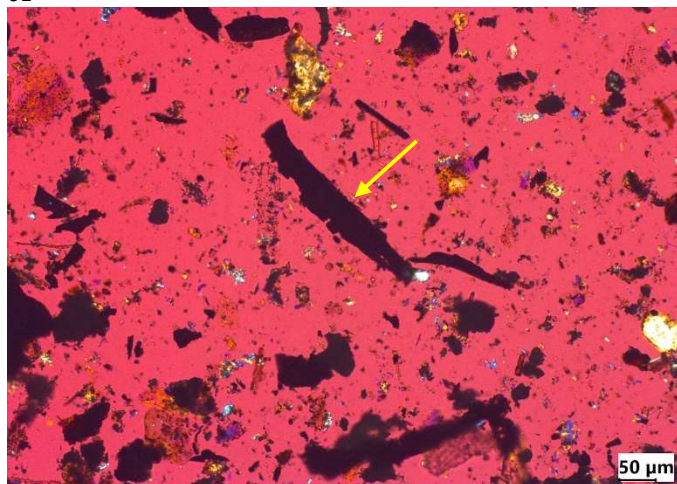


Figure 19: PLM image of char in sample "CS-11230615-071921-CT-03"

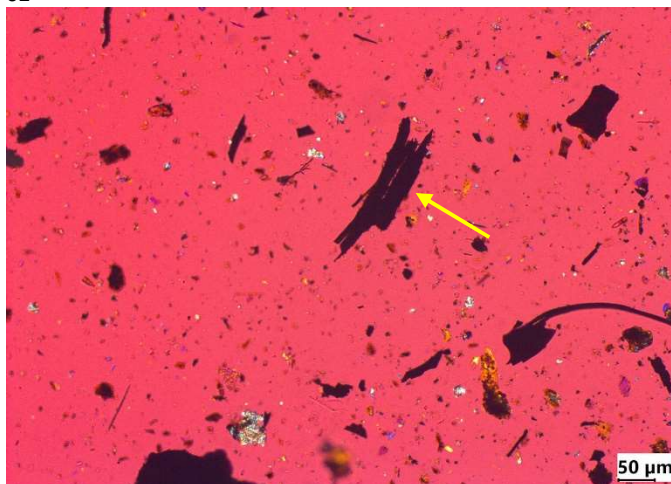


Figure 20: PLM image of char in sample "CS-11230615-071921-CT-04"



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Annex: Micrographs of the analytes of interest in samples:

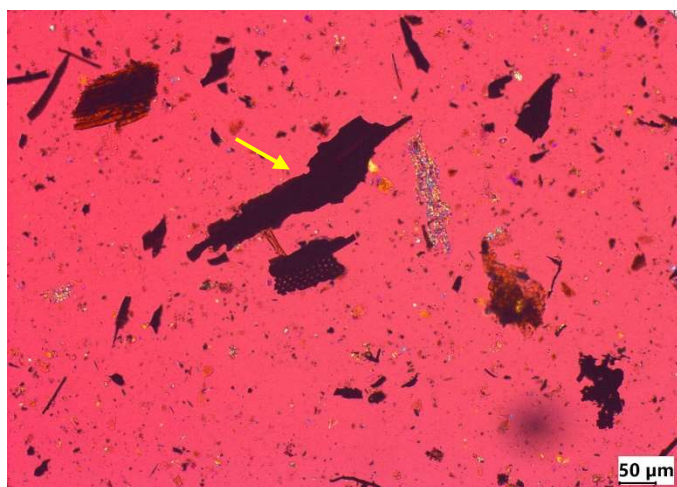


Figure 21: PLM image of char in sample "CS-11230615-071921-CT-05"

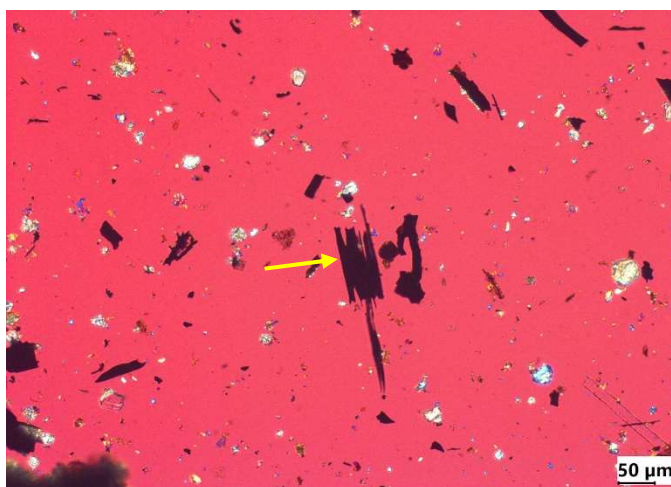


Figure 22: PLM image of char in sample "CS-11230615-071921-CT-06"

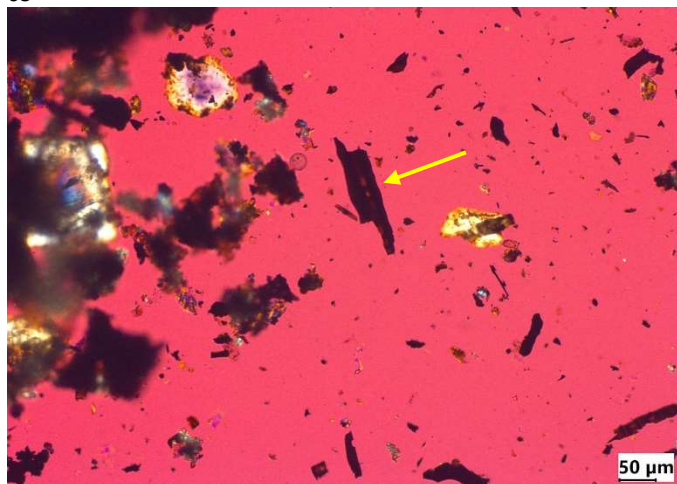


Figure 23: PLM image of char in sample "CS-11230615-071921-CT-07"

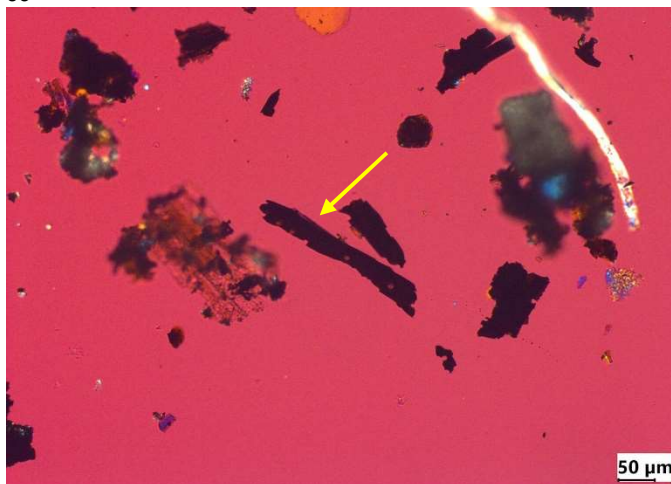


Figure 24: PLM image of char in sample "CS-11230615-071921-CT-08"



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- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Annex: Micrographs of the analytes of interest in samples:

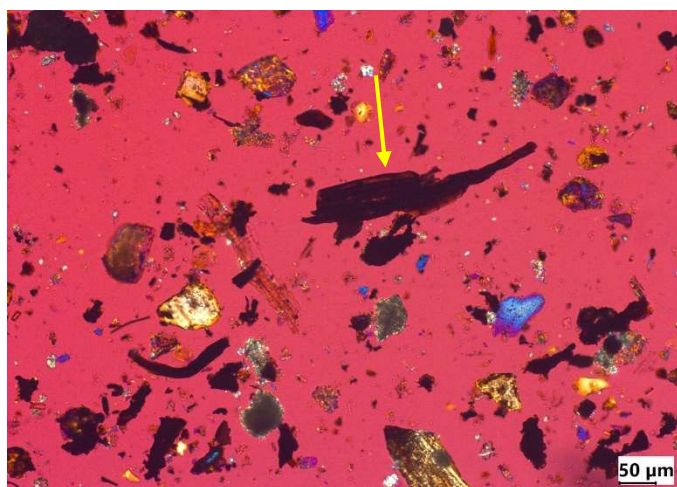


Figure 25: PLM image of char in sample "CS-11230615-072021-CT-09"



Figure 26: PLM image of char in sample "CS-11230615-072021-CT-10"

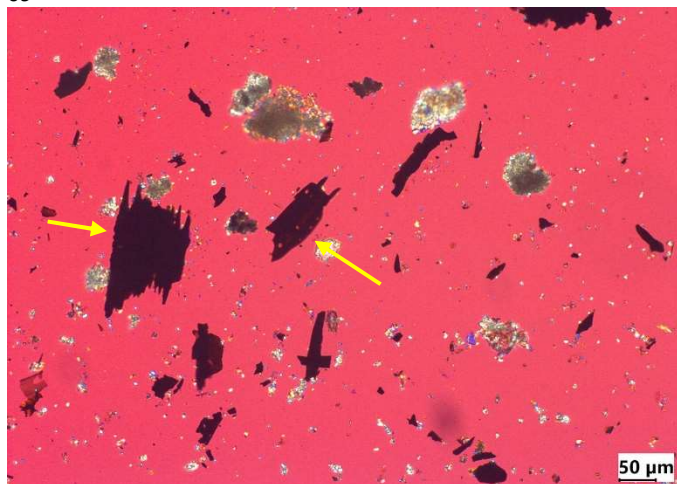


Figure 27: PLM image of char in sample "CS-11230615-072021-CT-11"



Figure 28: PLM image of char in sample "CS-11230615-072021-CT-12"



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Annex: Micrographs of the analytes of interest in samples:

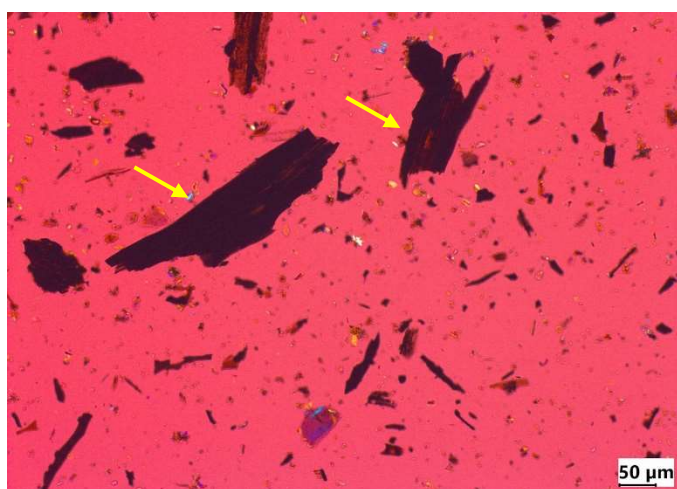


Figure 29: PLM image of char in sample "CS-11230615-072021-CT-13"

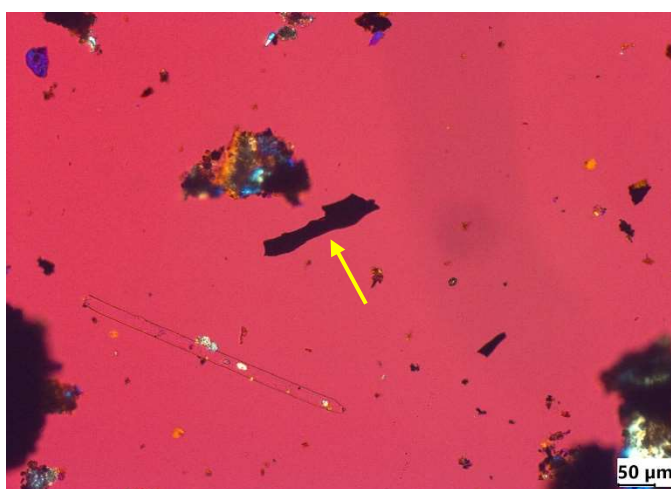


Figure 30: PLM image of char in sample "CS-11230615-072021-CT-14"

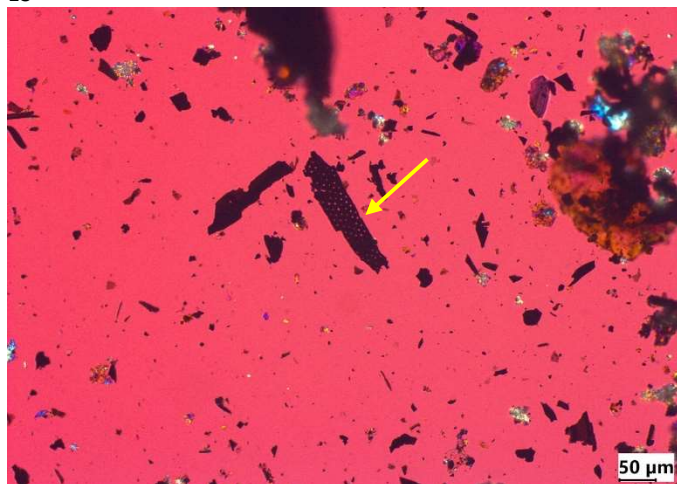


Figure 31: PLM image of char in sample "CS-11230615-072021-CT-15"

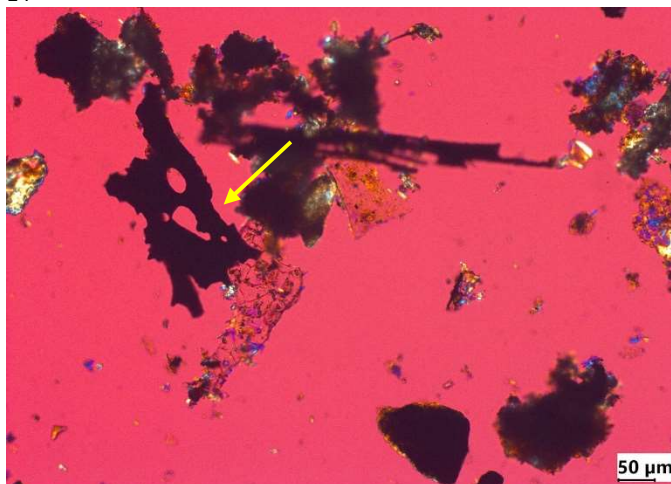


Figure 32: PLM image of char in sample "CS-11230615-072021-CT-16"



Materials Science Chain of Custody

EMSL Order Number / Lab Use Only

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Cinnaminson, NJ 08077

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

692101737

PHONE: (800) 220-3675

EMAIL: materialslab@emsl.com

Report-To Information EMSL Customer ID: 55CRAC22 Company Name: GHD LTD. Contact Name: Aiesse MacPhee Street Address: 455 Phillip Street City, State, Zip: Waterloo, ON, N2L 3X2 Country: CAN Phone: 519-884-0510 Email(s) for Report: Aiesse.MacPhee@ghd.com; trevor.ceccanese@ghd.com		Bill-To Information If Bill-To is the same as Report-To, leave this section blank. Third-party billing requires written authorization. EMSL Customer ID: Company Name: Contact Name: Street Address: City, State, Zip: Country: Phone: Email(s) for Invoice:	
Project Information Project Name/Number: BC ENV Lytton Purchase Order: 73522457		State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)	
EMSL LIMS Project ID: (If applicable, EMSL will provide) Sampled By Name: Trevor Ceccanese Sampled By Signature: <i>[Signature]</i>		US State where samples collected: No. of Samples in Shipment: 16	
Turn-Around-Time (TAT) ☐ 1 Day ☒ 2 Day ☐ 3 Day ☐ 4 Day ☐ 1 Week ☐ 2 Week Call Lab to confirm before shipping samples faster than 1 Week (EOD) TAT. All sample results issued End of Business Day (EOD). If no TAT selected, samples will be processed on a 2 Week (EOD) TAT.			

Particle Sizing

- ☐ Dynamic Light Scattering
☐ Filter Pore Size Analysis
☐ Isoelectric Point
☐ Microscopy (MS029)
☐ Mechanical Sieve / ASTM D6913 (MS028)
☐ Mechanical Sieve w/ Hydrometry / ASTM D6913
☐ Sonic Sieve (MS030)
☐ Zeta Potential

Chemical Testing:

- ☐ Anions / Ion Chromatography (MS054)
☐ Fourier Transform Infrared Spectroscopy (FTIR)
☐ GD-QES (MS043)
☐ Metals / ICP-OES (MS041)
☐ Metals / ICP-MS (MS041)
☐ Urine Stain/Urea (MS085)
☐ X-Ray Diffractometry (XRD) (MS079)
☐ X-Ray Fluorescence (XRF) (MS044)

Physical Testing

- ☐ Abrasion
☐ Coefficient of Friction / ASTM C1028
☐ Compression / ASTM D695/D395 (MS014)
☐ Flexure (MS016)
☐ Hardness / ASTM E18
☐ Oxygen Transmission Rate (OTR) (MS072)
☐ Tension/Tensile / ASTM E8/D628/D882/D412 (MS013)
☐ Torsion (MS017)
☐ Water Vapor Transmission Rate (WVTR) (MS027)

Petrographic Testing

- ☐ Full Petrographic Analysis (MS004)
☐ Soil Classification / ASTM D2487 (Mod) / OSHA ID-194 (MS081)
☐ Soil Density / ASTM D4189
☐ Soil Grain Size / ASTM D422 (Mod)
☐ Soil Grain Size w/ Hygrometry / ASTM D422
☐ Soil Liquid & Plastic Limits / ASTM D4318

Materials Identification:

- ☐ Advanced Material ID (MS003)
☐ Basic Material ID (MS024)
☐ Common Particle ID (MS022)
☐ Full Particle ID (MS023)

Combustion By-Products:

- ☒ Combustion By-Products Level 1 / ASTM D6602 (MS031)
☐ Combustion By-Products Level 2 / ASTM D6602 (MS032)
☐ Combustion By-Products Level 3 / ASTM D6602 (MS033)
☐ Combustion By-Products Level 4 / ASTM D6602 (MS034)
☐ SO/RIA / Standard 6001 (MS047)
☐ NIOSH 5000/Carbon Black (MS002)
☐ NIOSH 5000/Carbon Black w/ Confirmation (MS051)
☐ Screening / ASTM D6602 (MS036)
☐ Source Confirmation / Soot Source ID (MS053)

MMVF's (Fibrous Glass, Etc.):

- ☐ MMVF Total Count / NIOSH 7400 (MS025/MSM201)
☐ MMVF with Asbestos / NIOSH 7400 Modified (MS026)
☐ German VDI-3491 / VDI 3492 (MS056)
☐ German VDI-3866 Part 5 / VDI 3491 (MS057)
☐ ISO 14966 (MS058)

Combustible Dust Testing

- ☐ Class II Dust Analysis (Kst, Pmax, (dP/dT)max, MEC, MIT, MIE, IS, ES) / OSHA ID201SG (MS012)
☐ Explosion Severity (Kst, Pmax, dP/dTmax)/ASTM E1226 (MS006)
☐ Go/No Go Testing / ASTM E1226 (MS005)
☐ Ignitability / EPA 1030 (MS077)
☐ Initial Analysis/Sample Characterization / ASTM E1226 (MS087)
☐ Layer Ignition Temperature (LIT) / ASTM E2021 (MS076)
☐ Minimum Explosion Concentration (MEC) / ASTM E1515 (MS010)
☐ Minimum Ignition Energy (MIE) / ASTM E2019 (MS009)
☐ Minimum Ignition Temperature (MIT) / ASTM E1419 (MS008)
☐ Resistivity (MS011)

Other Methods/Applications:

- ☐ BET Surface Area / ASTM B022 (MS083)
☐ Colonometry (MS070)
☐ Condoms Compatibility / ASTM D-7661-18 (MS048)
☐ Explosive Residue / EPA 8330A/B
☐ Failure Analysis (MS019)
☐ Flash Point / ASTM D56 / ASTM D93 (MS020)
☐ Heat Value / ASTM E711/D240 (MS066)
☐ Gunshot Residue SEM (MS080)
☐ Gunshot Residue ICP (MS081)
☐ Magnetic Properties / B-H Hysteresis (MS049/MS050/MS042)
☐ Microplastics (MS084)
☐ Paint ID (MS068)
☐ Paint ID Multiple Layers w/ Mil Spec (MS069)
☐ Raman Microscopy
☐ RoHS
☐ SEM Imaging (MS082)
☐ Stain Identification
☐ Surface Tension / ASTM D1331
☐ Total Carbon (C) / Combustion
☐ Total Organic Carbon/Water (TOC)/SM-5301C (MS039)
☐ Total Organic Carbon/Soil (TOC)/SM-846/9060 (MS050)
☐ Total Sulfur (S) / Combustion
☐ Viscosity (Brookfield) (MS067)
☐ Zinc Whiskers

Thermal Analysis

- ☐ Thermo-Gravimetric Analysis (TGA) (MS073)
☐ Differential Scanning Calorimetry (DSC) (MS074)
☐ Dynamic Mechanical Analysis (DMA) (MS075)

Other Test/Method (Please specify below):

Enter Sample Information on Page 2

Special Instructions and/or Regulatory Requirements (Method, LOD, etc.)

Additional report copies to: Keal.macnaughton@ghd.com; Jessica.masters@ghd.com

Method of Shipment: VEHICLE/COOLER DROP-OFF		Sample Condition Upon Receipt:	
Relinquished by: <i>Anthony OBrien</i>	Date/Time: <i>20:00 07/24/20</i>	Received by: <i>conner K.B</i>	Date/Time: <i>10:45AM</i>
Relinquished by: <i>1030</i>	Date/Time: <i>1030</i>	Received by: <i>7/24/20</i>	Date/Time: <i>7/24/20</i>

Controlled Document - COC-30 Materials Science R8 10/19/2020

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

**EMSL Analytical, Inc.**

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Customer ID : 55SCRAC22

Attention: Airesse Mac Phee
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455 Phillip Street
Waterloo, ON N2L 3X2

Phone: 519 884-0510
Email:

Customer PO: 73522457
Project: Bcenv Lytton/11230615
Date Collected: 44365
Date Received: 7/22/21 11:39am
Date Analyzed: 07/28/2021 - 07/28/2021
Date Reported: 08/03/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16 Standard Test Method for Determination of Asbestos in Soil

Narrative

This test method is used to identify asbestos in soil, provide an estimate of the concentration of the asbestos in the sampled soil (dried), and optionally to provide a concentration of asbestos reported as the number of asbestos structures per gram or by weight percent (Visual Area Estimation) of sample. These results are produced for the evaluation of sites contaminated by construction, mine and manufacturing wastes, deposits of natural occurrences of asbestos and other sources of interest to the investigator.

The sample is dried and sieved through a sieve stack containing sieves that are: 19-mm, 2-mm, and 106-micron. Pieces of collected soil and material embedded therein that pass through a 19-mm sieve will become part of the sample that is analyzed and for which results are reported. Sample material that does not pass through the 19-mm sieve are not considered soil and are instead archived for additional (optional) testing by another method. Weights for each fraction are measured and recorded. The course, medium, and fine fraction are all analyzed by stereomicroscopy and PLM visual area estimate (VAE). The initial results of the PLM are expressed as calibrated visual area estimated percent and result for the fine fraction using point count values if below the detection limit. In addition, if PLM results indicate no asbestos has been detected, then the fine fraction of the sample may be analyzed for asbestos using Transmission Electron Microscopy (TEM).

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

The proceeding report contains the results of the sample testing conducted at: EMSL Analytical, Inc. 2756 Slough Street, Mississauga, ON L4T 1G3.

If necessary, any modifications and deviations from the sample testing procedure are detailed below.

No modifications were necessary.

If you have any questions, please don't hesitate to contact us.

Thank you ,

Kira Ramphal, Anne Balayboa,
Analyst(s)

Authorized Signatory



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 455 Phillip Street
 Waterloo, ON N2L 3X2

Phone: 519 884-0510
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Customer PO: 73522457
Project: Bcenv Lytton/11230615
Date Collected: 6/18/2021
Date Received: 7/22/21 11:39am
Date Analyzed: 07/28/2021 - 07/28/2021
Date Reported: 08/03/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

Report version 0.3

							Final Results		
Sample ID						PLM	PLM Final	TEM Qualitative	TEM Quantitative
Lab Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos		(Analytical Sensitivity)	Concentration	(Fine Fraction)	(Fine Fraction)
CS-11230615-071921-CT-01	Zone 1A - Commercial	Total	1278.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	395.00	None Detected	-	0.077%	< 0.08%		
		Medium	675.00	None Detected	-	0.132%	< 0.13%		
		Fine	208.00	None Detected	-	0.041%	< 0.04%		
552111923-0001									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 0.08%					Laboratory Notes: None				
CS-11230615-071921-CT-02	Zone 1B - Institutional	Total	951.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	117.00	None Detected	-	0.031%	< 0.03%		
		Medium	594.00	None Detected	-	0.156%	< 0.16%		
		Fine	240.00	None Detected	-	0.063%	< 0.06%		
552111923-0002									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 1.55%					Laboratory Notes: None				
CS-11230615-071921-CT-03	Zone 1A - Residential	Total	639.00	Detected	-	0.25%	< 0.25%	Not Analyzed	Not Analyzed
		Course	244.00	None Detected	-	0.095%	< 0.1%		
		Medium	290.00	Detected	-	0.113%	0.11%		
		Fine	105.00	Detected	-	0.041%	0.04%		
552111923-0003									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: Actinolite				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 0%					Laboratory Notes: Vermiculite present in sample				
CS-11230615-071921-CT-04	Zone 1B - Residential	Total	1388.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	454.00	None Detected	-	0.082%	< 0.08%		
		Medium	731.00	None Detected	-	0.132%	< 0.13%		
		Fine	203.00	None Detected	-	0.037%	< 0.04%		
552111923-0004									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 0.14%					Laboratory Notes: None				
CS-11230615-071921-CT-05	Zone 2B - 24568902	Total	886.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	369.00	None Detected	-	0.104%	< 0.1%		
		Medium	433.00	None Detected	-	0.122%	< 0.12%		
		Fine	84.00	None Detected	-	0.024%	< 0.02%		
552111923-0005									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 5.64%					Laboratory Notes: None				



EMSL Analytical, Inc.
 2756 Slough Street, Mississauga, ON L4T 1G3
 Phone: (916) 921-8251
 Fax: (916) 921-8253
 Email: SacramentoLab@emsl.com

EMSL Order: 552111923
Customer ID: 55SCRAC22

Attention: Aïresse Mac Phee
 Ghd Limited
 455 Phillip Street
 Waterloo, ON N2L 3X2

Phone: 519 884-0510
Email:

Customer PO: 73522457
Project: Bcenv Lytton/11230615
Date Collected: 6/18/2021
Date Received: 7/22/21 11:39am
Date Analyzed: 07/28/2021 - 07/28/2021
Date Reported: 08/03/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

Report version 0.3

							Final Results		
Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos	PLM (Analytical Sensitivity)	PLM Final Concentration	TEM Qualitative (Fine Fraction)	TEM Quantitative (Fine Fraction)	
CS-11230615-071921-CT-06	Zone 2B - 12870960	Total	899.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	439.00	None Detected	-	0.122%	< 0.12%		
		Medium	300.00	None Detected	-	0.083%	< 0.08%		
		Fine	160.00	None Detected	-	0.044%	< 0.04%		
552111923-0006									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: Dry				Building Material Identified: None Detected					
Percent Loss Sieve: 0.11%				Laboratory Notes: None					
CS-11230615-071921-CT-07	Zone 2B - 12871541	Total	1139.00	None Detected	-	0.25%	< 0.25%	Detected	Not Analyzed
		Course	121.00	None Detected	-	0.027%	< 0.03%		
		Medium	732.00	None Detected	-	0.161%	< 0.16%		
		Fine	286.00	None Detected	-	0.063%	< 0.06%		
552111923-0007									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: Chrysotile					
Sieve Conditions: Dry				Building Material Identified: None Detected					
Percent Loss Sieve: 0.35%				Laboratory Notes: None					
CS-11230615-071921-CT-08	Zone 2B - 15763439	Total	1054.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	299.00	None Detected	-	0.071%	< 0.07%		
		Medium	644.00	None Detected	-	0.153%	< 0.15%		
		Fine	111.00	None Detected	-	0.026%	< 0.03%		
552111923-0008									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: Dry				Building Material Identified: None Detected					
Percent Loss Sieve: 6.31%				Laboratory Notes: Vermiculite present in sample					
CS-11230615-072021-CT-09	Zone 3A - 4451856	Total	1330.00	Detected	-	0.25%	0.25%	Not Analyzed	Not Analyzed
		Course	401.00	Detected	-	0.075%	0.08%		
		Medium	712.00	Detected	-	0.134%	0.13%		
		Fine	217.00	Detected	-	0.041%	0.04%		
552111923-0009									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: Chrysotile					
Sieve Conditions: Dry				Building Material Identified: None Detected					
Percent Loss Sieve: 0.37%				Laboratory Notes: Cementitious Material					
CS-11230615-072021-CT-10	Zone 3B - 26651076	Total	894.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	147.00	None Detected	-	0.041%	< 0.04%		
		Medium	587.00	None Detected	-	0.164%	< 0.16%		
		Fine	160.00	None Detected	-	0.045%	< 0.04%		
552111923-0010									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: Dry				Building Material Identified: None Detected					
Percent Loss Sieve: 0.56%				Laboratory Notes: None					



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Date Reported: 08/03/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

Report version 0.3

							Final Results		
Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos		PLM (Analytical Sensitivity)	PLM Final Concentration	TEM Qualitative (Fine Fraction)	TEM Quantitative (Fine Fraction)
CS-11230615-072021-CT-11	Zone 4A - 3149688	Total	942.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	302.00	None Detected	-	0.080%	< 0.08%		
		Medium	524.00	None Detected	-	0.139%	< 0.14%		
		Fine	116.00	None Detected	-	0.031%	< 0.03%		
552111923-0011									
Sample Observations:									
Sample Excluded (>19mm): 299 g					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 24.03%					Laboratory Notes: None				
CS-11230615-072021-CT-12	Zone 4B - 12870781	Total	890.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	457.00	None Detected	-	0.128%	< 0.13%		
		Medium	355.00	None Detected	-	0.100%	< 0.1%		
		Fine	78.00	None Detected	-	0.022%	< 0.02%		
552111923-0012									
Sample Observations:									
Sample Excluded (>19mm): 119 g					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 11.27%					Laboratory Notes: None				
CS-11230615-072021-CT-13	Zone 3A - 12867624	Total	1610.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	274.00	None Detected	-	0.043%	< 0.04%		
		Medium	1020.00	None Detected	-	0.158%	< 0.16%		
		Fine	316.00	None Detected	-	0.049%	< 0.05%		
552111923-0013									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 0.74%					Laboratory Notes: None				
CS-11230615-072021-CT-14	Zone 3A - 26576163	Total	1335.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	436.00	None Detected	-	0.082%	< 0.08%		
		Medium	739.00	None Detected	-	0.138%	< 0.14%		
		Fine	160.00	None Detected	-	0.030%	< 0.03%		
552111923-0014									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 0.74%					Laboratory Notes: None				
CS-11230615-072021-CT-15	Zone 4A - 183237	Total	1868.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	1188.00	None Detected	-	0.159%	< 0.16%		
		Medium	554.00	None Detected	-	0.074%	< 0.07%		
		Fine	126.00	None Detected	-	0.017%	< 0.02%		
552111923-0015									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: Dry					Building Material Identified: None Detected				
Percent Loss Sieve: 0.8%					Laboratory Notes: None				



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Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16
Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

						Final Results			
Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos	PLM (Analytical Sensitivity)	PLM Final Concentration	TEM Qualitative (Fine Fraction)	TEM Quantitative (Fine Fraction)	
CS-11230615-072021- CT-16	Zone 4B - 11626291	Total	680.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	358.00	None Detected	-	0.132%	< 0.13%		
		Medium	253.00	None Detected	-	0.093%	< 0.09%		
552111923-0016		Fine	69.00	None Detected	-	0.025%	< 0.03%		

Sample Observations:

Sample Excluded (>19mm): None
Sieve Conditions: Dry
Percent Loss Sieve: 7.1%

Asbestos Types Present: None Detected
Building Material Identified: None Detected
Laboratory Notes: None



EMSL CANADA, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil, Water)

EMSL Order Number / Lab Use Only

EMSL Canada, Inc.

2756 Slough Street

Mississauga, ON L4T 1G3

552111923

PHONE: (289) 997-4602

EMAIL: TorontoLab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information Customer ID: 55CRA22 Company Name: GHD LTD Contact Name: ARESSE MACPHEE Street Address: 455 PHILLIP ST City, Province, Postal Code: WATERLOO, ON, N2L 3X2 Country: CAN Phone: 519-884-0510 Email(s) for Report: ARESSE.MACPHEE@GHD.COM TREBOR.CECCANESE@GHD.COM		Billing Information Billing ID: Company Name: Billing Contact: Street Address: City, Province, Postal Code: Country: Phone: Email(s) for Invoice:	
Project Information Project Name/No: BCENV LYTON / 11230615 EMSL LIMS Project ID: (If applicable, EMSL will provide)		Purchase Order: 73522457 US State where samples collected:	
Sampled By Name: TREBOR CECCANESE Sampled By Signature:		No. of Samples in Shipment: 16	
Turn-Around-Time (TAT) ☐ 3 Hour ☐ 4-4.5 Hour ¹ AHERA Only ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☒ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week ¹Premium Service Charge applies for 3 Hour TEM AHERA or EPA Level II TAT. TEM Air 3-6 Hour, please call ahead to schedule. 72 Hour TAT available for select tests only; samples must be submitted by 11:30am.			
Test Selection			
PCM Air ☐ NIOSH 7400 ☐ IRSST PCM PLM - Bulk (reporting limit) ☐ PLM EPA 600/R-93/116 (<1%) ☐ 400 PTCT (<0.25%) ☐ Conditional 400 PTCT (<0.25%) ☐ 1000 PTCT (<0.1%) ☐ PLM EPA 110B (<1%) ☐ 400 PTCT (<0.25%) ☐ 1000 PTCT (<0.1%) ☐ IRSST PLM ☐ NIOSH 8002 (<1%) ☐ Other		TEM - Air ☐ AHERA 40 CFR, Part 763 ☐ NIOSH 7402 ☐ EPA Level II TEM - Bulk *SEE SPECIAL INSTRUCTIONS ☐ TEM EPA NOB ☐ IRSST TEM (NYS 198.4) TEM - Settled Dust ☐ Microvac - ASTM D 5755 ☐ Wipe - ASTM D6480 TEM - Water ☐ EPA 100.2 (All fibre sizes) ☐ EPA 100.2 (Fibres >10µm)	
Soil - Rock - Vermiculite (reporting limit) ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%) ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%) ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%) ☐ TEM EPA 600/R-93/116 with milling prep (<0.01%) ☐ ASTM D7521 Sieve Method ☐ TEM Qualitative via Filtration Prep ☐ TEM Qualitative via Drop Mount Prep ☐ Cincinnati Method EPA 600/R-04/004 - PLM/TEM* *required for vermiculite in BC and NS		Asphalt ☐ PLM EPA Gravimetric with milling prep (<0.25%)	
Stop At First Positive (clearly identify homogenous areas below) *Please call with your project-specific requirements.			
☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)		Filter Pore Size (Air Samples) ☐ 0.8µm ☐ 0.45µm	
Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
CS-11230615-071921-CT-01	ZONE 1A - commercial	2 CUPS (500 mL)	19-07-21 / 1120
CS-11230615-071921-CT-02	ZONE 1B - INSTITUTIONAL	2 CUPS (500 mL)	19-07-21 / 1210
CS-11230615-071921-CT-03	ZONE 1A - RESIDENTIAL	2 CUPS (500 mL)	19-07-21 / 1225
CS-11230615-071921-CT-04	ZONE 1B - RESIDENTIAL	2 CUPS (500 mL)	19-07-21 / 1310
CS-11230615-071921-CT-05	ZONE 2B - 24568902	2 CUPS (500 mL)	19-07-21 / 1350
CS-11230615-071921-CT-06	ZONE 2B - 12870960	2 CUPS (500 mL)	19-07-21 / 1420
CS-11230615-071921-CT-07	ZONE 2B - 12871541	2 CUPS (500 mL)	19-07-21 / 1500
CS-11230615-071921-CT-08	ZONE 2B - 15763439	2 CUPS (500 mL)	19-07-21 / 1520
Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc) *DEFER TO LABORATORY TO DETERMINE IF SAMPLES ARE TREATED AS EITHER BULK OR SOIL-ROCK-VERMICULITE TEM METHODS *ADDITIONAL REPORTS TO: KEAL.MACNAUGHTON@GHD.COM, JESSICA.MASTERS@GHD.COM			
Method of Shipment: VEHICLE / COOLER DROP-OFF		Sample Condition Upon Receipt:	
Relinquished by: AOB / Anthony O'Brien	Date/Time: 07/24/2021	Received by:	Date/Time:
Relinquished by:	Date/Time: 1030	Received by:	Date/Time:

Controlled Document - CCC-05-CAN Asbestos R11 04/15/21

☒ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Canada, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.



EMSL CANADA, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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2756 Slough Street
Mississauga, ON L4T 1G3

PHONE: (289) 997-4602
EMAIL: TorontoLab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

[illegible]

RECEIVED
EMSI CANADA, INC.
TORONTO

2021 JUL 22 A 11:39

FEDER

7743 2036

7032

Method of Shipment:

Sample Condition Upon Receipt:	

Relinquished by: Anthony O'Brien

Date/Time: 07/26/2021

Received by:

[illegible]

Received by:	

Date/Time	Location	Activity	Remarks
10/10/2023 10:00	Room 101	Meeting with Mr. Smith	Discussed project progress
10/10/2023 14:30	Office	Writing report	Completed section 2
10/11/2023 09:15	Field Site	Conducting survey	Collected 5 samples
10/11/2023 16:00	Lab	Analysis of samples	Results pending
10/12/2023 11:45	Meeting Room	Team meeting	Reviewed findings
10/12/2023 15:20	Office	Preparing presentation	Finalizing slides
10/13/2023 08:00	Office	Reviewing documents	Checked for errors
10/13/2023 13:00	Client Office	Client meeting	Presented findings
10/13/2023 17:30	Office	Writing summary	Completed document
10/14/2023 10:30	Office	Reviewing feedback	Addressing comments
10/14/2023 14:00	Office	Finalizing report	Added conclusions
10/15/2023 09:00	Office	Printing report	Ready for distribution
10/15/2023 12:00	Office	Archiving files	Completed backup
10/15/2023 16:00	Office	Reviewing schedule	Planning next steps
10/16/2023 08:30	Office	Reviewing emails	Handled inquiries
10/16/2023 11:00	Office	Reviewing calendar	Confirmed appointments
10/16/2023 14:30	Office	Reviewing documents	Checked for updates
10/16/2023 17:00	Office	Reviewing progress	Completed tasks
10/17/2023 09:30	Office	Reviewing schedule	Planning next steps
10/17/2023 12:30	Office	Reviewing documents	Checked for updates
10/17/2023 15:00	Office	Reviewing progress	Completed tasks
10/17/2023 18:00	Office	Reviewing schedule	Planning next steps
10/18/2023 08:00	Office	Reviewing documents	Checked for updates
10/18/2023 11:30	Office	Reviewing progress	Completed tasks
10/18/2023 14:00	Office	Reviewing schedule	Planning next steps
10/18/2023 17:30	Office	Reviewing documents	Checked for updates
10/19/2023 09:00	Office	Reviewing progress	Completed tasks
10/19/2023 12:00	Office	Reviewing schedule	Planning next steps
10/19/2023 15:00	Office	Reviewing documents	Checked for updates
10/19/2023 18:00	Office	Reviewing progress	Completed tasks
10/20/2023 08:30	Office	Reviewing schedule	Planning next steps
10/20/2023 11:00	Office	Reviewing documents	Checked for updates
10/20/2023 14:30	Office	Reviewing progress	Completed tasks
10/20/2023 17:00	Office	Reviewing schedule	Planning next steps
10/21/2023 09:30	Office	Reviewing documents	Checked for updates
10/21/2023 12:30	Office	Reviewing progress	Completed tasks
10/21/2023 15:00	Office	Reviewing schedule	Planning next steps
10/21/2023 18:00	Office	Reviewing documents	Checked for updates
10/22/2023 08:00	Office	Reviewing progress	Completed tasks
10/22/2023 11:30	Office	Reviewing schedule	Planning next steps
10/22/2023 14:00	Office	Reviewing documents	Checked for updates
10/22/2023 17:30	Office	Reviewing progress	Completed tasks
10/23/2023 09:00	Office	Reviewing schedule	Planning next steps
10/23/2023 12:00	Office	Reviewing documents	Checked for updates
10/23/2023 15:00	Office	Reviewing progress	Completed tasks
10/23/2023 18:00	Office	Reviewing schedule	Planning next steps
10/24/2023 08:30	Office	Reviewing documents	Checked for updates
10/24/2023 11:00	Office	Reviewing progress	Completed tasks
10/24/2023 14:30	Office	Reviewing schedule	Planning next steps
10/24/2023 17:00	Office	Reviewing documents	Checked for updates
10/25/2023 09:30	Office	Reviewing progress	Completed tasks
10/25/2023 12:30	Office	Reviewing schedule	Planning next steps
10/25/2023 15:00	Office	Reviewing documents	Checked for updates
10/25/2023 18:00	Office	Reviewing progress	Completed tasks
10/26/2023 08:00	Office	Reviewing schedule	Planning next steps
10/26/2023 11:30	Office	Reviewing documents	Checked for updates
10/26/2023 14:00	Office	Reviewing progress	Completed tasks
10/26/2023 17:30	Office	Reviewing schedule	Planning next steps
10/27/2023 09:00	Office	Reviewing documents	Checked for updates
10/27/2023 12:00	Office	Reviewing progress	Completed tasks
10/27/2023 15:00	Office	Reviewing schedule	Planning next steps
10/27/2023 18:00	Office	Reviewing documents	Checked for updates
10/28/2023 08:30	Office	Reviewing progress	Completed tasks
10/28/2023 11:00	Office	Reviewing schedule	Planning next steps
10/28/2023 14:30	Office	Reviewing documents	Checked for updates
10/28/2023 17:00	Office	Reviewing progress	Completed tasks
10/29/2023 09:30	Office	Reviewing schedule	Planning next steps
10/29/2023 12:30	Office	Reviewing documents	Checked for updates
10/29/2023 15:00	Office	Reviewing progress	Completed tasks
10/29/2023 18:00	Office	Reviewing schedule	Planning next steps
10/30/2023 08:00	Office	Reviewing documents	Checked for updates
10/30/2023 11:30	Office	Reviewing progress	Completed tasks
10/30/2023 14:00	Office	Reviewing schedule	Planning next steps
10/30/2023 17:30	Office	Reviewing documents	Checked for updates
10/31/2023 09:00	Office	Reviewing progress	Completed tasks
10/31/20			

Controlled Document - COC-05-CAN Asbestos R11 04/15/21

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Canada, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

**EMSL Analytical, Inc.**

200 Route 130 North Cinnaminson, NJ 08077

Phone: Toll Free: 800-220-3675 | Fax: 856-786-5971

www.emsl.cominfo@emsl.comEMSL Order: **692101764**Customer ID: **55CRAC22**

Customer PO: -

Attn: **Airesse MacPhee**
GHD Limited
455 Phillip Street
Waterloo, ON N2L 3X2

Phone: **519-884-0510**
Email: **Airesse.macphee@ghd.com**

Project: **BC ENV LYTTON / 11230615**Collected: **7/21/2021-7/22/2021**Received: **7/26/2021**Analyzed: **8/3/2021**
8/11/2021Rev1

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Procurement of Samples and Analytical Overview:

The samples for analysis (sixteen, bulk) arrived at EMSL Analytical (Cinnaminson, NJ) on July 26, 2021. The package arrived in satisfactory condition with no evidence of damage to the contents. The purpose of the analysis is to determine the presence of combustion-by-products associated with fire residues. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment: ASTM D6602-13 (Mod)
 AIHA Technical Guide for Wildfire Impact Investigations for the OEHS Professional
 Stereomicroscopy
 Polarized Light Microscopy (PLM)
 epi-Reflected Light Microscopy (RLM)

Analyzed by:

Christen Helou
Assistant Laboratory Manager

August 3, 2021

Date

Reviewed/Approved by :

Eugenia Mirica, Ph.D.
Laboratory Manager

August 9, 2021

Date

8/11/2021. Rev 1 revises report 692101764 reported on 8/9/2021. Reason for revision: correction of EMSL order number.





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EMSL Order: **692101764**
Customer ID: **55CRAC22**
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Project: **BC ENV LYTTON / 11230615**

Collected: **7/21/2021-7/22/2021**
Received: **7/26/2021**
Analyzed: **8/3/2021**
8/11/2021Rev1

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Sample Description:

Sixteen bulk were submitted for analysis.

The purpose of the analysis was to identify the components associated with fire debris (char, ash, and black carbon/soot).



Figure 1. Images of the as-received sample "CS-11230615-072121-CT-17"



Figure 2. Images of the as-received sample "CS-11230615-072121-CT-18"



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Figure 3. Images of the as-received sample "CS-11230615-072121-CT-19"



Figure 4. Images of the as-received sample "CS-11230615-072121-CT-20"



Figure 5. Images of the as-received sample "CS-11230615-072121-CT-21"



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Figure 6. Images of the as-received sample "CS-11230615-072121-CT-22"



Figure 7. Images of the as-received sample "CS-11230615-072121-CT-23"



Figure 8. Images of the as-received sample "CS-11230615-072121-CT-24"



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Figure 9. Images of the as-received sample "CS-11230615-072121-CT-25"



Figure 10. Images of the as-received sample "CS-11230615-072121-CT-26"



Figure 11. Images of the as-received sample "CS-11230615-072121-CT-27"



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Figure 12. Images of the as-received sample "CS-11230615-072121-CT-28"



Figure 13. Images of the as-received sample "CS-11230615-072221-CT-29"



Figure 14. Images of the as-received sample "CS-11230615-072221-CT-30"



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Figure 15. Images of the as-received sample "CS-11230615-072221-CT-31"



Figure 16. Images of the as-received sample "CS-11230615-072221-CT-32"

Sample Preparation Procedures:

Each sample was initially observed in the as-received condition to observe general constituency and homogeneity.

Due to the amount of sample submitted, each sample needed a modified quartering procedure to obtain the representative amount amenable to analysis.



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Results and Discussions:

EMSL Sample ID	Sample ID	Description	Analyte	Concentration (%)	Comments (sample specific)
692101764-0001	CS-11230615-072121-CT-17	ZONE 5A – RESIDENTIAL – 11116960	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 50-60 <1 15-20	The opaque particles in the sample are composed of thermally degraded clays and construction dust, molted metal, paint, and rust.-see Note 1
692101764-0002	CS-11230615-072121-CT-18	ZONE 5B – COMMERCIAL – 11626356	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 65-75 <1-1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1. Melted glass is also present.
692101764-0003	CS-11230615-072121-CT-19	ZONE 5A – RESIDENTIAL – 12874753	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 40-50 <1 40-45	The opaque particles in the sample are composed of thermally degraded construction dust and paint.-see Note 1
692101764-0004	CS-11230615-072121-CT-20	ZONE 5B – RESIDENTIAL – 25645099	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 65-75 <1 5-10	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1. Melted glass is also present.
692101764-0005	CS-11230615-072121-CT-21	ZONE 6A – RESIDENTIAL – 19052375	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 45-55 <1-1 20-30	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1. Melted glass is also present.

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.



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- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

EMSL Sample ID	Sample ID	Description	Analyte	Concentration (%)	Comments (sample specific)
692101764-0006	CS-11230615-072121-CT-22	ZONE 6B – RESIDENTIAL – 9790187	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 60-70 <1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1. Melted glass is also present.
692101764-0007	CS-11230615-072121-CT-23	ZONE 6A – RESIDENTIAL – 112871761	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 20-30 <1-1 35-40	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, paint, and rust.-see Note 1.
692101764-0008	CS-11230615-072121-CT-24	ZONE 6A – RESIDENTIAL – 12871796	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 5-10 <1 40-50	The opaque particles in the sample are composed of thermally degraded construction dust, non-specific organic dust, paint, and rust.-see Note 1. Melted glass is also present.
692101764-0009	CS-11230615-072121-CT-25	ZONE 7 – RESIDENTIAL – 1513486	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 55-65 <1 20-25	The opaque particles in the sample are composed of thermally degraded construction dust, paint, and molted metal.-see Note 1
692101764-0010	CS-11230615-072121-CT-26	ZONE 7 – RESIDENTIAL – 23291231	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 55-65 <1 20-30	The opaque particles in the sample are composed of thermally degraded construction dust, paint, and rust.-see Note 1

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.



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EMSL Sample ID	Sample ID	Description	Analyte	Concentration (%)	Comments (sample specific)
692101764-0011	CS-11230615-072121-CT-27	ZONE 7 – RESIDENTIAL – 23291222	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 10-15 <1 40-50	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and rust.- see Note 1
692101764-0012	CS-11230615-072121-CT-28	ZONE 7 – RESIDENTIAL – 23291222	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 55-65 <1 5-10	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and non-specific organic dust.-see Note 1
692101764-0013	CS-11230615-072221-CT-29	ZONE 8 – RESIDENTIAL – P07	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 2-5 <1 30-35	The opaque particles in the sample are composed of thermally degraded construction dust, molted metal, and paint.-see Note 1
692101764-0014	CS-11230615-072221-CT-30	ZONE 8 – RESIDENTIAL – P07 / 357	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 10-15 <1-1 25-30	The opaque particles in the sample are composed of thermally degraded construction dust, paint, and rust.-see Note 1
692101764-0015	CS-11230615-072221-CT-31	ZONE 8 – RESIDENTIAL – P07	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 60-70 <1-1 10-15	The opaque particles in the sample are composed of thermally degraded construction dust, paint, and rust.-see Note 1. Melted glass is also present.

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.

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- Laboratory Report -
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(Char, Ash, Black Carbon/Soot*)

<i>EMSL Sample ID</i>	<i>Sample ID</i>	<i>Description</i>	<i>Analyte</i>	<i>Concentration (%)</i>	<i>Comments (sample specific)</i>
692101764-0016	CS-11230615-072221-CT-32	ZONE 8 – RESIDENTIAL – P07	Black Carbon (Soot)* Carbonized Material (Char) Carbonized Material (Ash) Opaque/Dark Particles	ND 20-30 <1 25-30	The opaque particles in the sample are composed of thermally degraded construction dust, paint, molted metal, and rust.- see Note 1

LOQ: 1% (VAE Method)

* Black Carbon/Soot analysis is limited to presumptive analysis only. In order to resolve the submicron size and the aciniform morphology of the particles confirmatory analysis by Transmission Electron Microscopy (TEM) is needed.

Note 1: The opaque/dark particles do not have characteristics typically associated with combustion-by-products. Additional analysis by SEM/EDX and/or FTIR is needed to confirm their identity.



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Terms and Definitions:

None Detected (ND): absence of an analyte in the subsample analyzed. Trace levels of the analyte may be present in the sample below the limit of quantitation (LOQ).

Limit of Detection (LOD): minimum concentration that can be theoretically achieved for a given analytical procedure in the absence of matrix or sample processing effects. Particle analysis is limited to a single occurrence of an analyte particle in the sub-sample analyzed.

Limit of Quantitation (LOQ): minimum concentration of an analyte that can be measured within specified limits of precision and accuracy during routine laboratory operating conditions

Trace concentration: denotes the presence of an analyte above LOD but below LOQ. When results are reported as Trace Concentration, at least one particle was detected in the collection of particles that represents the sample.

Concentrations for bulk samples are derived by Visual Area Estimation (VAE) unless otherwise noted. Air sample concentrations are calculated to particles per unit volume. VAE technique estimates the relative projected area of a certain type of particulate from a mixture of particulate by comparison to data derived from analysis of calibration materials having similar texture and particulate content. Due to bi-dimensional nature of the measurements, in some cases the particle thickness could affect the results.

Black Carbon (Soot): submicron black powder generally produced as *an unwanted by-product of combustion or pyrolysis*. It consists of various quantities of carbonaceous and inorganic solids in conjunction with adsorbed and occluded organic tars and resins; it commonly has a spherical to pseudo-spherical (aciniform) morphology. Examples of soot are carbon residues from diesel and gasoline engines, industrial flares, sludge pits, candles, and plastics.

Carbon Black: *an engineered material*, primarily composed of elemental carbon, obtained from the partial combustion or thermal decomposition of hydrocarbons, existing in the form of aggregates of aciniform morphology which are composed of spheroidal primary particles characterized by uniformity of primary particle sizes within a given aggregate and turbostratic layering within the primary particles.

Char: particulate larger than 1 µm made by incomplete combustion which may not de-agglomerate or disperse by ordinary techniques, may contain material which is not black, and may contain some of the original material's cell structure, minerals, ash, cinders, and so forth

Ash: residue left after complete carbonization of the material. It does not maintain its original form. Wood ash contains calcium carbonate as its major component. It also contains potash, phosphate; there are trace elements of iron, manganese, zinc, copper and some heavy metals. The concentrations vary depending on the combustion temperature and wood type.

Carbonized material (char and ash) are analyzed using optical microscopy (epi-reflected and polarized light microscopy). The samples are analyzed for traits such as color, size, morphology, evidence of cellular morphology.

Typically, all the particles that are extracted from the as-received sampling media are considered as part of the sample when deriving the concentrations. Therefore, due to regular environmental dust accumulation, the concentrations of the combustion by-products present in a certain area will diminish in time even if no remediation/cleaning were involved.

Sample received in acceptable condition unless otherwise noted. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. EMSL Analytical, Inc. bears no responsibility for sample collection activities. **Sample Retention:** Samples analyzed by EMSL Analytical, Inc. will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling may be returned to the client immediately. EMSL Analytical, Inc. reserves the right to charge a sample disposal fee or return samples to the client. **Change Orders and Cancellation:** All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL Analytical, Inc. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL Analytical, Inc. will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL Analytical, Inc. is not responsible for holding times that are exceeded due to such changes. **Warranty:** EMSL Analytical, Inc. warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures and with reasonable care in accordance with applicable federal, state and local laws. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL Analytical, Inc. disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability. **Limits of Liability:** In no event shall EMSL Analytical, Inc. be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL Analytical, Inc. and whether EMSL Analytical, Inc. has been informed of the possibility of such damages, arising out of or in connection with EMSL Analytical, Inc.'s services there under or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL Analytical, Inc. will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to ensure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL Analytical, Inc., the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL Analytical, Inc. be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL Analytical, Inc. by client there under.



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Annex: Micrographs of the analytes of interest in samples:

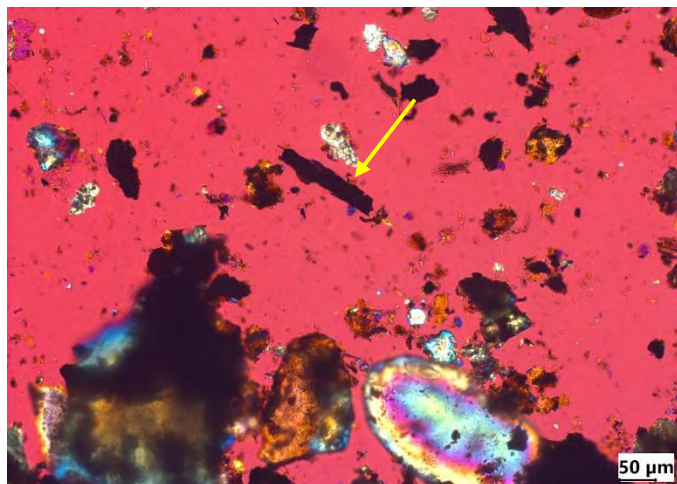


Figure 17: PLM image of char in sample "CS-11230615-072121-CT-17"

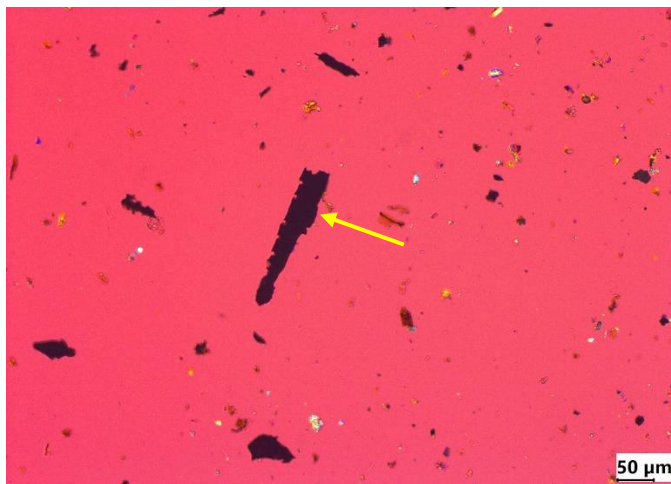


Figure 18: PLM image of char in sample "CS-11230615-072121-CT-18"

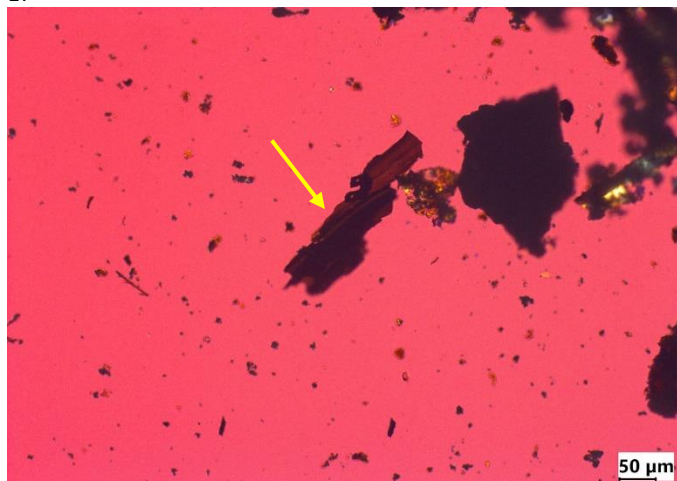


Figure 19: PLM image of char in sample "CS-11230615-072121-CT-19"

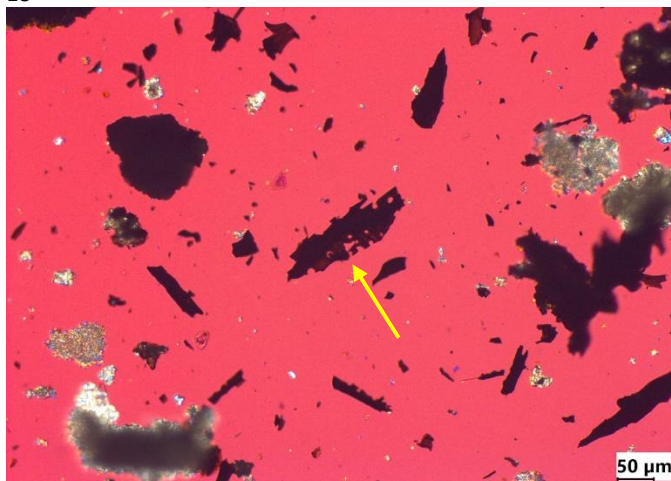


Figure 20: PLM image of char in sample "CS-11230615-072121-CT-20"



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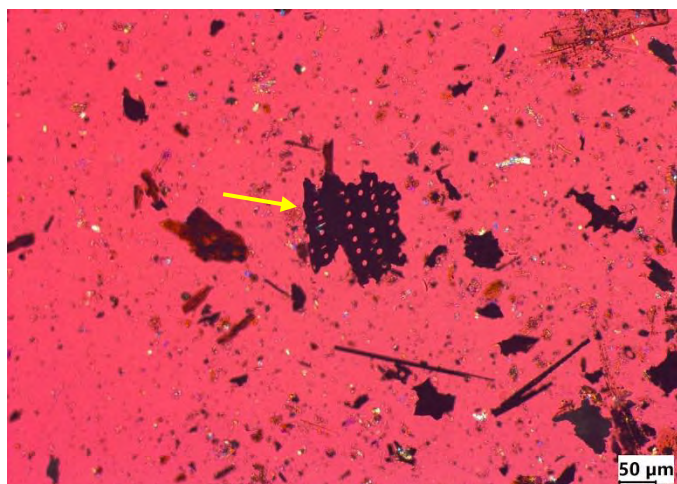


Figure 21: PLM image of char in sample "CS-11230615-072121-CT-21"

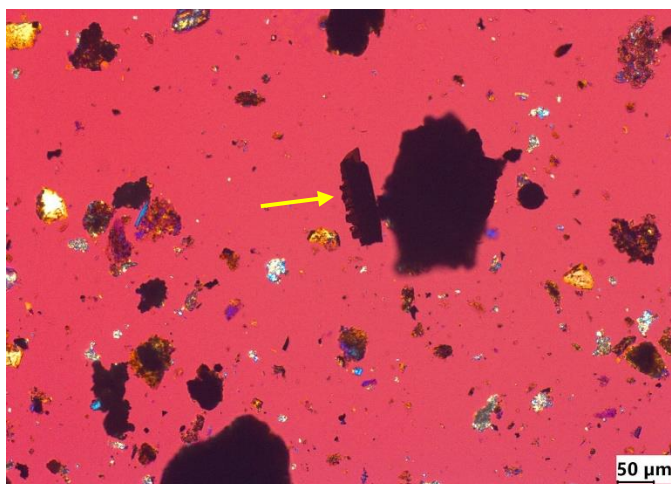


Figure 22: PLM image of char in sample "CS-11230615-072121-CT-22"

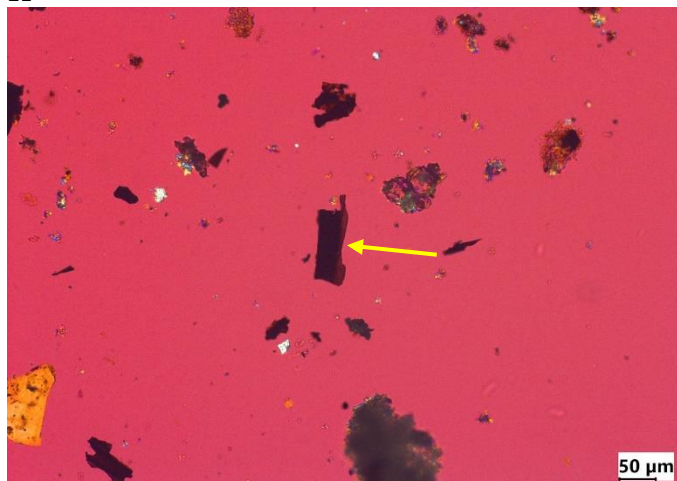


Figure 23: PLM image of char in sample "CS-11230615-072121-CT-23"

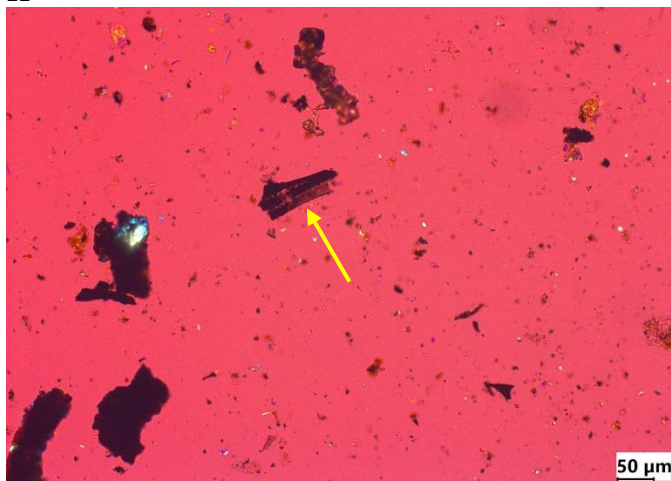


Figure 24: PLM image of char in sample "CS-11230615-072121-CT-24"



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200 Route 130 North Cinnaminson, NJ 08077
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EMSL Order: 692101764
Customer ID: 55CRAC22
Customer PO: -

Attn: **Airesse MacPhee**
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455 Phillip Street
Waterloo, ON N2L 3X2

Phone: 519-884-0510
Email: Airesse.macphee@ghd.com

Project: BC ENV LYTTON / 11230615

Collected: 7/21/2021-7/22/2021
Received: 7/26/2021
Analyzed: 8/3/2021
8/11/2021Rev1

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Annex: Micrographs of the analytes of interest in samples:

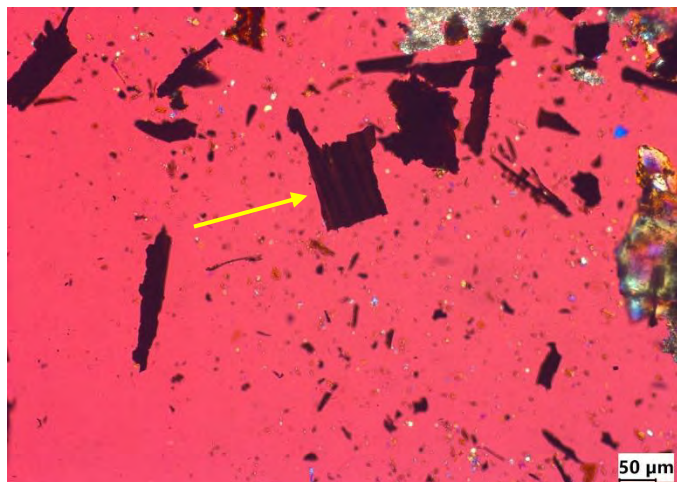


Figure 25: PLM image of char in sample "CS-11230615-072121-CT-25"

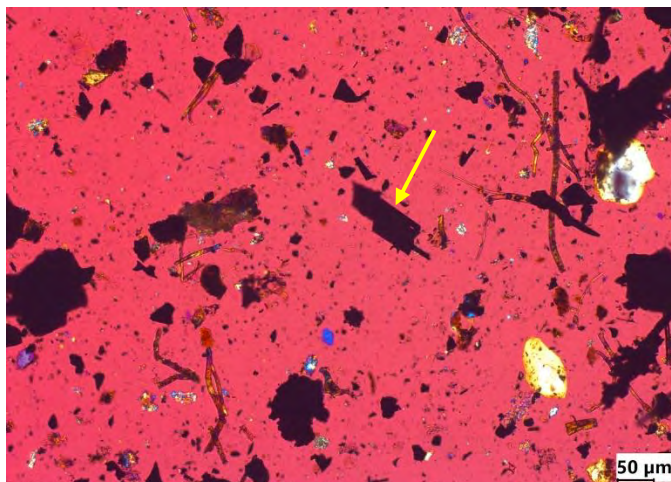


Figure 26: PLM image of char in sample "CS-11230615-072121-CT-26"

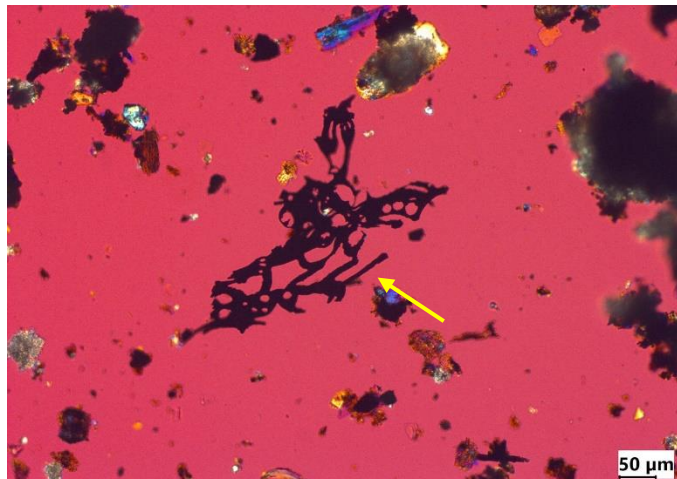


Figure 27: PLM image of char in sample "CS-11230615-072121-CT-27"

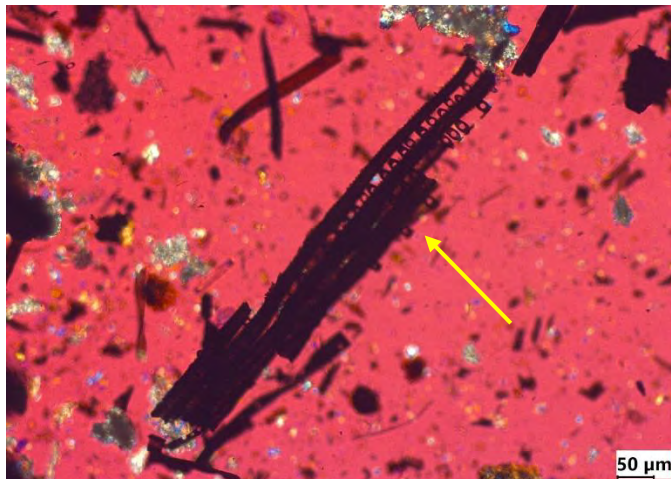


Figure 28: PLM image of char in sample "CS-11230615-072121-CT-28"



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Project: BC ENV LYTTON / 11230615

Collected: 7/21/2021-7/22/2021
Received: 7/26/2021
Analyzed: 8/3/2021
8/11/2021Rev1

- Laboratory Report - Combustion By-Products (Char, Ash, Black Carbon/Soot*)

Annex: Micrographs of the analytes of interest in samples:

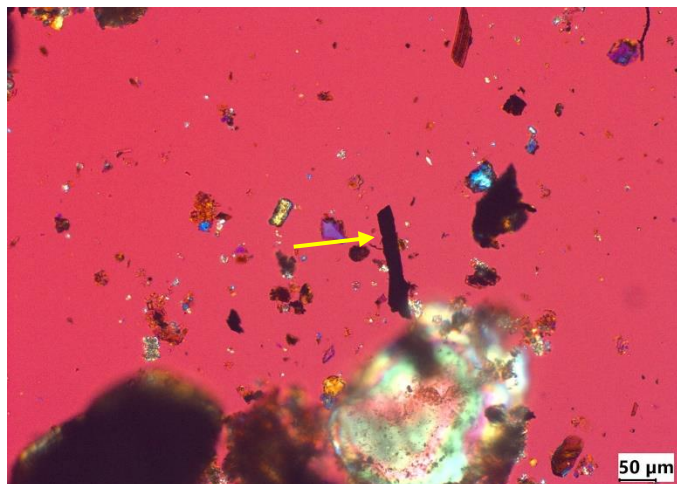


Figure 29: PLM image of char in sample "CS-11230615-072221-CT-29"

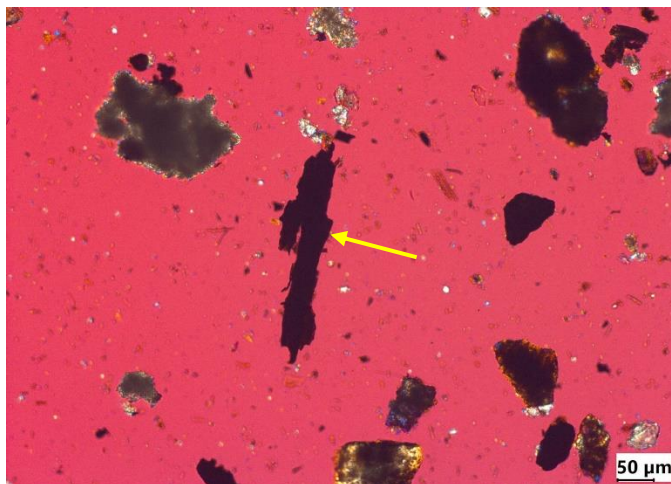


Figure 30: PLM image of char in sample "CS-11230615-072221-CT-30"

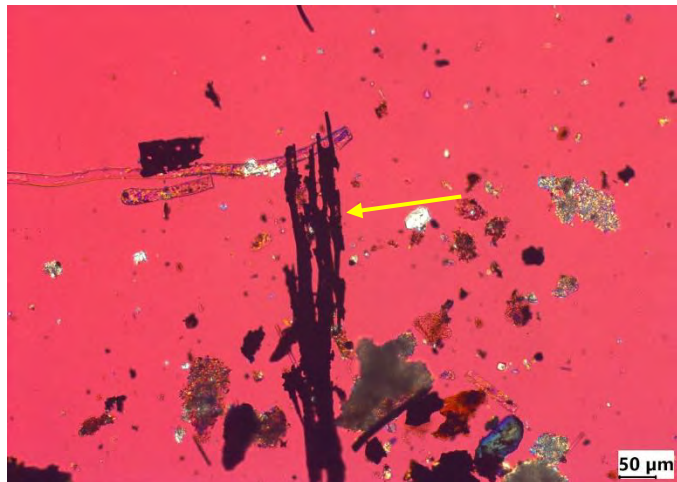


Figure 31: PLM image of char in sample "CS-11230615-072221-CT-31"

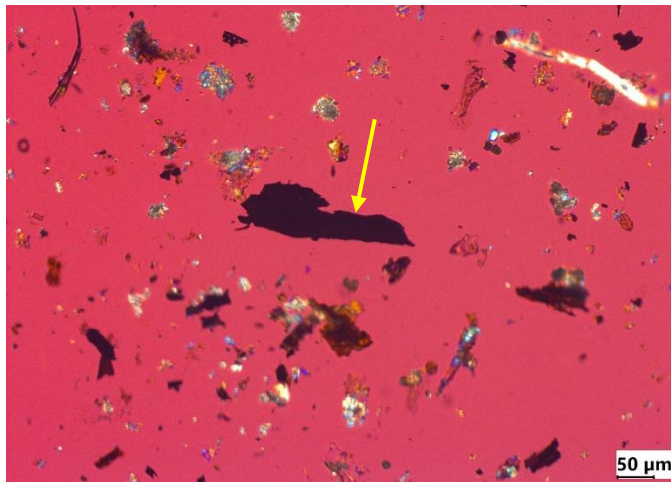


Figure 32: PLM image of char in sample "CS-11230615-072221-CT-32"



Materials Science Chain of Custody

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692101764

PHONE: (800) 220-3675

EMAIL: materialslab@emsl.com

Report-To Information	EMSL Customer ID:	55CRAC22		Bill-To Information	EMSL Customer ID:				
	Company Name:	GHD LTD.			Company Name:				
	Contact Name:	Airesse MacPhee			Contact Name:				
	Street Address:	455 Phillip Street			Street Address:				
	City, State, Zip:	Waterloo, ON, N2L 3X2	Country:		CAN	City, State, Zip:		Country:	
	Phone:	519-884-0510			Phone:				
Email(s) for Report: Airesse.MacPhee@ghd.com; trevor.ceccanese@ghd.com				Email(s) for Invoice:					
Project Information		Project Name/Number: BC ENV Lytton/11230615			Purchase Order:		73522457		
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:		State of Connecticut (CT) must select project location:					
Sampled By Name: Trevor Ceccanese		Sampled By Signature:		No. of Samples in Shipment: 16					
☐ 1 Day ☒ 2 Day ☐ 3 Day ☐ 4 Day ☐ 1 Week ☐ 2 Week		Turn-Around-Time (TAT)		Call Lab to confirm before shipping samples faster than 1 Week (EOD) TAT. All sample results issued End of Business Day (EOD). If no TAT selected, samples will be processed on a 2 Week (EOD) TAT.					

Particle Sizing

- ☐ Dynamic Light Scattering
☐ Filter Pore Size Analysis
☐ Isoelectric Point
☐ Microscopy (MS029)
☐ Mechanical Sieve / ASTM D6913 (MS028)
☐ Mechanical Sieve w/ Hydrometry / ASTM D6913
☐ Sonic Sieve (MS030)
☐ Zeta Potential

Chemical Testing:

- ☐ Anions / Ion Chromatography (MS054)
☐ Fourier Transform Infrared Spectroscopy (FTIR)
☐ GD-OES (MS043)
☐ Metals / ICP-OES (MS041)
☐ Metals / ICP-MS (MS041)
☐ Urine Stain/Urea (MS085)
☐ X-Ray Diffractometry (XRD) (MS079)
☐ X-Ray Fluorescence (XRF) (MS044)

Physical Testing

- ☐ Abrasion
☐ Coefficient of Friction / ASTM C1028
☐ Compression / ASTM D695/D395 (MS014)
☐ Flexure (MS016)
☐ Hardness / ASTM E18
☐ Oxygen Transmission Rate (OTR) (MS072)
☐ Tension/Tensile / ASTM E8/D628/D882/D412 (MS013)
☐ Torsion (MS017)
☐ Water Vapor Transmission Rate (WVTR) (MS027)

Petrographic Testing

- ☐ Full Petrographic Analysis (MS004)
☐ Soil Classification / ASTM D2487 (Mod) / OSHA ID-194 (MS061)
☐ Soil Density / ASTM D4189
☐ Soil Grain Size / ASTM D422 (Mod)
☐ Soil Grain Size w/ Hygrometry / ASTM D422
☐ Soil Liquid & Plastic Limits / ASTM D4318

Materials Identification:

- ☐ Advanced Material ID (MS003)
☐ Basic Material ID (MS024)
☐ Common Particle ID (MS022)
☐ Full Particle ID (MS023)

Combustion By-Products:

- ☒ Combustion By-Products Level 1 / ASTM D6602 (MS031)
☐ Combustion By-Products Level 2 / ASTM D6602 (MS032)
☐ Combustion By-Products Level 3 / ASTM D6602 (MS033)
☐ Combustion By-Products Level 4 / ASTM D6602 (MS034)
☐ SO₂/RIA / Standard 6001 (MS047)
☐ NIOSH 5000/Carbon Black (MS002)
☐ NIOSH 5000/Carbon Black w/ Confirmation (MS051)
☐ Screening / ASTM D6602 (MS036)
☐ Source Confirmation / Soot Source ID (MS053)

MMVF's (Fibrous Glass, Etc.):

- ☐ MMVF Total Count / NIOSH 7400 (MS025/MSM201)
☐ MMVF with Asbestos / NIOSH 7400 Modified (MS026)
☐ German VDI-3491 / VDI 3492 (MS056)
☐ German VDI-3866 Part 5 / VDI 3491 (MS057)
☐ ISO 14966 (MS058)

Combustible Dust Testing

- ☐ Class II Dust Analysis (Kst, P_{max}, (dP/dT)_{max}, MEC, MIT, MIE, IS, ES) / OSHA ID201SG (MS012)
☐ Explosion Severity (Kst, P_{max}, dP/dT_{max}) / ASTM E1226 (MS006)
☐ Go/No Go Testing / ASTM E1226 (MS005)
☐ Ignitability / EPA 1030 (MS077)
☐ Initial Analysis/Sample Characterization / ASTM E1226 (MS087)
☐ Layer Ignition Temperature (LIT) / ASTM E2021 (MS076)
☐ Minimum Explosion Concentration (MEC) / ASTM E1515 (MS010)
☐ Minimum Ignition Energy (MIE) / ASTM E2019 (MS009)
☐ Minimum Ignition Temperature (MIT) / ASTM E1419 (MS008)
☐ Resistivity (MS011)

Other Methods/Applications:

- ☐ BET Surface Area / ASTM B922 (MS083)
☐ Colorimetry (MS070)
☐ Condoms Compatibility / ASTM D-7661-18 (MS048)
☐ Explosive Residue / EPA 8330A/B
☐ Failure Analysis (MS019)
☐ Flash Point / ASTM D56 / ASTM D93 (MS020)
☐ Heat Value / ASTM E711/D240 (MS066)
☐ Gunshot Residue SEM (MS080)
☐ Gunshot Residue ICP (MS081)
☐ Magnetic Properties / B-H Hysteresis (MS049/MS050/MS042)
☐ Microplastics (MS084)
☐ Paint ID (MS068)
☐ Paint ID Multiple Layers w/ Mil Spec (MS069)
☐ Raman Microscopy
☐ RoHS
☐ SEM Imaging (MS082)
☐ Stain Identification
☐ Surface Tension / ASTM D1331
☐ Total Carbon (C) / Combustion
☐ Total Organic Carbon/Water (TOC)/SM-5301C (MS039)
☐ Total Organic Carbon/Sol (TOC)/SM-846/8060 (MS050)
☐ Total Sulfur (S) / Combustion
☐ Viscosity (Brookfield) (MS067)
☐ Zinc Whiskers

Thermal Analysis

- ☐ Thermo-Gravimetric Analysis (TGA) (MS073)
☐ Differential Scanning Calorimetry (DSC) (MS074)
☐ Dynamic Mechanical Analysis (DMA) (MS075)

Other Test/Method (Please specify below):

Enter Sample Information on Page 2
Special Instructions and/or Regulatory Requirements (Method, LOD, etc.)

Additional report copies to: Keal.macnaughton@ghd.com; Jessica.masters@ghd.com

Method of Shipment: VEHICLE/COOLER DROP-OFF		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/23/0900	Received by:	Date/Time: 7/23/09 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time:

Controlled Document - COC-30 Materials Science R6 10/19/2020

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety.
Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL Order Number / Lab Use Only

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EMAIL: materials@emsl.com

Special Instructions and/or Regulatory Requirements (Method, LOD, etc.)

Method of Shipment:

Sample Condition Upon Receipt:

Relinquished by:

Date/Time;

Received by:

Date/Time

Relinquished by:

Date/Time:

Received by:

Date/Time

Controlled Document - COC-30 Materials Science R5 10/18/2020

**EMSL Analytical, Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3
Phone: (916) 921-8251
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Email: SacramentoLab@emsl.com

EMSL Order : 552112176**Customer ID :** 55CRAC22

Attention: Aïresse Mac Phee
Ghd Limited
455 Phillip Street
Waterloo, ON N2L 3X2

Phone: (519) 884-0510
Email:

Customer PO: 73522457**Project:** Bcenv Lytton/11230615**Date Collected:** N/A**Date Received:** 07/26/21 12:21 PM**Date Analyzed:** 08/07/2021 - 08/09/2021**Date Reported:** 08/09/2021**Date Amended:** N/A

SUMMARY REPORT : ASTM D7521-16 Standard Test Method for Determination of Asbestos in Soil

Narrative

This test method is used to identify asbestos in soil, provide an estimate of the concentration of the asbestos in the sampled soil (dried), and optionally to provide a concentration of asbestos reported as the number of asbestos structures per gram or by weight percent (Visual Area Estimation) of sample. These results are produced for the evaluation of sites contaminated by construction, mine and manufacturing wastes, deposits of natural occurrences of asbestos and other sources of interest to the investigator.

The sample is dried and sieved through a sieve stack containing sieves that are: 19-mm, 2-mm, and 106-micron. Pieces of collected soil and material embedded therein that pass through a 19-mm sieve will become part of the sample that is analyzed and for which results are reported. Sample material that does not pass through the 19-mm sieve are not considered soil and are instead archived for additional (optional) testing by another method. Weights for each fraction are measured and recorded. The coarse, medium, and fine fraction are all analyzed by stereomicroscopy and PLM visual area estimate (VAE). The initial results of the PLM are expressed as calibrated visual area estimated percent and result for the fine fraction using point count values if below the detection limit. In addition, if PLM results indicate no asbestos has been detected, then the fine fraction of the sample may be analyzed for asbestos using Transmission Electron Microscopy (TEM).

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

The proceeding report contains the results of the sample testing conducted at: EMSL Analytical, Inc. 2756 Slough Street, Mississauga, ON L4T 1G3.

If necessary, any modifications and deviations from the sample testing procedure are detailed below.

No modifications were necessary.

If you have any questions, please don't hesitate to contact us.

Thank you ,

Kira Ramphal, Natalie D'Amico,
Analyst(s)

Authorized Signatory



EMSL Analytical, Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
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Customer ID: 55CRAC22

Attention: Aïresse Mac Phee
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Phone: (519) 884-0510
Email:

Customer PO: 73522457
Project: Bcenv Lytton/11230615
Date Collected: N/A
Date Received: 07/26/21 12:21 PM

Date Analyzed: 08/07/2021 - 08/09/2021
Date Reported: 08/09/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

Report version 0.3

							Final Results		
Sample ID									
Lab Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos		PLM (Analytical Sensitivity)	PLM Final Concentration	TEM Qualitative (Fine Fraction)	TEM Quantitative (Fine Fraction)
CS-11230615-072121-CT-17	Zone 5A - Residential - 11116960	Total	1128.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	155.00	None Detected	-	0.034%	< 0.03%		
		Medium	693.00	None Detected	-	0.154%	< 0.15%		
		Fine	280.00	None Detected	-	0.062%	< 0.06%		
552112176-0001									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: Vermiculite present in sample					
CS-11230615-072121-CT-18	Zone 5B - Commercial - 11626356	Total	1250.00	Detected	-	0.25%	< 0.25%	Not Analyzed	Not Analyzed
		Course	229.00	None Detected	-	0.046%	< 0.05%		
		Medium	681.00	None Detected	-	0.136%	< 0.14%		
		Fine	340.00	Detected	-	0.068%	0.07%		
552112176-0002									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: Chrysotile					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-19	Zone 5A - Residential - 12874753	Total	700.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	203.00	None Detected	-	0.073%	< 0.07%		
		Medium	418.00	None Detected	-	0.149%	< 0.15%		
		Fine	79.00	None Detected	-	0.028%	< 0.03%		
552112176-0003									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-20	Zone 5B - Residential- 25645099	Total	1036.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	453.00	None Detected	-	0.109%	< 0.11%		
		Medium	578.00	None Detected	-	0.139%	< 0.14%		
		Fine	5.00	None Detected	-	0.001%	< 0.001%		
552112176-0004									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-21	Zone 6A - Residential - 19052375	Total	669.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	271.00	None Detected	-	0.101%	< 0.1%		
		Medium	309.00	None Detected	-	0.115%	< 0.12%		
		Fine	89.00	None Detected	-	0.033%	< 0.03%		
552112176-0005									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: Fibers were found with refractive indices outside of the acceptable range for regulated asbestos. These fibers are possible altered asbestos fibers and were not included in the final asbestos concentration.					



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EMSL Order: 552112176
Customer ID: 55CRAC22

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 455 Phillip Street
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Phone: (519) 884-0510
Email:

Customer PO: 73522457
Project: Bcenv Lytton/11230615
Date Collected: N/A
Date Received: 07/26/21 12:21 PM

Date Analyzed: 08/07/2021 - 08/09/2021
Date Reported: 08/09/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

Report Version 0.3

							Final Results		
Sample ID						PLM	PLM Final	TEM Qualitative	TEM Quantitative
Lab Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos		(Analytical Sensitivity)	Concentration	(Fine Fraction)	(Fine Fraction)
CS-11230615-072121-CT-22	Zone 6B – Residential – 9790187	Total	1404.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	506.00	None Detected	-	0.090%	< 0.09%		
		Medium	737.00	None Detected	-	0.131%	< 0.13%		
		Fine	161.00	None Detected	-	0.029%	< 0.03%		
552112176-0006									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-23	Zone 6A - Residential - 112871761	Total	1521.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	347.00	None Detected	-	0.057%	< 0.06%		
		Medium	998.00	None Detected	-	0.164%	< 0.16%		
		Fine	176.00	None Detected	-	0.029%	< 0.03%		
552112176-0007									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-24	Zone 6A - Residential - 12871796	Total	1254.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	255.00	None Detected	-	0.051%	< 0.05%		
		Medium	755.00	None Detected	-	0.151%	< 0.15%		
		Fine	244.00	None Detected	-	0.049%	< 0.05%		
552112176-0008									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-25	Zone 7 - Residential - 1513486	Total	1567.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	269.00	None Detected	-	0.043%	< 0.04%		
		Medium	925.00	None Detected	-	0.148%	< 0.15%		
		Fine	373.00	None Detected	-	0.060%	< 0.06%		
552112176-0009									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					
CS-11230615-072121-CT-26	Zone 7 - Residential - 23291231	Total	571.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	140.00	None Detected	-	0.061%	< 0.06%		
		Medium	347.00	None Detected	-	0.152%	< 0.15%		
		Fine	84.00	None Detected	-	0.037%	< 0.04%		
552112176-0010									
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					



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Date Analyzed: 08/07/2021 - 08/09/2021
Date Reported: 08/09/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

Report version 0.3

Final Results									
Sample ID						PLM	PLM Final	TEM Qualitative	TEM Quantitative
Lab Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos		(Analytical Sensitivity)	Concentration	(Fine Fraction)	(Fine Fraction)
CS-11230615-072121-CT-27	Zone 7 - Residential - 23291222	Total	1312.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	306.00	None Detected	-	0.058%	< 0.06%		
		Medium	947.00	None Detected	-	0.180%	< 0.18%		
		Fine	59.00	None Detected	-	0.011%	< 0.01%		
552112176-0011									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: N/A					Building Material Identified: None Detected				
					Laboratory Notes: None				
CS-11230615-072121-CT-28	Zone 7 - Residential - 23291222	Total	1394.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	453.00	None Detected	-	0.081%	< 0.08%		
		Medium	846.00	None Detected	-	0.152%	< 0.15%		
		Fine	95.00	None Detected	-	0.017%	< 0.02%		
552112176-0012									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: N/A					Building Material Identified: None Detected				
					Laboratory Notes: None				
CS-11230615-072121-CT-29	Zone 8 - Residential - P07	Total	1806.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	631.00	None Detected	-	0.087%	< 0.09%		
		Medium	1086.00	None Detected	-	0.150%	< 0.15%		
		Fine	89.00	None Detected	-	0.012%	< 0.01%		
552112176-0013									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: N/A					Building Material Identified: None Detected				
					Laboratory Notes: None				
CS-11230615-072121-CT-30	Zone 8 – Residential – P07 / 357	Total	#N/A	#N/A	#N/A	#N/A	#N/A	None Detected	Not Analyzed
		Course	272.00	Detected	-	0.048%	0.19%		
		Medium	1142.00	None Detected	-	0.202%	< 0.2%		
		Fine	#N/A	#N/A	#N/A	#N/A	#N/A		
552112176-0014									
Sample Observations:									
#N/A					#N/A				
Sieve Conditions: N/A					#N/A				
					Laboratory Notes: None				
CS-11230615-072121-CT-31	Zone 8 - Residential - P07	Total	1080.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	259.00	None Detected	-	0.060%	< 0.06%		
		Medium	755.00	None Detected	-	0.175%	< 0.17%		
		Fine	66.00	None Detected	-	0.015%	< 0.02%		
552112176-0015									
Sample Observations:									
Sample Excluded (>19mm): None					Asbestos Types Present: None Detected				
Sieve Conditions: N/A					Building Material Identified: None Detected				
					Laboratory Notes: None				



EMSL Analytical, Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone: (916) 921-8251
Fax: (916) 921-8253
Email: SacramentoLab@emsl.com

EMSL Order: 552112176
Customer ID: 55CRAC22

Attention: Aïresse Mac Phee
Ghd Limited
455 Phillip Street
Waterloo, ON N2L 3X2

Phone: (519) 884-0510
Email:

Customer PO: 73522457
Project: Bcenv Lytton/11230615
Date Collected: N/A
Date Received: 07/26/21 12:21 PM

Date Analyzed: 08/07/2021 - 08/09/2021
Date Reported: 08/09/2021
Date Amended: N/A

SUMMARY REPORT : ASTM D7521-16

Standard Test Method for Determination of Asbestos in Soil

Report Version 0.3

						Final Results			
Sample ID									
Lab Sample ID	Sample Description	Fraction	Sieved Wt (g)	Asbestos	PLM (Analytical Sensitivity)	PLM Final Concentration	TEM Qualitative (Fine Fraction)	TEM Quantitative (Fine Fraction)	
CS-11230615-072121-CT-32	Zone 8 - Residential - P07	Total	1100.00	None Detected	-	0.25%	< 0.25%	None Detected	Not Analyzed
		Course	302.00	None Detected	-	0.069%	< 0.07%		
		Medium	558.00	None Detected	-	0.127%	< 0.13%		
552112176-0016		Fine	240.00	None Detected	-	0.055%	< 0.05%		
Sample Observations:									
Sample Excluded (>19mm): None				Asbestos Types Present: None Detected					
Sieve Conditions: N/A				Building Material Identified: None Detected					
				Laboratory Notes: None					



EMSL CANADA, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil, Water)

EMSL Order Number / Lab Use Only

552112176

EMSL Canada, Inc.

2756 Slough Street

Mississauga, ON L4T 1G3

PHONE: (289) 997-4602

EMAIL: TorontoLab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	55 GRAC22	Billing Information	Billing ID:	
	Company Name:	GHD LTD		Company Name:	
	Contact Name:	AIRESS MACPHEE		Billing Contact:	
	Street Address:	455 PHILLIP ST		Street Address:	
	City, Province, Postal Code:	WATERLOO, ON, N2L3X2		City, Province, Postal Code:	
	Country:	CAN		Country:	
Phone:	519-884-0510	Phone:			
Email(s) for Report:	AIRESS.MACPHEE@GHD.COM	Email(s) for Invoice:			
TREVOR.CECANESE@GHD.COM			Project Information		

Project Name/No:	BC ENV LYTON / 11230615	Purchase Order:	73522457
EMSL LIMS Project ID:	(If applicable, EMSL will provide)	US State where samples collected:	
Sampled By Name:	EMILY MILLER	Sampled By Signature:	<i>[Signature]</i>
No. of Samples in Shipment:	16		

Turn-Around-Time (TAT)

☐ 3 Hour¹ ☐ 4-4.5 Hour¹ AHERA Only ☐ 6 Hour¹ ☐ 24 Hour ☐ 32 Hour² ☒ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

¹Premium Service Charge applies for 3 Hour TEM AHERA or EPA Level II TAT. TEM Air 3-6 Hour please call ahead to schedule. ²32 Hour TAT available for select tests only; samples must be submitted by 11:30am

PCM Air ☐ NIOSH 7400 ☐ IRSST PCM PLM - Bulk (reporting limit) ☐ PLM EPA 600/R-93/116 (<1%) ☐ 400 PTCT (<0.25%) ☐ Conditional 400 PTCT (<0.25%) ☐ 1000 PTCT (<0.1%) ☐ PLM EPA NOB (<1%) ☐ 400 PTCT (<0.25%) ☐ 1000 PTCT (<0.1%) ☐ IRSST PLM ☐ NIOSH 9002 (<1%) ☐ Other	Test Selection TEM - Air ☐ AHERA 40 CFR, Part 763 ☐ NIOSH 7402 ☐ EPA Level II TEM - Bulk ☐ TEM EPA NOB ☐ IRSST TEM (NYS 198.4) TEM - Settled Dust ☐ Microvac - ASTM D 5755 ☐ Wipe - ASTM D6480 TEM - Water ☐ EPA 100.2 (All fibre sizes) ☐ EPA 100.2 (Fibres >10µm)	Soil - Rock - Vermiculite (reporting limit)* ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%) ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%) ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%) ☐ TEM EPA 600/R-93/116 with milling prep (<0.01%) ☐ ASTM D7521 Sieve Method ☐ TEM Qualitative via Filtration Prep ☐ TEM Qualitative via Drop Mount Prep ☐ Cincinnati Method EPA 600/R-04/004 - PLM/TEM* (required for vermiculite in BC and NS) Asphalt ☐ PLM EPA Gravimetric with milling prep (<0.25%)

SEE SPECIAL INSTRUCTIONS →

Stop At First Positive (clearly identify homogenous areas below)

*Please call with your project-specific requirements

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8µm ☐ 0.45µm

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
CS-11230615-072121-CT-17	ZONE 5A - RESIDENTIAL - 11169160	2 cups (500mL)	21-07-21 / 10:20
CS-11230615-072121-CT-18	ZONE 5B - COMMERCIAL - 11626356	2 cups (500mL)	21-07-21 / 10:35
CS-11230615-072121-CT-19	ZONE 5A - RESIDENTIAL - 12874753	2 cups (500mL)	21-07-21 / 11:00
CS-11230615-072121-CT-20	ZONE 5B - RESIDENTIAL - 25645099	2 cups (500mL)	21-07-21 / 11:30
CS-11230615-072121-CT-21	ZONE 6A - RESIDENTIAL - 19652375	2 cups (500mL)	21-07-21 / 11:45
CS-11230615-072121-CT-22	ZONE 6B - RESIDENTIAL - 9790157	2 cups (500mL)	21-07-21 / 12:45
CS-11230615-072121-CT-23	ZONE 6A - RESIDENTIAL - 112571761	2 cups (500mL)	21-07-21 / 13:10
CS-11230615-072121-CT-24	ZONE 6A - RESIDENTIAL - 12871796	2 cups (500mL)	21-07-21 / 13:40

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

- DEFER TO LABORATORY TO DETERMINE IF SAMPLES ARE TREATED AS EITHER BULK OR SOIL-ROCK-VERMICULITE TEM METHODS
- ADDITIONAL REPORTS TO: KEAL.MACNAUGHTON@GHD.COM, JESSICA.MASTERS@GHD.COM

Method of Shipment:	VEHICLE / COVER DROP OFF	Sample Condition Upon Receipt:	
Relinquished by:	Anny O'Brien / AOB	Received by:	
Relinquished by:		Received by:	
Date/Time:	07/28/0980	Date/Time:	
Date/Time:		Date/Time:	

Controlled Document - COC-05-CAN Asbestos R11 04/15/21 ☒ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature)

EMSL Canada, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL Order Number / Lab Use Only

EMAIL: TorontoLab@EMSL.com

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

RECEIVED
EMSL CANADA, INC.
TORONTO
2021 JUL 26 P 12:21

☒

Page 7 of 2



Your P.O. #: 735-000118
 Your Project #: 11230615
 Site Location: LYTTON, BC
 Your C.O.C. #: M099339, M099360

Attention: 11230615 Distribution

GHD Limited
 455 PHILLIP STREET
 WATERLOO, ON
 CANADA N2L 3X2

Report Date: 2021/09/01
 Report #: R3066088
 Version: 9 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C151797

Received: 2021/07/21, 07:30

Sample Matrix: Soil
 # Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Phenols in Soil by GCMS	7	2021/08/03	2021/08/08	BBY8SOP-00054	BCMOE BCLM Sep2017 m
Phenols in Soil by GCMS	6	2021/08/03	2021/08/09	BBY8SOP-00054	BCMOE BCLM Sep2017 m
Elements by ICPMS (total)	13	2021/08/05	2021/08/05	BBY7SOP-00004 / BBY7SOP-00001	EPA 6020b R2 m
Metals - TCLP	13	2021/08/09	2021/08/10	BBY7SOP-00001	EPA 1311, 6020bR2 m
ICPMS Metals on SPLP Leachate	1	2021/08/06	2021/08/07	BBY7SOP-00010 / BBY7SOP-00002	EPA 1312, 6020bR2 m
ICPMS Metals on SPLP Leachate	10	2021/08/07	2021/08/07	BBY7SOP-00010 / BBY7SOP-00002	EPA 1312, 6020bR2 m
ICPMS Metals on SPLP Leachate	2	2021/08/07	2021/08/09	BBY7SOP-00010 / BBY7SOP-00002	EPA 1312, 6020bR2 m
Moisture	11	2021/08/03	2021/08/04	BBY8SOP-00017	BCMOE BCLM Dec2000 m
Moisture	1	2021/08/03	2021/08/05	BBY8SOP-00017	BCMOE BCLM Dec2000 m
Moisture	1	2021/08/05	2021/08/06	BBY8SOP-00017	BCMOE BCLM Dec2000 m
Non Routine/Non Validated Matrix Tested (4)	13	N/A	2021/08/03		
PAH in Soil by GC/MS (SIM)	13	2021/08/03	2021/08/05	BBY8SOP-00022	BCMOE BCLM Jul2017m
Total PAH and B(a)P Calculation (5)	11	N/A	2021/08/05	BBY WI-00033	Auto Calc
Total PAH and B(a)P Calculation (5)	2	N/A	2021/08/06	BBY WI-00033	Auto Calc
Polychlorinated Biphenyls in Soil (1)	13	2021/08/06	2021/08/06	CAL SOP-00149	EPA 8082A R1 m
Total PCBs in Soil (1)	13	N/A	2021/08/06		Auto Calc
Phenols (Totals) in Soil - Calc. (6)	13	N/A	2021/08/09	BBY WI-00033	Auto Calc
pH (2:1 DI Water Extract)	13	2021/08/05	2021/08/05	BBY6SOP-00028	BCMOE BCLM Mar2005 m
pH on SPLP Leachate 2	13	N/A	2021/08/07	BBY7SOP-00010	EPA 1312 R0 m
TCLP pH Measurements	13	N/A	2021/08/07	BBY7SOP-00005	EPA 1311
EPH less PAH in Soil By GC/FID (7)	11	N/A	2021/08/05	BBY WI-00033	Auto Calc
EPH less PAH in Soil By GC/FID (7)	2	N/A	2021/08/06	BBY WI-00033	Auto Calc
EPH in Soil by GC/FID	13	2021/08/03	2021/08/04	BBY8SOP-00029	BCMOE BCLM Dec2016 m
VOCs, VH, F1, LH in Soil - Field Pres. (8)	1	N/A	2021/08/04	BBY8SOP-00009 / BBY8SOP-00011 / BBY8SOP-00012	BCMOE BCLM Sep 2017m
VOCs, VH, F1, LH in Soil - Field Pres. (8)	1	N/A	2021/08/05	BBY8SOP-00009 / BBY8SOP-00011 / BBY8SOP-00012	BCMOE BCLM Sep 2017m



Your P.O. #: 735-000118
 Your Project #: 11230615
 Site Location: LYTTON, BC
 Your C.O.C. #: M099339, M099360

Attention: 11230615 Distribution

GHD Limited
 455 PHILLIP STREET
 WATERLOO, ON
 CANADA N2L 3X2

Report Date: 2021/09/01
 Report #: R3066088
 Version: 9 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C151797

Received: 2021/07/21, 07:30

Sample Matrix: Soil
 # Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
VOCs in Leachate by HS GC/MS (Std List) (1, 9)	13	N/A	2021/08/08	AB SOP-00056	EPA 5021a/8260d m
VOCs, VH, F1, LH in Soil by HS GC/MS	2	2021/08/04	2021/08/05	BBY8SOP-00009 / BBY8SOP-00011 / BBY8SOP-00012	BCMOE BCLM Sep2017 m
VOCs, VH, F1, LH in Soil by HS GC/MS	9	2021/08/04	2021/08/06	BBY8SOP-00009 / BBY8SOP-00011 / BBY8SOP-00012	BCMOE BCLM Sep2017 m
Volatile HC-BTEX for Soil (10)	1	N/A	2021/08/05	BBY WI-00033	Auto Calc
Volatile HC-BTEX for Soil (10)	12	N/A	2021/08/06	BBY WI-00033	Auto Calc
Silica Dust in Solid by XRD Subcontract (2)	13	N/A	2021/08/10		NIOSH 7903
ABN Compounds in Soi by GC/MS (3)	5	2021/08/06	2021/08/07	CAM SOP-00301	EPA 8270 m
ABN Compounds in Soi by GC/MS (3)	8	2021/08/06	2021/08/08	CAM SOP-00301	EPA 8270 m
Dioxins/Furans in Soil (1613B) (3, 11)	7	2021/08/06	2021/08/12	BRL SOP-00406 (mod)	EPS 1/RM/23 m
Dioxins/Furans in Soil (1613B) (3, 11)	5	2021/08/06	2021/08/13	BRL SOP-00406 (mod)	EPS 1/RM/23 m
Dioxins/Furans in Soil (1613B) (3, 11)	1	2021/08/06	2021/08/19	BRL SOP-00406 (mod)	EPS 1/RM/23 m
2378TCDF Confirmation (M8290A/M1613) (3)	5	2021/08/06	2021/08/18	BRL SOP-00406	EPA M8290A / M1613
2378TCDF Confirmation (M8290A/M1613) (3)	1	2021/08/06	2021/08/19	BRL SOP-00406	EPA M8290A / M1613
2378TCDF Confirmation (M8290A/M1613) (3)	6	2021/08/06	2021/08/20	BRL SOP-00406	EPA M8290A / M1613
SPLP Zero Headspace Extraction (3)	13	2021/08/06	2021/08/07	CAM SOP-00430	EPA 1312 m
Volatile organics in SPLP leachates (3)	13	N/A	2021/08/08	CAM SOP-00228	EPA 8260D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless



Your P.O. #: 735-000118
Your Project #: 11230615
Site Location: LYTTON, BC
Your C.O.C. #: M099339, M099360

Attention: 11230615 Distribution

GHD Limited
455 PHILLIP STREET
WATERLOO, ON
CANADA N2L 3X2

Report Date: 2021/09/01
Report #: R3066088
Version: 9 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C151797

Received: 2021/07/21, 07:30

otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Calgary Environmental
- (2) This test was performed by Sub Vancouver to Bureau Veritas Novi
- (3) This test was performed by Bureau Veritas Ontario (From Burnaby)
- (4) Sample(s) analyzed using methodologies that have not been subjected to Bureau Veritas Laboratories' standard validation process for the submitted matrix and is not an accredited method. Analysis performed with client consent, however results should be viewed with discretion.
- (5) Total PAHs in Soil include: Quinoline, Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Acridine, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b&j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene.

Total PAHs in Sediment include (B.C. Reg. 116/2018, Schedule 3.4): Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(a)pyrene, and Dibenz(a,h)anthracene.

- (6) Total Phenols include (from BC Lab Manual): Nonchlorinated Phenols [Phenol, 2,4-Dimethylphenol, 2,6-Dimethylphenol, 3,4-Dimethylphenol, 4-Methylphenol (para-Cresol), 4-Hydroxyphenol(Hydroquinone); Nitrophenols 2,4-Dinitrophenol, 2-Methyl-4,6-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol]; Chlorophenols [2-Chlorophenol, 3-Chlorophenol, 4-Chlorophenol, 4-Chloro-3-Methylphenol, 2,3-Dichlorophenol, 2,4-Dichlorophenol, 2,5-Dichlorophenol, 2,6-Dichlorophenol, 3,4-Dichlorophenol, 3,5-Dichlorophenol, 2,3,4-Trichlorophenol, 2,3,5-Trichlorophenol, 2,3,6-Trichlorophenol, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 3,4,5-Trichlorophenol, 2,3,4,5-Tetrachlorophenol, 2,3,4,6-Tetrachlorophenol, 2,3,5,6-Tetrachlorophenol, Pentachlorophenol].

- (7) LEPH = EPH (C10 to C19) - (Naphthalene + Phenanthrene)

HEPH = EPH (C19 to C32) - (Benzo(a)anthracene + Benzo(a)pyrene + Benzo(b)fluoranthene + Benzo(k)fluoranthene + Dibenz(a,h)anthracene + Indeno(1,2,3-cd)pyrene + Pyrene)

- (8) The extraction date for VOC, BTEX, VH, or F1 samples that are field preserved with methanol equals the date sampled, unless otherwise stated.

- (9) Samples were extracted as per EPA 1311 unless otherwise noted in the report.

- (10) VPH = VH - (Benzene + Toluene + Ethylbenzene + m & p-Xylene + o-Xylene + Styrene)

- (11) Soils are reported on a dry weight basis unless otherwise specified.

Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.



Your P.O. #: 735-000118
Your Project #: 11230615
Site Location: LYTTON, BC
Your C.O.C. #: M099339, M099360

Attention: 11230615 Distribution

GHD Limited
455 PHILLIP STREET
WATERLOO, ON
CANADA N2L 3X2

Report Date: 2021/09/01
Report #: R3066088
Version: 9 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C151797
Received: 2021/07/21, 07:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Nahed Amer, Customer Solutions Representative

Email: Nahed.AMER@bureauveritas.com

Phone# (604) 734 7276

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE099			ACE100			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921-CT-01	RDL	MDL	CS-11230615-071921-CT-02	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A315467
Base Neutrals								
Acenaphthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Acenaphthylene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(a)anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(a)pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(b&j)fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(g,h,i)perylene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(k)fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
1-chloronaphthalene	ug/g	<1.0	1.0	0.10	<2.0	2.0	0.20	A323171
2-chloronaphthalene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Chrysene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Dibenz(a,h)anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Fluorene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
1-Methylnaphthalene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2-Methylnaphthalene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Naphthalene	ug/g	<0.10	0.10	0.020	0.24	0.20	0.040	A323171
Perylene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Phenanthrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Quinoline	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
1,2-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
1,3-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
1,4-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Hexachlorobenzene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Pentachlorobenzene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE099			ACE100			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-01	RDL	MDL	CS-11230615-071921- CT-02	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,2,3-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,2,4-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,3,5-trichlorobenzene	ug/g	<0.20	0.20	0.050	<0.40	0.40	0.10	A323171
2-chlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
4-chloro-3-methylphenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
m,p-Cresol	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
o-Cresol	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
2,3-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,4-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,6-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
3,4-Dichlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
3,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,4-dimethylphenol	ug/g	<0.10	0.10	0.10	<0.20	0.20	0.20	A323171
2,4-dinitrophenol	ug/g	<1.0	1.0	0.020	<2.0	2.0	0.040	A323171
4,6-dinitro-2-methylphenol	ug/g	<0.50	0.50	0.040	<1.0	1.0	0.080	A323171
2-nitrophenol	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323171
4-nitrophenol	ug/g	<0.50	0.50	0.030	<1.0	1.0	0.060	A323171
Pentachlorophenol	ug/g	<0.20	0.20	0.070	<0.40	0.40	0.14	A323171
Phenol	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,3,4-trichlorophenol	ug/g	<0.10	0.10	0.040	<0.20	0.20	0.080	A323171
2,3,5-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
2,3,6-Trichlorophenol	ug/g	<0.10	0.10	0.040	<0.20	0.20	0.080	A323171
2,4,5-trichlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,4,6-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
3,4,5-Trichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Butyl benzyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
RDL = Reportable Detection Limit								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE099			ACE100			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-01	RDL	MDL	CS-11230615-071921- CT-02	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	0.50	0.010	<1.0	1.0	0.020	A323171
4-bromophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
p-Chloroaniline	ug/g	<0.20	0.20	0.060	<0.40	0.40	0.12	A323171
4-chlorophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
3,3'-Dichlorobenzidine	ug/g	<0.50	0.50	0.20	<1.0	1.0	0.40	A323171
Diethyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Di-n-butyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Di-n-octyl phthalate	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323171
2,4-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,6-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Dimethyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Biphenyl	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Bis(2-chloroethyl)ether	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Hexachlorobutadiene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Hexachlorocyclopentadiene	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323171
Hexachloroethane	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Isophorone	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Nitrobenzene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
N-nitroso-di-n-propylamine	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323173
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	0.779	0.020	0.020	0.310	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	0.0085	0.0010	0.020	0.0119	0.0010	0.020	A313162
SPLP Arsenic (As)	mg/L	0.136	0.0010	0.0020	0.0195	0.0010	0.0020	A313162
SPLP Barium (Ba)	mg/L	<0.10	0.10	0.020	0.17	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	<0.50	0.50	0.10	<0.50	0.50	0.10	A313162
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE099			ACE100			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921-CT-01	RDL	MDL	CS-11230615-071921-CT-02	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	0.000029	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	76.4	1.0	0.20	50.8	1.0	0.20	A313162
SPLP Chromium (Cr)	mg/L	0.949	0.0010	0.0010	0.0045	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	0.0476	0.0020	0.0020	0.0514	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	0.086	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	<0.0010	0.0010	0.00040	0.150	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	<1.0	1.0	0.20	4.1	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	0.0072	0.0050	0.020	0.0144	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	0.0209	0.0050	0.0050	0.0154	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	<0.0010	0.0010	0.0020	<0.0010	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	51.4	1.0	1.0	13.8	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	0.13	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	0.107	0.010	0.010	0.010	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	<0.010	0.010	0.010	0.074	0.010	0.010	A313162
MISCELLANEOUS								
Sample Matrix	N/A	BULK SOOT	N/A	N/A	BULK SOOT	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	54	N/A	N/A	21	N/A	N/A	A323171
2-Fluorobiphenyl	%	71	N/A	N/A	33	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	70	N/A	N/A	38	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	69	N/A	N/A	33	N/A	N/A	A323171
D5-PHENOL (sur.)	%	77	N/A	N/A	45	N/A	N/A	A323171
TERPHENYL-D14 (sur.)	%	75	N/A	N/A	17 (1)	N/A	N/A	A323171
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE102			ACE103			
Sampling Date		2021/07/19 13:10			2021/07/19 13:50			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921-CT-04	RDL	MDL	CS-11230615-071921-CT-05	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A315467
Base Neutrals								
Acenaphthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Acenaphthylene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Anthracene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(a)anthracene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(a)pyrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(b&j)fluoranthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(g,h,i)perylene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(k)fluoranthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
1-chloronaphthalene	ug/g	<2.0	2.0	0.20	<1.0	1.0	0.10	A323171
2-chloronaphthalene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Chrysene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Dibenz(a,h)anthracene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Fluoranthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Fluorene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
1-Methylnaphthalene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2-Methylnaphthalene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Naphthalene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Perylene	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Phenanthrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Pyrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Quinoline	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
1,2-dichlorobenzene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
1,3-dichlorobenzene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
1,4-dichlorobenzene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Hexachlorobenzene	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Pentachlorobenzene	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
1,2,3,4-tetrachlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE102			ACE103			
Sampling Date		2021/07/19 13:10			2021/07/19 13:50			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-04	RDL	MDL	CS-11230615-071921- CT-05	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,2,3-trichlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,2,4-trichlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,3,5-trichlorobenzene	ug/g	<0.40	0.40	0.10	<0.20	0.20	0.050	A323171
2-chlorophenol	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
4-chloro-3-methylphenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
m,p-Cresol	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
o-Cresol	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
2,3-Dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,4-dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,5-Dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,6-dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
3,4-Dichlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
3,5-Dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,4-dimethylphenol	ug/g	<0.20	0.20	0.20	<0.10	0.10	0.10	A323171
2,4-dinitrophenol	ug/g	<2.0	2.0	0.040	<1.0	1.0	0.020	A323171
4,6-dinitro-2-methylphenol	ug/g	<1.0	1.0	0.080	<0.50	0.50	0.040	A323171
2-nitrophenol	ug/g	<1.0	1.0	0.040	<0.50	0.50	0.020	A323171
4-nitrophenol	ug/g	<1.0	1.0	0.060	<0.50	0.50	0.030	A323171
Pentachlorophenol	ug/g	<0.40	0.40	0.14	<0.20	0.20	0.070	A323171
Phenol	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,3,4-trichlorophenol	ug/g	<0.20	0.20	0.080	<0.10	0.10	0.040	A323171
2,3,5-trichlorophenol	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
2,3,6-Trichlorophenol	ug/g	<0.20	0.20	0.080	<0.10	0.10	0.040	A323171
2,4,5-trichlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,4,6-trichlorophenol	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
3,4,5-Trichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Butyl benzyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
RDL = Reportable Detection Limit								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE102			ACE103			
Sampling Date		2021/07/19 13:10			2021/07/19 13:50			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921-CT-04	RDL	MDL	CS-11230615-071921-CT-05	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<1.0	1.0	0.020	<0.50	0.50	0.010	A323171
4-bromophenyl phenyl ether	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
p-Chloroaniline	ug/g	<0.40	0.40	0.12	<0.20	0.20	0.060	A323171
4-chlorophenyl phenyl ether	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
3,3'-Dichlorobenzidine	ug/g	<1.0	1.0	0.40	<0.50	0.50	0.20	A323171
Diethyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Di-n-butyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Di-n-octyl phthalate	ug/g	<1.0	1.0	0.040	<0.50	0.50	0.020	A323171
2,4-Dinitrotoluene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,6-Dinitrotoluene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Dimethyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Biphenyl	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Bis(2-chloroethyl)ether	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Hexachlorobutadiene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Hexachlorocyclopentadiene	ug/g	<1.0	1.0	0.040	<0.50	0.50	0.020	A323171
Hexachloroethane	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Isophorone	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Nitrobenzene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
N-nitroso-di-n-propylamine	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323173
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	2.20	0.020	0.020	1.71	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	0.0117	0.0010	0.020	0.110	0.0010	0.020	A313162
SPLP Arsenic (As)	mg/L	0.0051	0.0010	0.0020	0.0139	0.0010	0.0020	A313162
SPLP Barium (Ba)	mg/L	<0.10	0.10	0.020	0.17	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	<0.50	0.50	0.10	0.95	0.50	0.10	A313162
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE102			ACE103			
Sampling Date		2021/07/19 13:10			2021/07/19 13:50			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-04	RDL	MDL	CS-11230615-071921- CT-05	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	<0.000020	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	83.0	1.0	0.20	274	1.0	0.20	A313162
SPLP Chromium (Cr)	mg/L	0.0014	0.0010	0.0010	0.998	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	0.0019	0.0010	0.0010	0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	0.0177	0.0020	0.0020	0.110	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	<0.050	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	<0.0010	0.0010	0.00040	0.0034	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	2.7	1.0	0.20	<1.0	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	0.0077	0.0050	0.020	0.0075	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	0.0272	0.0050	0.0050	0.0242	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	<0.0010	0.0010	0.0020	<0.0010	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	31.4	1.0	1.0	42.6	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	<0.10	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	0.039	0.010	0.010	0.033	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	<0.010	0.010	0.010	0.011	0.010	0.010	A313162
MISCELLANEOUS								
Sample Matrix	N/A	BULK SOOT	N/A	N/A	BULK SOOT	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	22	N/A	N/A	39	N/A	N/A	A323171
2-Fluorobiphenyl	%	32	N/A	N/A	68	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	40	N/A	N/A	80	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	37	N/A	N/A	72	N/A	N/A	A323171
D5-PHENOL (sur.)	%	44	N/A	N/A	90	N/A	N/A	A323171
TERPHENYL-D14 (sur.)	%	16 (1)	N/A	N/A	18 (1)	N/A	N/A	A323171
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch

Parameter							
Subcontract Parameter	N/A	N/A	ATTACHED	ATTACHED	N/A	N/A	A315467
Base Neutrals							
Acenaphthene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Acenaphthylene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Anthracene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Benzo(a)anthracene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Benzo(a)pyrene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Benzo(b&j)fluoranthene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Benzo(g,h,i)perylene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Benzo(k)fluoranthene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
1-chloronaphthalene	ug/g	<1.0	<1.0	<1.0	1.0	0.10	A323171
2-chloronaphthalene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Chrysene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Dibenz(a,h)anthracene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Fluoranthene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Fluorene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
1-Methylnaphthalene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
2-Methylnaphthalene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Naphthalene	ug/g	<0.10	0.30	0.26	0.10	0.020	A323171
Perylene	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Phenanthrene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Pyrene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Quinoline	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
1,2-dichlorobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
1,3-dichlorobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
1,4-dichlorobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Hexachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Pentachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323171
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323171
1,2,3-trichlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323171
1,2,4-trichlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323171
1,3,5-trichlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.050	A323171
2-chlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
4-chloro-3-methylphenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
m,p-Cresol	ug/g	<0.20	0.28	<0.20	0.20	0.020	A323171
o-Cresol	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
2,3-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
2,4-dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
2,5-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
2,6-dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
3,4-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323171
3,5-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
2,4-dimethylphenol	ug/g	<0.10	<0.10	<0.10	0.10	0.10	A323171
2,4-dinitrophenol	ug/g	<1.0	<1.0	<1.0	1.0	0.020	A323171
4,6-dinitro-2-methylphenol	ug/g	<0.50	<0.50	<0.50	0.50	0.040	A323171
2-nitrophenol	ug/g	<0.50	<0.50	<0.50	0.50	0.020	A323171
4-nitrophenol	ug/g	<0.50	<0.50	<0.50	0.50	0.030	A323171
Pentachlorophenol	ug/g	<0.20	<0.20	<0.20	0.20	0.070	A323171
Phenol	ug/g	<0.20	2.0	0.60	0.20	0.010	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323171
2,3,4-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.040	A323171
2,3,5-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
2,3,6-Trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.040	A323171
2,4,5-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323171
2,4,6-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
RDL = Reportable Detection Limit							
Lab-Dup = Laboratory Initiated Duplicate							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
3,4,5-Trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Butyl benzyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Bis(2-chloroethoxy)methane	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	<0.50	<0.50	0.50	0.010	A323171
4-bromophenyl phenyl ether	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
p-Chloroaniline	ug/g	<0.20	<0.20	<0.20	0.20	0.060	A323171
4-chlorophenyl phenyl ether	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
3,3'-Dichlorobenzidine	ug/g	<0.50	<0.50	<0.50	0.50	0.20	A323171
Diethyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Di-n-butyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Di-n-octyl phthalate	ug/g	<0.50	<0.50	<0.50	0.50	0.020	A323171
2,4-Dinitrotoluene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
2,6-Dinitrotoluene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Dimethyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Biphenyl	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Bis(2-chloroethyl)ether	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
Hexachlorobutadiene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Hexachlorocyclopentadiene	ug/g	<0.50	<0.50	<0.50	0.50	0.020	A323171
Hexachloroethane	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323171
Isophorone	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Nitrobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323171
N-nitroso-di-n-propylamine	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323171
Charge							
Amount Extracted (Wet Weight) (g)	N/A	N/A	25	25	N/A	N/A	A323173
SPLP Extraction Procedure							
SPLP Aluminum (Al)	mg/L	N/A	1.12	64.9	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	N/A	0.0038	0.0047	0.0010	0.020	A313162
SPLP Arsenic (As)	mg/L	N/A	0.0014	<0.0010	0.0010	0.0020	A313162
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
SPLP Barium (Ba)	mg/L	N/A	0.20	0.35	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	N/A	<0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	N/A	2.31	<0.50	0.50	0.10	A313162
SPLP Cadmium (Cd)	mg/L	N/A	<0.000020	<0.000020	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	N/A	749	538	1.0	0.20	A313162
SPLP Chromium (Cr)	mg/L	N/A	0.0031	<0.0010	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	N/A	<0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	N/A	0.0481	<0.0020	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	N/A	<0.050	<0.050	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	N/A	<0.0010	<0.0010	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	N/A	<1.0	<1.0	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	N/A	<0.0050	<0.0050	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	N/A	<0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	N/A	0.134	0.0257	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	N/A	<0.010	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	N/A	<0.0010	<0.0010	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	N/A	120	54.8	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	N/A	<0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	N/A	<0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	N/A	<0.10	<0.10	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	N/A	<0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	N/A	0.025	<0.010	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	N/A	<0.010	<0.010	0.010	0.010	A313162
MISCELLANEOUS							
Sample Matrix	N/A	N/A	BULK SOOT	BULK SOOT	N/A	N/A	ONSITE
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	29	18	65	N/A	N/A	A323171
2-Fluorobiphenyl	%	66	40	62	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	76	58	73	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	70	40	67	N/A	N/A	A323171
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
D5-PHENOL (sur.)	%	93	74	76	N/A	N/A	A323171
TERPHENYL-D14 (sur.)	%	9.6 (1)	2.2 (1)	4.0 (1)	N/A	N/A	A323171

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A315467
Base Neutrals								
Acenaphthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Acenaphthylene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(a)anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(a)pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(b&j)fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(g,h,i)perylene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Benzo(k)fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
1-chloronaphthalene	ug/g	<1.0	1.0	0.10	<2.0	2.0	0.20	A323171
2-chloronaphthalene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Chrysene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Dibenz(a,h)anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Fluorene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
1-Methylnaphthalene	ug/g	0.11	0.10	0.020	<0.20	0.20	0.040	A323171
2-Methylnaphthalene	ug/g	0.11	0.10	0.020	<0.20	0.20	0.040	A323171
Naphthalene	ug/g	0.53	0.10	0.020	<0.20	0.20	0.040	A323171
Perylene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Phenanthrene	ug/g	0.16	0.10	0.010	<0.20	0.20	0.020	A323171
Pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Quinoline	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
1,2-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
1,3-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
1,4-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Hexachlorobenzene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Pentachlorobenzene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,2,3-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,2,4-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323171
1,3,5-trichlorobenzene	ug/g	<0.20	0.20	0.050	<0.40	0.40	0.10	A323171
2-chlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
4-chloro-3-methylphenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
m,p-Cresol	ug/g	0.33	0.20	0.020	<0.40	0.40	0.040	A323171
o-Cresol	ug/g	0.20	0.20	0.010	<0.40	0.40	0.020	A323171
2,3-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,4-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,6-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
3,4-Dichlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
3,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,4-dimethylphenol	ug/g	<0.10	0.10	0.10	<0.20	0.20	0.20	A323171
2,4-dinitrophenol	ug/g	<1.0	1.0	0.020	<2.0	2.0	0.040	A323171
4,6-dinitro-2-methylphenol	ug/g	<0.50	0.50	0.040	<1.0	1.0	0.080	A323171
2-nitrophenol	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323171
4-nitrophenol	ug/g	<0.50	0.50	0.030	<1.0	1.0	0.060	A323171
Pentachlorophenol	ug/g	<0.20	0.20	0.070	<0.40	0.40	0.14	A323171
Phenol	ug/g	2.2	0.20	0.010	<0.40	0.40	0.020	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,3,4-trichlorophenol	ug/g	<0.10	0.10	0.040	<0.20	0.20	0.080	A323171
2,3,5-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
2,3,6-Trichlorophenol	ug/g	<0.10	0.10	0.040	<0.20	0.20	0.080	A323171
2,4,5-trichlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323171
2,4,6-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
3,4,5-Trichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Butyl benzyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
RDL = Reportable Detection Limit								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	0.50	0.010	<1.0	1.0	0.020	A323171
4-bromophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
p-Chloroaniline	ug/g	<0.20	0.20	0.060	<0.40	0.40	0.12	A323171
4-chlorophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
3,3'-Dichlorobenzidine	ug/g	<0.50	0.50	0.20	<1.0	1.0	0.40	A323171
Diethyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Di-n-butyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Di-n-octyl phthalate	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323171
2,4-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
2,6-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Dimethyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Biphenyl	ug/g	0.24	0.10	0.010	<0.20	0.20	0.020	A323171
Bis(2-chloroethyl)ether	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
Hexachlorobutadiene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Hexachlorocyclopentadiene	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323171
Hexachloroethane	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323171
Isophorone	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Nitrobenzene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323171
N-nitroso-di-n-propylamine	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323171
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323173
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	0.644	0.020	0.020	0.152	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	<0.0010	0.0010	0.020	<0.0010	0.0010	0.020	A313162
SPLP Arsenic (As)	mg/L	<0.0010	0.0010	0.0020	<0.0010	0.0010	0.0020	A313162
SPLP Barium (Ba)	mg/L	0.30	0.10	0.020	0.16	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	1.01	0.50	0.10	<0.50	0.50	0.10	A313162
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021-CT-10	RDL	MDL	CS-11230615-072021-CT-11	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	<0.000020	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	1670	2.0	0.40	806	1.0	0.20	A313162
SPLP Chromium (Cr)	mg/L	0.0068	0.0010	0.0010	0.0433	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	<0.0020	0.0020	0.0020	0.0029	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	<0.050	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	0.0097	0.0010	0.00040	0.0488	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	<1.0	1.0	0.20	<1.0	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	<0.0050	0.0050	0.020	<0.0050	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	0.0989	0.0050	0.0050	0.0236	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	<0.0010	0.0010	0.0020	<0.0010	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	272	1.0	1.0	48.2	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	<0.10	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	0.030	0.010	0.010	0.054	0.010	0.010	A313162
MISCELLANEOUS								
Sample Matrix	N/A	BULK SOOT	N/A	N/A	BULK SOOT	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	15	N/A	N/A	1.2 (1)	N/A	N/A	A323171
2-Fluorobiphenyl	%	59	N/A	N/A	30	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	59	N/A	N/A	17	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	48	N/A	N/A	28 (1)	N/A	N/A	A323171
D5-PHENOL (sur.)	%	70	N/A	N/A	32	N/A	N/A	A323171
RDL = Reportable Detection Limit N/A = Not Applicable (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
TERPHENYL-D14 (sur.)	%	25 (1)	N/A	N/A	19 (2)	N/A	N/A	A323171

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.

(2) Some surrogate recoveries were below the lower control limits due to matrix interference. This may represent a lower bias in some results.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE112	ACE113	ACE113			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 13:10			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	RDL	MDL	QC Batch

Parameter							
Subcontract Parameter	N/A	ATTACHED	ATTACHED	N/A	N/A	N/A	A315467
Base Neutrals							
Acenaphthene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Acenaphthylene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Anthracene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Benzo(a)anthracene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Benzo(a)pyrene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Benzo(b&j)fluoranthene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Benzo(g,h,i)perylene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Benzo(k)fluoranthene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
1-chloronaphthalene	ug/g	<1.0	<1.0	N/A	1.0	0.10	A323171
2-chloronaphthalene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Chrysene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Dibenz(a,h)anthracene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Fluoranthene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Fluorene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
1-Methylnaphthalene	ug/g	0.15	<0.10	N/A	0.10	0.020	A323171
2-Methylnaphthalene	ug/g	0.13	<0.10	N/A	0.10	0.020	A323171
Naphthalene	ug/g	1.1	<0.10	N/A	0.10	0.020	A323171
Perylene	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Phenanthrene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Pyrene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Quinoline	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
1,2-dichlorobenzene	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
1,3-dichlorobenzene	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
1,4-dichlorobenzene	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
Hexachlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Pentachlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE112	ACE113	ACE113			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 13:10			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	RDL	MDL	QC Batch
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.020	A323171
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.020	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.020	A323171
1,2,3-trichlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.020	A323171
1,2,4-trichlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.020	A323171
1,3,5-trichlorobenzene	ug/g	<0.20	<0.20	N/A	0.20	0.050	A323171
2-chlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
4-chloro-3-methylphenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
m,p-Cresol	ug/g	<0.20	<0.20	N/A	0.20	0.020	A323171
o-Cresol	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
2,3-Dichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
2,4-dichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
2,5-Dichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
2,6-dichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
3,4-Dichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.030	A323171
3,5-Dichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
2,4-dimethylphenol	ug/g	<0.10	<0.10	N/A	0.10	0.10	A323171
2,4-dinitrophenol	ug/g	<1.0	<1.0	N/A	1.0	0.020	A323171
4,6-dinitro-2-methylphenol	ug/g	<0.50	<0.50	N/A	0.50	0.040	A323171
2-nitrophenol	ug/g	<0.50	<0.50	N/A	0.50	0.020	A323171
4-nitrophenol	ug/g	<0.50	<0.50	N/A	0.50	0.030	A323171
Pentachlorophenol	ug/g	<0.20	<0.20	N/A	0.20	0.070	A323171
Phenol	ug/g	0.55	<0.20	N/A	0.20	0.010	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.030	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.030	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.030	A323171
2,3,4-trichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.040	A323171
2,3,5-trichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
2,3,6-Trichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.040	A323171
2,4,5-trichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.030	A323171
RDL = Reportable Detection Limit							
Lab-Dup = Laboratory Initiated Duplicate							
N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE112	ACE113	ACE113			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 13:10			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	RDL	MDL	QC Batch
2,4,6-trichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
3,4,5-Trichlorophenol	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
Butyl benzyl phthalate	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Bis(2-chloroethoxy)methane	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	<0.50	N/A	0.50	0.010	A323171
4-bromophenyl phenyl ether	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
p-Chloroaniline	ug/g	<0.20	<0.20	N/A	0.20	0.060	A323171
4-chlorophenyl phenyl ether	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
3,3'-Dichlorobenzidine	ug/g	<0.50	<0.50	N/A	0.50	0.20	A323171
Diethyl phthalate	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Di-n-butyl phthalate	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Di-n-octyl phthalate	ug/g	<0.50	<0.50	N/A	0.50	0.020	A323171
2,4-Dinitrotoluene	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
2,6-Dinitrotoluene	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
Dimethyl phthalate	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Biphenyl	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Bis(2-chloroethyl)ether	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
Hexachlorobutadiene	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
Hexachlorocyclopentadiene	ug/g	<0.50	<0.50	N/A	0.50	0.020	A323171
Hexachloroethane	ug/g	<0.10	<0.10	N/A	0.10	0.020	A323171
Isophorone	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Nitrobenzene	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	<0.20	N/A	0.20	0.010	A323171
N-nitroso-di-n-propylamine	ug/g	<0.10	<0.10	N/A	0.10	0.010	A323171
Charge							
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	N/A	N/A	A323173
SPLP Extraction Procedure							
SPLP Aluminum (Al)	mg/L	21.2	0.763	0.734	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	0.0211	0.0178	0.0175	0.0010	0.020	A313162
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE112	ACE113	ACE113			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 13:10			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	RDL	MDL	QC Batch
SPLP Arsenic (As)	mg/L	0.0021	0.0107	0.0107	0.0010	0.0020	A313162
SPLP Barium (Ba)	mg/L	0.12	<0.10	<0.10	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	0.78	0.81	0.80	0.50	0.10	A313162
SPLP Cadmium (Cd)	mg/L	<0.000020	<0.000020	<0.000020	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	274	40.1	39.5	1.0	0.20	A313162
SPLP Chromium (Cr)	mg/L	<0.0010	0.0037	0.0038	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	0.0092	0.0184	0.0182	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	<0.050	<0.050	0.053	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	<1.0	<1.0	<1.0	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	<0.0050	0.0069	0.0072	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	0.0199	0.0075	0.0069	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	<0.010	<0.010	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	59.5	9.1	8.8	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	<0.10	<0.10 (1)	<0.10	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	0.021	0.043	0.043	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	<0.010	<0.010 (2)	<0.010	0.010	0.010	A313162

MISCELLANEOUS

Sample Matrix	N/A	BULK SOOT	BULK SOOT	N/A	N/A	N/A	ONSITE

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Matrix Spike for (Titanium) outside acceptance criteria due to sample matrix interference.

(2) Matrix Spike for (Zinc) outside acceptance criteria due to sample matrix interference.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE112	ACE113	ACE113			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 13:10			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	RDL	MDL	QC Batch

Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	9.8 (1)	19	N/A	N/A	N/A	A323171
2-Fluorobiphenyl	%	10 (1)	31	N/A	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	27	62	N/A	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	31	41	N/A	N/A	N/A	A323171
D5-PHENOL (sur.)	%	33	81	N/A	N/A	N/A	A323171
TERPHENYL-D14 (sur.)	%	0.60 (2)	0.80 (3)	N/A	N/A	N/A	A323171

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Some surrogate recoveries were below the lower control limits due to matrix interference. This may represent a lower bias in some results.

(3) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE114			ACE115			
Sampling Date		2021/07/20 14:00			2021/07/20 14:20			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021-CT-14	RDL	MDL	CS-11230615-072021-CT-15	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A315467
Base Neutrals								
Acenaphthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Acenaphthylene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Anthracene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(a)anthracene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(a)pyrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(b&j)fluoranthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(g,h,i)perylene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Benzo(k)fluoranthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
1-chloronaphthalene	ug/g	<2.0	2.0	0.20	<1.0	1.0	0.10	A323171
2-chloronaphthalene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Chrysene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Dibenz(a,h)anthracene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Fluoranthene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Fluorene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
1-Methylnaphthalene	ug/g	0.27	0.20	0.040	<0.10	0.10	0.020	A323171
2-Methylnaphthalene	ug/g	0.26	0.20	0.040	<0.10	0.10	0.020	A323171
Naphthalene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Perylene	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Phenanthrene	ug/g	0.28	0.20	0.020	<0.10	0.10	0.010	A323171
Pyrene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Quinoline	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
1,2-dichlorobenzene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
1,3-dichlorobenzene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
1,4-dichlorobenzene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Hexachlorobenzene	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Pentachlorobenzene	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
1,2,3,4-tetrachlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE114			ACE115			
Sampling Date		2021/07/20 14:00			2021/07/20 14:20			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021- CT-14	RDL	MDL	CS-11230615-072021- CT-15	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,2,3-trichlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,2,4-trichlorobenzene	ug/g	<0.40	0.40	0.040	<0.20	0.20	0.020	A323171
1,3,5-trichlorobenzene	ug/g	<0.40	0.40	0.10	<0.20	0.20	0.050	A323171
2-chlorophenol	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
4-chloro-3-methylphenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
m,p-Cresol	ug/g	3.5	0.40	0.040	<0.20	0.20	0.020	A323171
o-Cresol	ug/g	1.1	0.40	0.020	<0.20	0.20	0.010	A323171
2,3-Dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,4-dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,5-Dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,6-dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
3,4-Dichlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
3,5-Dichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,4-dimethylphenol	ug/g	0.65	0.20	0.20	<0.10	0.10	0.10	A323171
2,4-dinitrophenol	ug/g	<2.0	2.0	0.040	<1.0	1.0	0.020	A323171
4,6-dinitro-2-methylphenol	ug/g	<1.0	1.0	0.080	<0.50	0.50	0.040	A323171
2-nitrophenol	ug/g	<1.0	1.0	0.040	<0.50	0.50	0.020	A323171
4-nitrophenol	ug/g	<1.0	1.0	0.060	<0.50	0.50	0.030	A323171
Pentachlorophenol	ug/g	<0.40	0.40	0.14	<0.20	0.20	0.070	A323171
Phenol	ug/g	7.1	0.40	0.020	<0.20	0.20	0.010	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,3,4-trichlorophenol	ug/g	<0.20	0.20	0.080	<0.10	0.10	0.040	A323171
2,3,5-trichlorophenol	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
2,3,6-Trichlorophenol	ug/g	<0.20	0.20	0.080	<0.10	0.10	0.040	A323171
2,4,5-trichlorophenol	ug/g	<0.20	0.20	0.060	<0.10	0.10	0.030	A323171
2,4,6-trichlorophenol	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
3,4,5-Trichlorophenol	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Butyl benzyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
RDL = Reportable Detection Limit								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE114			ACE115			
Sampling Date		2021/07/20 14:00			2021/07/20 14:20			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021-CT-14	RDL	MDL	CS-11230615-072021-CT-15	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<1.0	1.0	0.020	<0.50	0.50	0.010	A323171
4-bromophenyl phenyl ether	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
p-Chloroaniline	ug/g	<0.40	0.40	0.12	<0.20	0.20	0.060	A323171
4-chlorophenyl phenyl ether	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
3,3'-Dichlorobenzidine	ug/g	<1.0	1.0	0.40	<0.50	0.50	0.20	A323171
Diethyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Di-n-butyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Di-n-octyl phthalate	ug/g	<1.0	1.0	0.040	<0.50	0.50	0.020	A323171
2,4-Dinitrotoluene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
2,6-Dinitrotoluene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Dimethyl phthalate	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Biphenyl	ug/g	0.59	0.20	0.020	<0.10	0.10	0.010	A323171
Bis(2-chloroethyl)ether	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
Hexachlorobutadiene	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Hexachlorocyclopentadiene	ug/g	<1.0	1.0	0.040	<0.50	0.50	0.020	A323171
Hexachloroethane	ug/g	<0.20	0.20	0.040	<0.10	0.10	0.020	A323171
Isophorone	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Nitrobenzene	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.40	0.40	0.020	<0.20	0.20	0.010	A323171
N-nitroso-di-n-propylamine	ug/g	<0.20	0.20	0.020	<0.10	0.10	0.010	A323171
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323173
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	0.081	0.020	0.020	0.960	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	0.0220	0.0010	0.020	0.0033	0.0010	0.020	A313162
SPLP Arsenic (As)	mg/L	0.0112	0.0010	0.0020	0.0034	0.0010	0.0020	A313162
SPLP Barium (Ba)	mg/L	0.24	0.10	0.020	0.22	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	2.01	0.50	0.10	1.06	0.50	0.10	A313162
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE114			ACE115			
Sampling Date		2021/07/20 14:00			2021/07/20 14:20			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021-CT-14	RDL	MDL	CS-11230615-072021-CT-15	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	<0.000020	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	381	1.0	0.20	274	1.0	0.20	A313162
SPLP Chromium (Cr)	mg/L	0.206	0.0010	0.0010	0.0623	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	0.0237	0.0020	0.0020	0.0250	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	<0.050	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	<0.0010	0.0010	0.00040	<0.0010	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	2.4	1.0	0.20	<1.0	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	<0.0050	0.0050	0.020	<0.0050	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	0.0255	0.0050	0.0050	0.0098	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	0.0013	0.0010	0.0020	0.0012	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	20.9	1.0	1.0	27.7	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	<0.10	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	0.110	0.010	0.010	<0.010	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	<0.010	0.010	0.010	0.012	0.010	0.010	A313162
MISCELLANEOUS								
Sample Matrix	N/A	BULK SOOT	N/A	N/A	BULK SOOT	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	43	N/A	N/A	4.6 (1)	N/A	N/A	A323171
2-Fluorobiphenyl	%	37	N/A	N/A	69	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	38	N/A	N/A	27	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	38	N/A	N/A	70	N/A	N/A	A323171
D5-PHENOL (sur.)	%	39	N/A	N/A	66	N/A	N/A	A323171
TERPHENYL-D14 (sur.)	%	44	N/A	N/A	59	N/A	N/A	A323171
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE116			
Sampling Date		2021/07/20 14:50			
COC Number		M099360			
	UNITS	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Parameter					
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	A315467
Base Neutrals					
Acenaphthene	ug/g	<0.10	0.10	0.010	A323171
Acenaphthylene	ug/g	<0.10	0.10	0.010	A323171
Anthracene	ug/g	<0.10	0.10	0.010	A323171
Benzo(a)anthracene	ug/g	<0.10	0.10	0.010	A323171
Benzo(a)pyrene	ug/g	<0.10	0.10	0.010	A323171
Benzo(b&j)fluoranthene	ug/g	<0.10	0.10	0.010	A323171
Benzo(g,h,i)perylene	ug/g	<0.10	0.10	0.010	A323171
Benzo(k)fluoranthene	ug/g	<0.10	0.10	0.010	A323171
1-chloronaphthalene	ug/g	<1.0	1.0	0.10	A323171
2-chloronaphthalene	ug/g	<0.10	0.10	0.010	A323171
Chrysene	ug/g	<0.10	0.10	0.010	A323171
Dibenz(a,h)anthracene	ug/g	<0.10	0.10	0.010	A323171
Fluoranthene	ug/g	<0.10	0.10	0.010	A323171
Fluorene	ug/g	<0.10	0.10	0.010	A323171
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	0.10	0.010	A323171
1-Methylnaphthalene	ug/g	<0.10	0.10	0.020	A323171
2-Methylnaphthalene	ug/g	<0.10	0.10	0.020	A323171
Naphthalene	ug/g	<0.10	0.10	0.020	A323171
Perylene	ug/g	<0.20	0.20	0.010	A323171
Phenanthrene	ug/g	<0.10	0.10	0.010	A323171
Pyrene	ug/g	<0.10	0.10	0.010	A323171
Quinoline	ug/g	<0.20	0.20	0.010	A323171
1,2-dichlorobenzene	ug/g	<0.10	0.10	0.020	A323171
1,3-dichlorobenzene	ug/g	<0.10	0.10	0.020	A323171
1,4-dichlorobenzene	ug/g	<0.10	0.10	0.020	A323171
Hexachlorobenzene	ug/g	<0.20	0.20	0.010	A323171
Pentachlorobenzene	ug/g	<0.20	0.20	0.010	A323171
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	A323171
RDL = Reportable Detection Limit					
N/A = Not Applicable					



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE116			
Sampling Date		2021/07/20 14:50			
COC Number		M099360			
	UNITS	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	A323171
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	A323171
1,2,3-trichlorobenzene	ug/g	<0.20	0.20	0.020	A323171
1,2,4-trichlorobenzene	ug/g	<0.20	0.20	0.020	A323171
1,3,5-trichlorobenzene	ug/g	<0.20	0.20	0.050	A323171
2-chlorophenol	ug/g	<0.10	0.10	0.010	A323171
4-chloro-3-methylphenol	ug/g	<0.10	0.10	0.020	A323171
m,p-Cresol	ug/g	<0.20	0.20	0.020	A323171
o-Cresol	ug/g	<0.20	0.20	0.010	A323171
2,3-Dichlorophenol	ug/g	<0.10	0.10	0.020	A323171
2,4-dichlorophenol	ug/g	<0.10	0.10	0.020	A323171
2,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	A323171
2,6-dichlorophenol	ug/g	<0.10	0.10	0.020	A323171
3,4-Dichlorophenol	ug/g	<0.10	0.10	0.030	A323171
3,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	A323171
2,4-dimethylphenol	ug/g	<0.10	0.10	0.10	A323171
2,4-dinitrophenol	ug/g	<1.0	1.0	0.020	A323171
4,6-dinitro-2-methylphenol	ug/g	<0.50	0.50	0.040	A323171
2-nitrophenol	ug/g	<0.50	0.50	0.020	A323171
4-nitrophenol	ug/g	<0.50	0.50	0.030	A323171
Pentachlorophenol	ug/g	<0.20	0.20	0.070	A323171
Phenol	ug/g	<0.20	0.20	0.010	A323171
2,3,4,5-tetrachlorophenol	ug/g	<0.10	0.10	0.030	A323171
2,3,4,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	A323171
2,3,5,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	A323171
2,3,4-trichlorophenol	ug/g	<0.10	0.10	0.040	A323171
2,3,5-trichlorophenol	ug/g	<0.10	0.10	0.010	A323171
2,3,6-Trichlorophenol	ug/g	<0.10	0.10	0.040	A323171
2,4,5-trichlorophenol	ug/g	<0.10	0.10	0.030	A323171
2,4,6-trichlorophenol	ug/g	<0.10	0.10	0.010	A323171
3,4,5-Trichlorophenol	ug/g	<0.10	0.10	0.020	A323171
Butyl benzyl phthalate	ug/g	<0.20	0.20	0.010	A323171
RDL = Reportable Detection Limit					



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE116			
Sampling Date		2021/07/20 14:50			
COC Number		M099360			
	UNITS	CS-11230615-072021-CT-16	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	0.10	0.010	A323171
Bis(2-chloroisopropyl)ether	ug/g	<0.10	0.10	0.020	A323171
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	0.50	0.010	A323171
4-bromophenyl phenyl ether	ug/g	<0.10	0.10	0.020	A323171
p-Chloroaniline	ug/g	<0.20	0.20	0.060	A323171
4-chlorophenyl phenyl ether	ug/g	<0.10	0.10	0.020	A323171
3,3'-Dichlorobenzidine	ug/g	<0.50	0.50	0.20	A323171
Diethyl phthalate	ug/g	<0.20	0.20	0.010	A323171
Di-n-butyl phthalate	ug/g	<0.20	0.20	0.010	A323171
Di-n-octyl phthalate	ug/g	<0.50	0.50	0.020	A323171
2,4-Dinitrotoluene	ug/g	<0.10	0.10	0.020	A323171
2,6-Dinitrotoluene	ug/g	<0.10	0.10	0.020	A323171
Dimethyl phthalate	ug/g	<0.20	0.20	0.010	A323171
Biphenyl	ug/g	<0.10	0.10	0.010	A323171
Bis(2-chloroethyl)ether	ug/g	<0.20	0.20	0.010	A323171
Hexachlorobutadiene	ug/g	<0.10	0.10	0.020	A323171
Hexachlorocyclopentadiene	ug/g	<0.50	0.50	0.020	A323171
Hexachloroethane	ug/g	<0.10	0.10	0.020	A323171
Isophorone	ug/g	<0.10	0.10	0.010	A323171
Nitrobenzene	ug/g	<0.10	0.10	0.010	A323171
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	0.20	0.010	A323171
N-nitroso-di-n-propylamine	ug/g	<0.10	0.10	0.010	A323171
Charge					
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	A323173
SPLP Extraction Procedure					
SPLP Aluminum (Al)	mg/L	0.833	0.020	0.020	A313162
SPLP Antimony (Sb)	mg/L	0.0018	0.0010	0.020	A313162
SPLP Arsenic (As)	mg/L	0.0155	0.0010	0.0020	A313162
SPLP Barium (Ba)	mg/L	1.03	0.10	0.020	A313162
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	A313162
SPLP Boron (B)	mg/L	0.80	0.50	0.10	A313162
RDL = Reportable Detection Limit					
N/A = Not Applicable					



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE116			
Sampling Date		2021/07/20 14:50			
COC Number		M099360			
	UNITS	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	A313162
SPLP Calcium (Ca)	mg/L	1750	2.0	0.40	A313162
SPLP Chromium (Cr)	mg/L	0.658	0.0010	0.0010	A313162
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	A313162
SPLP Copper (Cu)	mg/L	<0.0020	0.0020	0.0020	A313162
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	A313162
SPLP Lead (Pb)	mg/L	<0.0010	0.0010	0.00040	A313162
SPLP Magnesium (Mg)	mg/L	<1.0	1.0	0.20	A313162
SPLP Manganese (Mn)	mg/L	<0.0050	0.0050	0.020	A313162
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	A313162
SPLP Molybdenum (Mo)	mg/L	0.126	0.0050	0.0050	A313162
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	A313162
SPLP Selenium (Se)	mg/L	<0.0010	0.0010	0.0020	A313162
SPLP Sodium (Na)	mg/L	113	1.0	1.0	A313162
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	A313162
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	A313162
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	A313162
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	A313162
SPLP Vanadium (V)	mg/L	0.044	0.010	0.010	A313162
SPLP Zinc (Zn)	mg/L	<0.010	0.010	0.010	A313162
MISCELLANEOUS					
Sample Matrix	N/A	BULK SOOT	N/A	N/A	ONSITE
Surrogate Recovery (%)					
2,4,6-TRIBROMOPHENOL (sur.)	%	37	N/A	N/A	A323171
2-Fluorobiphenyl	%	20 (1)	N/A	N/A	A323171
2-FLUOROPHENOL (sur.)	%	32	N/A	N/A	A323171
D5-NITROBENZENE (sur.)	%	19 (1)	N/A	N/A	A323171
D5-PHENOL (sur.)	%	38	N/A	N/A	A323171
RDL = Reportable Detection Limit N/A = Not Applicable (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.					



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACE116			
Sampling Date		2021/07/20 14:50			
COC Number		M099360			
	UNITS	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
TERPHENYL-D14 (sur.)	%	9.2 (1)	N/A	N/A	A323171
RDL = Reportable Detection Limit N/A = Not Applicable (1) Some surrogate recoveries were below the lower control limits due to matrix interference. This may represent a lower bias in some results.					



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		ACE099	ACE100	ACE100			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 12:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-02 Lab-Dup	RDL	MDL	QC Batch
Polychlorinated Biphenyls							
Aroclor 1016	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1221	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1232	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1242	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1248	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1254	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1260	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1262	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Aroclor 1268	mg/kg	<0.50	<0.50	<0.50	0.50	N/A	A311742
Total PCB	mg/kg	<0.50	<0.50	N/A	0.50	N/A	A308478
Surrogate Recovery (%)							
NONACHLOROBIPHENYL (sur.)	%	93	63	65	N/A	N/A	A311742
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



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GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		ACE102		ACE103		ACE104			
Sampling Date		2021/07/19 13:10		2021/07/19 13:50		2021/07/19 14:20			
COC Number		M099339		M099339		M099339			
	UNITS	CS-11230615-071921- CT-04	RDL	CS-11230615-071921- CT-05	RDL	CS-11230615-071921- CT-06	RDL	MDL	QC Batch

Polychlorinated Biphenyls									
Aroclor 1016	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1221	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1232	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1242	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1248	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1254	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1260	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1262	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Aroclor 1268	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A311742
Total PCB	mg/kg	<0.50	0.50	<2.0	2.0	<0.50	0.50	N/A	A308478

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	107	N/A	87	N/A	67	N/A	N/A	A311742

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACE106		ACE108		ACE111			
Sampling Date		2021/07/19 15:20		2021/07/20 11:10		2021/07/20 11:45			
COC Number		M099339		M099339		M099360			
	UNITS	CS-11230615-071921- CT-08	RDL	CS-11230615-072021- CT-10	RDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch

Polychlorinated Biphenyls									
Aroclor 1016	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1221	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1232	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1242	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1248	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1254	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1260	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1262	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Aroclor 1268	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A311742
Total PCB	mg/kg	<0.10	0.10	<0.010		<0.010	0.010	N/A	A308478

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	90	N/A	88		77	N/A	N/A	A311742

RDL = Reportable Detection Limit

N/A = Not Applicable



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GHD Limited
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Your P.O. #: 735-000118
Sampler Initials: CT

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		ACE112		ACE113		ACE114			
Sampling Date		2021/07/20 12:00		2021/07/20 13:10		2021/07/20 14:00			
COC Number		M099360		M099360		M099360			
	UNITS	CS-11230615-072021-CT-12	RDL	CS-11230615-072021-CT-13	RDL	CS-11230615-072021-CT-14	RDL	MDL	QC Batch
Polychlorinated Biphenyls									
Aroclor 1016	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1221	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1232	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1242	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1248	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1254	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1260	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1262	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Aroclor 1268	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A311742
Total PCB	mg/kg	<0.17	0.17	<0.050	0.050	<0.10	0.10	N/A	A308478
Surrogate Recovery (%)									
NONACHLOROBIPHENYL (sur.)	%	61	N/A	61	N/A	67	N/A	N/A	A311742
RDL = Reportable Detection Limit N/A = Not Applicable									

BV Labs ID		ACE115		ACE116			
Sampling Date		2021/07/20 14:20		2021/07/20 14:50			
COC Number		M099360		M099360			
	UNITS	CS-11230615-072021-CT-15	RDL	CS-11230615-072021-CT-16	RDL	MDL	QC Batch
Polychlorinated Biphenyls							
Aroclor 1016	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1221	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1232	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1242	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1248	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1254	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1260	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1262	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Aroclor 1268	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A311742
Total PCB	mg/kg	<0.10	0.10	<0.50	0.50	N/A	A308478
Surrogate Recovery (%)							
NONACHLOROBIPHENYL (sur.)	%	97	N/A	84	N/A	N/A	A311742
RDL = Reportable Detection Limit N/A = Not Applicable							



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Client Project #: 11230615
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Your P.O. #: 735-000118
Sampler Initials: CT

PHYSICAL TESTING (SOIL)

BV Labs ID		ACE099	ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339	M099339			
	UNITS	CS-11230615-071921-CT-01	CS-11230615-071921-CT-01 Lab-Dup	CS-11230615-071921-CT-02	CS-11230615-071921-CT-04	RDL	MDL	QC Batch

Physical Properties

Moisture	%	0.40	<0.30	<0.30	0.40	0.30	N/A	A308803

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BV Labs ID		ACE103	ACE104	ACE106	ACE108			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20	2021/07/20 11:10			
COC Number		M099339	M099339	M099339	M099339			
	UNITS	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	CS-11230615-071921-CT-08	CS-11230615-072021-CT-10	RDL	MDL	QC Batch

Physical Properties

Moisture	%	0.30	0.30	0.60	1.0	0.30	N/A	A308803

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACE111	ACE112		ACE113			
Sampling Date		2021/07/20 11:45	2021/07/20 12:00		2021/07/20 13:10			
COC Number		M099360	M099360		M099360			
	UNITS	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	QC Batch	CS-11230615-072021-CT-13	RDL	MDL	QC Batch

Physical Properties

Moisture	%	0.80	0.80	A308803	0.40	0.30	N/A	A311482

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACE113		ACE114	ACE115			
Sampling Date		2021/07/20 13:10		2021/07/20 14:00	2021/07/20 14:20			
COC Number		M099360		M099360	M099360			
	UNITS	CS-11230615-072021-CT-13 Lab-Dup	QC Batch	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15	RDL	MDL	QC Batch

Physical Properties

Moisture	%	<0.30	A311482	1.1	0.90	0.30	N/A	A308803

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



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Sampler Initials: CT

PHYSICAL TESTING (SOIL)

BV Labs ID		ACE116			
Sampling Date		2021/07/20 14:50			
COC Number		M099360			
	UNITS	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Physical Properties					
Moisture	%	3.5	0.30	N/A	A308803
RDL = Reportable Detection Limit N/A = Not Applicable					



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Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		ACE099	ACE100	ACE102	ACE103		
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10	2021/07/19 13:50		
COC Number		M099339	M099339	M099339	M099339		
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	CS-11230615-071921- CT-05	MDL	QC Batch

TCLP Extraction Procedure

Initial pH of Sample	pH	10.9	9.20	9.29	11.5	N/A	A313023
pH after HCl	pH	2.38	2.07	2.62	2.23	N/A	A313023
Final pH of Leachate	pH	6.97	6.11	6.50	7.41	N/A	A313023
SPLP pH of SPLP Leachate 2	pH	10.3	9.48	10.4	11.2	N/A	A313164
pH of Leaching Fluid	pH	4.93	4.93	4.93	4.93	N/A	A313023

N/A = Not Applicable

BV Labs ID		ACE104	ACE106	ACE108	ACE111		
Sampling Date		2021/07/19 14:20	2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45		
COC Number		M099339	M099339	M099339	M099360		
	UNITS	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	MDL	QC Batch

TCLP Extraction Procedure

Initial pH of Sample	pH	11.3	11.2	12.5	12.3	N/A	A313023
pH after HCl	pH	2.68	2.12	11.8	9.95	N/A	A313023
Final pH of Leachate	pH	7.59	8.23	12.0	6.92	N/A	A313023
SPLP pH of SPLP Leachate 2	pH	11.0	10.3	12.6	12.6	N/A	A313164
pH of Leaching Fluid	pH	4.93	4.93	2.85	2.85	N/A	A313023

N/A = Not Applicable

BV Labs ID		ACE112	ACE113	ACE113	ACE114		
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 13:10	2021/07/20 14:00		
COC Number		M099360	M099360	M099360	M099360		
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	CS-11230615-072021- CT-14	MDL	QC Batch

TCLP Extraction Procedure

Initial pH of Sample	pH	11.4	9.32	9.23	10.7	N/A	A313023
pH after HCl	pH	1.69	1.63	1.66	2.19	N/A	A313023
Final pH of Leachate	pH	7.06	5.42	5.41	7.34	N/A	A313023
SPLP pH of SPLP Leachate 2	pH	11.1	10.6	10.6	10.3	N/A	A313164
pH of Leaching Fluid	pH	4.93	4.93	4.93	4.93	N/A	A313023

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



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ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		ACE115	ACE116		
Sampling Date		2021/07/20 14:20	2021/07/20 14:50		
COC Number		M099360	M099360		
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	MDL	QC Batch

TCLP Extraction Procedure					
Initial pH of Sample	pH	11.9	10.7	N/A	A313023
pH after HCl	pH	2.31	2.31	N/A	A313023
Final pH of Leachate	pH	9.98	9.07	N/A	A313023
SPLP pH of SPLP Leachate 2	pH	11.9	10.9	N/A	A313164
pH of Leaching Fluid	pH	4.93	4.93	N/A	A313023
N/A = Not Applicable					



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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE099	ACE099	ACE100			
Sampling Date		2021/07/19 11:20	2021/07/19 11:20	2021/07/19 12:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-01 Lab-Dup	CS-11230615-071921- CT-02	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Benzene	ug/L	<0.40	N/A	1.8	0.40	N/A	A323172
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Bromomethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	N/A	<0.19	0.19	N/A	A323172
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Chloroform	ug/L	<0.90	N/A	<0.90	0.90	N/A	A323172
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE099	ACE099	ACE100			
Sampling Date		2021/07/19 11:20	2021/07/19 11:20	2021/07/19 12:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-01 Lab-Dup	CS-11230615-071921- CT-02	RDL	MDL	QC Batch
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	N/A	<0.30	0.30	N/A	A323172
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	N/A	<0.30	0.30	N/A	A323172
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	N/A	<0.19	0.19	N/A	A323172
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Toluene	ug/L	<0.40	N/A	0.48	0.40	N/A	A323172
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C151797
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE099	ACE099	ACE100			
Sampling Date		2021/07/19 11:20	2021/07/19 11:20	2021/07/19 12:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-01 Lab-Dup	CS-11230615-071921- CT-02	RDL	MDL	QC Batch
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) o-Xylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323172
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A312864
Leachable (SPLP) Total Xylenes	ug/L	<0.60	N/A	<0.60	0.60	0.010	A323172
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A312864
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	99	98	97	N/A	N/A	A312864
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	97	98	97	N/A	N/A	A312864
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	101	106	103	N/A	N/A	A312864
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	91	N/A	90	N/A	N/A	A323172
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	115	N/A	119	N/A	N/A	A323172
Leachable (SPLP) D8-TOLUENE (sur.)	%	91	N/A	90	N/A	N/A	A323172
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE102	ACE103	ACE104			
Sampling Date		2021/07/19 13:10	2021/07/19 13:50	2021/07/19 14:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921-CT-04	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	RDL	MDL	QC Batch
Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Benzene	ug/L	0.67	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323172
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A312864
RDL = Reportable Detection Limit							
N/A = Not Applicable							



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VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE102	ACE103	ACE104			
Sampling Date		2021/07/19 13:10	2021/07/19 13:50	2021/07/19 14:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-04	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Toluene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
RDL = Reportable Detection Limit							
N/A = Not Applicable							



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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE102	ACE103	ACE104			
Sampling Date		2021/07/19 13:10	2021/07/19 13:50	2021/07/19 14:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-04	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A312864
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	<0.60	0.60	0.010	A323172
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A312864
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	97	96	98	N/A	N/A	A312864
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	98	98	98	N/A	N/A	A312864
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	102	104	107	N/A	N/A	A312864
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	91	90	90	N/A	N/A	A323172
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	120	121	121	N/A	N/A	A323172
Leachable (SPLP) D8-TOLUENE (sur.)	%	90	93	90	N/A	N/A	A323172
RDL = Reportable Detection Limit							
N/A = Not Applicable							



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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE106	ACE108	ACE111			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
COC Number		M099339	M099339	M099360			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Benzene	ug/L	1.4	<0.40	0.72	0.40	N/A	A323172
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323172
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A312864

RDL = Reportable Detection Limit

N/A = Not Applicable



BV Labs Job #: C151797
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Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE106	ACE108	ACE111			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
COC Number		M099339	M099339	M099360			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Toluene	ug/L	0.65	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE106	ACE108	ACE111			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
COC Number		M099339	M099339	M099360			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A312864
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	<0.60	0.60	0.010	A323172
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A312864
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	97	97	96	N/A	N/A	A312864
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	98	98	98	N/A	N/A	A312864
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	104	103	108	N/A	N/A	A312864
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	90	89	90	N/A	N/A	A323172
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	119	122	123	N/A	N/A	A323172
Leachable (SPLP) D8-TOLUENE (sur.)	%	91	90	90	N/A	N/A	A323172
RDL = Reportable Detection Limit N/A = Not Applicable							



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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE112	ACE113	ACE114			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Benzene	ug/L	1.7	<0.40	2.1	0.40	N/A	A323172
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323172
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A312864

RDL = Reportable Detection Limit

N/A = Not Applicable



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Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE112	ACE113	ACE114			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	0.47	0.40	N/A	A323172
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Toluene	ug/L	0.53	<0.40	3.2	0.40	N/A	A323172
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
RDL = Reportable Detection Limit							
N/A = Not Applicable							



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GHD Limited
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Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE112	ACE113	ACE114			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	0.61	0.40	N/A	A323172
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A312864
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A312864
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	0.61	0.60	0.010	A323172
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A312864
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	97	98	97	N/A	N/A	A312864
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	97	97	98	N/A	N/A	A312864
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	107	99	106	N/A	N/A	A312864
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	89	89	90	N/A	N/A	A323172
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	121	122	123	N/A	N/A	A323172
Leachable (SPLP) D8-TOLUENE (sur.)	%	91	90	89	N/A	N/A	A323172
RDL = Reportable Detection Limit							
N/A = Not Applicable							



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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Volatiles						
Leachable (ZH) Benzene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Benzene	ug/L	<0.40	0.57	0.40	N/A	A323172
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Bromoform	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Bromomethane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Chloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	0.90	N/A	A323172
Leachable (ZH) Chloroform	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Chloromethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Dichloromethane	ug/L	<10	<10	10	N/A	A312864
RDL = Reportable Detection Limit						
N/A = Not Applicable						



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GHD Limited
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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	0.30	N/A	A323172
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	0.19	N/A	A323172
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Styrene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) Toluene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Toluene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichloroethene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	10	N/A	A312864
RDL = Reportable Detection Limit						
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BV Labs Job #: C151797
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VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	10	N/A	A312864
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	0.40	N/A	A323172
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	10	N/A	A312864
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	20	N/A	A312864
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	0.60	0.010	A323172
Leachable (ZH) o-Xylene	ug/L	<10	<10	10	N/A	A312864
Surrogate Recovery (%)						
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	97	98	N/A	N/A	A312864
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	97	96	N/A	N/A	A312864
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	107	102	N/A	N/A	A312864
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	89	89	N/A	N/A	A323172
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	122	122	N/A	N/A	A323172
Leachable (SPLP) D8-TOLUENE (sur.)	%	90	90	N/A	N/A	A323172
RDL = Reportable Detection Limit N/A = Not Applicable						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE099							
Sampling Date		2021/07/19 11:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-01	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	3.22	0.98	5.0	0.18	0.100	0.322	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.322	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACE100							
Sampling Date		2021/07/19 12:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-02	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	1.16	0.58	5.0	0.18	0.100	0.116	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.116	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE103							
Sampling Date		2021/07/19 13:50							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-05	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	1.33	0.53	5.0	0.18	0.100	0.133	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.133	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACE104							
Sampling Date		2021/07/19 14:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-06	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	22.7	0.71	5.0	0.18	0.100	2.27	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.27	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	71	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE106							
Sampling Date		2021/07/19 15:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-08	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	42.8	0.81	5.0	0.18	0.100	4.28	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	4.28	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACE108							
Sampling Date		2021/07/20 11:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-10	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	27.7	0.60	5.0	0.18	0.100	2.77	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.77	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-11	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	2.33	0.49	5.0	0.18	0.100	0.233	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.233	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-11 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	3.08	0.55	5.0	0.18	0.100	0.308	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.308	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
Lab-Dup = Laboratory Initiated Duplicate
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE112							
Sampling Date		2021/07/20 12:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-12	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	29.8	0.53	5.0	0.18	0.100	2.98	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.98	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	64	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACE113							
Sampling Date		2021/07/20 13:10							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	19.8	0.46	5.0	0.18	0.100	1.98	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1.98	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	68	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE114							
Sampling Date		2021/07/20 14:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-14	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation

Confirmation 2,3,7,8-Tetra CDF **	pg/g	66.6	0.50	5.0	0.18	0.100	6.66	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	6.66	N/A	N/A

Surrogate Recovery (%)

Confirmation C13-2378 TetraCDF **	%	66	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

BV Labs ID		ACE115							
Sampling Date		2021/07/20 14:20							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-15	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation

Confirmation 2,3,7,8-Tetra CDF **	pg/g	609	0.68	5.0	0.18	0.100	60.9	N/A	A327124
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	60.9	N/A	N/A

Surrogate Recovery (%)

Confirmation C13-2378 TetraCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327124

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACE116							
Sampling Date		2021/07/20 14:50							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-16	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	2390 (1)	0.87	50	0.18	0.100	239	N/A	A327235
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	239	N/A	N/A
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327235

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable
(1) 10X Dilution. DL adjusted accordingly.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE099							
Sampling Date		2021/07/19 11:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-01	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	9.10	0.587	24.9	0.199	0.0100	0.0910	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	0.745	0.551	24.9	0.199	0.100	0.0745	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	0.909	0.554	24.9	0.199	0.100	0.0909	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	1.10	0.539	24.9	0.199	0.100	0.110	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	0.912	0.508	24.9	0.199	1.00	0.912	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	<0.581	0.581	4.98	0.199	1.00	0.581	N/A	A327122
Octa CDD *	pg/g	26.2	1.70	49.8	0.398	0.000300	0.00786	N/A	A327122
Total Hepta CDD *	pg/g	19.6	0.587	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	18.9	0.553	24.9	0.199	N/A	N/A	6	A327122
Total Penta CDD *	pg/g	32.2	0.508	24.9	0.199	N/A	N/A	6	A327122
Total Tetra CDD *	pg/g	94.3	0.581	4.98	0.199	N/A	N/A	9	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	10.5	0.552	24.9	0.199	0.0100	0.105	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	1.48	0.558	24.9	0.199	0.0100	0.0148	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	2.82	0.587	24.9	0.199	0.100	0.282	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	3.16	0.616	24.9	0.199	0.100	0.316	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.602	0.602	24.9	0.199	0.100	0.0602	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	2.59	0.571	24.9	0.199	0.0300	0.0777	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	3.99	0.569	24.9	0.199	0.100	0.399	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	3.56	0.518	24.9	0.199	0.300	1.07	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE099							
Sampling Date		2021/07/19 11:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-01	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<25.6 (1)	25.6	4.98	0.199	0.100	2.56	N/A	A327122
Octa CDF **	pg/g	6.53	0.735	49.8	0.398	0.000300	0.00196	N/A	A327122
Total Hepta CDF **	pg/g	17.2	0.555	24.9	0.199	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	29.9	0.593	24.9	0.199	N/A	N/A	9	A327122
Total Penta CDF **	pg/g	57.7	0.543	24.9	0.199	N/A	N/A	12	A327122
Total Tetra CDF **	pg/g	130	0.594	4.98	0.199	N/A	N/A	17	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	6.75	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	122	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	107	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE099							
Sampling Date		2021/07/19 11:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-01	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE100							
Sampling Date		2021/07/19 12:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-02	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	81.1	0.468	25.0	0.200	0.0100	0.811	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	3.16	0.540	25.0	0.200	0.100	0.316	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	4.96	0.542	25.0	0.200	0.100	0.496	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	6.54	0.528	25.0	0.200	0.100	0.654	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	2.95	0.512	25.0	0.200	1.00	2.95	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	0.830	0.597	4.99	0.200	1.00	0.830	N/A	A327122
Octa CDD *	pg/g	199	1.71	49.9	0.399	0.000300	0.0597	N/A	A327122
Total Hepta CDD *	pg/g	197	0.468	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	75.1	0.542	25.0	0.200	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	38.3	0.512	25.0	0.200	N/A	N/A	10	A327122
Total Tetra CDD *	pg/g	29.0	0.597	4.99	0.200	N/A	N/A	8	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	4.23	0.627	25.0	0.200	0.0100	0.0423	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<0.633	0.633	25.0	0.200	0.0100	0.00633	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	1.18	0.518	25.0	0.200	0.100	0.118	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	0.958	0.543	25.0	0.200	0.100	0.0958	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.531	0.531	25.0	0.200	0.100	0.0531	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	1.15	0.572	25.0	0.200	0.0300	0.0345	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	1.12	0.502	25.0	0.200	0.100	0.112	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	1.22	0.519	25.0	0.200	0.300	0.366	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE100							
Sampling Date		2021/07/19 12:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-02	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<8.08 (1)	8.08	4.99	0.200	0.100	0.808	N/A	A327122
Octa CDF **	pg/g	3.97	0.721	49.9	0.399	0.000300	0.00119	N/A	A327122
Total Hepta CDF **	pg/g	8.12	0.630	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDF **	pg/g	5.63	0.523	25.0	0.200	N/A	N/A	5	A327122
Total Penta CDF **	pg/g	13.3	0.545	25.0	0.200	N/A	N/A	7	A327122
Total Tetra CDF **	pg/g	39.2	0.590	4.99	0.200	N/A	N/A	13	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	7.75	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	101	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	115	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE100							
Sampling Date		2021/07/19 12:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-02	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE102							
Sampling Date		2021/07/19 13:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-04	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	34.5	0.582	24.9	0.199	0.0100	0.345	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	0.846	0.526	24.9	0.199	0.100	0.0846	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	1.29	0.529	24.9	0.199	0.100	0.129	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	1.73	0.515	24.9	0.199	0.100	0.173	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	<0.749 (1)	0.749	24.9	0.199	1.00	0.749	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	<0.585	0.585	4.98	0.199	1.00	0.585	N/A	A327122
Octa CDD *	pg/g	116	1.97	49.8	0.398	0.000300	0.0348	N/A	A327122
Total Hepta CDD *	pg/g	59.4	0.582	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	12.1	0.528	24.9	0.199	N/A	N/A	5	A327122
Total Penta CDD *	pg/g	2.37	0.620	24.9	0.199	N/A	N/A	2	A327122
Total Tetra CDD *	pg/g	2.47	0.585	4.98	0.199	N/A	N/A	2	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	5.44	0.569	24.9	0.199	0.0100	0.0544	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<0.574	0.574	24.9	0.199	0.0100	0.00574	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	<0.585	0.585	24.9	0.199	0.100	0.0585	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	<0.614	0.614	24.9	0.199	0.100	0.0614	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.599	0.599	24.9	0.199	0.100	0.0599	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	<0.600	0.600	24.9	0.199	0.0300	0.0180	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	<0.567	0.567	24.9	0.199	0.100	0.0567	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) RT>2 seconds - PCDD/DF analysis-Peak maxima of monitored ions exceeds 2 seconds and has resulted in elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE102							
Sampling Date		2021/07/19 13:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-04	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,4,7,8-Penta CDF **	pg/g	<0.544	0.544	24.9	0.199	0.300	0.163	N/A	A327122
2,3,7,8-Tetra CDF **	pg/g	<1.23 (1)	1.23	4.98	0.199	0.100	0.123	N/A	A327122
Octa CDF **	pg/g	5.08	0.679	49.8	0.398	0.000300	0.00152	N/A	A327122
Total Hepta CDF **	pg/g	9.22	0.571	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDF **	pg/g	4.72	0.591	24.9	0.199	N/A	N/A	2	A327122
Total Penta CDF **	pg/g	3.64	0.571	24.9	0.199	N/A	N/A	3	A327122
Total Tetra CDF **	pg/g	1.98	0.586	4.98	0.199	N/A	N/A	2	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.70	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	121	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	126	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE102							
Sampling Date		2021/07/19 13:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-04	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds * CDD = Chloro Dibenzo-p-Dioxin N/A = Not Applicable ** CDF = Chloro Dibenzo-p-Furan									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE103							
Sampling Date		2021/07/19 13:50							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-05	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	4.34	0.512	25.0	0.200	0.0100	0.0434	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	<0.535	0.535	25.0	0.200	0.100	0.0535	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	<0.538	0.538	25.0	0.200	0.100	0.0538	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	<1.07 (1)	1.07	25.0	0.200	0.100	0.107	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	<0.537	0.537	25.0	0.200	1.00	0.537	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	<0.577	0.577	4.99	0.200	1.00	0.577	N/A	A327122
Octa CDD *	pg/g	8.75	1.70	49.9	0.399	0.000300	0.00263	N/A	A327122
Total Hepta CDD *	pg/g	11.2	0.512	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	7.13	0.537	25.0	0.200	N/A	N/A	3	A327122
Total Penta CDD *	pg/g	5.02	0.537	25.0	0.200	N/A	N/A	3	A327122
Total Tetra CDD *	pg/g	30.4	0.577	4.99	0.200	N/A	N/A	8	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	2.60	0.576	25.0	0.200	0.0100	0.0260	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<0.581	0.581	25.0	0.200	0.0100	0.00581	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	<0.847 (2)	0.847	25.0	0.200	0.100	0.0847	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	0.828	0.607	25.0	0.200	0.100	0.0828	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.593	0.593	25.0	0.200	0.100	0.0593	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

EMPC / Merged Peak

(2) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE103							
Sampling Date		2021/07/19 13:50							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-05	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
1,2,3,7,8-Penta CDF **	pg/g	<1.10 (1)	1.10	25.0	0.200	0.0300	0.0330	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	1.25	0.561	25.0	0.200	0.100	0.125	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	1.01	0.554	25.0	0.200	0.300	0.303	N/A	A327122
2,3,7,8-Tetra CDF **	pg/g	<8.65 (2)	8.65	4.99	0.200	0.100	0.865	N/A	A327122
Octa CDF **	pg/g	<1.19 (3)	1.19	49.9	0.400	0.000300	0.000357	N/A	A327122
Total Hepta CDF **	pg/g	3.51	0.579	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDF **	pg/g	5.75	0.585	25.0	0.200	N/A	N/A	4	A327122
Total Penta CDF **	pg/g	14.7	0.581	25.0	0.200	N/A	N/A	7	A327122
Total Tetra CDF **	pg/g	46.0	0.574	4.99	0.200	N/A	N/A	15	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.96	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT>2 seconds - PCDD/DF analysis-Peak maxima of monitored ions exceeds 2 seconds and has resulted in elevated detection limit.

RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.

(2) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.

(3) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE103							
Sampling Date		2021/07/19 13:50							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-05	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-123678 HexaCDD *	%	126	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	107	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE104							
Sampling Date		2021/07/19 14:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-06	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	90.4	0.404	25.0	0.200	0.0100	0.904	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	7.63	0.493	25.0	0.200	0.100	0.763	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	12.2	0.495	25.0	0.200	0.100	1.22	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	12.0	0.482	25.0	0.200	0.100	1.20	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	13.0	0.552	25.0	0.200	1.00	13.0	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	5.14	0.639	4.99	0.200	1.00	5.14	N/A	A327122
Octa CDD *	pg/g	258	1.97	49.9	0.399	0.000300	0.0774	N/A	A327122
Total Hepta CDD *	pg/g	219	0.404	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	420	0.495	25.0	0.200	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	1150	0.552	25.0	0.200	N/A	N/A	12	A327122
Total Tetra CDD *	pg/g	5460	0.639	4.99	0.200	N/A	N/A	14	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	48.9	0.459	25.0	0.200	0.0100	0.489	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	6.45	0.463	25.0	0.200	0.0100	0.0645	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	20.8	0.537	25.0	0.200	0.100	2.08	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	18.1	0.563	25.0	0.200	0.100	1.81	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	1.45	0.550	25.0	0.200	0.100	0.145	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	18.8	0.690	25.0	0.200	0.0300	0.564	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	19.3	0.520	25.0	0.200	0.100	1.93	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	<24.7 (1)	24.7	25.0	0.200	0.300	7.41	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE104							
Sampling Date		2021/07/19 14:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-06	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<277 (1)	277	4.99	0.200	0.100	27.7	N/A	A327122
Octa CDF **	pg/g	22.0	0.641	49.9	0.400	0.000300	0.00660	N/A	A327122
Total Hepta CDF **	pg/g	77.2	0.461	25.0	0.200	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	176	0.542	25.0	0.200	N/A	N/A	11	A327122
Total Penta CDF **	pg/g	441	0.656	25.0	0.200	N/A	N/A	12	A327122
Total Tetra CDF **	pg/g	1320	0.616	4.99	0.200	N/A	N/A	18	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	64.5	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	114	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE104							
Sampling Date		2021/07/19 14:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-06	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE106							
Sampling Date		2021/07/19 15:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921-CT-08	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
DIOXINS									
1,2,3,4,6,7,8-Hepta CDD *	pg/g	14.9	0.578	24.9	0.199	0.0100	0.149	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	2.21	0.509	24.9	0.199	0.100	0.221	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	2.54	0.511	24.9	0.199	0.100	0.254	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	3.27	0.498	24.9	0.199	0.100	0.327	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	5.33	0.646	24.9	0.199	1.00	5.33	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	2.55	0.606	4.98	0.199	1.00	2.55	N/A	A327122
Octa CDD *	pg/g	31.3	1.85	49.8	0.398	0.000300	0.00939	N/A	A327122
Total Hepta CDD *	pg/g	34.5	0.578	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	45.4	0.511	24.9	0.199	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	93.6	0.646	24.9	0.199	N/A	N/A	10	A327122
Total Tetra CDD *	pg/g	249	0.606	4.98	0.199	N/A	N/A	11	A327122
FURANS									
1,2,3,4,6,7,8-Hepta CDF **	pg/g	25.9	0.478	24.9	0.199	0.0100	0.259	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	5.11	0.482	24.9	0.199	0.0100	0.0511	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	18.4	0.515	24.9	0.199	0.100	1.84	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	16.7	0.540	24.9	0.199	0.100	1.67	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	1.45	0.528	24.9	0.199	0.100	0.145	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	28.2	0.731	24.9	0.199	0.0300	0.846	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	12.9	0.499	24.9	0.199	0.100	1.29	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	28.5	0.663	24.9	0.199	0.300	8.55	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds * CDD = Chloro Dibenzo-p-Dioxin N/A = Not Applicable ** CDF = Chloro Dibenzo-p-Furan									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE106							
Sampling Date		2021/07/19 15:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-08	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<176 (1)	176	4.98	0.199	0.100	17.6	N/A	A327122
Octa CDF **	pg/g	8.93	0.816	49.8	0.398	0.000300	0.00268	N/A	A327122
Total Hepta CDF **	pg/g	43.5	0.480	24.9	0.199	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	132	0.520	24.9	0.199	N/A	N/A	14	A327122
Total Penta CDF **	pg/g	354	0.695	24.9	0.199	N/A	N/A	15	A327122
Total Tetra CDF **	pg/g	1060	0.523	4.98	0.199	N/A	N/A	18	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	41.1	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	108	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	114	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	129	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	107	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE106							
Sampling Date		2021/07/19 15:20							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-071921- CT-08	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE108							
Sampling Date		2021/07/20 11:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-10	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	92.7	0.557	25.0	0.200	0.0100	0.927	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	10.2	0.537	25.0	0.200	0.100	1.02	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	16.4	0.540	25.0	0.200	0.100	1.64	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	14.9	0.526	25.0	0.200	0.100	1.49	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	16.6	0.598	25.0	0.200	1.00	16.6	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	6.32	0.650	4.99	0.200	1.00	6.32	N/A	A327122
Octa CDD *	pg/g	131	1.78	49.9	0.399	0.000300	0.0393	N/A	A327122
Total Hepta CDD *	pg/g	234	0.557	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	631	0.540	25.0	0.200	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	1360	0.598	25.0	0.200	N/A	N/A	12	A327122
Total Tetra CDD *	pg/g	4130	0.650	4.99	0.200	N/A	N/A	14	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	93.8	0.632	25.0	0.200	0.0100	0.938	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	11.7	0.638	25.0	0.200	0.0100	0.117	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	37.8	0.559	25.0	0.200	0.100	3.78	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	34.8	0.586	25.0	0.200	0.100	3.48	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	2.18	0.573	25.0	0.200	0.100	0.218	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	31.6	0.557	25.0	0.200	0.0300	0.948	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	44.2	0.541	25.0	0.200	0.100	4.42	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	47.1	0.505	25.0	0.200	0.300	14.1	N/A	A327122
2,3,7,8-Tetra CDF **	pg/g	372	0.603	4.99	0.200	0.100	37.2	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE108							
Sampling Date		2021/07/20 11:10							
COC Number		M099339				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-10	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	33.1	0.583	49.9	0.400	0.000300	0.00993	N/A	A327122
Total Hepta CDF **	pg/g	149	0.635	25.0	0.200	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	358	0.564	25.0	0.200	N/A	N/A	13	A327122
Total Penta CDF **	pg/g	879	0.530	25.0	0.200	N/A	N/A	17	A327122
Total Tetra CDF **	pg/g	1670	0.603	4.99	0.200	N/A	N/A	20	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	93.2	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	114	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-11	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	3.97	0.581	24.9	0.199	0.0100	0.0397	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	<0.962	0.962	24.9	0.199	0.100	0.0962	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	<0.964	0.964	24.9	0.199	0.100	0.0964	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	<0.956	0.956	24.9	0.199	0.100	0.0956	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	<0.986	0.986	24.9	0.199	1.00	0.986	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	<1.16	1.16	4.98	0.199	1.00	1.16	N/A	A327122
Octa CDD *	pg/g	6.61	1.57	49.8	0.398	0.000300	0.00198	N/A	A327122
Total Hepta CDD *	pg/g	9.93	0.581	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	16.2	0.966	24.9	0.199	N/A	N/A	3	A327122
Total Penta CDD *	pg/g	35.4	0.986	24.9	0.199	N/A	N/A	4	A327122
Total Tetra CDD *	pg/g	113	1.16	4.98	0.199	N/A	N/A	7	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	3.73	0.721	24.9	0.199	0.0100	0.0373	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<0.725	0.725	24.9	0.199	0.0100	0.00725	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	1.57	1.05	24.9	0.199	0.100	0.157	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	1.85	1.10	24.9	0.199	0.100	0.185	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<1.07	1.07	24.9	0.199	0.100	0.107	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	<1.12	1.12	24.9	0.199	0.0300	0.0336	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	2.18	1.02	24.9	0.199	0.100	0.218	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	2.87	1.01	24.9	0.199	0.300	0.861	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-11	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<22.8 (1)	22.8	4.98	0.199	0.100	2.28	N/A	A327122
Octa CDF **	pg/g	1.68	0.868	49.8	0.398	0.000300	0.000504	N/A	A327122
Total Hepta CDF **	pg/g	4.84	0.723	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDF **	pg/g	12.9	1.06	24.9	0.199	N/A	N/A	5	A327122
Total Penta CDF **	pg/g	33.9	1.06	24.9	0.199	N/A	N/A	9	A327122
Total Tetra CDF **	pg/g	108	0.622	4.98	0.199	N/A	N/A	15	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	6.36	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	120	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	101	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	112	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-11	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021- CT-11 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	5.95	0.669	25.0	0.200	0.0100	0.0595	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	<0.856	0.856	25.0	0.200	0.100	0.0856	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	<0.944 (1)	0.944	25.0	0.200	0.100	0.0944	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	<0.851	0.851	25.0	0.200	0.100	0.0851	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	<0.970 (1)	0.970	25.0	0.200	1.00	0.970	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	<0.865	0.865	5.00	0.200	1.00	0.865	N/A	A327122
Octa CDD *	pg/g	9.87	2.20	50.0	0.400	0.000300	0.00296	N/A	A327122
Total Hepta CDD *	pg/g	14.9	0.669	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	24.2	0.860	25.0	0.200	N/A	N/A	3	A327122
Total Penta CDD *	pg/g	52.1	0.708	25.0	0.200	N/A	N/A	6	A327122
Total Tetra CDD *	pg/g	155 (2)	0.865	5.00	0.200	N/A	N/A	9	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	5.87	0.395	25.0	0.200	0.0100	0.0587	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<0.656 (1)	0.656	25.0	0.200	0.0100	0.00656	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	2.39	0.812	25.0	0.200	0.100	0.239	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	2.10	0.847	25.0	0.200	0.100	0.210	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.827	0.827	25.0	0.200	0.100	0.0827	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	1.76	0.918	25.0	0.200	0.0300	0.0528	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

Lab-Dup = Laboratory Initiated Duplicate

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

(2) Duplicate results exceeded RPD acceptance criteria. This may be due to sample heterogeneity.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021- CT-11 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,4,6,7,8-Hexa CDF **	pg/g	3.12	0.783	25.0	0.200	0.100	0.312	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	3.35	0.831	25.0	0.200	0.300	1.01	N/A	A327122
2,3,7,8-Tetra CDF **	pg/g	<28.6 (1)	28.6	5.00	0.200	0.100	2.86	N/A	A327122
Octa CDF **	pg/g	2.62	0.700	50.0	0.400	0.000300	0.000786	N/A	A327122
Total Hepta CDF **	pg/g	7.50	0.397	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDF **	pg/g	22.6	0.817	25.0	0.200	N/A	N/A	6	A327122
Total Penta CDF **	pg/g	52.5	0.872	25.0	0.200	N/A	N/A	13	A327122
Total Tetra CDF **	pg/g	141 (2)	0.902	5.00	0.200	N/A	N/A	15	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	7.00	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	110	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	127	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds Lab-Dup = Laboratory Initiated Duplicate ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit. (2) Duplicate results exceeded RPD acceptance criteria. This may be due to sample heterogeneity.									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE111							
Sampling Date		2021/07/20 11:45							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021- CT-11 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-123789 HexaCDF **	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	101	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	115	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds Lab-Dup = Laboratory Initiated Duplicate ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE112							
Sampling Date		2021/07/20 12:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-12	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	22.3	1.12	24.9	0.199	0.0100	0.223	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	2.26	0.715	24.9	0.199	0.100	0.226	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	3.17	0.716	24.9	0.199	0.100	0.317	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	3.67	0.710	24.9	0.199	0.100	0.367	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	4.07	1.16	24.9	0.199	1.00	4.07	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	2.83	1.01	4.98	0.199	1.00	2.83	N/A	A327122
Octa CDD *	pg/g	32.8	1.91	49.8	0.398	0.000300	0.00984	N/A	A327122
Total Hepta CDD *	pg/g	57.1	1.12	24.9	0.199	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	76.7	0.718	24.9	0.199	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	147	1.16	24.9	0.199	N/A	N/A	10	A327122
Total Tetra CDD *	pg/g	493	1.01	4.98	0.199	N/A	N/A	13	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	14.1	0.543	24.9	0.199	0.0100	0.141	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	1.37	0.546	24.9	0.199	0.0100	0.0137	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	6.77	0.948	24.9	0.199	0.100	0.677	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	7.39	0.989	24.9	0.199	0.100	0.739	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.966	0.966	24.9	0.199	0.100	0.0966	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	13.4	0.966	24.9	0.199	0.0300	0.402	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	7.41	0.915	24.9	0.199	0.100	0.741	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	14.4	0.875	24.9	0.199	0.300	4.32	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE112							
Sampling Date		2021/07/20 12:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-12	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<110 (1)	110	4.98	0.199	0.100	11.0	N/A	A327122
Octa CDF **	pg/g	4.98	0.833	49.8	0.399	0.000300	0.00149	N/A	A327122
Total Hepta CDF **	pg/g	18.4	0.545	24.9	0.199	N/A	N/A	3	A327122
Total Hexa CDF **	pg/g	71.1	0.954	24.9	0.199	N/A	N/A	13	A327122
Total Penta CDF **	pg/g	173	0.918	24.9	0.199	N/A	N/A	12	A327122
Total Tetra CDF **	pg/g	657	0.582	4.98	0.199	N/A	N/A	19	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	26.2	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	115	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE112							
Sampling Date		2021/07/20 12:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-12	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE113							
Sampling Date		2021/07/20 13:10							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	17.9	0.612	25.0	0.200	0.0100	0.179	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	1.80	0.771	25.0	0.200	0.100	0.180	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	1.91	0.772	25.0	0.200	0.100	0.191	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	1.97	0.766	25.0	0.200	0.100	0.197	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	3.10	0.845	25.0	0.200	1.00	3.10	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	2.05	1.29	5.00	0.200	1.00	2.05	N/A	A327122
Octa CDD *	pg/g	40.3	1.84	50.0	0.400	0.000300	0.0121	N/A	A327122
Total Hepta CDD *	pg/g	47.2	0.612	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	37.1	0.774	25.0	0.200	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	44.9	0.845	25.0	0.200	N/A	N/A	8	A327122
Total Tetra CDD *	pg/g	134	1.29	5.00	0.200	N/A	N/A	11	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	14.4	0.588	25.0	0.200	0.0100	0.144	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	2.95	0.592	25.0	0.200	0.0100	0.0295	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	7.11	0.748	25.0	0.200	0.100	0.711	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	8.11	0.781	25.0	0.200	0.100	0.811	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	1.20	0.762	25.0	0.200	0.100	0.120	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	12.1	0.876	25.0	0.200	0.0300	0.363	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	8.36	0.722	25.0	0.200	0.100	0.836	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	16.9	0.793	25.0	0.200	0.300	5.07	N/A	A327122
2,3,7,8-Tetra CDF **	pg/g	87.1	1.35	5.00	0.200	0.100	8.71	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE113							
Sampling Date		2021/07/20 13:10							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	5.09	0.750	50.0	0.400	0.000300	0.00153	N/A	A327122
Total Hepta CDF **	pg/g	26.9	0.590	25.0	0.200	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	84.1	0.753	25.0	0.200	N/A	N/A	15	A327122
Total Penta CDF **	pg/g	178	0.832	25.0	0.200	N/A	N/A	15	A327122
Total Tetra CDF **	pg/g	512	1.35	5.00	0.200	N/A	N/A	20	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	22.7	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	116	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE114							
Sampling Date		2021/07/20 14:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-14	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
DIOXINS									
1,2,3,4,6,7,8-Hepta CDD *	pg/g	168	0.797	24.9	0.200	0.0100	1.68	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	14.9	0.893	24.9	0.200	0.100	1.49	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	21.6	0.894	24.9	0.200	0.100	2.16	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	15.9	0.887	24.9	0.200	0.100	1.59	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	18.5	1.09	24.9	0.200	1.00	18.5	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	5.31	1.08	4.99	0.200	1.00	5.31	N/A	A327122
Octa CDD *	pg/g	359	1.67	49.9	0.399	0.000300	0.108	N/A	A327122
Total Hepta CDD *	pg/g	344	0.797	24.9	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	315	0.897	24.9	0.200	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	414	1.09	24.9	0.200	N/A	N/A	12	A327122
Total Tetra CDD *	pg/g	683	1.08	4.99	0.200	N/A	N/A	15	A327122
FURANS									
1,2,3,4,6,7,8-Hepta CDF **	pg/g	434	0.953	24.9	0.200	0.0100	4.34	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	28.9	0.959	24.9	0.200	0.0100	0.289	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	76.2	1.17	24.9	0.200	0.100	7.62	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	102	1.22	24.9	0.200	0.100	10.2	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	3.61	1.20	24.9	0.200	0.100	0.361	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	62.4	1.47	24.9	0.200	0.0300	1.87	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	138	1.13	24.9	0.200	0.100	13.8	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	103	1.33	24.9	0.200	0.300	30.9	N/A	A327122
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds * CDD = Chloro Dibenzo-p-Dioxin N/A = Not Applicable ** CDF = Chloro Dibenzo-p-Furan									



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE114							
Sampling Date		2021/07/20 14:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021- CT-14	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<388 (1)	388	4.99	0.200	0.100	38.8	N/A	A327122
Octa CDF **	pg/g	108	1.13	49.9	0.399	0.000300	0.0324	N/A	A327122
Total Hepta CDF **	pg/g	559	0.956	24.9	0.200	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	983	1.18	24.9	0.200	N/A	N/A	15	A327122
Total Penta CDF **	pg/g	1190	1.39	24.9	0.200	N/A	N/A	15	A327122
Total Tetra CDF **	pg/g	2040	1.21	4.99	0.200	N/A	N/A	20	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	139	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	117	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE114							
Sampling Date		2021/07/20 14:00							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021- CT-14	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE115							
Sampling Date		2021/07/20 14:20							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-15	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	1240	1.23	25.0	0.200	0.0100	12.4	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	117	0.464	25.0	0.200	0.100	11.7	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	161	0.465	25.0	0.200	0.100	16.1	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	175	0.461	25.0	0.200	0.100	17.5	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	175	0.978	25.0	0.200	1.00	175	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	47.8	1.53	5.00	0.200	1.00	47.8	N/A	A327122
Octa CDD *	pg/g	3900	1.55	50.0	0.400	0.000300	1.17	N/A	A327122
Total Hepta CDD *	pg/g	2500	1.23	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	2180	0.466	25.0	0.200	N/A	N/A	8	A327122
Total Penta CDD *	pg/g	2600	0.978	25.0	0.200	N/A	N/A	12	A327122
Total Tetra CDD *	pg/g	3230	1.53	5.00	0.200	N/A	N/A	15	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	3960	0.691	25.0	0.200	0.0100	39.6	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	332	0.695	25.0	0.200	0.0100	3.32	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	675	2.39	25.0	0.200	0.100	67.5	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	881	2.50	25.0	0.200	0.100	88.1	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	37.1	2.44	25.0	0.200	0.100	3.71	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	624	2.16	25.0	0.200	0.0300	18.7	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	944	2.31	25.0	0.200	0.100	94.4	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	801	1.96	25.0	0.200	0.300	240	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE115							
Sampling Date		2021/07/20 14:20							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-15	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<2930 (1)	2930	5.00	0.200	0.100	293	N/A	A327122
Octa CDF **	pg/g	2560	1.41	50.0	0.400	0.000300	0.768	N/A	A327122
Total Hepta CDF **	pg/g	5620	0.693	25.0	0.200	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	8050	2.41	25.0	0.200	N/A	N/A	15	A327122
Total Penta CDF **	pg/g	10300	2.05	25.0	0.200	N/A	N/A	15	A327122
Total Tetra CDF **	pg/g	18500	1.33	5.00	0.200	N/A	N/A	20	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1130	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	102	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	122	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	133	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	112	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	113	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	139 (2)	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	115	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	120	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	115	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE115							
Sampling Date		2021/07/20 14:20							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021- CT-15	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-23478 PentaCDF **	%	135	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDF **	%	116	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	114	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE116							
Sampling Date		2021/07/20 14:50							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-16	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	1160	0.479	25.0	0.200	0.0100	11.6	N/A	A327122
1,2,3,4,7,8-Hexa CDD *	pg/g	284	0.495	25.0	0.200	0.100	28.4	N/A	A327122
1,2,3,6,7,8-Hexa CDD *	pg/g	426	0.498	25.0	0.200	0.100	42.6	N/A	A327122
1,2,3,7,8,9-Hexa CDD *	pg/g	643 (1)	0.454	25.0	0.200	0.100	64.3	N/A	A327122
1,2,3,7,8-Penta CDD *	pg/g	666	0.705	25.0	0.200	1.00	666	N/A	A327122
2,3,7,8-Tetra CDD *	pg/g	188	0.669	4.99	0.200	1.00	188	N/A	A327122
Octa CDD *	pg/g	771	0.668	49.9	0.399	0.000300	0.231	N/A	A327122
Total Hepta CDD *	pg/g	2180	0.479	25.0	0.200	N/A	N/A	2	A327122
Total Hexa CDD *	pg/g	4550	0.482	25.0	0.200	N/A	N/A	7	A327122
Total Penta CDD *	pg/g	9430	0.705	25.0	0.200	N/A	N/A	12	A327122
Total Tetra CDD *	pg/g	14700	0.669	4.99	0.200	N/A	N/A	14	A327122

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	1860	0.393	25.0	0.200	0.0100	18.6	N/A	A327122
1,2,3,4,7,8,9-Hepta CDF **	pg/g	291	0.419	25.0	0.200	0.0100	2.91	N/A	A327122
1,2,3,4,7,8-Hexa CDF **	pg/g	2500 (1)	0.491	25.0	0.200	0.100	250	N/A	A327122
1,2,3,6,7,8-Hexa CDF **	pg/g	1270	0.481	25.0	0.200	0.100	127	N/A	A327122
1,2,3,7,8,9-Hexa CDF **	pg/g	92.1	0.502	25.0	0.200	0.100	9.21	N/A	A327122
1,2,3,7,8-Penta CDF **	pg/g	1770	0.651	25.0	0.200	0.0300	53.1	N/A	A327122
2,3,4,6,7,8-Hexa CDF **	pg/g	999	0.472	25.0	0.200	0.100	99.9	N/A	A327122
2,3,4,7,8-Penta CDF **	pg/g	1750	0.593	25.0	0.200	0.300	525	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / Merged Peak



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE116							
Sampling Date		2021/07/20 14:50							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-16	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	8250	0.627	4.99	0.200	0.100	825	N/A	A327122
Octa CDF **	pg/g	497	0.521	49.9	0.400	0.000300	0.149	N/A	A327122
Total Hepta CDF **	pg/g	2880	0.406	25.0	0.200	N/A	N/A	4	A327122
Total Hexa CDF **	pg/g	9780	0.486	25.0	0.200	N/A	N/A	13	A327122
Total Penta CDF **	pg/g	21800	0.621	25.0	0.200	N/A	N/A	18	A327122
Total Tetra CDF **	pg/g	49500	0.627	4.99	0.200	N/A	N/A	15	A327122
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2910	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234678 HeptaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDD *	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123478 HexaCDF **	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-1234789 HeptaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDD *	%	134 (1)	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123678 HexaCDF **	%	108	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDD *	%	118	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-12378 PentaCDF **	%	110	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-123789 HexaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-234678 HexaCDF **	%	112	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-23478 PentaCDF **	%	147	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-2378 TetraCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACE116							
Sampling Date		2021/07/20 14:50							
COC Number		M099360				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072021-CT-16	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A327122
C13-OCDD *	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A327122

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0050	A308778
Total Dichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Trichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Chlorophenols	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0050	A308778
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A308778
Total Phenolic Compounds	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A308778

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	0.12	0.47	0.30	0.050	0.050	A309200
2-chlorophenol	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0050	A309200
3 & 4-chlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
3 & 4-methylphenol	mg/kg	<0.050	0.052	<0.050	0.050	0.050	A309200
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,4-dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,6-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200

RDL = Reportable Detection Limit



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A309200
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A309200
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A309200
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A309200
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	93	64	20 (1)	N/A	N/A	A309200
2,4-DIBROMOPHENOL (sur.)	%	90	61	21 (1)	N/A	N/A	A309200
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	CS-11230615-071921-CT-08	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	<0.0050	0.016	0.036	0.0050	0.0050	A308778
Total Dichlorophenols	mg/kg	<0.0050	<0.0050	0.010	0.0050	0.0050	A308778
Total Trichlorophenols	mg/kg	<0.0050	0.0070	0.015	0.0050	0.0050	A308778
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Chlorophenols	mg/kg	<0.0050	0.022	0.060	0.0050	0.0050	A308778
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A308778
Total Phenolic Compounds	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A308778

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	0.13 (1)	3.7	1.0	0.050	0.050	A309200
2-chlorophenol	mg/kg	<0.0050	0.016	0.028	0.0050	0.0050	A309200
3 & 4-chlorophenol	mg/kg	<0.0050	<0.0050	0.0080 (1)	0.0050	0.0050	A309200
2-methylphenol	mg/kg	<0.050	0.081	0.10	0.050	0.050	A309200
3 & 4-methylphenol	mg/kg	<0.050	0.12	0.16	0.050	0.050	A309200
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,4-dimethylphenol	mg/kg	<0.050	0.065	<0.050	0.050	0.050	A309200
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	0.0096	0.0050	0.0050	A309200
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,6-trichlorophenol	mg/kg	<0.0050	0.0066	0.015	0.0050	0.0050	A309200
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200

RDL = Reportable Detection Limit

(1) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A309200
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A309200
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A309200
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A309200
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	31 (1)	20 (1)	84	N/A	N/A	A309200
2,4-DIBROMOPHENOL (sur.)	%	21 (1)	10 (1)	33 (1)	N/A	N/A	A309200
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE108	ACE111	ACE112			
Sampling Date		2021/07/20 11:10	2021/07/20 11:45	2021/07/20 12:00			
COC Number		M099339	M099360	M099360			
	UNITS	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	0.027	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Dichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Trichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Chlorophenols	mg/kg	0.027	<0.0050	<0.0050	0.0050	0.0050	A308778
Total Nonchlorinated Phenols	mg/kg	7.0	<5.0	<5.0	5.0	5.0	A308778
Total Phenolic Compounds	mg/kg	7.0	<5.0	<5.0	5.0	5.0	A308778

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	6.5	0.32	0.67	0.050	0.050	A309200
2-chlorophenol	mg/kg	0.018	<0.0050	<0.0050	0.0050	0.0050	A309200
3 & 4-chlorophenol	mg/kg	0.0081 (1)	<0.0050	<0.0050	0.0050	0.0050	A309200
2-methylphenol	mg/kg	0.16	<0.050	<0.050	0.050	0.050	A309200
3 & 4-methylphenol	mg/kg	0.18	0.086	<0.050	0.050	0.050	A309200
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,4-dimethylphenol	mg/kg	0.16	<0.050	<0.050	0.050	0.050	A309200
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,6-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200

RDL = Reportable Detection Limit

(1) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE108	ACE111	ACE112			
Sampling Date		2021/07/20 11:10	2021/07/20 11:45	2021/07/20 12:00			
COC Number		M099339	M099360	M099360			
	UNITS	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	RDL	MDL	QC Batch
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309200
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A309200
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A309200
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A309200
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A309200
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A309200
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	5.5 (1)	50	8.5 (1)	N/A	N/A	A309200
2,4-DIBROMOPHENOL (sur.)	%	11 (1)	70	3.0 (1)	N/A	N/A	A309200
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE113			ACE114			
Sampling Date		2021/07/20 13:10			2021/07/20 14:00			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021-CT-13	RDL	MDL	CS-11230615-072021-CT-14	RDL	MDL	QC Batch

Calculated Parameters								
Total Monochlorophenols	mg/kg	<0.050	0.050	0.050	0.027	0.0050	0.0050	A308778
Total Dichlorophenols	mg/kg	<0.050	0.050	0.050	0.014	0.0050	0.0050	A308778
Total Trichlorophenols	mg/kg	<0.050	0.050	0.050	0.0060	0.0050	0.0050	A308778
Total Tetrachlorophenols	mg/kg	<0.050	0.050	0.050	<0.0050	0.0050	0.0050	A308778
Total Chlorophenols	mg/kg	<0.050	0.050	0.050	0.047	0.0050	0.0050	A308778
Total Nonchlorinated Phenols	mg/kg	<5.0	5.0	5.0	<5.0	5.0	5.0	A308778
Total Phenolic Compounds	mg/kg	<5.0	5.0	5.0	<5.0	5.0	5.0	A308778

SEMI-VOLATILE ORGANICS								
Phenol	mg/kg	<0.50 (1)	0.50	0.50	3.1	0.25	0.25	A309200
2-chlorophenol	mg/kg	<0.050 (1)	0.050	0.050	0.016	0.0050	0.0050	A309200
3 & 4-chlorophenol	mg/kg	<0.050 (1)	0.050	0.050	0.011 (2)	0.0050	0.0050	A309200
2-methylphenol	mg/kg	<0.50 (1)	0.50	0.50	0.45	0.050	0.050	A309200
3 & 4-methylphenol	mg/kg	<0.50 (1)	0.50	0.50	0.85	0.050	0.050	A309200
2-nitrophenol	mg/kg	<0.50 (1)	0.50	0.50	<0.050	0.050	0.050	A309200
2,4-dimethylphenol	mg/kg	<0.50 (1)	0.50	0.50	0.20	0.050	0.050	A309200
2,4 + 2,5-Dichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	0.0073	0.0050	0.0050	A309200
2,3-Dichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,6-dichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	0.0063 (2)	0.0050	0.0050	A309200
3,5-Dichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
3,4-Dichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,4,5-trichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,4,6-trichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	0.0065	0.0050	0.0050	A309200
2,3,5-trichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,3,6-Trichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,3,4-trichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
3,4,5-Trichlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,4-dinitrophenol	mg/kg	<0.50 (1)	0.50	0.50	<0.050	0.050	0.050	A309200
4,6-dinitro-2-methylphenol	mg/kg	<0.50 (1)	0.50	0.50	<0.050	0.050	0.050	A309200
2,3,4,6-tetrachlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution as a result of sample matrix interference.

(2) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE113			ACE114			
Sampling Date		2021/07/20 13:10			2021/07/20 14:00			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021- CT-13	RDL	MDL	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
2,3,4,5-tetrachlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
2,3,5,6-tetrachlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
4-nitrophenol	mg/kg	<0.50 (1)	0.50	0.50	<0.050	0.050	0.050	A309200
2,6-Dimethylphenol	mg/kg	<0.50 (1)	0.50	0.050	0.086	0.050	0.0050	A309200
3,4-Dimethylphenol	mg/kg	<0.50 (1)	0.50	0.050	<0.050	0.050	0.0050	A309200
Pentachlorophenol	mg/kg	<0.050 (1)	0.050	0.050	<0.0050	0.0050	0.0050	A309200
4-Chloro-3-Methylphenol	mg/kg	<5.0	5.0	5.0	<5.0	5.0	5.0	A309200
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	5.0	5.0	<5.0	5.0	5.0	A309200
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	38 (2)	N/A	N/A	120	N/A	N/A	A309200
2,4-DIBROMOPHENOL (sur.)	%	18 (2)	N/A	N/A	115	N/A	N/A	A309200
RDL = Reportable Detection Limit N/A = Not Applicable (1) Detection limits raised due to dilution as a result of sample matrix interference. (2) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	RDL	MDL	QC Batch
Calculated Parameters						
Total Monochlorophenols	mg/kg	<0.0050	0.030	0.0050	0.0050	A308778
Total Dichlorophenols	mg/kg	<0.0050	0.035	0.0050	0.0050	A308778
Total Trichlorophenols	mg/kg	<0.0050	0.062	0.0050	0.0050	A308778
Total Tetrachlorophenols	mg/kg	<0.0050	0.0090	0.0050	0.0050	A308778
Total Chlorophenols	mg/kg	<0.0050	0.14	0.0050	0.0050	A308778
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	5.0	5.0	A308778
Total Phenolic Compounds	mg/kg	<5.0	<5.0	5.0	5.0	A308778
SEMI-VOLATILE ORGANICS						
Phenol	mg/kg	<0.050	0.28	0.050	0.050	A309200
2-chlorophenol	mg/kg	<0.0050	0.014	0.0050	0.0050	A309200
3 & 4-chlorophenol	mg/kg	<0.0050	0.016 (1)	0.0050	0.0050	A309200
2-methylphenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
3 & 4-methylphenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
2-nitrophenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
2,4-dimethylphenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	0.022	0.0050	0.0050	A309200
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
2,6-dichlorophenol	mg/kg	<0.0050	0.013 (1)	0.0050	0.0050	A309200
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4,6-trichlorophenol	mg/kg	<0.0050	0.062	0.0050	0.0050	A309200
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
2,4-dinitrophenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	0.0094	0.0050	0.0050	A309200
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
RDL = Reportable Detection Limit						
(1) Tentatively identified result and may be potentially biased high due to matrix interference.						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
4-nitrophenol	mg/kg	<0.050	<0.050	0.050	0.050	A309200
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	0.050	0.0050	A309200
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	0.050	0.0050	A309200
Pentachlorophenol	mg/kg	<0.0050	<0.0050	0.0050	0.0050	A309200
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	5.0	5.0	A309200
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	5.0	5.0	A309200
Surrogate Recovery (%)						
2,4,6-TRIBROMOPHENOL (sur.)	%	87	84	N/A	N/A	A309200
2,4-DIBROMOPHENOL (sur.)	%	87	61	N/A	N/A	A309200
RDL = Reportable Detection Limit N/A = Not Applicable						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
Calculated Parameters							
Low Molecular Weight PAH's	mg/kg	0.061	0.54	0.16	0.050	0.050	A308488
High Molecular Weight PAH's	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A308488
Total PAH	mg/kg	0.061	0.57	0.16	0.050	0.050	A308488
Polycyclic Aromatics							
Quinoline	mg/kg	<0.050	0.091	<0.050	0.050	0.050	A309349
Naphthalene	mg/kg	0.031	0.33	0.10	0.010	0.010	A309349
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309349
2-Methylnaphthalene	mg/kg	<0.020	0.034	0.026	0.020	0.020	A309349
Acenaphthylene	mg/kg	<0.0050	<0.0050	0.0080	0.0050	0.0050	A309349
Acenaphthene	mg/kg	<0.0050	<0.0050	0.0092	0.0050	0.0050	A309349
Fluorene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Phenanthrene	mg/kg	0.030	0.086	0.017	0.010	0.010	A309349
Anthracene	mg/kg	<0.0040	0.0040	<0.0040	0.0040	0.0040	A309349
Fluoranthene	mg/kg	<0.020	0.032	<0.020	0.020	0.020	A309349
Pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(a)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Chrysene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(a)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309349
Calculated Parameters							
LEPH (C10-C19 less PAH)	mg/kg	<100	<100	<100	100	100	A308661
HEPH (C19-C32 less PAH)	mg/kg	<100	<100	<100	100	100	A308661
Hydrocarbons							
EPH (C10-C19)	mg/kg	<100	<100	<100	100	100	A309374
EPH (C19-C32)	mg/kg	<100	<100	<100	100	100	A309374
RDL = Reportable Detection Limit							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	79	53	6.2 (1)	N/A	N/A	A309349
D8-ACENAPHTHYLENE (sur.)	%	88	84	38 (1)	N/A	N/A	A309349
D8-NAPHTHALENE (sur.)	%	85	83	50	N/A	N/A	A309349
TERPHENYL-D14 (sur.)	%	85	64	8.8 (1)	N/A	N/A	A309349
O-TERPHENYL (sur.)	%	79	82	81	N/A	N/A	A309374
RDL = Reportable Detection Limit							
N/A = Not Applicable							
(1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE103			ACE104			
Sampling Date		2021/07/19 13:50			2021/07/19 14:20			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921-CT-05	RDL	MDL	CS-11230615-071921-CT-06	RDL	MDL	QC Batch
Calculated Parameters								
Low Molecular Weight PAH's	mg/kg	0.052	0.050	0.050	0.35	0.20	0.20	A308488
High Molecular Weight PAH's	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A308488
Total PAH	mg/kg	0.052	0.050	0.050	0.35	0.20	0.20	A308488
Polycyclic Aromatics								
Quinoline	mg/kg	<0.050	0.050	0.050	<0.20 (1)	0.20	0.20	A309349
Naphthalene	mg/kg	0.052	0.010	0.010	0.24	0.010	0.010	A309349
1-Methylnaphthalene	mg/kg	<0.050	0.050	0.050	0.054	0.050	0.050	A309349
2-Methylnaphthalene	mg/kg	<0.020	0.020	0.020	0.034	0.020	0.020	A309349
Acenaphthylene	mg/kg	<0.0050	0.0050	0.0050	0.020	0.0050	0.0050	A309349
Acenaphthene	mg/kg	<0.0050	0.0050	0.0050	0.0085	0.0050	0.0050	A309349
Fluorene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Phenanthrene	mg/kg	<0.010	0.010	0.010	<0.010	0.010	0.010	A309349
Anthracene	mg/kg	<0.0040	0.0040	0.0040	<0.0040	0.0040	0.0040	A309349
Fluoranthene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Pyrene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Benzo(a)anthracene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Chrysene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Benzo(b&j)fluoranthene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Benzo(b)fluoranthene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Benzo(a)pyrene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Dibenz(a,h)anthracene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A309349
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A309349
Calculated Parameters								
LEPH (C10-C19 less PAH)	mg/kg	<100	100	100	<100	100	100	A308661
HEPH (C19-C32 less PAH)	mg/kg	<100	100	100	<100	100	100	A308661
Hydrocarbons								
EPH (C10-C19)	mg/kg	<100	100	100	<100	100	100	A309374
EPH (C19-C32)	mg/kg	<100	100	100	<100	100	100	A309374
RDL = Reportable Detection Limit								
(1) Detection limits raised due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE103			ACE104			
Sampling Date		2021/07/19 13:50			2021/07/19 14:20			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-05	RDL	MDL	CS-11230615-071921- CT-06	RDL	MDL	QC Batch
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	4.6 (1)	N/A	N/A	0.50 (1)	N/A	N/A	A309349
D8-ACENAPHTHYLENE (sur.)	%	30 (1)	N/A	N/A	8.9 (1)	N/A	N/A	A309349
D8-NAPHTHALENE (sur.)	%	44 (1)	N/A	N/A	14 (1)	N/A	N/A	A309349
TERPHENYL-D14 (sur.)	%	6.4 (1)	N/A	N/A	0.54 (1)	N/A	N/A	A309349
O-TERPHENYL (sur.)	%	79	N/A	N/A	78	N/A	N/A	A309374
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE106	ACE108	ACE111			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
COC Number		M099339	M099339	M099360			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Calculated Parameters							
Low Molecular Weight PAH's	mg/kg	0.17	1.2	0.39	0.050	0.050	A308488
High Molecular Weight PAH's	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A308488
Total PAH	mg/kg	0.17	1.2	0.42	0.050	0.050	A308488
Polycyclic Aromatics							
Quinoline	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309349
Naphthalene	mg/kg	0.12	0.56	0.21	0.010	0.010	A309349
1-Methylnaphthalene	mg/kg	<0.050	0.12	<0.050	0.050	0.050	A309349
2-Methylnaphthalene	mg/kg	0.021	0.12	0.048	0.020	0.020	A309349
Acenaphthylene	mg/kg	0.0074	0.070	0.031	0.0050	0.0050	A309349
Acenaphthene	mg/kg	<0.0050	0.015	0.0088	0.0050	0.0050	A309349
Fluorene	mg/kg	<0.020	0.028	<0.020	0.020	0.020	A309349
Phenanthrene	mg/kg	0.014	0.089	0.086	0.010	0.010	A309349
Anthracene	mg/kg	<0.0040	0.0079	0.0082	0.0040	0.0040	A309349
Fluoranthene	mg/kg	<0.020	0.024	0.030	0.020	0.020	A309349
Pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(a)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Chrysene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(a)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309349
Calculated Parameters							
LEPH (C10-C19 less PAH)	mg/kg	<100	<100	<100	100	100	A308661
HEPH (C19-C32 less PAH)	mg/kg	<100	<100	<100	100	100	A308661
Hydrocarbons							
EPH (C10-C19)	mg/kg	<100	<100	<100	100	100	A309374
EPH (C19-C32)	mg/kg	<100	<100	<100	100	100	A309374
RDL = Reportable Detection Limit							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE106	ACE108	ACE111			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
COC Number		M099339	M099339	M099360			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	8.3 (1)	11 (1)	37 (1)	N/A	N/A	A309349
D8-ACENAPHTHYLENE (sur.)	%	49 (1)	47 (1)	83	N/A	N/A	A309349
D8-NAPHTHALENE (sur.)	%	56 (1)	48 (1)	81	N/A	N/A	A309349
TERPHENYL-D14 (sur.)	%	11 (1)	19 (1)	44 (1)	N/A	N/A	A309349
O-TERPHENYL (sur.)	%	78	78	86	N/A	N/A	A309374
RDL = Reportable Detection Limit							
N/A = Not Applicable							
(1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE112	ACE113	ACE114			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-14	RDL	MDL	QC Batch

Calculated Parameters

Low Molecular Weight PAH's	mg/kg	0.15	0.058	1.2	0.050	0.050	A308488
High Molecular Weight PAH's	mg/kg	<0.050	<0.050	0.31	0.050	0.050	A308488
Total PAH	mg/kg	0.15	0.058	1.5	0.050	0.050	A308488

Polycyclic Aromatics

Quinoline	mg/kg	0.13 (1)	<0.050	0.32	0.050	0.050	A309349
Naphthalene	mg/kg	0.023	0.058	0.25	0.010	0.010	A309349
1-Methylnaphthalene	mg/kg	<0.050	<0.050	0.12	0.050	0.050	A309349
2-Methylnaphthalene	mg/kg	<0.020	<0.020	0.15	0.020	0.020	A309349
Acenaphthylene	mg/kg	<0.0050	<0.0050	0.0059	0.0050	0.0050	A309349
Acenaphthene	mg/kg	<0.0050	<0.0050	0.020	0.0050	0.0050	A309349
Fluorene	mg/kg	<0.020	<0.020	0.034	0.020	0.020	A309349
Phenanthrene	mg/kg	<0.010	<0.010	0.25	0.010	0.010	A309349
Anthracene	mg/kg	<0.0040	<0.0040	0.030	0.0040	0.0040	A309349
Fluoranthene	mg/kg	<0.020	<0.020	0.17	0.020	0.020	A309349
Pyrene	mg/kg	<0.020	<0.020	0.10	0.020	0.020	A309349
Benzo(a)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Chrysene	mg/kg	<0.020	<0.020	0.038	0.020	0.020	A309349
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(a)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A309349
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A309349

Calculated Parameters

LEPH (C10-C19 less PAH)	mg/kg	<100	<100	<100	100	100	A308661
HEPH (C19-C32 less PAH)	mg/kg	<100	<100	100	100	100	A308661

Hydrocarbons

EPH (C10-C19)	mg/kg	<100	<100	<100	100	100	A309374
EPH (C19-C32)	mg/kg	<100	<100	100	100	100	A309374

RDL = Reportable Detection Limit

(1) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE112	ACE113	ACE114			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	0.41 (1)	0.92 (1)	79	N/A	N/A	A309349
D8-ACENAPHTHYLENE (sur.)	%	2.6 (1)	12 (1)	91	N/A	N/A	A309349
D8-NAPHTHALENE (sur.)	%	6.6 (1)	25 (1)	85	N/A	N/A	A309349
TERPHENYL-D14 (sur.)	%	0.43 (1)	0.66 (1)	85	N/A	N/A	A309349
O-TERPHENYL (sur.)	%	58 (1)	70	82	N/A	N/A	A309374
RDL = Reportable Detection Limit							
N/A = Not Applicable							
(1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	RDL	MDL	QC Batch
Calculated Parameters						
Low Molecular Weight PAH's	mg/kg	0.15	1.1	0.050	0.050	A308488
High Molecular Weight PAH's	mg/kg	0.061	0.12	0.050	0.050	A308488
Total PAH	mg/kg	0.21	1.2	0.050	0.050	A308488
Polycyclic Aromatics						
Quinoline	mg/kg	<0.050	<0.050	0.050	0.050	A309349
Naphthalene	mg/kg	0.045	0.45	0.010	0.010	A309349
1-Methylnaphthalene	mg/kg	<0.050	0.16	0.050	0.050	A309349
2-Methylnaphthalene	mg/kg	0.044	0.17	0.020	0.020	A309349
Acenaphthylene	mg/kg	<0.0050	0.0096	0.0050	0.0050	A309349
Acenaphthene	mg/kg	<0.0050	0.040	0.0050	0.0050	A309349
Fluorene	mg/kg	<0.020	0.054	0.020	0.020	A309349
Phenanthrene	mg/kg	0.061	0.18	0.010	0.010	A309349
Anthracene	mg/kg	0.0041	0.018	0.0040	0.0040	A309349
Fluoranthene	mg/kg	0.026	0.055	0.020	0.020	A309349
Pyrene	mg/kg	<0.020	0.041	0.020	0.020	A309349
Benzo(a)anthracene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Chrysene	mg/kg	0.034	0.021	0.020	0.020	A309349
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Benzo(a)pyrene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	0.020	0.020	A309349
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	0.050	0.050	A309349
Calculated Parameters						
LEPH (C10-C19 less PAH)	mg/kg	<100	<100	100	100	A308661
HEPH (C19-C32 less PAH)	mg/kg	<100	<100	100	100	A308661
Hydrocarbons						
EPH (C10-C19)	mg/kg	<100	<100	100	100	A309374
EPH (C19-C32)	mg/kg	<100	<100	100	100	A309374
RDL = Reportable Detection Limit						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	77	24 (1)	N/A	N/A	A309349
D8-ACENAPHTHYLENE (sur.)	%	92	55	N/A	N/A	A309349
D8-NAPHTHALENE (sur.)	%	89	64	N/A	N/A	A309349
TERPHENYL-D14 (sur.)	%	84	34 (1)	N/A	N/A	A309349
O-TERPHENYL (sur.)	%	82	76	N/A	N/A	A309374
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	11.2	8.63	8.97	N/A	N/A	A310996
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	13200	13200	12700	100	100	A310994
Total Antimony (Sb)	mg/kg	4.79	3.67	1.86	0.10	0.10	A310994
Total Arsenic (As)	mg/kg	351	15.6	7.54	0.20	0.20	A310994
Total Barium (Ba)	mg/kg	148	1600	179	0.10	0.10	A310994
Total Beryllium (Be)	mg/kg	0.33	0.29	0.28	0.20	0.20	A310994
Total Bismuth (Bi)	mg/kg	<0.10	0.66	0.16	0.10	0.10	A310994
Total Boron (B)	mg/kg	47.4	36.0	48.4	1.0	0.30	A310994
Total Cadmium (Cd)	mg/kg	0.299	1.12	1.39	0.050	0.050	A310994
Total Calcium (Ca)	mg/kg	84400	30500	39700	100	100	A310994
Total Chromium (Cr)	mg/kg	114	58.1	36.2	0.50	0.50	A310994
Total Cobalt (Co)	mg/kg	11.3	12.5	9.36	0.10	0.10	A310994
Total Copper (Cu)	mg/kg	306	112	120	0.50	0.50	A310994
Total Iron (Fe)	mg/kg	30500	24600	27900	100	100	A310994
Total Lead (Pb)	mg/kg	18.0	5320	92.6	0.10	0.10	A310994
Total Lithium (Li)	mg/kg	9.07	8.30	8.16	0.50	0.50	A310994
Total Magnesium (Mg)	mg/kg	8130	6490	6600	100	100	A310994
Total Manganese (Mn)	mg/kg	545	470	512	0.20	0.20	A310994
Total Mercury (Hg)	mg/kg	0.055	0.074	0.242	0.050	0.050	A310994
Total Molybdenum (Mo)	mg/kg	3.71	1.89	2.81	0.10	0.050	A310994
Total Nickel (Ni)	mg/kg	44.9	32.5	33.7	0.50	0.50	A310994
Total Phosphorus (P)	mg/kg	1460	2680	2800	10	10	A310994
Total Potassium (K)	mg/kg	3600	3740	2860	100	100	A310994
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Silver (Ag)	mg/kg	0.154	0.369	0.307	0.050	0.050	A310994
Total Sodium (Na)	mg/kg	1390	1540	2250	100	100	A310994
Total Strontium (Sr)	mg/kg	119	144	117	0.10	0.10	A310994
Total Thallium (Tl)	mg/kg	0.067	0.053	<0.050	0.050	0.050	A310994
Total Tin (Sn)	mg/kg	3.44	48.3	9.56	0.10	0.10	A310994
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	991	909	504	1.0	1.0	A310994
Total Tungsten (W)	mg/kg	0.58	<0.50	<0.50	0.50	0.50	A310994
Total Uranium (U)	mg/kg	0.497	0.708	0.446	0.050	0.050	A310994
Total Vanadium (V)	mg/kg	98.8	51.9	48.7	1.0	1.0	A310994
Total Zinc (Zn)	mg/kg	274	2490	741	1.0	1.0	A310994
Total Zirconium (Zr)	mg/kg	5.62	4.43	<0.50	0.50	0.50	A310994
RDL = Reportable Detection Limit							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	10.4	12.3	10.8	N/A	N/A	A310996
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	14300	15600	17600	100	100	A310994
Total Antimony (Sb)	mg/kg	49.3	129	4.59	0.10	0.10	A310994
Total Arsenic (As)	mg/kg	83.3	8.15	10.9	0.20	0.20	A310994
Total Barium (Ba)	mg/kg	248	364	344	0.10	0.10	A310994
Total Beryllium (Be)	mg/kg	0.28	0.29	0.40	0.20	0.20	A310994
Total Bismuth (Bi)	mg/kg	0.39	1.02	0.17	0.10	0.10	A310994
Total Boron (B)	mg/kg	75.7	160	40.5	1.0	0.30	A310994
Total Cadmium (Cd)	mg/kg	0.353	1.37	0.638	0.050	0.050	A310994
Total Calcium (Ca)	mg/kg	35400	72300	56300	100	100	A310994
Total Chromium (Cr)	mg/kg	278	54.7	57.7	0.50	0.50	A310994
Total Cobalt (Co)	mg/kg	13.8	13.3	24.6	0.10	0.10	A310994
Total Copper (Cu)	mg/kg	6900	2590	160	0.50	0.50	A310994
Total Iron (Fe)	mg/kg	25800	27900	32700	100	100	A310994
Total Lead (Pb)	mg/kg	1650	302	3290	0.10	0.10	A310994
Total Lithium (Li)	mg/kg	8.15	11.0	8.75	0.50	0.50	A310994
Total Magnesium (Mg)	mg/kg	10000	11200	8850	100	100	A310994
Total Manganese (Mn)	mg/kg	719	616	613	0.20	0.20	A310994
Total Mercury (Hg)	mg/kg	<0.050	<0.050	0.060	0.050	0.050	A310994
Total Molybdenum (Mo)	mg/kg	2.15	45.3	3.29	0.10	0.050	A310994
Total Nickel (Ni)	mg/kg	52.7	53.0	74.0	0.50	0.50	A310994
Total Phosphorus (P)	mg/kg	1050	1120	1170	10	10	A310994
Total Potassium (K)	mg/kg	2660	2050	3230	100	100	A310994
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Silver (Ag)	mg/kg	0.408	0.580	0.229	0.050	0.050	A310994
Total Sodium (Na)	mg/kg	2970	4160	2700	100	100	A310994
Total Strontium (Sr)	mg/kg	120	273	102	0.10	0.10	A310994
Total Thallium (Tl)	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A310994
Total Tin (Sn)	mg/kg	138	32.4	36.2	0.10	0.10	A310994
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	1260	1380	2690	1.0	1.0	A310994
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Uranium (U)	mg/kg	0.750	1.04	0.773	0.050	0.050	A310994
Total Vanadium (V)	mg/kg	62.2	65.7	86.2	1.0	1.0	A310994
Total Zinc (Zn)	mg/kg	1020	1350	822	1.0	1.0	A310994
Total Zirconium (Zr)	mg/kg	8.47	7.75	10.0	0.50	0.50	A310994
RDL = Reportable Detection Limit							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE108	ACE111	ACE112			
Sampling Date		2021/07/20 11:10	2021/07/20 11:45	2021/07/20 12:00			
COC Number		M099339	M099360	M099360			
	UNITS	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	CS-11230615-072021-CT-12	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	12.6	12.6	12.5	N/A	N/A	A310996
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	8350	8580	16300	100	100	A310994
Total Antimony (Sb)	mg/kg	9.26	5.96	9.44	0.10	0.10	A310994
Total Arsenic (As)	mg/kg	9.09	15.4	12.9	0.20	0.20	A310994
Total Barium (Ba)	mg/kg	76.8	74.0	296	0.10	0.10	A310994
Total Beryllium (Be)	mg/kg	<0.20	0.46	<0.20	0.20	0.20	A310994
Total Bismuth (Bi)	mg/kg	<0.10	<0.10	0.59	0.10	0.10	A310994
Total Boron (B)	mg/kg	733	463	1990	1.0	0.30	A310994
Total Cadmium (Cd)	mg/kg	0.155	0.069	0.824	0.050	0.050	A310994
Total Calcium (Ca)	mg/kg	227000	183000	195000	100	100	A310994
Total Chromium (Cr)	mg/kg	102	16.3	28.2	0.50	0.50	A310994
Total Cobalt (Co)	mg/kg	7.83	4.42	9.82	0.10	0.10	A310994
Total Copper (Cu)	mg/kg	134	54.5	445	0.50	0.50	A310994
Total Iron (Fe)	mg/kg	10200	10400	14500	100	100	A310994
Total Lead (Pb)	mg/kg	14.7	7.38	142	0.10	0.10	A310994
Total Lithium (Li)	mg/kg	5.05	8.24	21.2	0.50	0.50	A310994
Total Magnesium (Mg)	mg/kg	30000	3520	14700	100	100	A310994
Total Manganese (Mn)	mg/kg	317	177	591	0.20	0.20	A310994
Total Mercury (Hg)	mg/kg	<0.050	<0.050	0.071	0.050	0.050	A310994
Total Molybdenum (Mo)	mg/kg	10.9	1.86	3.17	0.10	0.050	A310994
Total Nickel (Ni)	mg/kg	205	16.3	21.4	0.50	0.50	A310994
Total Phosphorus (P)	mg/kg	849	196	2470	10	10	A310994
Total Potassium (K)	mg/kg	2310	1580	4210	100	100	A310994
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Silver (Ag)	mg/kg	1.20	<0.050	0.143	0.050	0.050	A310994
Total Sodium (Na)	mg/kg	10000	2550	13700	100	100	A310994
Total Strontium (Sr)	mg/kg	577	205	933	0.10	0.10	A310994
Total Thallium (Tl)	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A310994
Total Tin (Sn)	mg/kg	5.30	2.80	6.31	0.10	0.10	A310994
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE108	ACE111	ACE112			
Sampling Date		2021/07/20 11:10	2021/07/20 11:45	2021/07/20 12:00			
COC Number		M099339	M099360	M099360			
	UNITS	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	CS-11230615-072021- CT-12	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	894	264	1030	1.0	1.0	A310994
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Uranium (U)	mg/kg	1.38	1.60	0.663	0.050	0.050	A310994
Total Vanadium (V)	mg/kg	107	35.9	28.7	1.0	1.0	A310994
Total Zinc (Zn)	mg/kg	662	380	1760	1.0	1.0	A310994
Total Zirconium (Zr)	mg/kg	8.10	4.55	14.0	0.50	0.50	A310994
RDL = Reportable Detection Limit							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE113	ACE114	ACE115			
Sampling Date		2021/07/20 13:10	2021/07/20 14:00	2021/07/20 14:20			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	CS-11230615-072021-CT-15	RDL	MDL	QC Batch
Physical Properties							
Soluble (2:1) pH	pH	10.3	8.00	12.5	N/A	N/A	A310996
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	17600	11300	17900	100	100	A310994
Total Antimony (Sb)	mg/kg	10.9	5.73	26.7	0.10	0.10	A310994
Total Arsenic (As)	mg/kg	14.1	130	19.2	0.20	0.20	A310994
Total Barium (Ba)	mg/kg	299	143	149	0.10	0.10	A310994
Total Beryllium (Be)	mg/kg	0.40	0.25	0.25	0.20	0.20	A310994
Total Bismuth (Bi)	mg/kg	0.11	<0.10	0.14	0.10	0.10	A310994
Total Boron (B)	mg/kg	136	109	280	1.0	0.30	A310994
Total Cadmium (Cd)	mg/kg	0.317	0.385	0.551	0.050	0.050	A310994
Total Calcium (Ca)	mg/kg	23100	59000	136000	100	100	A310994
Total Chromium (Cr)	mg/kg	68.8	97.2	55.6	0.50	0.50	A310994
Total Cobalt (Co)	mg/kg	17.4	10.8	9.26	0.10	0.10	A310994
Total Copper (Cu)	mg/kg	536	295	1790	0.50	0.50	A310994
Total Iron (Fe)	mg/kg	37600	22100	23300	100	100	A310994
Total Lead (Pb)	mg/kg	262	19.7	24.0	0.10	0.10	A310994
Total Lithium (Li)	mg/kg	8.72	8.02	8.86	0.50	0.50	A310994
Total Magnesium (Mg)	mg/kg	11100	8690	7790	100	100	A310994
Total Manganese (Mn)	mg/kg	904	450	451	0.20	0.20	A310994
Total Mercury (Hg)	mg/kg	<0.050	0.748	<0.050	0.050	0.050	A310994
Total Molybdenum (Mo)	mg/kg	1.83	2.50	1.79	0.10	0.050	A310994
Total Nickel (Ni)	mg/kg	58.7	57.9	37.6	0.50	0.50	A310994
Total Phosphorus (P)	mg/kg	1550	1700	1590	10	10	A310994
Total Potassium (K)	mg/kg	2530	1470	1690	100	100	A310994
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Silver (Ag)	mg/kg	0.198	0.095	0.219	0.050	0.050	A310994
Total Sodium (Na)	mg/kg	1250	645	1570	100	100	A310994
Total Strontium (Sr)	mg/kg	95.3	155	331	0.10	0.10	A310994
Total Thallium (Tl)	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A310994
Total Tin (Sn)	mg/kg	7.29	17.6	8.85	0.10	0.10	A310994
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE113	ACE114	ACE115			
Sampling Date		2021/07/20 13:10	2021/07/20 14:00	2021/07/20 14:20			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-13	CS-11230615-072021- CT-14	CS-11230615-072021- CT-15	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	1120	1230	1280	1.0	1.0	A310994
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A310994
Total Uranium (U)	mg/kg	0.770	0.700	1.03	0.050	0.050	A310994
Total Vanadium (V)	mg/kg	96.1	52.7	103	1.0	1.0	A310994
Total Zinc (Zn)	mg/kg	665	173	345	1.0	1.0	A310994
Total Zirconium (Zr)	mg/kg	7.66	5.47	9.44	0.50	0.50	A310994
RDL = Reportable Detection Limit							



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021- CT-15 Lab-Dup	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Physical Properties						
Soluble (2:1) pH	pH	12.4	9.85	N/A	N/A	A310996
Total Metals by ICPMS						
Total Aluminum (Al)	mg/kg	N/A	24100	100	100	A310994
Total Antimony (Sb)	mg/kg	N/A	400	0.10	0.10	A310994
Total Arsenic (As)	mg/kg	N/A	239	0.20	0.20	A310994
Total Barium (Ba)	mg/kg	N/A	371	0.10	0.10	A310994
Total Beryllium (Be)	mg/kg	N/A	0.29	0.20	0.20	A310994
Total Bismuth (Bi)	mg/kg	N/A	1.28	0.10	0.10	A310994
Total Boron (B)	mg/kg	N/A	274	1.0	0.30	A310994
Total Cadmium (Cd)	mg/kg	N/A	1.20	0.050	0.050	A310994
Total Calcium (Ca)	mg/kg	N/A	106000	100	100	A310994
Total Chromium (Cr)	mg/kg	N/A	391	0.50	0.50	A310994
Total Cobalt (Co)	mg/kg	N/A	15.2	0.10	0.10	A310994
Total Copper (Cu)	mg/kg	N/A	523	0.50	0.50	A310994
Total Iron (Fe)	mg/kg	N/A	19000	100	100	A310994
Total Lead (Pb)	mg/kg	N/A	67.3	0.10	0.10	A310994
Total Lithium (Li)	mg/kg	N/A	6.72	0.50	0.50	A310994
Total Magnesium (Mg)	mg/kg	N/A	8980	100	100	A310994
Total Manganese (Mn)	mg/kg	N/A	920	0.20	0.20	A310994
Total Mercury (Hg)	mg/kg	N/A	<0.050	0.050	0.050	A310994
Total Molybdenum (Mo)	mg/kg	N/A	8.61	0.10	0.050	A310994
Total Nickel (Ni)	mg/kg	N/A	42.2	0.50	0.50	A310994
Total Phosphorus (P)	mg/kg	N/A	2110	10	10	A310994
Total Potassium (K)	mg/kg	N/A	4280	100	100	A310994
Total Selenium (Se)	mg/kg	N/A	<0.50	0.50	0.50	A310994
Total Silver (Ag)	mg/kg	N/A	0.521	0.050	0.050	A310994
Total Sodium (Na)	mg/kg	N/A	6190	100	100	A310994
Total Strontium (Sr)	mg/kg	N/A	717	0.10	0.10	A310994
Total Thallium (Tl)	mg/kg	N/A	<0.050	0.050	0.050	A310994
RDL = Reportable Detection Limit						
Lab-Dup = Laboratory Initiated Duplicate						
N/A = Not Applicable						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021- CT-15 Lab-Dup	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Total Tin (Sn)	mg/kg	N/A	243	0.10	0.10	A310994
Total Titanium (Ti)	mg/kg	N/A	5700	1.0	1.0	A310994
Total Tungsten (W)	mg/kg	N/A	1.27	0.50	0.50	A310994
Total Uranium (U)	mg/kg	N/A	0.793	0.050	0.050	A310994
Total Vanadium (V)	mg/kg	N/A	73.6	1.0	1.0	A310994
Total Zinc (Zn)	mg/kg	N/A	9210	1.0	1.0	A310994
Total Zirconium (Zr)	mg/kg	N/A	13.7	0.50	0.50	A310994
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACE099	ACE100	ACE102			
Sampling Date		2021/07/19 11:20	2021/07/19 12:10	2021/07/19 13:10			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Arsenic (As)	mg/L	2.74	<0.10	<0.10	0.10	0.0020	A314517
Leachate Barium (Ba)	mg/L	0.59	1.67	0.38	0.10	0.020	A314517
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Boron (B)	mg/L	0.75	0.85	0.84	0.10	0.10	A314517
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Chromium (Cr)	mg/L	0.75	<0.10	<0.10	0.10	0.020	A314517
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A314517
Leachate Copper (Cu)	mg/L	<0.10	<0.10	<0.10	0.10	0.0040	A314517
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A314517
Leachate Lead (Pb)	mg/L	<0.10	1.40	<0.10	0.10	0.00040	A314517
Leachate Mercury (Hg)	mg/L	0.0021	<0.0020	<0.0020	0.0020	0.0020	A314517
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A314517
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Vanadium (V)	mg/L	0.23	<0.10	<0.10	0.10	0.10	A314517
Leachate Zinc (Zn)	mg/L	<0.10	26.1	0.68	0.10	0.10	A314517
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A314517

RDL = Reportable Detection Limit



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACE103	ACE104	ACE106			
Sampling Date		2021/07/19 13:50	2021/07/19 14:20	2021/07/19 15:20			
COC Number		M099339	M099339	M099339			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	CS-11230615-071921- CT-08	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	0.68	0.80	<0.10	0.10	0.020	A314517
Leachate Arsenic (As)	mg/L	0.32	<0.10	<0.10	0.10	0.0020	A314517
Leachate Barium (Ba)	mg/L	1.18	0.12	0.69	0.10	0.020	A314517
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Boron (B)	mg/L	2.86	8.04	1.10	0.10	0.10	A314517
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Chromium (Cr)	mg/L	0.74	<0.10	<0.10	0.10	0.020	A314517
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A314517
Leachate Copper (Cu)	mg/L	<0.10	<0.10	<0.10	0.10	0.0040	A314517
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A314517
Leachate Lead (Pb)	mg/L	0.15	<0.10	<0.10	0.10	0.00040	A314517
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A314517
Leachate Molybdenum (Mo)	mg/L	<0.10	0.12	<0.10	0.10	0.020	A314517
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A314517
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Vanadium (V)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A314517
Leachate Zinc (Zn)	mg/L	1.57	0.67	<0.10	0.10	0.10	A314517
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A314517

RDL = Reportable Detection Limit



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACE108	ACE111	ACE112			
Sampling Date		2021/07/20 11:10	2021/07/20 11:45	2021/07/20 12:00			
COC Number		M099339	M099360	M099360			
	UNITS	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	CS-11230615-072021- CT-12	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	<0.10	<0.10	0.10	0.10	0.020	A314517
Leachate Arsenic (As)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Barium (Ba)	mg/L	0.36	0.17	0.57	0.10	0.020	A314517
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Boron (B)	mg/L	4.41	2.86	5.12	0.10	0.10	A314517
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A314517
Leachate Copper (Cu)	mg/L	<0.10	<0.10	<0.10	0.10	0.0040	A314517
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A314517
Leachate Lead (Pb)	mg/L	<0.10	<0.10	<0.10	0.10	0.00040	A314517
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A314517
Leachate Molybdenum (Mo)	mg/L	0.12	<0.10	<0.10	0.10	0.020	A314517
Leachate Nickel (Ni)	mg/L	<0.10	0.27	<0.10	0.10	0.020	A314517
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A314517
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Vanadium (V)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A314517
Leachate Zinc (Zn)	mg/L	<0.10	1.32	3.08	0.10	0.10	A314517
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A314517

RDL = Reportable Detection Limit



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACE113	ACE113	ACE114			
Sampling Date		2021/07/20 13:10	2021/07/20 13:10	2021/07/20 14:00			
COC Number		M099360	M099360	M099360			
	UNITS	CS-11230615-072021- CT-13	CS-11230615-072021- CT-13 Lab-Dup	CS-11230615-072021- CT-14	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Arsenic (As)	mg/L	<0.10	<0.10	0.39	0.10	0.0020	A314517
Leachate Barium (Ba)	mg/L	1.36	1.35	0.81	0.10	0.020	A314517
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Boron (B)	mg/L	1.40	1.36	4.74	0.10	0.10	A314517
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A314517
Leachate Copper (Cu)	mg/L	<0.10	<0.10	<0.10	0.10	0.0040	A314517
Leachate Iron (Fe)	mg/L	0.56	0.56	<0.50	0.50	0.10	A314517
Leachate Lead (Pb)	mg/L	<0.10	<0.10	<0.10	0.10	0.00040	A314517
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A314517
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A314517
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A314517
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A314517
Leachate Vanadium (V)	mg/L	<0.10	<0.10	0.10	0.10	0.10	A314517
Leachate Zinc (Zn)	mg/L	2.32	2.31	<0.10	0.10	0.10	A314517
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A314517

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACE115	ACE116			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
COC Number		M099360	M099360			
	UNITS	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	RDL	MDL	QC Batch

TCLP Extraction Procedure						
Leachate Antimony (Sb)	mg/L	0.21	0.21	0.10	0.020	A314517
Leachate Arsenic (As)	mg/L	<0.10	0.14	0.10	0.0020	A314517
Leachate Barium (Ba)	mg/L	0.44	0.50	0.10	0.020	A314517
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	0.10	0.0020	A314517
Leachate Boron (B)	mg/L	6.69	3.41	0.10	0.10	A314517
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	0.10	0.0020	A314517
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	0.10	0.020	A314517
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	0.10	0.010	A314517
Leachate Copper (Cu)	mg/L	<0.10	<0.10	0.10	0.0040	A314517
Leachate Iron (Fe)	mg/L	<0.50	<0.50	0.50	0.10	A314517
Leachate Lead (Pb)	mg/L	<0.10	<0.10	0.10	0.00040	A314517
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	0.0020	0.0020	A314517
Leachate Molybdenum (Mo)	mg/L	<0.10	0.11	0.10	0.020	A314517
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	0.10	0.020	A314517
Leachate Selenium (Se)	mg/L	<0.10	<0.10	0.10	0.0020	A314517
Leachate Silver (Ag)	mg/L	<0.010	<0.010	0.010	0.0020	A314517
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	0.10	0.0020	A314517
Leachate Uranium (U)	mg/L	<0.10	<0.10	0.10	0.020	A314517
Leachate Vanadium (V)	mg/L	0.13	0.18	0.10	0.10	A314517
Leachate Zinc (Zn)	mg/L	<0.10	<0.10	0.10	0.10	A314517
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	0.10	0.10	A314517
RDL = Reportable Detection Limit						



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE099			ACE099			
Sampling Date		2021/07/19 11:20			2021/07/19 11:20			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921-CT-01	RDL	MDL	CS-11230615-071921-CT-01 Lab-Dup	RDL	MDL	QC Batch

Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<10	10	10	N/A	10	10	A308492
Volatiles								
VH C6-C10	mg/kg	<10	10	10	<10	10	10	A310999
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,3,5-trimethylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Benzene	mg/kg	0.0062	0.0050	0.0050	0.0059	0.0050	0.0050	A310999
Bromobenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromoform	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.30	0.30	0.30	A310999
Carbon tetrachloride	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Chlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Chloroform	mg/kg	<0.030 (1)	0.030	0.030	<0.040 (1)	0.040	0.040	A310999

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) RDL increased due to artifact.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE099			ACE099			
Sampling Date		2021/07/19 11:20			2021/07/19 11:20			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-01	RDL	MDL	CS-11230615-071921- CT-01 Lab-Dup	RDL	MDL	QC Batch
Chloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dichloromethane	mg/kg	<0.080	0.080	0.080	<0.080	0.080	0.080	A310999
Ethylbenzene	mg/kg	<0.010	0.010	0.010	<0.010	0.010	0.010	A310999
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Isopropylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Styrene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
Tetrachloroethene	mg/kg	<0.010	0.010	0.010	<0.010	0.010	0.010	A310999
Toluene	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A310999
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
m & p-Xylene	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
o-Xylene	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
Xylenes (Total)	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	98	N/A	N/A	100	N/A	N/A	A310999
4-Bromofluorobenzene (sur.)	%	85	N/A	N/A	91	N/A	N/A	A310999
D10-o-Xylene (sur.)	%	104	N/A	N/A	106	N/A	N/A	A310999
D4-1,2-Dichloroethane (sur.)	%	99	N/A	N/A	100	N/A	N/A	A310999
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE100			ACE102			
Sampling Date		2021/07/19 12:10			2021/07/19 13:10			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-02	RDL	MDL	CS-11230615-071921- CT-04	RDL	MDL	QC Batch

Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<10	10	10	<10	10	10	A308492
Volatiles								
VH C6-C10	mg/kg	13	10	10	<10	10	10	A310999
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,3,5-trimethylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Benzene	mg/kg	7.2	0.0050	0.0050	0.50	0.0050	0.0050	A310999
Bromobenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromoform	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.30	0.30	0.30	A310999
Carbon tetrachloride	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Chlorobenzene	mg/kg	<0.021 (1)	0.021	0.021	<0.020	0.020	0.020	A310999
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Chloroform	mg/kg	<0.035 (2)	0.035	0.035	<0.045 (2)	0.045	0.045	A310999

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Detection limits raised due to matrix interference.

(2) RDL increased due to artifact.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE100			ACE102			
Sampling Date		2021/07/19 12:10			2021/07/19 13:10			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-02	RDL	MDL	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
Chloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dichloromethane	mg/kg	<0.080	0.080	0.080	<0.080	0.080	0.080	A310999
Ethylbenzene	mg/kg	0.29	0.010	0.010	0.060	0.010	0.010	A310999
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Isopropylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Styrene	mg/kg	0.084	0.030	0.030	<0.030	0.030	0.030	A310999
Tetrachloroethene	mg/kg	<0.010	0.010	0.010	<0.010	0.010	0.010	A310999
Toluene	mg/kg	2.5	0.050	0.050	0.22	0.050	0.050	A310999
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A310999
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
m & p-Xylene	mg/kg	0.26	0.040	0.040	0.073	0.040	0.040	A310999
o-Xylene	mg/kg	0.12	0.040	0.040	<0.040	0.040	0.040	A310999
Xylenes (Total)	mg/kg	0.38	0.040	0.040	0.073	0.040	0.040	A310999
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	96	N/A	N/A	98	N/A	N/A	A310999
4-Bromofluorobenzene (sur.)	%	89	N/A	N/A	88	N/A	N/A	A310999
D10-o-Xylene (sur.)	%	55	N/A	N/A	19 (1)	N/A	N/A	A310999
D4-1,2-Dichloroethane (sur.)	%	90	N/A	N/A	96	N/A	N/A	A310999
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE104			ACE106			
Sampling Date		2021/07/19 14:20			2021/07/19 15:20			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-06	RDL	MDL	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<10	10	10	<10	10	10	A308492
Volatiles								
VH C6-C10	mg/kg	<10	10	10	<10	10	10	A310999
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,3,5-trimethylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Benzene	mg/kg	0.97	0.0050	0.0050	0.20	0.0050	0.0050	A310999
Bromobenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromoform	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.30	0.30	0.30	A310999
Carbon tetrachloride	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Chlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Chloroform	mg/kg	<0.035 (1)	0.035	0.035	<0.035 (1)	0.035	0.035	A310999
Chloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
RDL = Reportable Detection Limit N/A = Not Applicable (1) RDL increased due to artifact.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE104			ACE106			
Sampling Date		2021/07/19 14:20			2021/07/19 15:20			
COC Number		M099339			M099339			
	UNITS	CS-11230615-071921- CT-06	RDL	MDL	CS-11230615-071921- CT-08	RDL	MDL	QC Batch
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dichloromethane	mg/kg	<0.080	0.080	0.080	<0.080	0.080	0.080	A310999
Ethylbenzene	mg/kg	0.73	0.010	0.010	0.055	0.010	0.010	A310999
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Isopropylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Styrene	mg/kg	0.85	0.030	0.030	0.051	0.030	0.030	A310999
Tetrachloroethene	mg/kg	<0.010	0.010	0.010	<0.010	0.010	0.010	A310999
Toluene	mg/kg	1.5	0.050	0.050	<0.14 (1)	0.14	0.14	A310999
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A310999
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
m & p-Xylene	mg/kg	0.58	0.040	0.040	<0.040	0.040	0.040	A310999
o-Xylene	mg/kg	0.11	0.040	0.040	0.052	0.040	0.040	A310999
Xylenes (Total)	mg/kg	0.69	0.040	0.040	0.052	0.040	0.040	A310999
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	94	N/A	N/A	98	N/A	N/A	A310999
4-Bromofluorobenzene (sur.)	%	93	N/A	N/A	92	N/A	N/A	A310999
D10-o-Xylene (sur.)	%	57	N/A	N/A	101	N/A	N/A	A310999
D4-1,2-Dichloroethane (sur.)	%	90	N/A	N/A	96	N/A	N/A	A310999
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Detection limits raised due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021-CT-10	RDL	MDL	CS-11230615-072021-CT-11	RDL	MDL	QC Batch
Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<10	10	10	<10	10	10	A308492
Volatiles								
VH C6-C10	mg/kg	<10	10	10	<10	10	10	A310999
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,3,5-trimethylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Benzene	mg/kg	0.010	0.0050	0.0050	0.22	0.0050	0.0050	A310999
Bromobenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromoform	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.30	0.30	0.30	A310999
Carbon tetrachloride	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Chlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Chloroform	mg/kg	<0.035 (1)	0.035	0.035	<0.060 (1)	0.060	0.060	A310999
Chloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
RDL = Reportable Detection Limit N/A = Not Applicable (1) RDL increased due to artifact.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE108			ACE111			
Sampling Date		2021/07/20 11:10			2021/07/20 11:45			
COC Number		M099339			M099360			
	UNITS	CS-11230615-072021-CT-10	RDL	MDL	CS-11230615-072021-CT-11	RDL	MDL	QC Batch
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dichloromethane	mg/kg	<0.080	0.080	0.080	0.10	0.080	0.080	A310999
Ethylbenzene	mg/kg	<0.010	0.010	0.010	0.031	0.010	0.010	A310999
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Isopropylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Styrene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
Tetrachloroethene	mg/kg	<0.010	0.010	0.010	<0.010	0.010	0.010	A310999
Toluene	mg/kg	<0.050	0.050	0.050	<0.16 (1)	0.16	0.16	A310999
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A310999
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
m & p-Xylene	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
o-Xylene	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
Xylenes (Total)	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	98	N/A	N/A	98	N/A	N/A	A310999
4-Bromofluorobenzene (sur.)	%	81	N/A	N/A	85	N/A	N/A	A310999
D10-o-Xylene (sur.)	%	18 (2)	N/A	N/A	35 (2)	N/A	N/A	A310999
D4-1,2-Dichloroethane (sur.)	%	96	N/A	N/A	96	N/A	N/A	A310999
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Detection limits raised due to matrix interference.								
(2) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE112			ACE114			
Sampling Date		2021/07/20 12:00			2021/07/20 14:00			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021-CT-12	RDL	MDL	CS-11230615-072021-CT-14	RDL	MDL	QC Batch

Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	13	10	10	<10	10	10	A308492
Volatiles								
VH C6-C10	mg/kg	36	10	10	<10	10	10	A310999
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloroethane	mg/kg	0.047 (1)	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,3,5-trimethylbenzene	mg/kg	0.28	0.20	N/A	<0.20	0.20	N/A	A310999
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Benzene	mg/kg	5.3	0.0050	0.0050	0.42	0.0050	0.0050	A310999
Bromobenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromoform	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.30	0.30	0.30	A310999
Carbon tetrachloride	mg/kg	0.037	0.020	0.020	<0.020	0.020	0.020	A310999
Chlorobenzene	mg/kg	0.038	0.020	0.020	0.022	0.020	0.020	A310999
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Chloroform	mg/kg	<0.080 (2)	0.080	0.080	<0.040 (2)	0.040	0.040	A310999

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Tentatively identified result and may be potentially biased high due to matrix interference.

(2) RDL increased due to artifact.



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE112			ACE114			
Sampling Date		2021/07/20 12:00			2021/07/20 14:00			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021- CT-12	RDL	MDL	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
Chloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dichloromethane	mg/kg	<0.080	0.080	0.080	<0.080	0.080	0.080	A310999
Ethylbenzene	mg/kg	6.7	0.010	0.010	0.045	0.010	0.010	A310999
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Isopropylbenzene	mg/kg	1.9	0.20	N/A	<0.20	0.20	N/A	A310999
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Styrene	mg/kg	2.7	0.030	0.030	<0.030	0.030	0.030	A310999
Tetrachloroethene	mg/kg	0.017	0.010	0.010	<0.010	0.010	0.010	A310999
Toluene	mg/kg	7.0	0.050	0.050	0.072	0.050	0.050	A310999
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A310999
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
m & p-Xylene	mg/kg	1.0	0.040	0.040	<0.040	0.040	0.040	A310999
o-Xylene	mg/kg	0.36	0.040	0.040	<0.040	0.040	0.040	A310999
Xylenes (Total)	mg/kg	1.4	0.040	0.040	<0.040	0.040	0.040	A310999
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	94	N/A	N/A	96	N/A	N/A	A310999
4-Bromofluorobenzene (sur.)	%	83	N/A	N/A	77	N/A	N/A	A310999
D10-o-Xylene (sur.)	%	24 (1)	N/A	N/A	26 (1)	N/A	N/A	A310999
D4-1,2-Dichloroethane (sur.)	%	89	N/A	N/A	97	N/A	N/A	A310999
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE115			ACE116			
Sampling Date		2021/07/20 14:20			2021/07/20 14:50			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021- CT-15	RDL	MDL	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<10	10	10	<10	10	10	A308492
Volatiles								
VH C6-C10	mg/kg	<10	10	10	<10	10	10	A310999
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.025	0.025	0.025	A310999
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	0.034	0.020	0.020	A310999
1,2-dichloroethane	mg/kg	0.023	0.020	0.020	<0.020	0.020	0.020	A310999
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
1,3,5-trimethylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	0.031	0.020	0.020	A310999
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Benzene	mg/kg	0.67	0.0050	0.0050	0.70	0.0050	0.0050	A310999
Bromobenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromoform	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.30	0.30	0.30	A310999
Carbon tetrachloride	mg/kg	0.054	0.020	0.020	<0.020	0.020	0.020	A310999
Chlorobenzene	mg/kg	<0.020	0.020	0.020	0.11	0.020	0.020	A310999
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.050	0.050	0.050	A310999
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
RDL = Reportable Detection Limit N/A = Not Applicable								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL (SOIL)

BV Labs ID		ACE115			ACE116			
Sampling Date		2021/07/20 14:20			2021/07/20 14:50			
COC Number		M099360			M099360			
	UNITS	CS-11230615-072021- CT-15	RDL	MDL	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Chloroform	mg/kg	0.13 (1)	0.10	0.10	<0.045 (2)	0.045	0.045	A310999
Chloromethane	mg/kg	0.25	0.050	0.050	<0.050	0.050	0.050	A310999
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Dichloromethane	mg/kg	<0.080	0.080	0.080	<0.080	0.080	0.080	A310999
Ethylbenzene	mg/kg	0.085	0.010	0.010	0.15	0.010	0.010	A310999
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Isopropylbenzene	mg/kg	<0.20	0.20	N/A	<0.20	0.20	N/A	A310999
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.10	0.10	0.10	A310999
Styrene	mg/kg	<0.030	0.030	0.030	0.15	0.030	0.030	A310999
Tetrachloroethene	mg/kg	0.014	0.010	0.010	<0.010	0.010	0.010	A310999
Toluene	mg/kg	0.19	0.050	0.050	0.46	0.050	0.050	A310999
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.030	0.030	0.030	A310999
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.020	0.020	0.020	A310999
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A310999
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.20	0.20	0.20	A310999
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.040	0.040	0.040	A310999
m & p-Xylene	mg/kg	<0.040	0.040	0.040	0.10	0.040	0.040	A310999
o-Xylene	mg/kg	<0.040	0.040	0.040	0.11	0.040	0.040	A310999
Xylenes (Total)	mg/kg	<0.040	0.040	0.040	0.21	0.040	0.040	A310999
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	95	N/A	N/A	97	N/A	N/A	A310999
4-Bromofluorobenzene (sur.)	%	70	N/A	N/A	88	N/A	N/A	A310999
D10-o-Xylene (sur.)	%	1.5 (3)	N/A	N/A	90	N/A	N/A	A310999
D4-1,2-Dichloroethane (sur.)	%	102	N/A	N/A	98	N/A	N/A	A310999
RDL = Reportable Detection Limit N/A = Not Applicable (1) Tentatively identified result and may be potentially biased high due to matrix interference. RDL increased due to artifact. (2) RDL increased due to artifact. (3) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACE103	ACE103			ACE113			
Sampling Date		2021/07/19 13:50	2021/07/19 13:50			2021/07/20 13:10			
COC Number		M099339	M099339			M099360			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-05 Lab-Dup	RDL	MDL	CS-11230615-072021- CT-13	RDL	MDL	QC Batch

Calculated Parameters									
VPH (VH6 to 10 - BTEX)	mg/kg	<35	N/A	35	35	<10	10	10	A308492
Volatiles									
VH C6-C10	mg/kg	<35 (1)	<35	35	35	<10	10	10	A309341
1,1,1,2-tetrachloroethane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,1,1-trichloroethane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,1,2,2-tetrachloroethane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,1,2-trichloroethane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,1-dichloroethane	mg/kg	<0.088 (1)	<0.088	0.088	0.088	<0.025	0.025	0.025	A309341
1,1-dichloroethene	mg/kg	<0.088 (1)	<0.088	0.088	0.088	<0.025	0.025	0.025	A309341
1,2,3-trichlorobenzene	mg/kg	<0.11 (1)	<0.11	0.11	0.11	<0.030	0.030	0.030	A309341
1,2,4-trichlorobenzene	mg/kg	<0.11 (1)	<0.11	0.11	0.11	<0.030	0.030	0.030	A309341
1,2-dibromoethane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,2-dichlorobenzene	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,2-dichloroethane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,2-dichloropropane	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,3,5-trimethylbenzene	mg/kg	<0.70 (1)	<0.70	0.70	0.70	<0.20	0.20	0.20	A309341
1,3-dichlorobenzene	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
1,4-dichlorobenzene	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
Benzene	mg/kg	1.7 (1)	1.6	0.018	0.018	0.73	0.0050	0.0050	A309341
Bromobenzene	mg/kg	<0.70 (1)	<0.70	0.70	0.70	<0.20	0.20	0.20	A309341
Bromodichloromethane	mg/kg	<0.18 (1)	<0.18	0.18	0.18	<0.050	0.050	0.050	A309341
Bromoform	mg/kg	<0.18 (1)	<0.18	0.18	0.18	<0.050	0.050	0.050	A309341
Bromomethane	mg/kg	<1.1 (1)	<1.1	1.1	1.1	<0.30	0.30	0.30	A309341
Carbon tetrachloride	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
Chlorobenzene	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
Dibromochloromethane	mg/kg	<0.050 (1)	<0.050	0.050	0.050	<0.050	0.050	0.050	A309341
Chloroethane	mg/kg	<0.35 (1)	<0.35	0.35	0.35	<0.10	0.10	0.10	A309341
Chloroform	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Detection limits raised based on sample weight or volume used for analysis.



BV Labs Job #: C151797
Report Date: 2021/09/01

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CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACE103	ACE103			ACE113			
Sampling Date		2021/07/19 13:50	2021/07/19 13:50			2021/07/20 13:10			
COC Number		M099339	M099339			M099360			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-05 Lab-Dup	RDL	MDL	CS-11230615-072021- CT-13	RDL	MDL	QC Batch
Chloromethane	mg/kg	0.29 (1)	0.29	0.18	0.18	<0.050	0.050	0.050	A309341
cis-1,2-dichloroethene	mg/kg	<0.11 (1)	<0.11	0.11	0.11	<0.030	0.030	0.030	A309341
cis-1,3-dichloropropene	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
Dichloromethane	mg/kg	<0.28 (1)	<0.28	0.28	0.28	<0.080	0.080	0.080	A309341
Ethylbenzene	mg/kg	0.19 (1)	0.19	0.035	0.035	0.26	0.010	0.010	A309341
Hexachlorobutadiene	mg/kg	<0.70 (1)	<0.70	0.70	0.70	<0.20	0.20	0.20	A309341
Isopropylbenzene	mg/kg	<0.70 (1)	<0.70	0.70	0.70	<0.20	0.20	0.20	A309341
Methyl-tert-butylether (MTBE)	mg/kg	<0.35 (1)	<0.35	0.35	0.35	<0.10	0.10	0.10	A309341
Styrene	mg/kg	<0.11 (1)	<0.11	0.11	0.11	0.25	0.030	0.030	A309341
Tetrachloroethene	mg/kg	<0.035 (1)	<0.035	0.035	0.035	0.012	0.010	0.010	A309341
Toluene	mg/kg	0.49 (1)	0.47	0.18	0.18	0.62	0.050	0.050	A309341
trans-1,2-dichloroethene	mg/kg	<0.11 (1)	<0.11	0.11	0.11	<0.030	0.030	0.030	A309341
trans-1,3-dichloropropene	mg/kg	<0.070 (1)	<0.070	0.070	0.070	<0.020	0.020	0.020	A309341
Trichloroethene	mg/kg	<0.0090 (1)	<0.0090	0.0090	0.0090	<0.0090	0.0090	0.0090	A309341
Trichlorofluoromethane	mg/kg	<0.70 (1)	<0.70	0.70	0.70	<0.20	0.20	0.20	A309341
Vinyl chloride	mg/kg	<0.14 (1)	<0.14	0.14	0.14	<0.040	0.040	0.040	A309341
m & p-Xylene	mg/kg	0.16 (1)	0.15	0.040	0.040	0.14	0.040	0.040	A309341
o-Xylene	mg/kg	<0.14 (1)	<0.14	0.14	0.14	0.062	0.040	0.040	A309341
Xylenes (Total)	mg/kg	0.16	0.15	0.040	0.040	0.20	0.040	0.040	A309341
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	99	98	N/A	N/A	102	N/A	N/A	A309341
4-Bromofluorobenzene (sur.)	%	72	71	N/A	N/A	103	N/A	N/A	A309341
D10-o-Xylene (sur.)	%	94	96	N/A	N/A	102	N/A	N/A	A309341
D4-1,2-Dichloroethane (sur.)	%	114	104	N/A	N/A	105	N/A	N/A	A309341
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable (1) Detection limits raised based on sample weight or volume used for analysis.									



GENERAL COMMENTS

Sample analyzed past method specified hold time for leachable VOCs. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. ABN, SPLP VOC and SPLP F1 Analyses: Samples received at the analyzing laboratory past the recommended holding time. Analyses performed with client's consent.

ABN Analysis: Due to the sample matrix, some samples required dilutions. Detection limits were adjusted accordingly. Surrogate recoveries may have been impacted by the large amounts of charcoal chunks that were present in some of the samples.

Version 8: Report reissued to amend SPLP VOC parameter list on 2021/08/24

Version 9: Report reissued to amend DxF parameter comments, and to include revised EDD on 2021/08/31

Sample ACE099 [CS-11230615-071921-CT-01] : Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE100 [CS-11230615-071921-CT-02] : Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE102 [CS-11230615-071921-CT-04] : Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE103 [CS-11230615-071921-CT-05] : Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE104 [CS-11230615-071921-CT-06] : Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE106 [CS-11230615-071921-CT-08] : Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply



that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE108 [CS-11230615-072021-CT-10] : Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE111 [CS-11230615-072021-CT-11] : Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE112 [CS-11230615-072021-CT-12] : Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE113 [CS-11230615-072021-CT-13] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE114 [CS-11230615-072021-CT-14] : Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE115 [CS-11230615-072021-CT-15] : Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACE116 [CS-11230615-072021-CT-16] : Sample analyzed past method specified hold time for VOCs, VH, F1, LH in Soil by HS GC/MS. Sample received was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.



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POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL) Comments

Sample ACE099 [CS-11230615-071921-CT-01] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE100 [CS-11230615-071921-CT-02] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE102 [CS-11230615-071921-CT-04] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE103 [CS-11230615-071921-CT-05] Polychlorinated Biphenyls in Soil: Detection limits raised based on sample weight used for analysis. Detection limits raised due to sample matrix.
Sample ACE104 [CS-11230615-071921-CT-06] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE106 [CS-11230615-071921-CT-08] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE112 [CS-11230615-072021-CT-12] Polychlorinated Biphenyls in Soil: Detection limits raised based on sample weight used for analysis. Detection limits raised due to sample matrix.
Sample ACE113 [CS-11230615-072021-CT-13] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE114 [CS-11230615-072021-CT-14] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE115 [CS-11230615-072021-CT-15] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.
Sample ACE116 [CS-11230615-072021-CT-16] Polychlorinated Biphenyls in Soil: Detection limits raised due to sample matrix.

Results relate only to the items tested.

BUREAU
VERITAS

BV Labs Job #: C151797

Report Date: 2021/09/01

QUALITY ASSURANCE REPORT

GHD Limited

Client Project #: 11230615

Site Location: LYTTON, BC

Your P.O. #: 735-000118

Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A309200	2,4,6-TRIBROMOPHENOL (sur.)	2021/08/05			81	50 - 140	88	%				
A309200	2,4-DIBROMOPHENOL (sur.)	2021/08/05			76	50 - 140	83	%				
A309341	1,4-Difluorobenzene (sur.)	2021/08/04	98 (3)	50 - 140	100	50 - 140	102	%				
A309341	4-Bromofluorobenzene (sur.)	2021/08/04	89 (3)	50 - 140	104	50 - 140	97	%				
A309341	D10-o-Xylene (sur.)	2021/08/04	96 (3)	50 - 140	97	50 - 140	101	%				
A309341	D4-1,2-Dichloroethane (sur.)	2021/08/04	72 (3)	50 - 140	104	50 - 140	100	%				
A309349	D10-ANTHRACENE (sur.)	2021/08/04	94	50 - 140	90	50 - 140	83	%				
A309349	D8-ACENAPHTHYLENE (sur.)	2021/08/04	99	50 - 140	96	50 - 140	89	%				
A309349	D8-NAPHTHALENE (sur.)	2021/08/04	94	50 - 140	89	50 - 140	83	%				
A309349	TERPHENYL-D14 (sur.)	2021/08/04	96	50 - 140	92	50 - 140	85	%				
A309374	O-TERPHENYL (sur.)	2021/08/04	75	60 - 140	76	60 - 140	83	%				
A310999	1,4-Difluorobenzene (sur.)	2021/08/05	96 (8)	50 - 140	96	50 - 140	101	%				
A310999	4-Bromofluorobenzene (sur.)	2021/08/05	103 (8)	50 - 140	100	50 - 140	92	%				
A310999	D10-o-Xylene (sur.)	2021/08/05	118 (8)	50 - 140	102	50 - 140	112	%				
A310999	D4-1,2-Dichloroethane (sur.)	2021/08/05	112 (8)	50 - 140	112	50 - 140	102	%				
A311742	NONACHLOROBIPHENYL (sur.)	2021/08/06	78 (12)	50 - 130	86	50 - 130	78	%				
A312864	Leachable (ZH) 1,4-Difluorobenzene (sur.)	2021/08/08	101 (14)	50 - 140	101	50 - 140	97	%				
A312864	Leachable (ZH) 4-Bromofluorobenzene (sur.)	2021/08/08	104 (14)	50 - 140	105	50 - 140	98	%				
A312864	Leachable (ZH) D4-1,2-Dichloroethane (sur.)	2021/08/08	101 (14)	50 - 140	99	50 - 140	102	%				
A323171	2,4,6-TRIBROMOPHENOL (sur.)	2021/08/07	47 (18)	10 - 130	81	10 - 130	77	%				
A323171	2-Fluorobiphenyl	2021/08/07	65 (18)	30 - 130	77	30 - 130	74	%				
A323171	2-FLUOROPHENOL (sur.)	2021/08/07	85 (18)	10 - 130	90	10 - 130	80	%				
A323171	D5-NITROBENZENE (sur.)	2021/08/07	66 (18)	30 - 130	77	30 - 130	77	%				
A323171	D5-PHENOL (sur.)	2021/08/07	87 (18)	10 - 130	96	10 - 130	79	%				
A323171	TERPHENYL-D14 (sur.)	2021/08/07	18 (19,18)	30 - 130	85	30 - 130	88	%				
A323172	Leachable (SPLP) 4-Bromofluorobenzene (sur.)	2021/08/08	101 (21)	70 - 130	102	70 - 130	91	%				
A323172	Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	2021/08/08	104 (21)	70 - 130	106	70 - 130	115	%				
A323172	Leachable (SPLP) D8-TOLUENE (sur.)	2021/08/08	110 (21)	70 - 130	108	70 - 130	91	%				
A327122	37CL4 2378 Tetra CDD	2021/08/12	78 (22)	35 - 197	75	35 - 197	73	%				
A327122	C13-1234678 HeptaCDD	2021/08/12	90 (22)	23 - 140	88	23 - 140	80	%				
A327122	C13-1234678 HeptaCDF	2021/08/12	100 (22)	28 - 143	94	28 - 143	89	%				



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QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A327122	C13-123478 HexaCDD	2021/08/12	88 (22)	32 - 141	84	32 - 141	78	%				
A327122	C13-123478 HexaCDF	2021/08/12	88 (22)	26 - 152	81	26 - 152	74	%				
A327122	C13-1234789 HeptaCDF	2021/08/12	82 (22)	26 - 138	84	26 - 138	76	%				
A327122	C13-123678 HexaCDD	2021/08/12	107 (22)	28 - 130	107	28 - 130	102	%				
A327122	C13-123678 HexaCDF	2021/08/12	90 (22)	26 - 123	84	26 - 123	76	%				
A327122	C13-12378 PentaCDD	2021/08/12	81 (22)	25 - 181	77	25 - 181	80	%				
A327122	C13-12378 PentaCDF	2021/08/12	79 (22)	24 - 185	74	24 - 185	78	%				
A327122	C13-123789 HexaCDF	2021/08/12	94 (22)	29 - 147	92	29 - 147	81	%				
A327122	C13-234678 HexaCDF	2021/08/12	92 (22)	28 - 136	90	28 - 136	88	%				
A327122	C13-23478 PentaCDF	2021/08/12	99 (22)	21 - 178	93	21 - 178	102	%				
A327122	C13-2378 TetraCDD	2021/08/12	70 (22)	25 - 164	62	25 - 164	61	%				
A327122	C13-2378 TetraCDF	2021/08/12	87 (22)	24 - 169	79	24 - 169	75	%				
A327122	C13-OCDD	2021/08/12	85 (22)	17 - 157	76	17 - 157	65	%				
A327123	Confirmation C13-2378 TetraCDF	2021/08/18					49	%				
A327124	Confirmation C13-2378 TetraCDF	2021/08/19					63	%				
A327235	Confirmation C13-2378 TetraCDF	2021/08/19					64	%				
A308803	Moisture	2021/08/04					<0.30	%	NC (1)	20		
A309200	2,3,4,5-tetrachlorophenol	2021/08/05			82	50 - 140	<0.0050	mg/kg				
A309200	2,3,4,6-tetrachlorophenol	2021/08/05			84	50 - 140	<0.0050	mg/kg				
A309200	2,3,4-trichlorophenol	2021/08/05			75	50 - 140	<0.0050	mg/kg				
A309200	2,3,5,6-tetrachlorophenol	2021/08/05			84	50 - 140	<0.0050	mg/kg				
A309200	2,3,5-trichlorophenol	2021/08/05			73	50 - 140	<0.0050	mg/kg				
A309200	2,3,6-Trichlorophenol	2021/08/05			70	50 - 140	<0.0050	mg/kg				
A309200	2,3-Dichlorophenol	2021/08/05			73	50 - 140	<0.0050	mg/kg				
A309200	2,4 + 2,5-Dichlorophenol	2021/08/05			75	50 - 140	<0.0050	mg/kg				
A309200	2,4,5-trichlorophenol	2021/08/05			79	50 - 140	<0.0050	mg/kg				
A309200	2,4,6-trichlorophenol	2021/08/05			79	50 - 140	<0.0050	mg/kg				
A309200	2,4-dimethylphenol	2021/08/05			109	50 - 140	<0.050	mg/kg				
A309200	2,4-dinitrophenol	2021/08/05			121	30 - 130	<0.050	mg/kg				
A309200	2,6-dichlorophenol	2021/08/05			78	50 - 140	<0.0050	mg/kg				
A309200	2,6-Dimethylphenol	2021/08/05			67	50 - 140	<0.050	mg/kg				



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QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A309200	2-chlorophenol	2021/08/05			74	50 - 140	<0.0050	mg/kg				
A309200	2-methylphenol	2021/08/05			72	50 - 140	<0.050	mg/kg				
A309200	2-nitrophenol	2021/08/05			67	30 - 130	<0.050	mg/kg				
A309200	3 & 4-chlorophenol	2021/08/05			102	50 - 140	<0.0050	mg/kg				
A309200	3 & 4-methylphenol	2021/08/05			72	50 - 140	<0.050	mg/kg				
A309200	3,4,5-Trichlorophenol	2021/08/05			85	50 - 140	<0.0050	mg/kg				
A309200	3,4-Dichlorophenol	2021/08/05			86	50 - 140	<0.0050	mg/kg				
A309200	3,4-Dimethylphenol	2021/08/05			77	50 - 140	<0.050	mg/kg				
A309200	3,5-Dichlorophenol	2021/08/05			90	50 - 140	<0.0050	mg/kg				
A309200	4,6-dinitro-2-methylphenol	2021/08/05			101	30 - 130	<0.050	mg/kg				
A309200	4-Chloro-3-Methylphenol	2021/08/05			82	50 - 140	<5.0	mg/kg				
A309200	4-Hydroxyphenol (Hydroquinone)	2021/08/05			117	50 - 140	<5.0	mg/kg				
A309200	4-nitrophenol	2021/08/05			88	30 - 130	<0.050	mg/kg				
A309200	Pentachlorophenol	2021/08/05			95	50 - 140	<0.0050	mg/kg				
A309200	Phenol	2021/08/05	NC	50 - 140	104	50 - 140	<0.050	mg/kg	9.1 (2)	50		
A309341	1,1,1,2-tetrachloroethane	2021/08/04	108 (3)	50 - 140	98	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,1,1-trichloroethane	2021/08/04	114 (3)	50 - 140	98	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,1,2,2-tetrachloroethane	2021/08/04	109 (3)	50 - 140	98	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,1,2-trichloroethane	2021/08/04	101 (3)	50 - 140	95	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,1-dichloroethane	2021/08/04	109 (3)	50 - 140	98	60 - 130	<0.025	mg/kg	NC (5)	50		
A309341	1,1-dichloroethene	2021/08/04	78 (3)	50 - 140	70	60 - 130	<0.025	mg/kg	NC (5)	50		
A309341	1,2,3-trichlorobenzene	2021/08/04	96 (3)	50 - 140	103	60 - 130	<0.030	mg/kg	NC (5)	50		
A309341	1,2,4-trichlorobenzene	2021/08/04	85 (3)	50 - 140	104	60 - 130	<0.030	mg/kg	NC (5)	50		
A309341	1,2-dibromoethane	2021/08/04	105 (3)	50 - 140	106	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,2-dichlorobenzene	2021/08/04	106 (3)	50 - 140	105	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,2-dichloroethane	2021/08/04	106 (3)	50 - 140	102	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,2-dichloropropane	2021/08/04	108 (3)	50 - 140	100	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,3,5-trimethylbenzene	2021/08/04	128 (3)	50 - 140	105	60 - 130	<0.20	mg/kg	NC (5)	50		
A309341	1,3-dichlorobenzene	2021/08/04	104 (3)	50 - 140	110	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	1,4-dichlorobenzene	2021/08/04	85 (3)	50 - 140	97	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	Benzene	2021/08/04	104 (3)	50 - 140	96	60 - 130	<0.0050	mg/kg	4.9 (5)	50		



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QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A309341	Bromobenzene	2021/08/04	98 (3)	50 - 140	98	60 - 130	<0.20	mg/kg	NC (5)	50		
A309341	Bromodichloromethane	2021/08/04	109 (3)	50 - 140	101	60 - 130	<0.050	mg/kg	NC (5)	50		
A309341	Bromoform	2021/08/04	111 (3)	50 - 140	99	60 - 130	<0.050	mg/kg	NC (5)	50		
A309341	Bromomethane	2021/08/04	75 (3)	50 - 140	85	50 - 140	<0.30	mg/kg	NC (5)	50		
A309341	Carbon tetrachloride	2021/08/04	117 (3)	50 - 140	99	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	Chlorobenzene	2021/08/04	96 (3)	50 - 140	98	60 - 130	<0.020	mg/kg	NC (5)	50		
A309341	Chloroethane	2021/08/04	77 (3)	50 - 140	81	50 - 140	<0.10	mg/kg	NC (5)	50		
A309341	Chloroform	2021/08/04	107 (3)	50 - 140	97	60 - 130	0.031, RDL=0.020 (4)	mg/kg	NC (5)	50		
A309341	Chloromethane	2021/08/04	58 (3)	50 - 140	91	50 - 140	<0.050	mg/kg	1.4 (5)	50		
A309341	cis-1,2-dichloroethene	2021/08/04	99 (3)	50 - 140	94	60 - 130	<0.030	mg/kg	NC (5)	50		
A309341	cis-1,3-dichloropropene	2021/08/04	95 (3)	50 - 140	101	50 - 140	<0.020	mg/kg	NC (5)	50		
A309341	Dibromochloromethane	2021/08/04	116 (3)	50 - 140	108	60 - 130	<0.050	mg/kg	NC (5)	50		
A309341	Dichloromethane	2021/08/04	110 (3)	50 - 140	104	60 - 130	<0.080	mg/kg	NC (5)	50		
A309341	Ethylbenzene	2021/08/04	118 (3)	50 - 140	111	60 - 130	<0.010	mg/kg	1.6 (5)	50		
A309341	Hexachlorobutadiene	2021/08/04	122 (3)	50 - 140	98	50 - 130	<0.20	mg/kg	NC (5)	50		
A309341	Isopropylbenzene	2021/08/04	130 (3)	50 - 140	106	60 - 130	<0.20	mg/kg	NC (5)	50		
A309341	m & p-Xylene	2021/08/04	115 (3)	50 - 140	111	60 - 130	<0.040	mg/kg	6.3 (5)	50		
A309341	Methyl-tert-butylether (MTBE)	2021/08/04	106 (3)	50 - 140	102	60 - 130	<0.10	mg/kg	NC (5)	50		
A309341	o-Xylene	2021/08/04	121 (3)	50 - 140	113	60 - 130	<0.040	mg/kg	NC (5)	50		
A309341	Styrene	2021/08/04	102 (3)	50 - 140	115	60 - 130	<0.030	mg/kg	NC (5)	50		
A309341	Tetrachloroethene	2021/08/04	109 (3)	50 - 140	100	60 - 130	<0.010	mg/kg	NC (5)	50		
A309341	Toluene	2021/08/04	122 (3)	50 - 140	115	60 - 130	<0.050	mg/kg	3.8 (5)	50		
A309341	trans-1,2-dichloroethene	2021/08/04	89 (3)	50 - 140	79	60 - 130	<0.030	mg/kg	NC (5)	50		
A309341	trans-1,3-dichloropropene	2021/08/04	133 (3)	50 - 140	120	50 - 140	<0.020	mg/kg	NC (5)	50		
A309341	Trichloroethene	2021/08/04	106 (3)	50 - 140	101	60 - 130	<0.0090	mg/kg	NC (5)	50		
A309341	Trichlorofluoromethane	2021/08/04	110 (3)	50 - 140	89	60 - 130	<0.20	mg/kg	NC (5)	50		
A309341	VH C6-C10	2021/08/04			88	70 - 130	<10	mg/kg	NC (5)	50		
A309341	Vinyl chloride	2021/08/04	73 (3)	50 - 140	84	50 - 140	<0.040	mg/kg	NC (5)	50		
A309341	Xylenes (Total)	2021/08/04					<0.040	mg/kg	6.3 (5)	50		
A309349	1-Methylnaphthalene	2021/08/04	93	50 - 140	86	50 - 140	<0.050	mg/kg	NC (2)	50		



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QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A309349	2-Methylnaphthalene	2021/08/04	100	50 - 140	91	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Acenaphthene	2021/08/04	94	50 - 140	88	50 - 140	<0.0050	mg/kg	NC (2)	50		
A309349	Acenaphthylene	2021/08/04	93	50 - 140	86	50 - 140	<0.0050	mg/kg	NC (2)	50		
A309349	Anthracene	2021/08/04	88	50 - 140	82	50 - 140	<0.0040	mg/kg	NC (2)	50		
A309349	Benzo(a)anthracene	2021/08/04	101	50 - 140	93	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Benzo(a)pyrene	2021/08/04	88	50 - 140	82	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Benzo(b&j)fluoranthene	2021/08/04	98	50 - 140	89	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Benzo(b)fluoranthene	2021/08/04	106	50 - 140	92	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Benzo(g,h,i)perylene	2021/08/04	99	50 - 140	94	50 - 140	<0.050	mg/kg	NC (2)	50		
A309349	Benzo(k)fluoranthene	2021/08/04	95	50 - 140	93	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Chrysene	2021/08/04	98	50 - 140	90	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Dibenz(a,h)anthracene	2021/08/04	106	50 - 140	100	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Fluoranthene	2021/08/04	99	50 - 140	91	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Fluorene	2021/08/04	95	50 - 140	88	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Indeno(1,2,3-cd)pyrene	2021/08/04	106	50 - 140	101	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Naphthalene	2021/08/04	91	50 - 140	84	50 - 140	<0.010	mg/kg	NC (2)	50		
A309349	Phenanthrene	2021/08/04	93	50 - 140	88	50 - 140	<0.010	mg/kg	NC (2)	50		
A309349	Pyrene	2021/08/04	96	50 - 140	90	50 - 140	<0.020	mg/kg	NC (2)	50		
A309349	Quinoline	2021/08/04	102	50 - 140	98	50 - 140	<0.050	mg/kg	NC (2)	50		
A309374	EPH (C10-C19)	2021/08/04	95	60 - 140	94	70 - 130	<100	mg/kg	NC (2)	40		
A309374	EPH (C19-C32)	2021/08/04	81	60 - 140	88	70 - 130	<100	mg/kg	NC (2)	40		
A310994	Total Aluminum (Al)	2021/08/05	NC	75 - 125	96	75 - 125	<100	mg/kg	2.8 (2)	40	96	70 - 130
A310994	Total Antimony (Sb)	2021/08/05	91	75 - 125	97	75 - 125	<0.10	mg/kg	17 (2)	30	105	70 - 130
A310994	Total Arsenic (As)	2021/08/05	94	75 - 125	97	75 - 125	<0.20	mg/kg	7.2 (2)	30	86	70 - 130
A310994	Total Barium (Ba)	2021/08/05	92	75 - 125	91	75 - 125	<0.10	mg/kg	2.3 (2)	40	92	70 - 130
A310994	Total Beryllium (Be)	2021/08/05	98	75 - 125	97	75 - 125	<0.20	mg/kg	7.2 (2)	30	96	70 - 130
A310994	Total Bismuth (Bi)	2021/08/05	93	75 - 125	95	75 - 125	<0.10	mg/kg	NC (2)	30		
A310994	Total Boron (B)	2021/08/05	95	75 - 125	97	75 - 125	<1.0	mg/kg	10 (2)	30		
A310994	Total Cadmium (Cd)	2021/08/05	96	75 - 125	97	75 - 125	<0.050	mg/kg	5.5 (2)	30	97	70 - 130
A310994	Total Calcium (Ca)	2021/08/05	NC	75 - 125	99	75 - 125	<100	mg/kg	5.5 (2)	30	92	70 - 130
A310994	Total Chromium (Cr)	2021/08/05	106	75 - 125	109	75 - 125	<0.50	mg/kg	109 (6,2)	30	101	70 - 130



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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A310994	Total Cobalt (Co)	2021/08/05	99	75 - 125	103	75 - 125	<0.10	mg/kg	1.7 (2)	30	99	70 - 130
A310994	Total Copper (Cu)	2021/08/05	100	75 - 125	105	75 - 125	<0.50	mg/kg	1.2 (2)	30	104	70 - 130
A310994	Total Iron (Fe)	2021/08/05	NC	75 - 125	106	75 - 125	<100	mg/kg	7.7 (2)	30	103	70 - 130
A310994	Total Lead (Pb)	2021/08/05	35 (6)	75 - 125	95	75 - 125	<0.10	mg/kg	71 (6,2)	40	106	70 - 130
A310994	Total Lithium (Li)	2021/08/05	93	75 - 125	93	75 - 125	<0.50	mg/kg	3.4 (2)	30	97	70 - 130
A310994	Total Magnesium (Mg)	2021/08/05	NC	75 - 125	100	75 - 125	<100	mg/kg	3.8 (2)	30	101	70 - 130
A310994	Total Manganese (Mn)	2021/08/05	NC	75 - 125	100	75 - 125	<0.20	mg/kg	4.0 (2)	30	101	70 - 130
A310994	Total Mercury (Hg)	2021/08/05	96	75 - 125	98	75 - 125	<0.050	mg/kg	NC (2)	40	81	70 - 130
A310994	Total Molybdenum (Mo)	2021/08/05	97	75 - 125	96	75 - 125	<0.10	mg/kg	151 (6,2)	40	106	70 - 130
A310994	Total Nickel (Ni)	2021/08/05	97	75 - 125	103	75 - 125	<0.50	mg/kg	0.86 (2)	30	107	70 - 130
A310994	Total Phosphorus (P)	2021/08/05	82	75 - 125	91	75 - 125	<10	mg/kg	11 (2)	30	86	70 - 130
A310994	Total Potassium (K)	2021/08/05	102	75 - 125	96	75 - 125	<100	mg/kg	0.93 (2)	40	82	70 - 130
A310994	Total Selenium (Se)	2021/08/05	102	75 - 125	100	75 - 125	<0.50	mg/kg	NC (2)	30		
A310994	Total Silver (Ag)	2021/08/05	89	75 - 125	89	75 - 125	<0.050	mg/kg	1.9 (2)	40	107	70 - 130
A310994	Total Sodium (Na)	2021/08/05	110	75 - 125	104	75 - 125	<100	mg/kg	9.9 (2)	40	92	70 - 130
A310994	Total Strontium (Sr)	2021/08/05	97	75 - 125	93	75 - 125	<0.10	mg/kg	9.2 (2)	40	96	70 - 130
A310994	Total Thallium (Tl)	2021/08/05	94	75 - 125	94	75 - 125	<0.050	mg/kg	6.1 (2)	30	89	70 - 130
A310994	Total Tin (Sn)	2021/08/05	100	75 - 125	99	75 - 125	<0.10	mg/kg	29 (2)	40	97	70 - 130
A310994	Total Titanium (Ti)	2021/08/05	NC	75 - 125	98	75 - 125	<1.0	mg/kg	1.9 (2)	40		
A310994	Total Tungsten (W)	2021/08/05	88	75 - 125	103	75 - 125	<0.50	mg/kg	NC (2)	40		
A310994	Total Uranium (U)	2021/08/05	95	75 - 125	96	75 - 125	<0.050	mg/kg	7.5 (2)	30	91	70 - 130
A310994	Total Vanadium (V)	2021/08/05	100	75 - 125	101	75 - 125	<1.0	mg/kg	1.2 (2)	30	102	70 - 130
A310994	Total Zinc (Zn)	2021/08/05	93	75 - 125	101	75 - 125	<1.0	mg/kg	5.5 (2)	30	102	70 - 130
A310994	Total Zirconium (Zr)	2021/08/05	109	75 - 125	100	75 - 125	<0.50	mg/kg	9.9 (2)	40		
A310996	Soluble (2:1) pH	2021/08/05			100	97 - 103			0.16 (7)	N/A		
A310999	1,1,1,2-tetrachloroethane	2021/08/05	92 (8)	50 - 140	85	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,1,1-trichloroethane	2021/08/05	83 (8)	50 - 140	79	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,1,2,2-tetrachloroethane	2021/08/05	115 (8)	50 - 140	104	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,1,2-trichloroethane	2021/08/05	99 (8)	50 - 140	94	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,1-dichloroethane	2021/08/05	98 (8)	50 - 140	96	60 - 130	<0.025	mg/kg	NC (9)	50		
A310999	1,1-dichloroethene	2021/08/05	61 (8)	50 - 140	64	60 - 130	<0.025	mg/kg	NC (9)	50		

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QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited

Client Project #: 11230615

Site Location: LYTTON, BC

Your P.O. #: 735-000118

Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A310999	1,2,3-trichlorobenzene	2021/08/05	116 (8)	50 - 140	106	60 - 130	<0.030	mg/kg	NC (9)	50		
A310999	1,2,4-trichlorobenzene	2021/08/05	109 (8)	50 - 140	100	60 - 130	<0.030	mg/kg	NC (9)	50		
A310999	1,2-dibromoethane	2021/08/05	103 (8)	50 - 140	98	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,2-dichlorobenzene	2021/08/05	114 (8)	50 - 140	105	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,2-dichloroethane	2021/08/05	80 (8)	50 - 140	78	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,2-dichloropropane	2021/08/05	113 (8)	50 - 140	108	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,3,5-trimethylbenzene	2021/08/05	131 (8)	50 - 140	118	60 - 130	<0.20	mg/kg	NC (9)	50		
A310999	1,3-dichlorobenzene	2021/08/05	113 (8)	50 - 140	105	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	1,4-dichlorobenzene	2021/08/05	110 (8)	50 - 140	102	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	Benzene	2021/08/05	97 (8)	50 - 140	95	60 - 130	<0.0050	mg/kg	4.9 (9)	50		
A310999	Bromobenzene	2021/08/05	106 (8)	50 - 140	98	60 - 130	<0.20	mg/kg	NC (9)	50		
A310999	Bromodichloromethane	2021/08/05	94 (8)	50 - 140	89	60 - 130	<0.050	mg/kg	NC (9)	50		
A310999	Bromoform	2021/08/05	97 (8)	50 - 140	90	60 - 130	<0.050	mg/kg	NC (9)	50		
A310999	Bromomethane	2021/08/05	51 (8)	50 - 140	67	50 - 140	<0.30	mg/kg	NC (9)	50		
A310999	Carbon tetrachloride	2021/08/05	82 (8)	50 - 140	78	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	Chlorobenzene	2021/08/05	100 (8)	50 - 140	92	60 - 130	<0.020	mg/kg	NC (9)	50		
A310999	Chloroethane	2021/08/05	59 (8)	50 - 140	71	50 - 140	<0.10	mg/kg	NC (9)	50		
A310999	Chloroform	2021/08/05	88 (8)	50 - 140	84	60 - 130	0.031, RDL=0.020	mg/kg	NC (10,9)	50		
A310999	Chloromethane	2021/08/05	53 (8)	50 - 140	90	50 - 140	<0.050	mg/kg	NC (9)	50		
A310999	cis-1,2-dichloroethene	2021/08/05	88 (8)	50 - 140	86	60 - 130	<0.030	mg/kg	NC (9)	50		
A310999	cis-1,3-dichloropropene	2021/08/05	90 (8)	50 - 140	86	50 - 140	<0.020	mg/kg	NC (9)	50		
A310999	Dibromochloromethane	2021/08/05	101 (8)	50 - 140	95	60 - 130	<0.050	mg/kg	NC (9)	50		
A310999	Dichloromethane	2021/08/05	97 (8)	50 - 140	99	60 - 130	<0.080	mg/kg	NC (9)	50		
A310999	Ethylbenzene	2021/08/05	117 (8)	50 - 140	106	60 - 130	<0.010	mg/kg	NC (9)	50		
A310999	Hexachlorobutadiene	2021/08/05	94 (8)	50 - 140	87	50 - 130	<0.20	mg/kg	NC (9)	50		
A310999	Isopropylbenzene	2021/08/05	130 (8)	50 - 140	118	60 - 130	<0.20	mg/kg	NC (9)	50		
A310999	m & p-Xylene	2021/08/05	120 (8)	50 - 140	110	60 - 130	<0.040	mg/kg	NC (9)	50		
A310999	Methyl-tert-butylether (MTBE)	2021/08/05	87 (8)	50 - 140	91	60 - 130	<0.10	mg/kg	NC (9)	50		
A310999	o-Xylene	2021/08/05	120 (8)	50 - 140	109	60 - 130	<0.040	mg/kg	NC (9)	50		
A310999	Styrene	2021/08/05	126 (8)	50 - 140	115	60 - 130	<0.030	mg/kg	NC (9)	50		



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GHD Limited
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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A310999	Tetrachloroethene	2021/08/05	94 (8)	50 - 140	89	60 - 130	<0.010	mg/kg	NC (9)	50		
A310999	Toluene	2021/08/05	114 (8)	50 - 140	105	60 - 130	<0.050	mg/kg	NC (9)	50		
A310999	trans-1,2-dichloroethene	2021/08/05	75 (8)	50 - 140	74	60 - 130	<0.030	mg/kg	NC (9)	50		
A310999	trans-1,3-dichloropropene	2021/08/05	80 (8)	50 - 140	72	50 - 140	<0.020	mg/kg	NC (9)	50		
A310999	Trichloroethene	2021/08/05	95 (8)	50 - 140	90	60 - 130	<0.0090	mg/kg	NC (9)	50		
A310999	Trichlorofluoromethane	2021/08/05	62 (8)	50 - 140	75	60 - 130	<0.20	mg/kg	NC (9)	50		
A310999	VH C6-C10	2021/08/05			90	70 - 130	<10	mg/kg	NC (9)	50		
A310999	Vinyl chloride	2021/08/05	55 (8)	50 - 140	89	50 - 140	<0.040	mg/kg	NC (9)	50		
A310999	Xylenes (Total)	2021/08/05					<0.040	mg/kg	NC (9)	50		
A311482	Moisture	2021/08/06					<0.30	%	NC (11)	20		
A311742	Aroclor 1016	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1221	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1232	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1242	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1248	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1254	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1260	2021/08/06	79 (12)	50 - 130	82	50 - 130	<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1262	2021/08/06					<0.010	mg/kg	NC (13)	50		
A311742	Aroclor 1268	2021/08/06					<0.010	mg/kg	NC (13)	50		
A312864	Leachable (ZH) 1,1,1,2-tetrachloroethane	2021/08/08	89 (14)	50 - 140	88	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,1,1-trichloroethane	2021/08/08	85 (14)	50 - 140	88	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,1,2,2-tetrachloroethane	2021/08/08	82 (14)	50 - 140	93	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,1,2-trichloroethane	2021/08/08	93 (14)	50 - 140	93	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,1-dichloroethane	2021/08/08	79 (14)	50 - 140	77	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,1-dichloroethene	2021/08/08	70 (14)	50 - 140	71	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,2,3-trichlorobenzene	2021/08/08	87 (14)	50 - 140	85	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,2,4-trichlorobenzene	2021/08/08	85 (14)	50 - 140	84	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,2,4-trimethylbenzene	2021/08/08	88 (14)	50 - 140	91	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,2-dibromoethane	2021/08/08	83 (14)	50 - 140	83	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,2-dichlorobenzene	2021/08/08	95 (14)	50 - 140	96	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,2-dichloroethane	2021/08/08	87 (14)	50 - 140	86	60 - 130	<10	ug/L	NC (15)	40		



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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A312864	Leachable (ZH) 1,2-dichloropropane	2021/08/08	90 (14)	50 - 140	89	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,3,5-trichlorobenzene	2021/08/08	84 (14)	50 - 140	84	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,3,5-trimethylbenzene	2021/08/08	90 (14)	50 - 140	93	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,3-dichlorobenzene	2021/08/08	89 (14)	50 - 140	91	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) 1,4-dichlorobenzene	2021/08/08	87 (14)	50 - 140	87	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Benzene	2021/08/08	74 (14)	50 - 140	75	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Bromodichloromethane	2021/08/08	86 (14)	50 - 140	87	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Bromoform	2021/08/08	89 (14)	50 - 140	88	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Bromomethane	2021/08/08	66 (14)	50 - 140	70	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Carbon tetrachloride	2021/08/08	80 (14)	50 - 140	82	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Chlorobenzene	2021/08/08	86 (14)	50 - 140	86	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Chloroethane	2021/08/08	72 (14)	50 - 140	71	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Chloroform	2021/08/08	81 (14)	50 - 140	81	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Chloromethane	2021/08/08	59 (14)	50 - 140	63	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) cis-1,2-dichloroethene	2021/08/08	80 (14)	50 - 140	80	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) cis-1,3-dichloropropene	2021/08/08	100 (14)	50 - 140	104	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Dibromochloromethane	2021/08/08	92 (14)	50 - 140	93	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Dichloromethane	2021/08/08	76 (14)	50 - 140	76	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Ethylbenzene	2021/08/08	77 (14)	50 - 140	78	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) m & p-Xylene	2021/08/08	74 (14)	50 - 140	74	60 - 130	<20	ug/L	NC (15)	40		
A312864	Leachable (ZH) Methyl methacrylate	2021/08/08	94 (14)	50 - 140	93	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Methyl-tert-butylether (MTBE)	2021/08/08	89 (14)	50 - 140	88	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) o-Xylene	2021/08/08	69 (14)	50 - 140	68	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Styrene	2021/08/08	83 (14)	50 - 140	84	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Tetrachloroethene	2021/08/08	72 (14)	50 - 140	72	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Toluene	2021/08/08	76 (14)	50 - 140	76	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) trans-1,2-dichloroethene	2021/08/08	65 (14)	50 - 140	65	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) trans-1,3-dichloropropene	2021/08/08	109 (14)	50 - 140	118	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Trichloroethene	2021/08/08	93 (14)	50 - 140	86	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Trichlorofluoromethane	2021/08/08	76 (14)	50 - 140	77	60 - 130	<10	ug/L	NC (15)	40		
A312864	Leachable (ZH) Vinyl chloride	2021/08/08	77 (14)	50 - 140	82	60 - 130	<10	ug/L	NC (15)	40		



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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A312864	Leachable (ZH) Xylenes (Total)	2021/08/08					<10	ug/L	NC (15)	40		
A313023	Final pH of Leachate	2021/08/07					4.92	pH	0.18 (16)	N/A		
A313023	Initial pH of Sample	2021/08/07					4.93	pH	0.97 (16)	N/A		
A313023	pH after HCl	2021/08/07							1.8 (16)	N/A		
A313023	pH of Leaching Fluid	2021/08/07					4.93	pH	0 (16)	N/A		
A313162	SPLP Aluminum (Al)	2021/08/07	NC (17)	80 - 120	113	80 - 120	<0.020	mg/L	3.8 (16)	35		
A313162	SPLP Antimony (Sb)	2021/08/07	NC (17)	80 - 120	104	80 - 120	<0.0010	mg/L	1.4 (16)	35		
A313162	SPLP Arsenic (As)	2021/08/07	106 (17)	80 - 120	104	80 - 120	<0.0010	mg/L	0.51 (16)	35		
A313162	SPLP Barium (Ba)	2021/08/07	109 (17)	80 - 120	103	80 - 120	<0.10	mg/L	NC (16)	35		
A313162	SPLP Beryllium (Be)	2021/08/07	110 (17)	80 - 120	109	80 - 120	<0.0010	mg/L	NC (16)	35		
A313162	SPLP Boron (B)	2021/08/07	NC (17)	80 - 120	108	80 - 120	<0.50	mg/L	1.6 (16)	35		
A313162	SPLP Cadmium (Cd)	2021/08/07	107 (17)	80 - 120	105	80 - 120	<0.000020	mg/L	NC (16)	35		
A313162	SPLP Calcium (Ca)	2021/08/07	NC (17)	80 - 120	109	80 - 120	<1.0	mg/L	1.4 (16)	35		
A313162	SPLP Chromium (Cr)	2021/08/07	110 (17)	80 - 120	107	80 - 120	<0.0010	mg/L	1.8 (16)	35		
A313162	SPLP Cobalt (Co)	2021/08/07	106 (17)	80 - 120	107	80 - 120	<0.0010	mg/L	NC (16)	35		
A313162	SPLP Copper (Cu)	2021/08/07	111 (17)	80 - 120	109	80 - 120	<0.0020	mg/L	0.80 (16)	35		
A313162	SPLP Iron (Fe)	2021/08/07	115 (17)	80 - 120	114	80 - 120	<0.050	mg/L	5.1 (16)	35		
A313162	SPLP Lead (Pb)	2021/08/07	109 (17)	80 - 120	107	80 - 120	<0.0010	mg/L	NC (16)	35		
A313162	SPLP Magnesium (Mg)	2021/08/07	109 (17)	80 - 120	110	80 - 120	<1.0	mg/L	NC (16)	35		
A313162	SPLP Manganese (Mn)	2021/08/07	111 (17)	80 - 120	109	80 - 120	<0.0050	mg/L	3.7 (16)	35		
A313162	SPLP Mercury (Hg)	2021/08/07	109 (17)	80 - 120	107	80 - 120	<0.00010	mg/L	NC (16)	35		
A313162	SPLP Molybdenum (Mo)	2021/08/07	NC (17)	80 - 120	108	80 - 120	<0.0050	mg/L	8.4 (16)	35		
A313162	SPLP Nickel (Ni)	2021/08/07	111 (17)	80 - 120	112	80 - 120	<0.010	mg/L	NC (16)	35		
A313162	SPLP Selenium (Se)	2021/08/07	109 (17)	80 - 120	108	80 - 120	<0.0010	mg/L	NC (16)	35		
A313162	SPLP Silver (Ag)	2021/08/07	107 (17)	80 - 120	105	80 - 120	<0.00010	mg/L	NC (16)	35		
A313162	SPLP Sodium (Na)	2021/08/07	NC (17)	80 - 120	118	80 - 120	<1.0	mg/L	2.7 (16)	35		
A313162	SPLP Thallium (Tl)	2021/08/07	110 (17)	80 - 120	107	80 - 120	<0.00010	mg/L	NC (16)	35		
A313162	SPLP Titanium (Ti)	2021/08/07	134 (6,17)	80 - 120	109	80 - 120	<0.10	mg/L	NC (16)	35		
A313162	SPLP Uranium (U)	2021/08/07	114 (17)	80 - 120	111	80 - 120	<0.0010	mg/L	NC (16)	35		
A313162	SPLP Vanadium (V)	2021/08/07	119 (17)	80 - 120	107	80 - 120	<0.010	mg/L	0.17 (16)	35		
A313162	SPLP Zinc (Zn)	2021/08/07	151 (6,17)	80 - 120	114	80 - 120	<0.010	mg/L	NC (16)	35		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A313164	SPLP pH of SPLP Leachate 2	2021/08/07					5.05	pH	0.094 (16)	N/A		
A314517	Leachate Antimony (Sb)	2021/08/10	106 (17)	75 - 125	105	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Arsenic (As)	2021/08/10	104 (17)	75 - 125	104	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Barium (Ba)	2021/08/10	99 (17)	75 - 125	100	75 - 125	<0.10	mg/L	0.33 (16)	35		
A314517	Leachate Beryllium (Be)	2021/08/10	102 (17)	75 - 125	100	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Boron (B)	2021/08/10	100 (17)	75 - 125	103	75 - 125	<0.10	mg/L	2.4 (16)	35		
A314517	Leachate Cadmium (Cd)	2021/08/10	103 (17)	75 - 125	103	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Chromium (Cr)	2021/08/10	105 (17)	75 - 125	104	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Cobalt (Co)	2021/08/10	101 (17)	75 - 125	103	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Copper (Cu)	2021/08/10	106 (17)	75 - 125	106	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Iron (Fe)	2021/08/10	102 (17)	75 - 125	104	75 - 125	<0.50	mg/L	0.045 (16)	35		
A314517	Leachate Lead (Pb)	2021/08/10	102 (17)	75 - 125	101	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Mercury (Hg)	2021/08/10	99 (17)	75 - 125	98	75 - 125	<0.0020	mg/L	NC (16)	35		
A314517	Leachate Molybdenum (Mo)	2021/08/10	101 (17)	75 - 125	101	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Nickel (Ni)	2021/08/10	99 (17)	75 - 125	101	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Selenium (Se)	2021/08/10	103 (17)	75 - 125	103	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Silver (Ag)	2021/08/10	100 (17)	75 - 125	76	75 - 125	<0.010	mg/L	NC (16)	35		
A314517	Leachate Thallium (Tl)	2021/08/10	99 (17)	75 - 125	100	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Uranium (U)	2021/08/10	102 (17)	75 - 125	103	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Vanadium (V)	2021/08/10	105 (17)	75 - 125	105	75 - 125	<0.10	mg/L	NC (16)	35		
A314517	Leachate Zinc (Zn)	2021/08/10	101 (17)	75 - 125	104	75 - 125	<0.10	mg/L	0.56 (16)	35		
A314517	Leachate Zirconium (Zr)	2021/08/10	106 (17)	75 - 125	107	75 - 125	<0.10	mg/L	NC (16)	35		
A323171	1,2,3,4-tetrachlorobenzene	2021/08/07	57 (18)	30 - 130	63	30 - 130	<0.20	ug/g	NC (20)	40		
A323171	1,2,3,5-tetrachlorobenzene	2021/08/07	57 (18)	30 - 130	84	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	1,2,3-trichlorobenzene	2021/08/07	65 (18)	30 - 130	77	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	1,2,4,5-tetrachlorobenzene	2021/08/07	71 (18)	30 - 130	68	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	1,2,4-trichlorobenzene	2021/08/07	79 (18)	30 - 130	87	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	1,2-dichlorobenzene	2021/08/07	75 (18)	30 - 130	88	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	1,3,5-trichlorobenzene	2021/08/07	61 (18)	30 - 130	80	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	1,3-dichlorobenzene	2021/08/07	70 (18)	30 - 130	80	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	1,4-dichlorobenzene	2021/08/07	78 (18)	30 - 130	89	30 - 130	<0.10	ug/g	NC (20)	50		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323171	1-chloronaphthalene	2021/08/07	47 (18)	30 - 130	66	30 - 130	<1.0	ug/g	NC (20)	40		
A323171	1-Methylnaphthalene	2021/08/07	75 (18)	30 - 130	90	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3,4,5-tetrachlorophenol	2021/08/07	21 (18)	10 - 130	81	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3,4,6-tetrachlorophenol	2021/08/07	21 (18)	10 - 130	103	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3,4-trichlorophenol	2021/08/07	56 (18)	10 - 130	91	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3,5,6-tetrachlorophenol	2021/08/07	17 (18)	10 - 130	115	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3,5-trichlorophenol	2021/08/07	47 (18)	10 - 130	97	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3,6-Trichlorophenol	2021/08/07	48 (18)	10 - 130	95	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,3-Dichlorophenol	2021/08/07	68 (18)	10 - 130	94	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,4,5-trichlorophenol	2021/08/07	58 (18)	10 - 130	105	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,4,6-trichlorophenol	2021/08/07	55 (18)	10 - 130	97	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,4-dichlorophenol	2021/08/07	67 (18)	10 - 130	92	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,4-dimethylphenol	2021/08/07	77 (18)	10 - 130	96	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,4-dinitrophenol	2021/08/07	3.8 (6,18)	10 - 130	78	10 - 130	<1.0	ug/g	NC (20)	50		
A323171	2,4-Dinitrotoluene	2021/08/07	66 (18)	30 - 130	94	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,5-Dichlorophenol	2021/08/07	77 (18)	10 - 130	83	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,6-dichlorophenol	2021/08/07	65 (18)	10 - 130	89	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2,6-Dinitrotoluene	2021/08/07	71 (18)	30 - 130	87	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	2-chloronaphthalene	2021/08/07	56 (18)	30 - 130	87	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	2-chlorophenol	2021/08/07	86 (18)	10 - 130	98	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	2-Methylnaphthalene	2021/08/07	61 (18)	30 - 130	87	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	2-nitrophenol	2021/08/07	42 (18)	10 - 130	84	10 - 130	<0.50	ug/g	NC (20)	50		
A323171	3,3'-Dichlorobenzidine	2021/08/07	12 (6,18)	30 - 130	50	30 - 130	<0.50	ug/g	NC (20)	40		
A323171	3,4,5-Trichlorophenol	2021/08/07	57 (18)	10 - 130	99	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	3,4-Dichlorophenol	2021/08/07	70 (18)	10 - 130	91	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	3,5-Dichlorophenol	2021/08/07	81 (18)	10 - 130	100	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	4,6-dinitro-2-methylphenol	2021/08/07	21 (18)	10 - 130	106	10 - 130	<0.50	ug/g	NC (20)	50		
A323171	4-bromophenyl phenyl ether	2021/08/07	75 (18)	30 - 130	79	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	4-chloro-3-methylphenol	2021/08/07	81 (18)	10 - 130	94	10 - 130	<0.10	ug/g	NC (20)	50		
A323171	4-chlorophenyl phenyl ether	2021/08/07	78 (18)	30 - 130	86	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	4-nitrophenol	2021/08/07	39 (18)	10 - 130	88	10 - 130	<0.50	ug/g	NC (20)	50		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323171	Acenaphthene	2021/08/07	66 (18)	30 - 130	84	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Acenaphthylene	2021/08/07	54 (18)	30 - 130	85	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Anthracene	2021/08/07	15 (6,18)	30 - 130	80	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Benzo(a)anthracene	2021/08/07	3.4 (6,18)	30 - 130	93	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Benzo(a)pyrene	2021/08/07	0.54 (6,18)	30 - 130	85	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Benzo(b&j)fluoranthene	2021/08/07	0.88 (6,18)	30 - 130	90	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Benzo(g,h,i)perylene	2021/08/07	0.00 (6,18)	30 - 130	97	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Benzo(k)fluoranthene	2021/08/07	1.7 (6,18)	30 - 130	98	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Biphenyl	2021/08/07	66 (18)	30 - 130	84	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Bis(2-chloroethoxy)methane	2021/08/07	63 (18)	30 - 130	68	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Bis(2-chloroethyl)ether	2021/08/07	73 (18)	30 - 130	84	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Bis(2-chloroisopropyl)ether	2021/08/07	66 (18)	30 - 130	90	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Bis(2-ethylhexyl)phthalate	2021/08/07	81 (18)	30 - 130	88	30 - 130	<0.50	ug/g	NC (20)	50		
A323171	Butyl benzyl phthalate	2021/08/07	78 (18)	30 - 130	85	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Chrysene	2021/08/07	2.1 (6,18)	30 - 130	94	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Dibenz(a,h)anthracene	2021/08/07	0.00 (6,18)	30 - 130	99	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Diethyl phthalate	2021/08/07	83 (18)	30 - 130	88	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Dimethyl phthalate	2021/08/07	81 (18)	30 - 130	84	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Di-n-butyl phthalate	2021/08/07	92 (18)	30 - 130	93	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Di-n-octyl phthalate	2021/08/07	82 (18)	30 - 130	85	30 - 130	<0.50	ug/g	NC (20)	50		
A323171	Fluoranthene	2021/08/07	13 (6,18)	30 - 130	97	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Fluorene	2021/08/07	53 (18)	30 - 130	90	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Hexachlorobenzene	2021/08/07	65 (18)	30 - 130	82	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Hexachlorobutadiene	2021/08/07	72 (18)	30 - 130	80	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Hexachlorocyclopentadiene	2021/08/07	63 (18)	30 - 130	74	30 - 130	<0.50	ug/g	NC (20)	50		
A323171	Hexachloroethane	2021/08/07	73 (18)	30 - 130	79	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Indeno(1,2,3-cd)pyrene	2021/08/07	0.00 (6,18)	30 - 130	96	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Isophorone	2021/08/07	77 (18)	30 - 130	81	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	m,p-Cresol	2021/08/07	99 (18)	10 - 130	111	10 - 130	<0.20	ug/g	NC (20)	50		
A323171	Naphthalene	2021/08/07	50 (18)	30 - 130	69	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Nitrobenzene	2021/08/07	75 (18)	30 - 130	75	30 - 130	<0.10	ug/g	NC (20)	50		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323171	Nitrosodiphenylamine/Diphenylamine	2021/08/07	92 (18)	30 - 130	105	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	N-nitroso-di-n-propylamine	2021/08/07	82 (18)	30 - 130	78	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	o-Cresol	2021/08/07	96 (18)	10 - 130	106	10 - 130	<0.20	ug/g	NC (20)	50		
A323171	p-Chloroaniline	2021/08/07	65 (18)	30 - 130	75	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Pentachlorobenzene	2021/08/07	66 (18)	30 - 130	76	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Pentachlorophenol	2021/08/07	4.2 (6,18)	10 - 130	89	10 - 130	<0.20	ug/g	NC (20)	50		
A323171	Perylene	2021/08/07	1.0 (6,18)	30 - 130	96	30 - 130	<0.20	ug/g	NC (20)	50		
A323171	Phenanthrene	2021/08/07	25 (6,18)	30 - 130	87	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Phenol	2021/08/07	84 (18)	10 - 130	102	10 - 130	<0.20	ug/g	NC (20)	50		
A323171	Pyrene	2021/08/07	11 (6,18)	30 - 130	91	30 - 130	<0.10	ug/g	NC (20)	50		
A323171	Quinoline	2021/08/07	48 (18)	30 - 130	77	30 - 130	<0.20	ug/g	NC (20)	50		
A323172	Leachable (SPLP) 1,1,1,2-tetrachloroethane	2021/08/08	102 (21)	70 - 130	113	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,1,2,2-tetrachloroethane	2021/08/08	102 (21)	70 - 130	107	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,1,2-trichloroethane	2021/08/08	106 (21)	70 - 130	114	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,1-dichloroethane	2021/08/08	98 (21)	70 - 130	105	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,1-Dichloroethylene	2021/08/08	96 (21)	70 - 130	106	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,2-dichlorobenzene	2021/08/08	99 (21)	70 - 130	106	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,2-dichloroethane	2021/08/08	98 (21)	70 - 130	106	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,2-dichloropropane	2021/08/08	101 (21)	70 - 130	105	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) 1,4-dichlorobenzene	2021/08/08	112 (21)	70 - 130	124	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) Benzene	2021/08/08	93 (21)	70 - 130	99	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) Bromomethane	2021/08/08	99 (21)	60 - 140	105	60 - 140	<0.40	ug/L				
A323172	Leachable (SPLP) Carbon tetrachloride	2021/08/08	96 (21)	70 - 130	110	70 - 130	<0.19	ug/L				
A323172	Leachable (SPLP) Chloroform	2021/08/08	100 (21)	70 - 130	108	70 - 130	<0.90	ug/L				
A323172	Leachable (SPLP) cis-1,2-Dichloroethylene	2021/08/08	101 (21)	70 - 130	110	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) cis-1,3-dichloropropene	2021/08/08	99 (21)	70 - 130	101	70 - 130	<0.30	ug/L				
A323172	Leachable (SPLP) Ethylbenzene	2021/08/08	92 (21)	70 - 130	97	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) Ethylene Dibromide	2021/08/08	101 (21)	70 - 130	105	70 - 130	<0.19	ug/L				
A323172	Leachable (SPLP) m & p-Xylene	2021/08/08	101 (21)	70 - 130	105	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) o-Xylene	2021/08/08	91 (21)	70 - 130	100	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) Tetrachloroethylene	2021/08/08	93 (21)	70 - 130	104	70 - 130	<0.40	ug/L				



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323172	Leachable (SPLP) Toluene	2021/08/08	101 (21)	70 - 130	107	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) Total Xylenes	2021/08/08					<0.60	ug/L				
A323172	Leachable (SPLP) trans-1,2-Dichloroethylene	2021/08/08	103 (21)	70 - 130	109	70 - 130	<0.40	ug/L				
A323172	Leachable (SPLP) trans-1,3-dichloropropene	2021/08/08	110 (21)	70 - 130	114	70 - 130	<0.30	ug/L				
A323172	Leachable (SPLP) Trichloroethylene	2021/08/08	100 (21)	70 - 130	112	70 - 130	<0.40	ug/L				
A327122	1,2,3,4,6,7,8-Hepta CDD	2021/08/13	91 (22)	70 - 140	100	70 - 140	<0.565, EDL=0.565	pg/g	NC (24)	25		
A327122	1,2,3,4,6,7,8-Hepta CDF	2021/08/13	90 (22)	82 - 122	98	82 - 122	<0.655, EDL=0.655	pg/g	NC (24)	25		
A327122	1,2,3,4,7,8,9-Hepta CDF	2021/08/13	115 (22)	78 - 138	111	78 - 138	<0.661, EDL=0.661	pg/g	NC (25,24)	25		
A327122	1,2,3,4,7,8-Hexa CDD	2021/08/13	106 (22)	70 - 164	108	70 - 164	<0.457, EDL=0.457	pg/g	NC (24)	25		
A327122	1,2,3,4,7,8-Hexa CDF	2021/08/13	117 (22)	72 - 134	110	72 - 134	<0.551, EDL=0.551	pg/g	NC (24)	25		
A327122	1,2,3,6,7,8-Hexa CDD	2021/08/13	90 (22)	76 - 134	90	76 - 134	<0.459, EDL=0.459	pg/g	NC (25,24)	25		
A327122	1,2,3,6,7,8-Hexa CDF	2021/08/13	110 (22)	84 - 130	108	84 - 130	<0.579, EDL=0.579	pg/g	NC (24)	25		
A327122	1,2,3,7,8,9-Hexa CDD	2021/08/13	96 (22)	64 - 162	96	64 - 162	<0.448, EDL=0.448	pg/g	NC (24)	25		
A327122	1,2,3,7,8,9-Hexa CDF	2021/08/13	105 (22)	78 - 130	103	78 - 130	<0.565, EDL=0.565	pg/g	NC (24)	25		
A327122	1,2,3,7,8-Penta CDD	2021/08/13	99 (22)	25 - 181	98	25 - 181	<0.489, EDL=0.489	pg/g	NC (25,24)	25		
A327122	1,2,3,7,8-Penta CDF	2021/08/13	109 (22)	80 - 134	107	80 - 134	<0.543, EDL=0.543	pg/g	NC (24)	25		
A327122	2,3,4,6,7,8-Hexa CDF	2021/08/13	109 (22)	70 - 156	112	70 - 156	<0.534, EDL=0.534	pg/g	NC (24)	25		
A327122	2,3,4,7,8-Penta CDF	2021/08/13	105 (22)	68 - 160	105	68 - 160	<0.493, EDL=0.493	pg/g	NC (24)	25		
A327122	2,3,7,8-Tetra CDD	2021/08/13	103 (22)	67 - 158	102	67 - 158	<0.486, EDL=0.486	pg/g	NC (24)	25		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A327122	2,3,7,8-Tetra CDF	2021/08/13	12 (23,22)	75 - 158	112	75 - 158	<0.591, EDL=0.591	pg/g	NC (27,24)	25		
A327122	Octa CDD	2021/08/13	89 (22)	78 - 144	102	78 - 144	<2.28, EDL=2.28	pg/g	NC (24)	25		
A327122	Octa CDF	2021/08/13	95 (22)	63 - 170	107	63 - 170	<0.584, EDL=0.584	pg/g	NC (24)	25		
A327122	Total Hepta CDD	2021/08/13					<0.565, EDL=0.565	pg/g	NC (24)	25		
A327122	Total Hepta CDF	2021/08/13					<0.658, EDL=0.658	pg/g	NC (24)	25		
A327122	Total Hexa CDD	2021/08/13					<0.459, EDL=0.459	pg/g	NC (24)	25		
A327122	Total Hexa CDF	2021/08/13					<0.557, EDL=0.557	pg/g	NC (24)	25		
A327122	Total Penta CDD	2021/08/13					<0.489, EDL=0.489	pg/g	NC (24)	25		
A327122	Total Penta CDF	2021/08/13					<0.517, EDL=0.517	pg/g	NC (24)	25		
A327122	Total Tetra CDD	2021/08/13					<0.486, EDL=0.486	pg/g	31 (26,24)	25		
A327122	Total Tetra CDF	2021/08/13					<0.591, EDL=0.591	pg/g	27 (26,24)	25		
A327123	Confirmation 2,3,7,8-Tetra CDF	2021/08/18					<0.090	pg/g	104 (6,2)	100		
A327124	Confirmation 2,3,7,8-Tetra CDF	2021/08/20					<0.18	pg/g	NC (24)	100		
A327235	Confirmation 2,3,7,8-Tetra CDF	2021/08/19					<0.18	pg/g				



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		Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard		
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
N/A = Not Applicable												
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.												
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.												
QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.												
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.												
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.												
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.												
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)												
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).												
(1) Duplicate Parent ID [ACE099-01]												
(2) Duplicate Parent ID												
(3) Matrix Spike Parent ID [ACE103-11]												
(4) Blank recovery exceeds acceptance criteria (high recovery). As results are non-detect, there is no impact on data quality.												
(5) Duplicate Parent ID [ACE103-11]												
(6) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.												
(7) Duplicate Parent ID [ACE115-10]												
(8) Matrix Spike Parent ID [ACE099-06]												
(9) Duplicate Parent ID [ACE099-06]												
(10) RDL increased due to artifact.												
(11) Duplicate Parent ID [ACE113-01]												
(12) Matrix Spike Parent ID [ACE100-04]												
(13) Duplicate Parent ID [ACE100-04]												
(14) Matrix Spike Parent ID [ACE099-04]												
(15) Duplicate Parent ID [ACE099-04]												
(16) Duplicate Parent ID [ACE113-10]												
(17) Matrix Spike Parent ID [ACE113-10]												



BV Labs Job #: C151797
Report Date: 2021/09/01

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
(18) Matrix Spike Parent ID [ACE103-02]												
(19) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.												
(20) Duplicate Parent ID [ACE103-02]												
(21) Matrix Spike Parent ID [ACE099-03]												
(22) Matrix Spike Parent ID [ACE108-02]												
(23) Recovery outside method acceptance criteria due to matrix effects												
(24) Duplicate Parent ID [ACE111-02]												
(25) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.												
(26) Duplicate results exceeded RPD acceptance criteria. This may be due to sample heterogeneity.												
(27) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in elevated detection limit.												



BV Labs Job #: C151797
Report Date: 2021/09/01

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

Brad Newman, Scientific Specialist

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Branko Vrzic, A.S.C.T., Senior Analyst, HRMS Services

Janet Gao, B.Sc., QP, Supervisor, Organics

Nahed Amer, Customer Solutions Representative



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VALIDATION SIGNATURE PAGE(CONT'D)

The analytical data and all QC contained in this report were reviewed and validated by:

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



CHAIN-OF-CUSTODY RECORD

[illegible]

COOLER OBSERVATIONS:				MAXAM JOB#:			
CUSTOMER SEAL	YES	NO	LOCKER ID				
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DETAILS	/						
ALL PRESENT	/						
CUSTOMER SEAL	YES	NO	LOCKER ID				
PRESIDENT	/		TEMP	9	7	9	
DETAILS	/						
ALL PRESENT	/						
CUSTOMER SEAL	YES	NO	LOCKER ID				
PRESIDENT	/		TEMP	7	7	8	
DETAILS	/						
ALL PRESENT	/						
CUSTOMER SEAL	YES	NO	LOCKER ID				
PRESIDENT	/		TEMP	10	7	7	
DETAILS	/						
ALL PRESENT	/						
CUSTOMER SEAL	YES	NO	LOCKER ID				
PRESIDENT	/		TEMP	9	10	10	
DETAILS	/						
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CUSTOMER SEAL	YES	NO	LOCKER ID				
PRESIDENT	/		TEMP	8	8	8	
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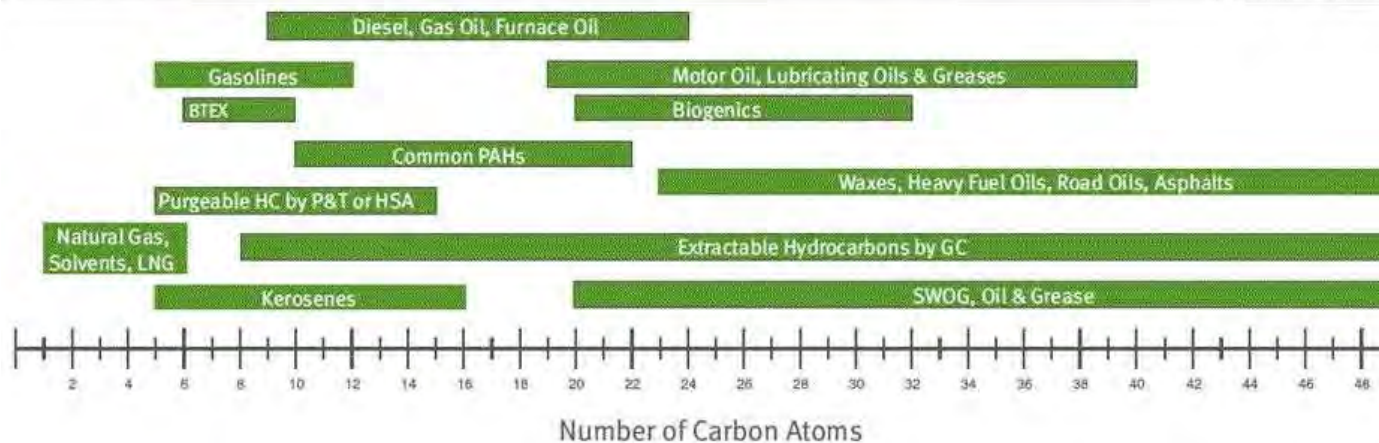
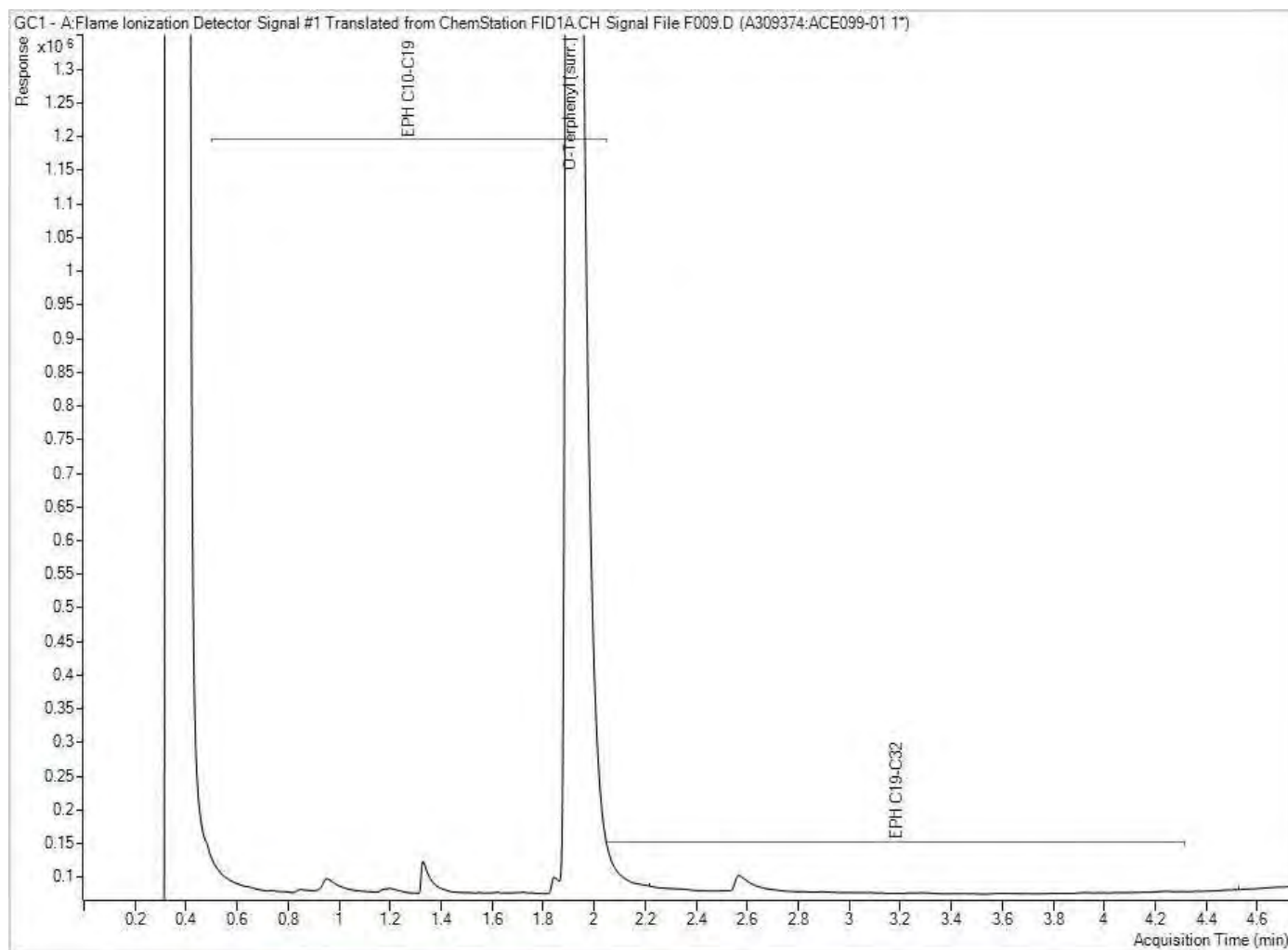
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Invoice Information				Report Information (if differs from invoice)				Project Information				Turnaround Time (TAT) Required																				
Company: _____				Company: _____				Quotation #: _____				☐ 5 - 7 Days Regular (Most analyses) PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS																				
Contact Name: _____				Contact Name: _____				P.O. #/ AFE#: _____				Rush TAT (Surcharges will be applied) ☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3-4 Days																				
Address: _____				Address: _____				Project #: _____				Date Required: _____																				
Phone: _____				Phone: _____				Site Location: _____				Rush Confirmation #: _____																				
Email: _____				Email: _____				Site #: _____																								
Copies: _____				Copies: _____				Sampled By: _____																								
Laboratory Use Only								Analysis Requested								Regulatory Criteria																
Seal Present ☐ YES ☐ NO Seal Intact ☐ YES ☐ NO Cooling Media ☐ YES ☐ NO Temp _____				Depot Reception Seal Present ☐ YES ☐ NO Seal Intact ☐ YES ☐ NO Cooling Media ☐ YES ☐ NO Temp _____				BTEX F1 ☐ VOC ☐ BTEX F1-F2 ☐ BTEX F1-F4 ☐ Routine Water ☐ Regulated Metals ☐ Tot ☐ Diss ☐ Mercury Total ☐ Dissolved ☐ VOC/UPH ☐ PCBs ☐ TCUP METALS ☐ SPUR METALS ☐ CSE METALS CINC-PH-METALS ☐ DIOXINS/FURANS ☐ LEPA/HEPA ☐ TOTAL PCBs ☐ SILICA-QUARTZ/CRISTALLITE ☐ GLUCONATED/IN UNACIDIFIED ☐ ON SWOCS ☐ HOLD - DO NOT ANALYZE ☐								☐ AT1 ☐ CCME ☐ Drinking Water ☐ D50 (Drilling Waste) ☐ Saskatchewan ☐ Other: _____																
Sample Identification				Depth (Unit)	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	# of containers	BTEX F1	VOC	BTEX F1-F2	BTEX F1-F4	Routine Water	Regulated Metals	Tot	Diss	Mercury	Total	Dissolved	VOC/UPH	PCBs	TCUP METALS	SPUR METALS	CSE METALS CINC-PH-METALS	DIOXINS/FURANS	LEPA/HEPA	TOTAL PCBs	SILICA-QUARTZ/CRISTALLITE	GLUCONATED/IN UNACIDIFIED	ON SWOCS	HOLD - DO NOT ANALYZE	
1	CS-11230615-072021-CT-11	0 m	2021/07/20	11:45	bulk	12																										
2	CS-11230615-072021-CT-12	0 m		12:00		12																										
3	CS-11230615-072021-CT-13	0 m		13:10		12																										
4	CS-11230615-072021-CT-14	0 m		14:00		12																										
5	CS-11230615-072021-CT-15	0 m		14:20		12																										
6	CS-11230615-072021-CT-16	0 m		14:30		12																										
7																																
8																																
9																																
10																																
Please indicate Filtered, Preserved or Both (F, P, F/P)																																
Relinquished by: (Signature/ Print)		DATE (YYYY/MM/DD)		Time (HH:MM)		Received by: (Signature/ Print)		DATE (YYYY/MM/DD)		Time (HH:MM)																						
AES/Anthony O'Brien		2021/07/20		20:00		Rage Luyon		21/07/21		07:30																						



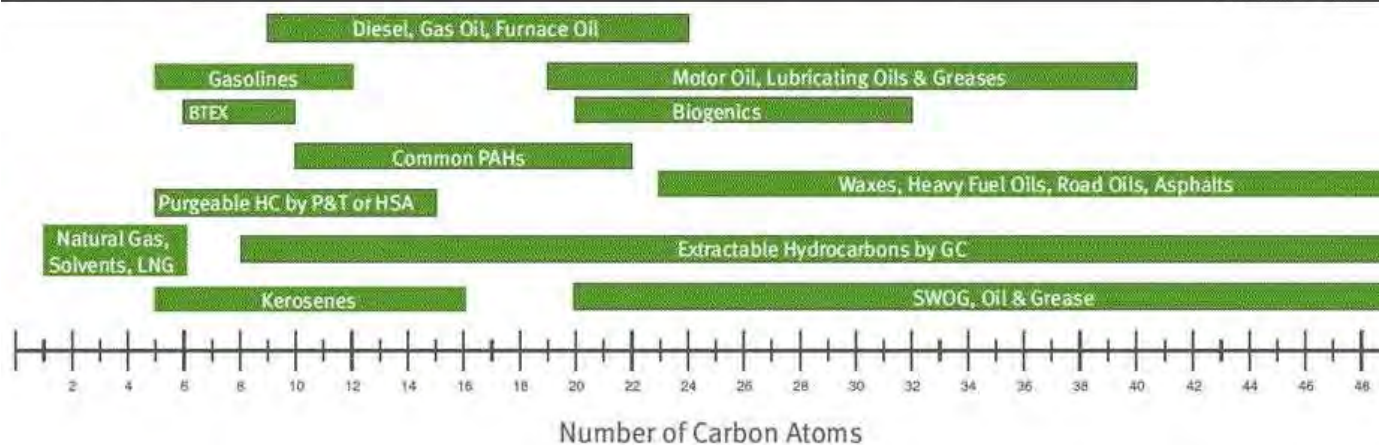
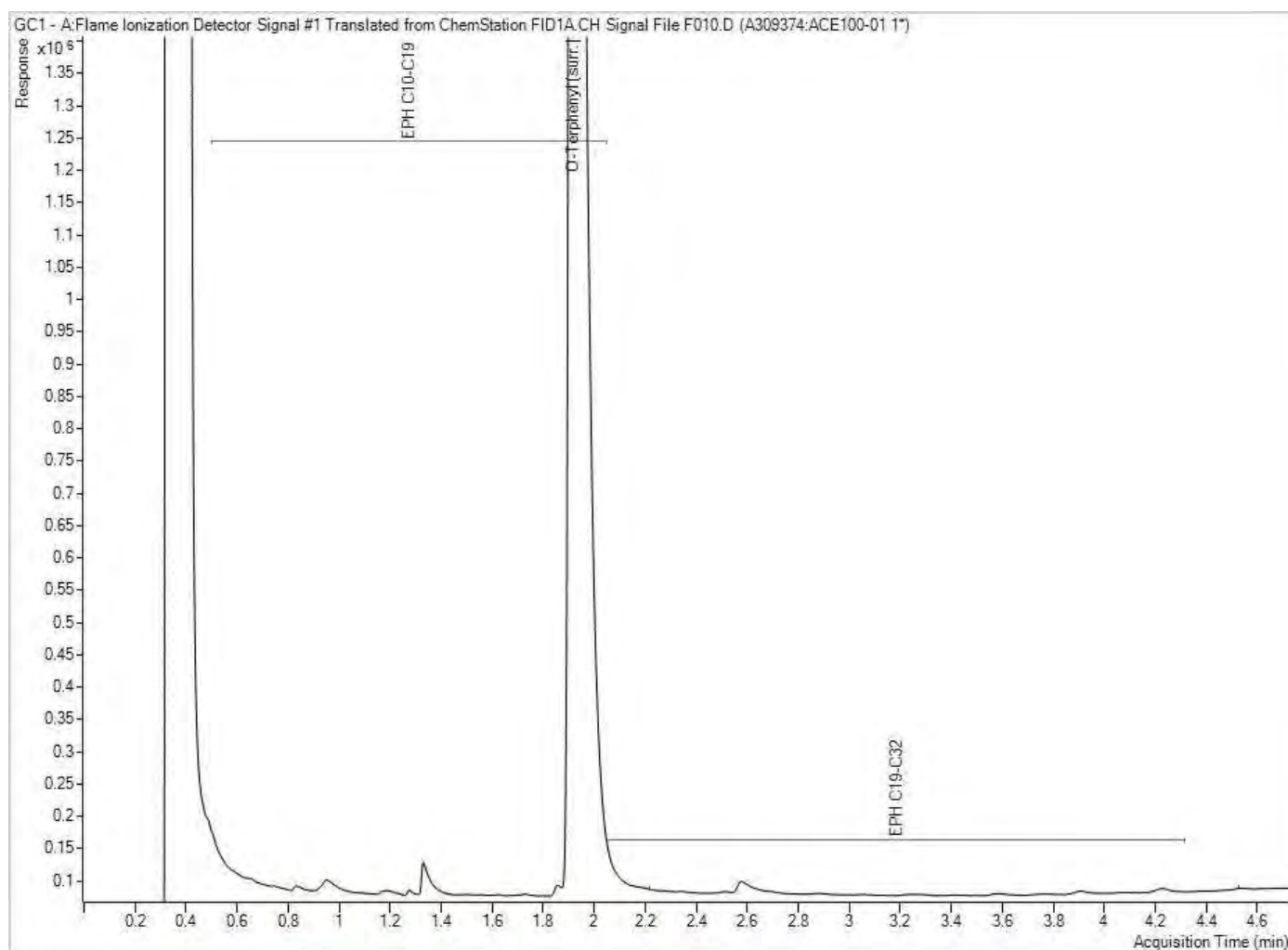
C151797 COC

EPH in Soil by GC/FID Chromatogram



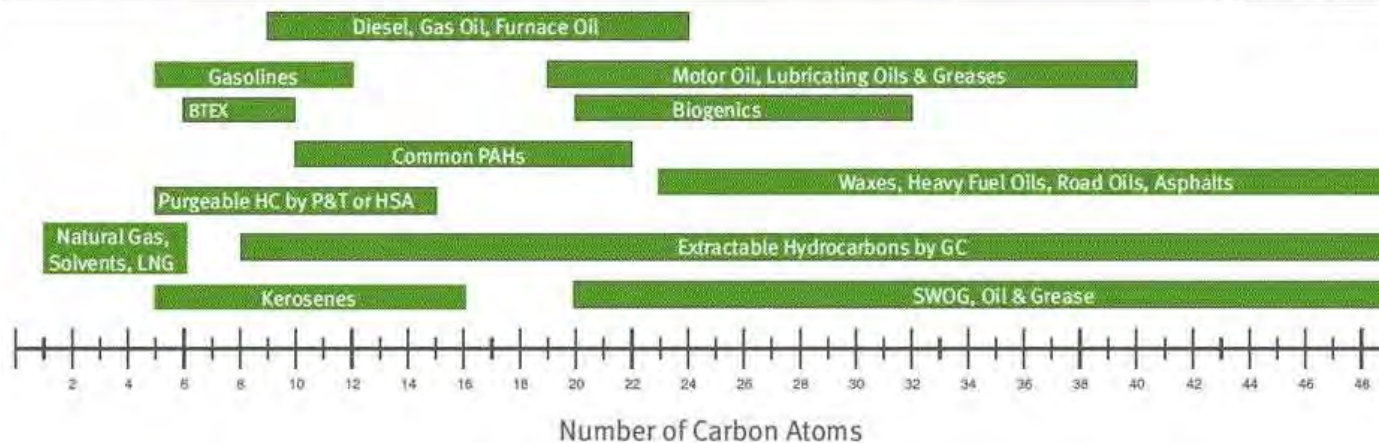
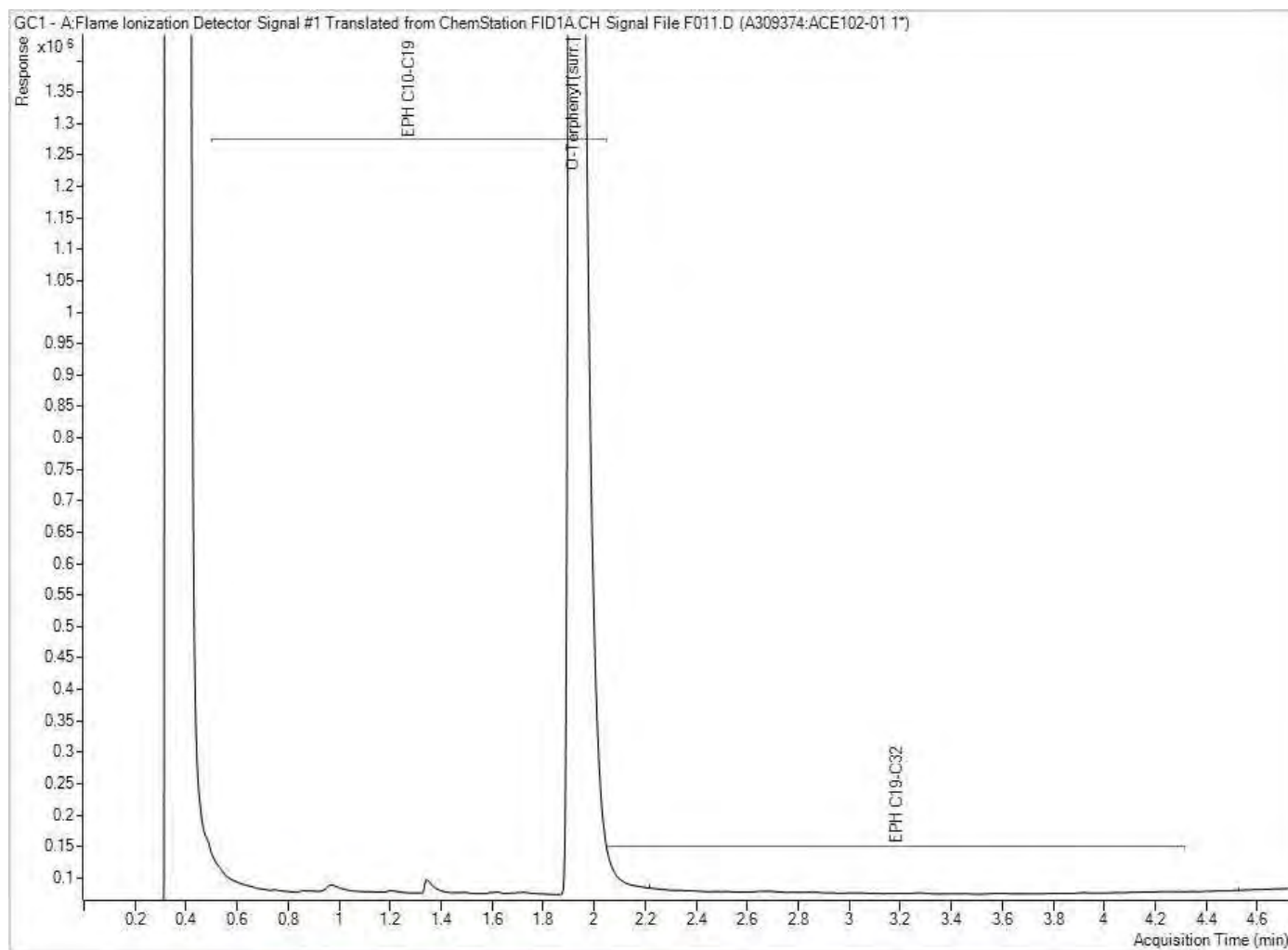
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EPH in Soil by GC/FID Chromatogram



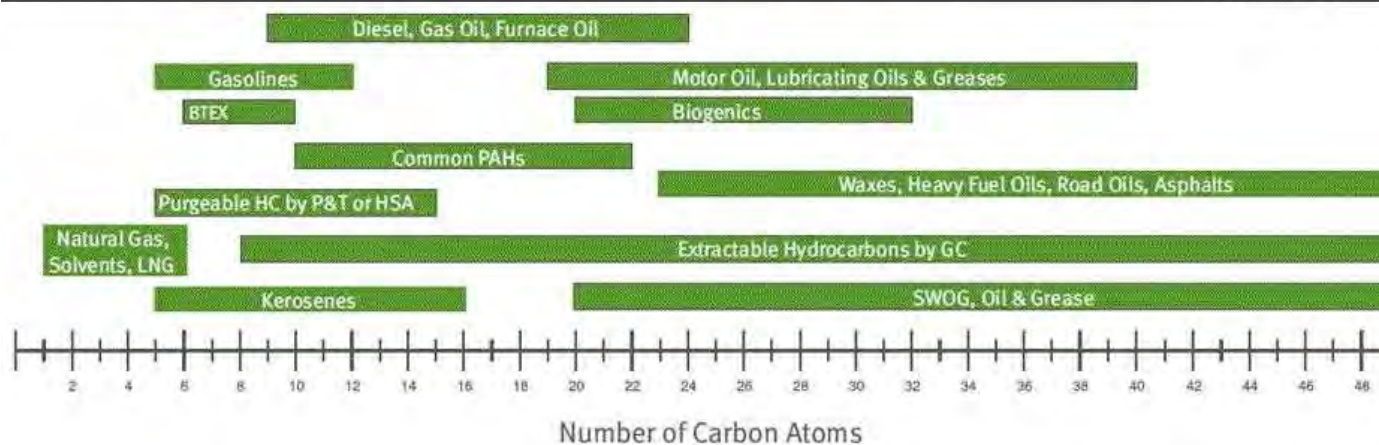
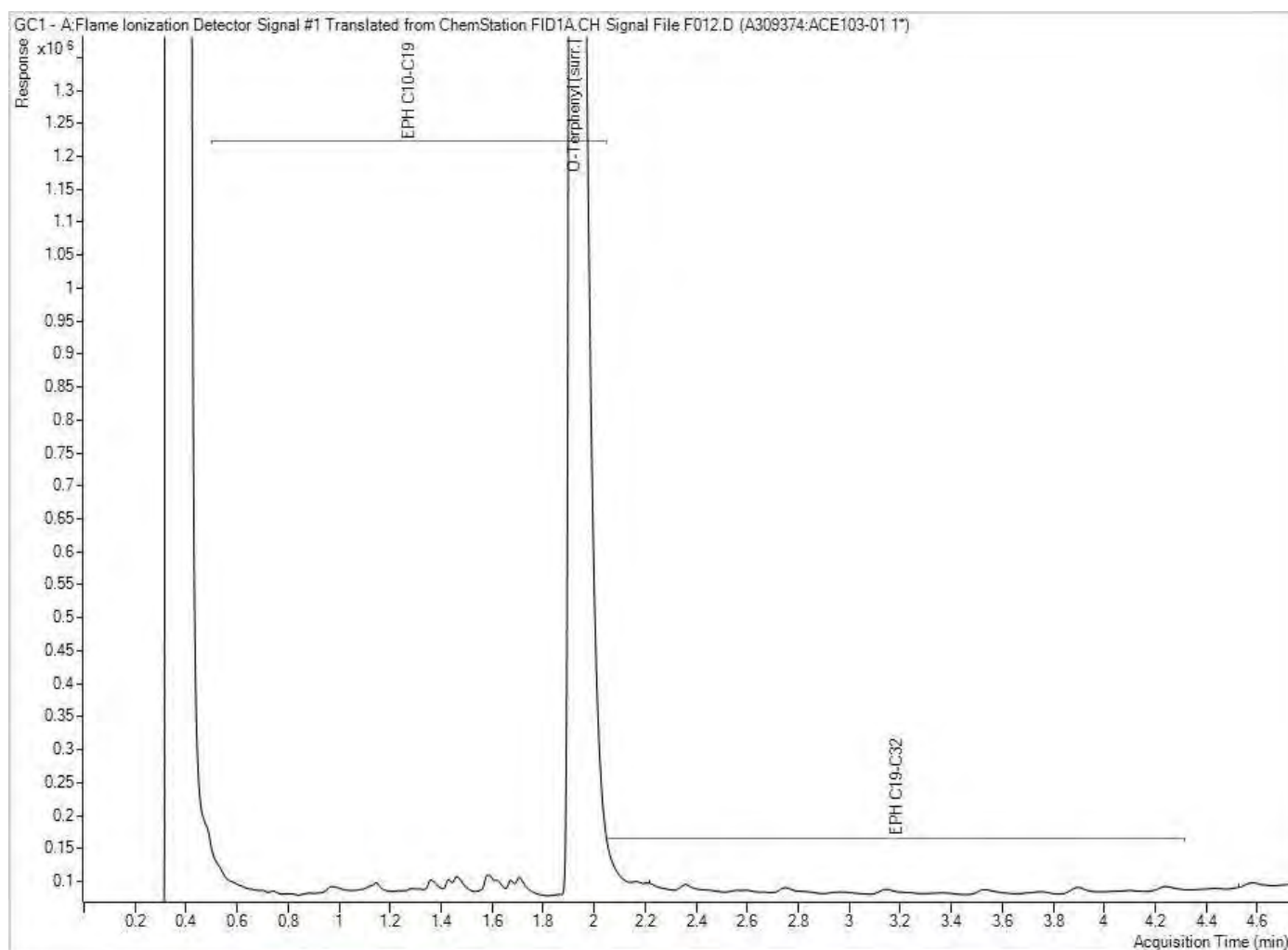
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EPH in Soil by GC/FID Chromatogram



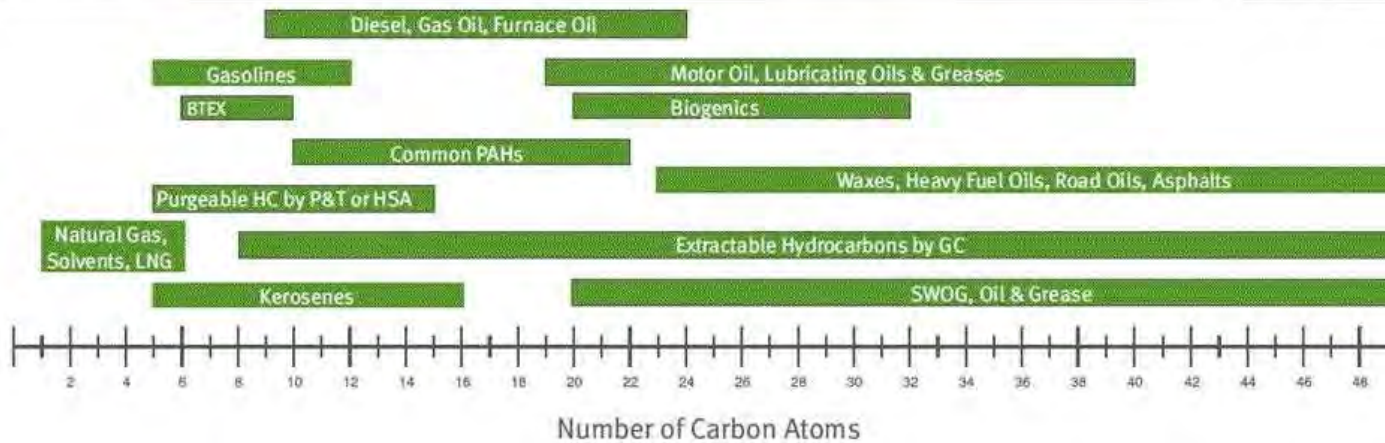
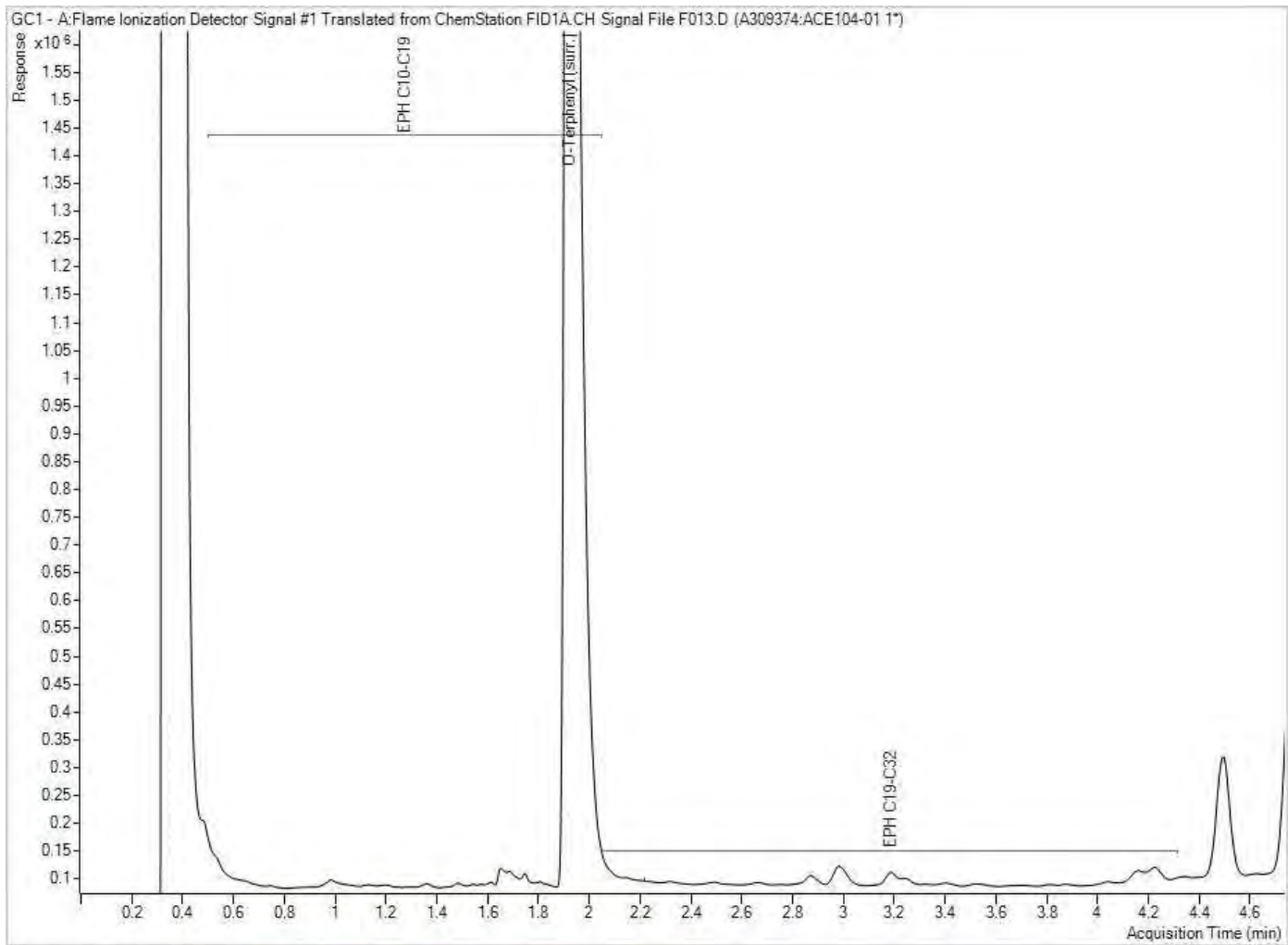
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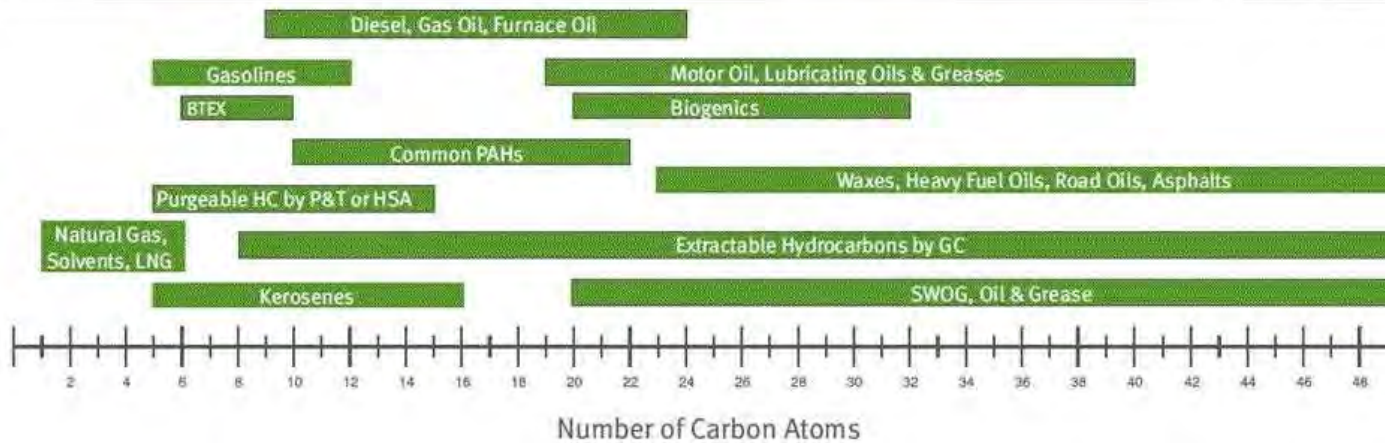
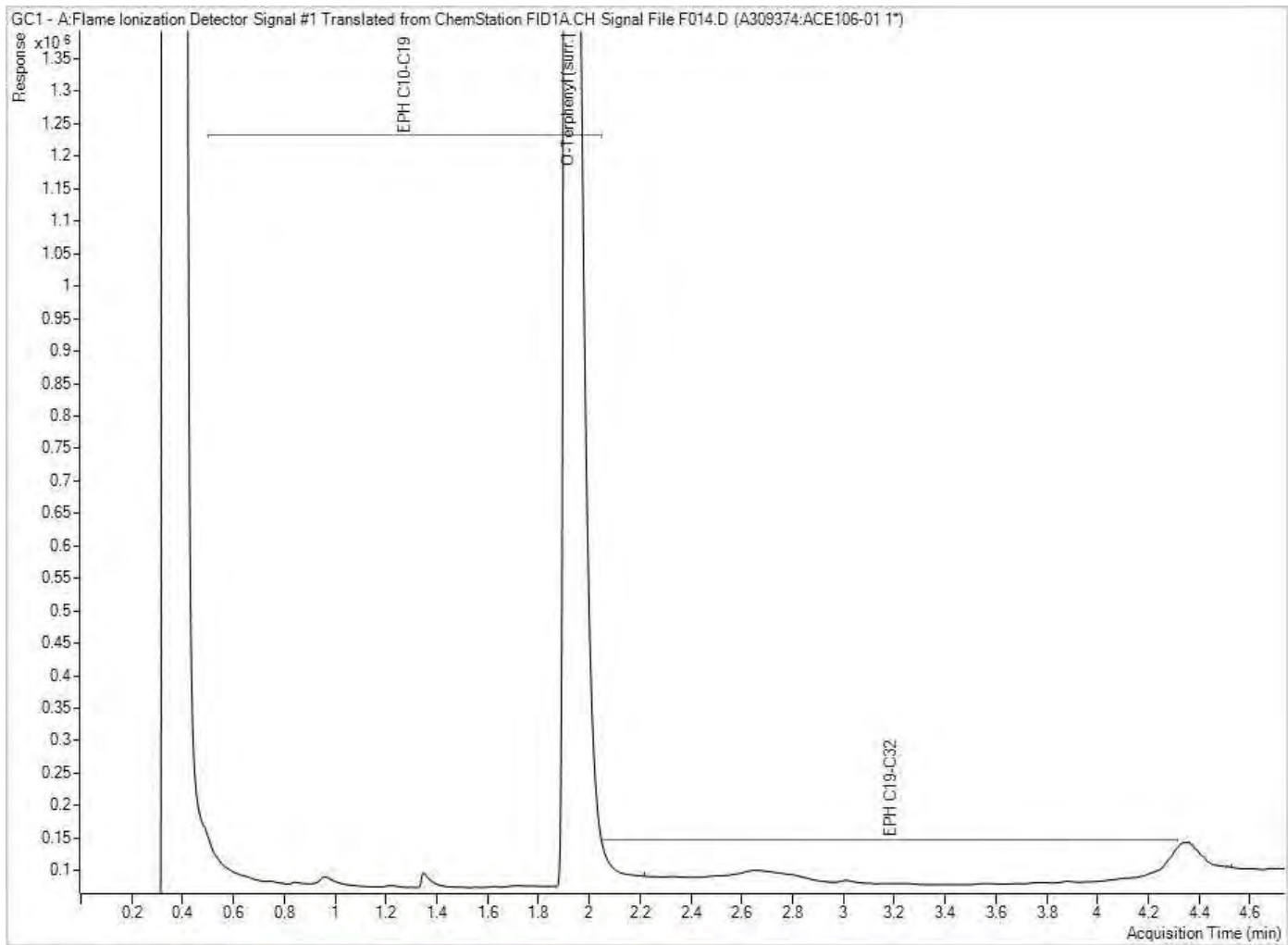
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EPH in Soil by GC/FID Chromatogram



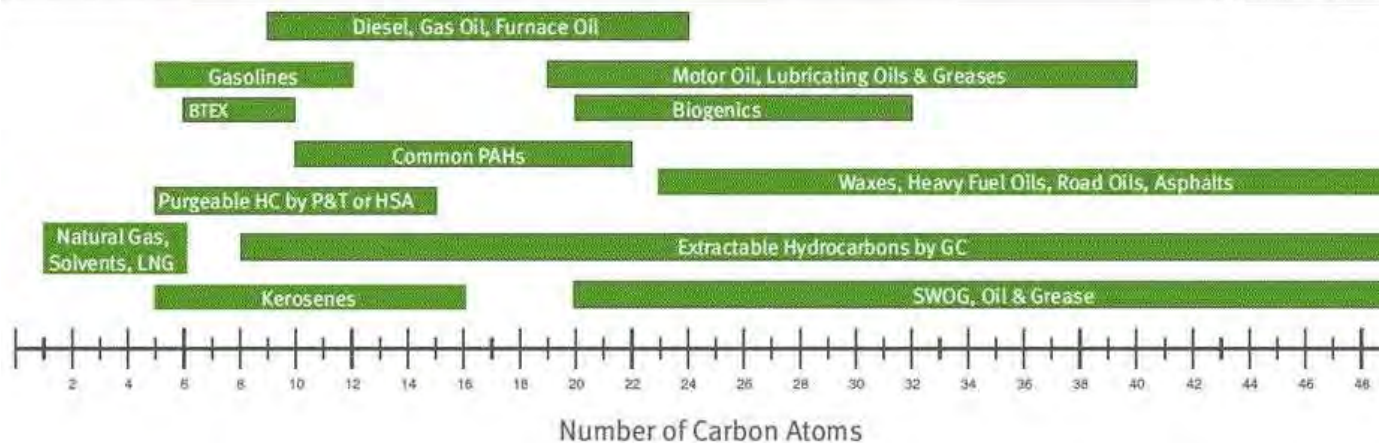
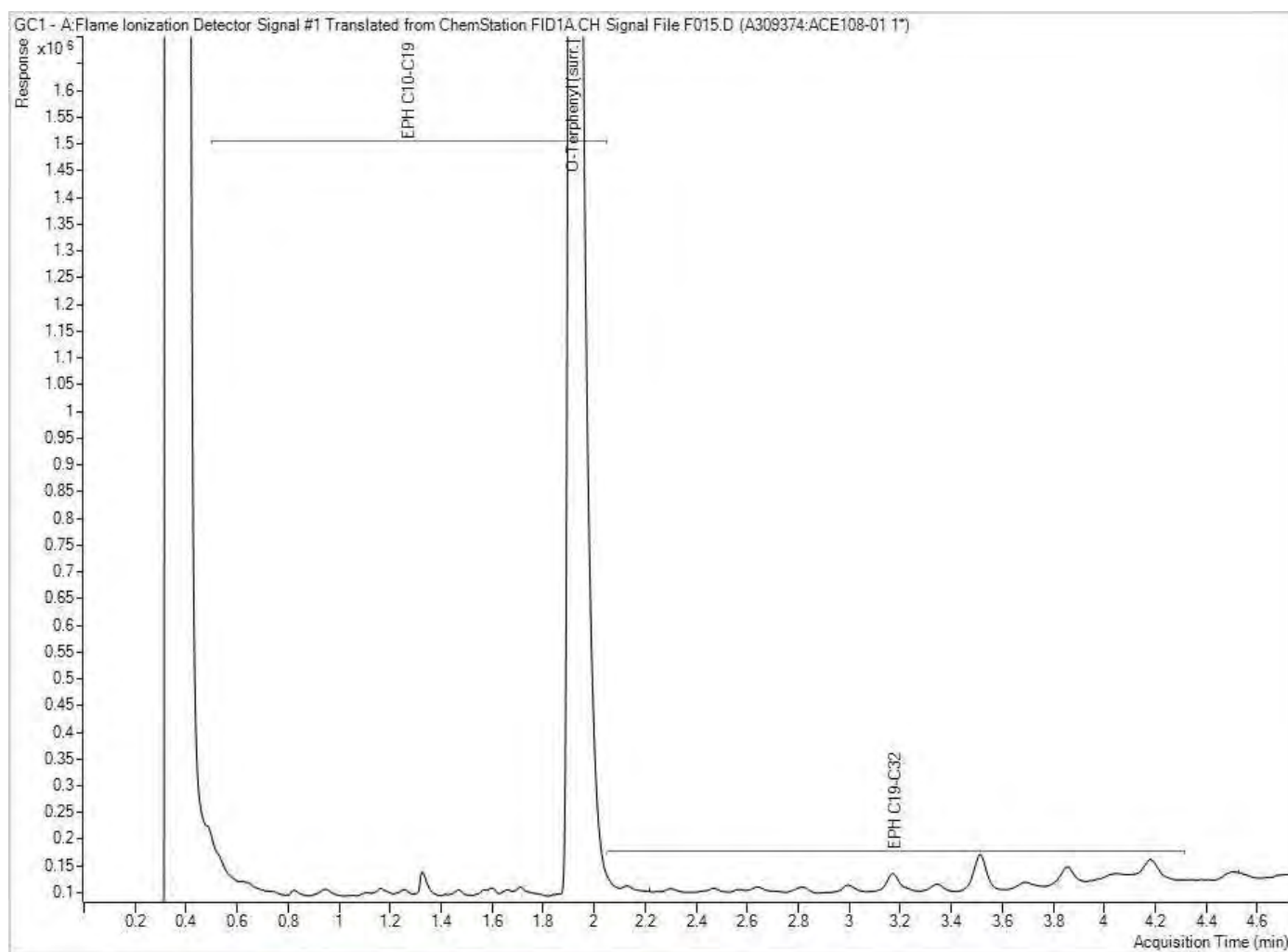
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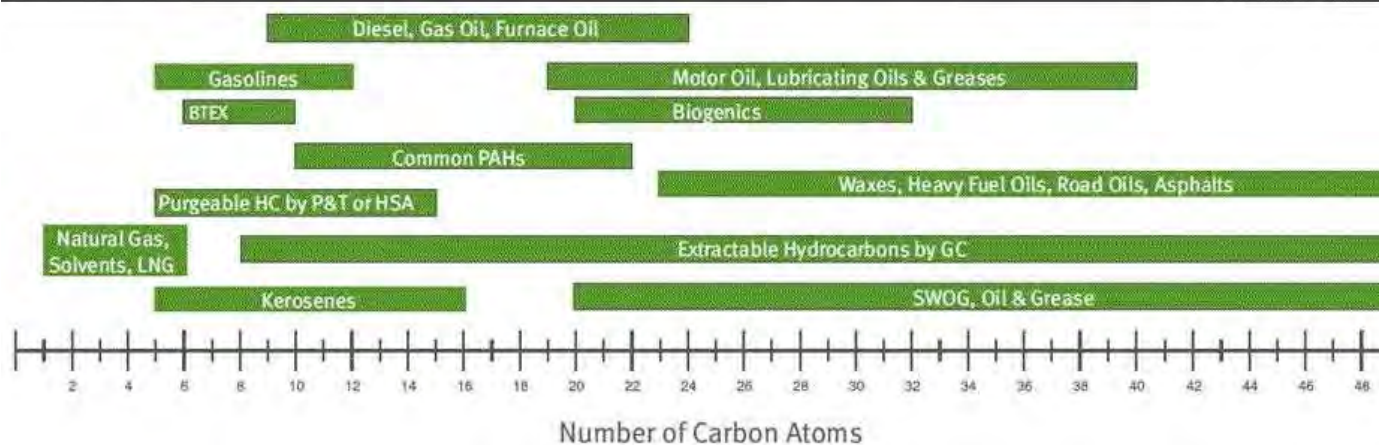
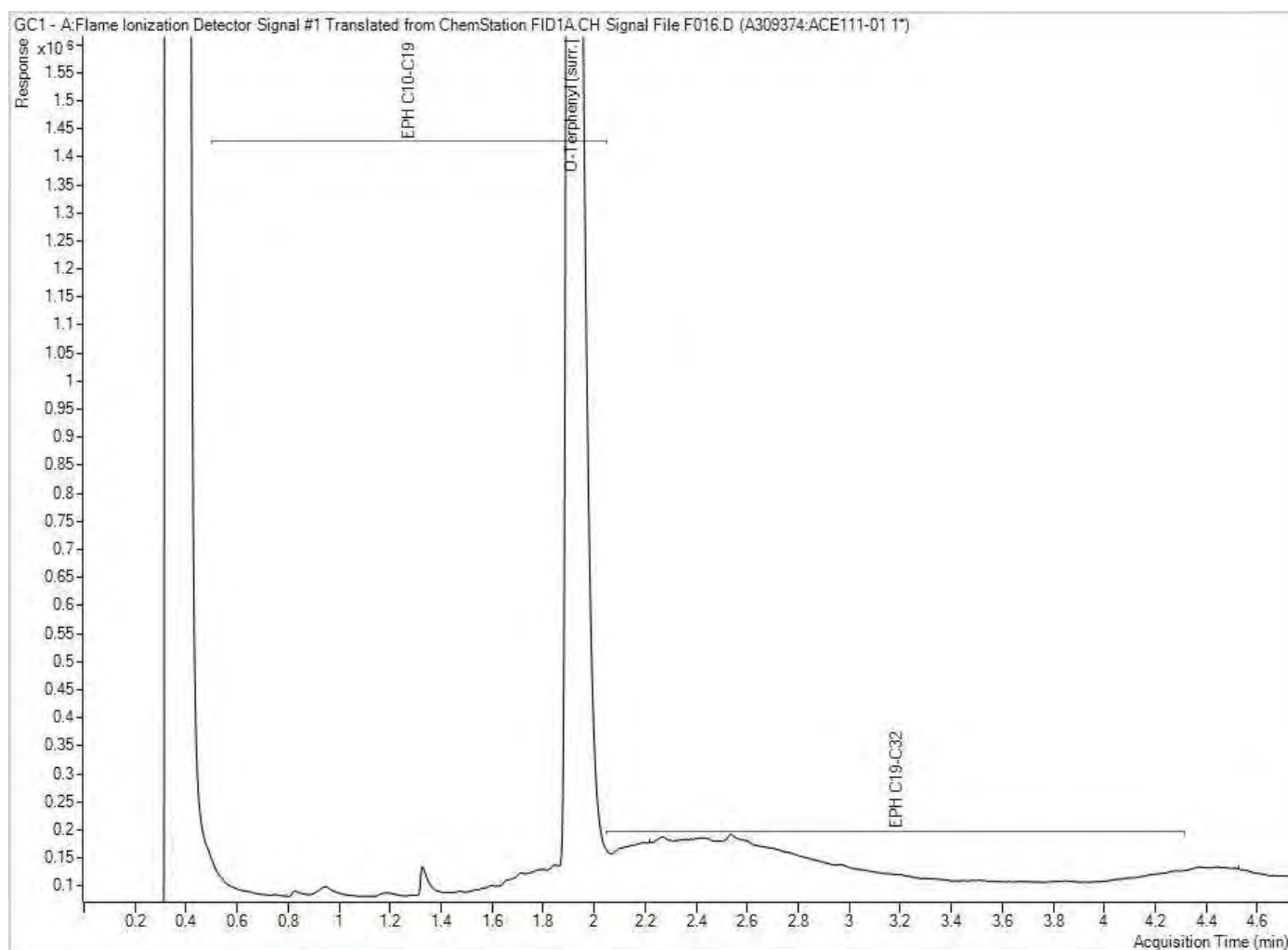
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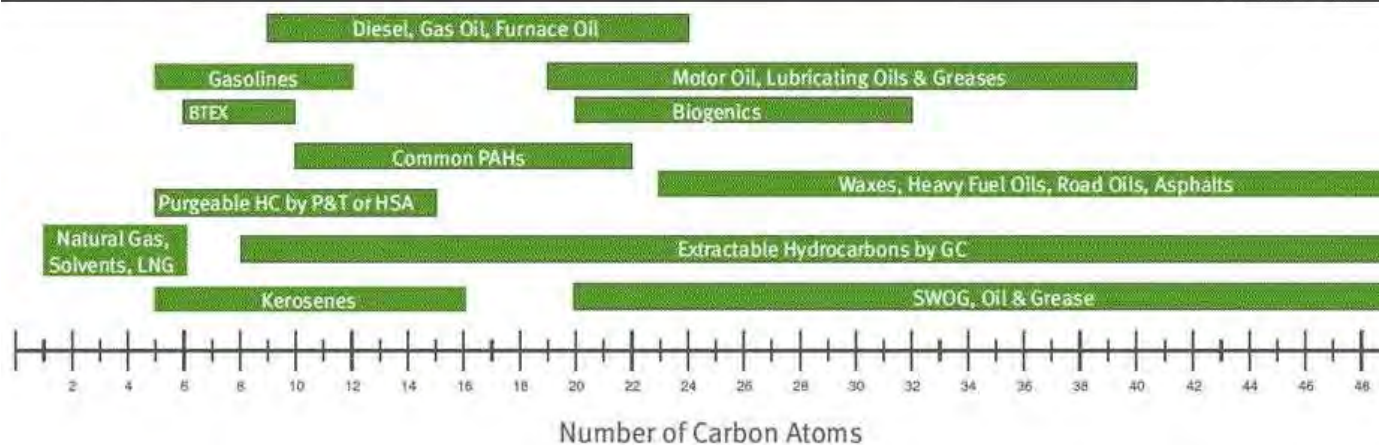
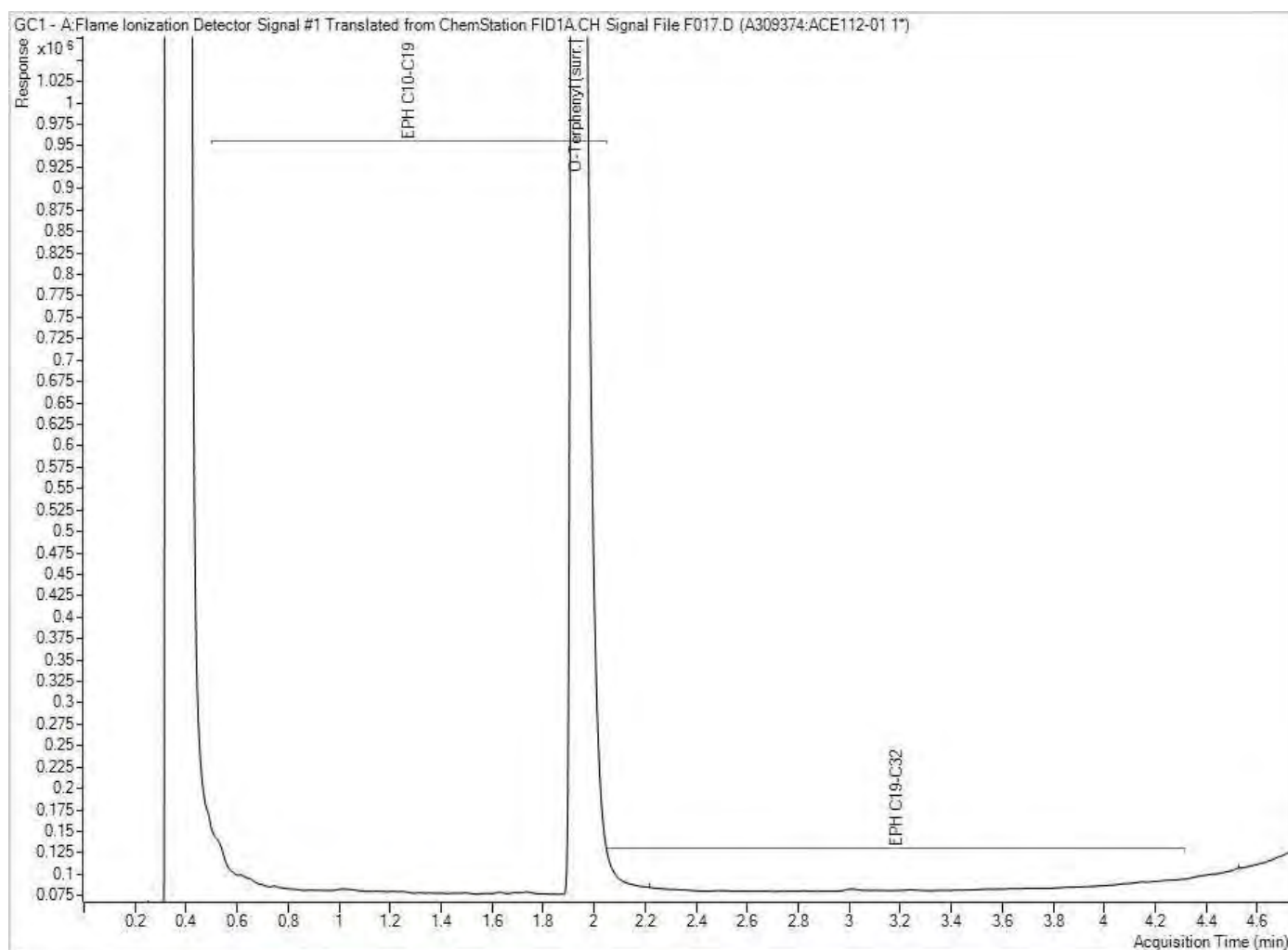
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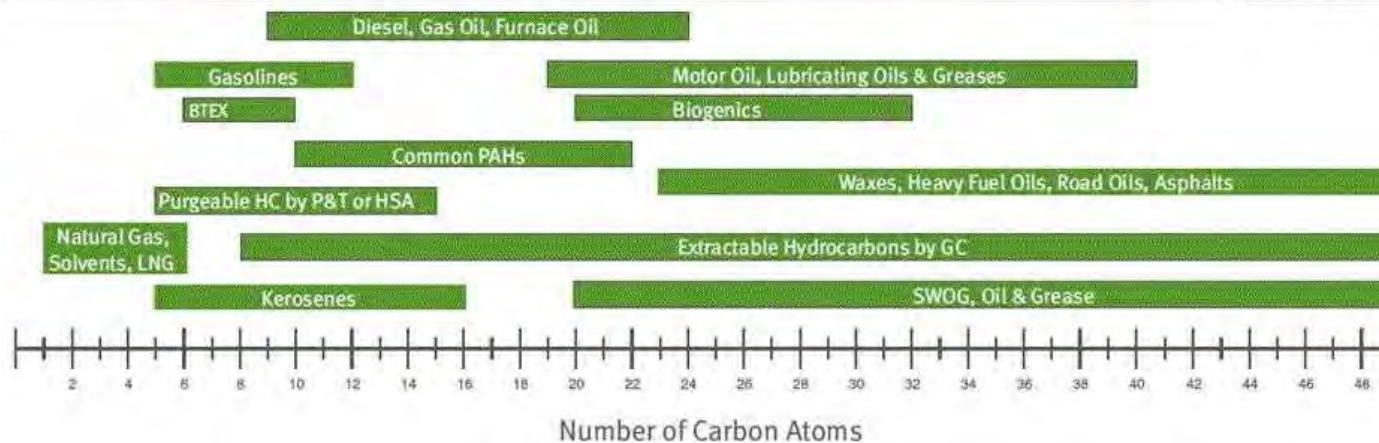
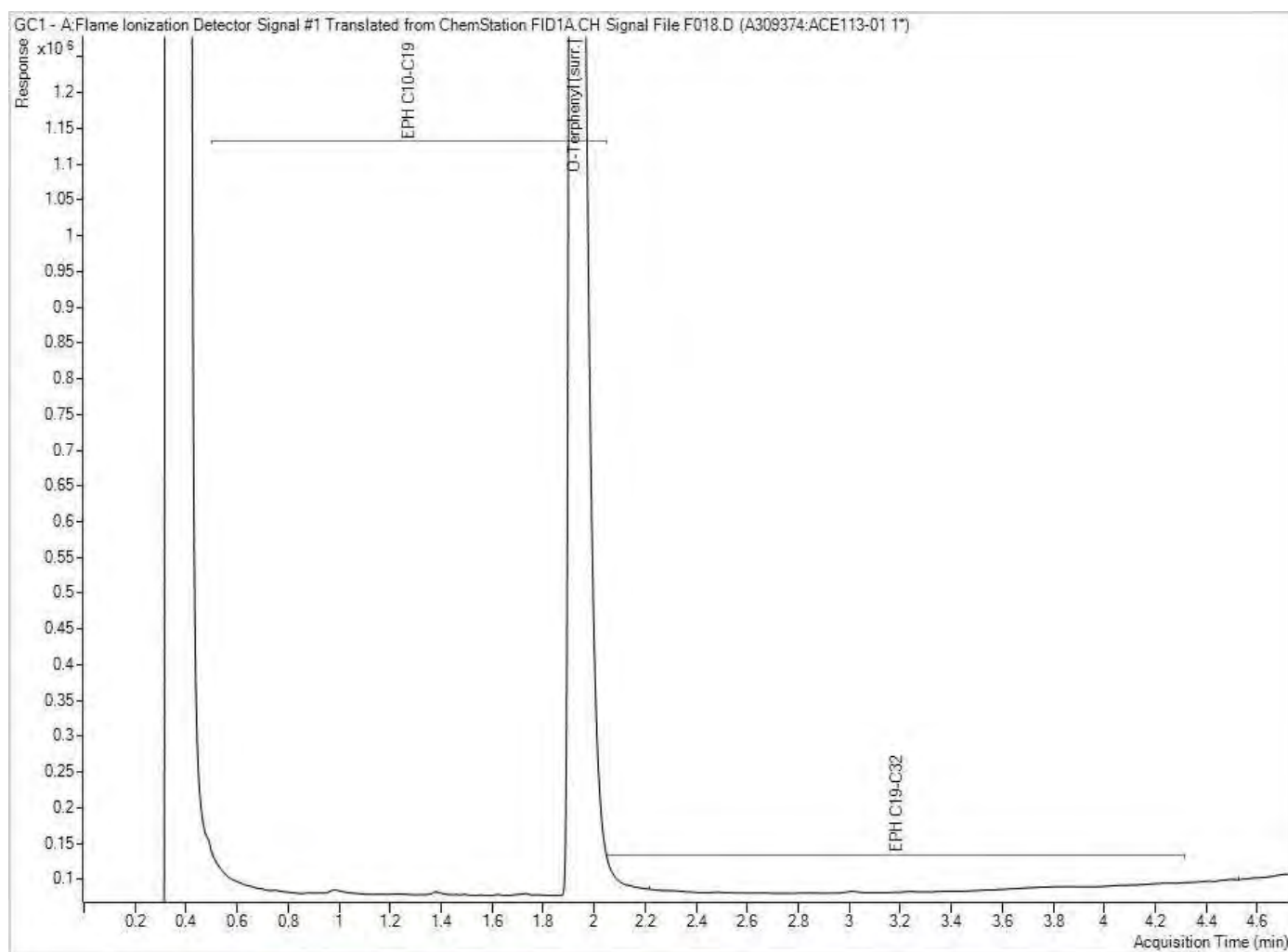
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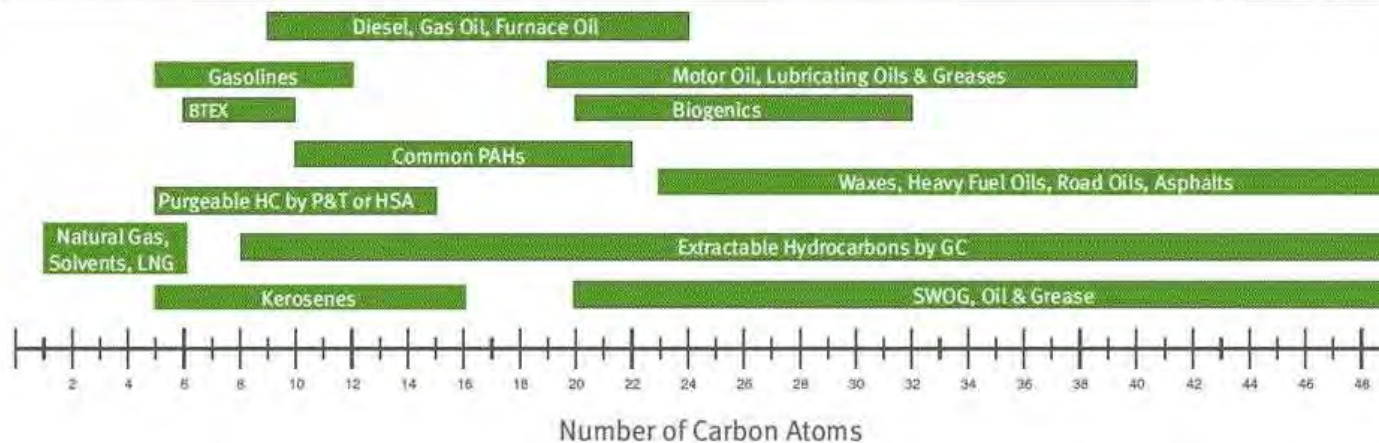
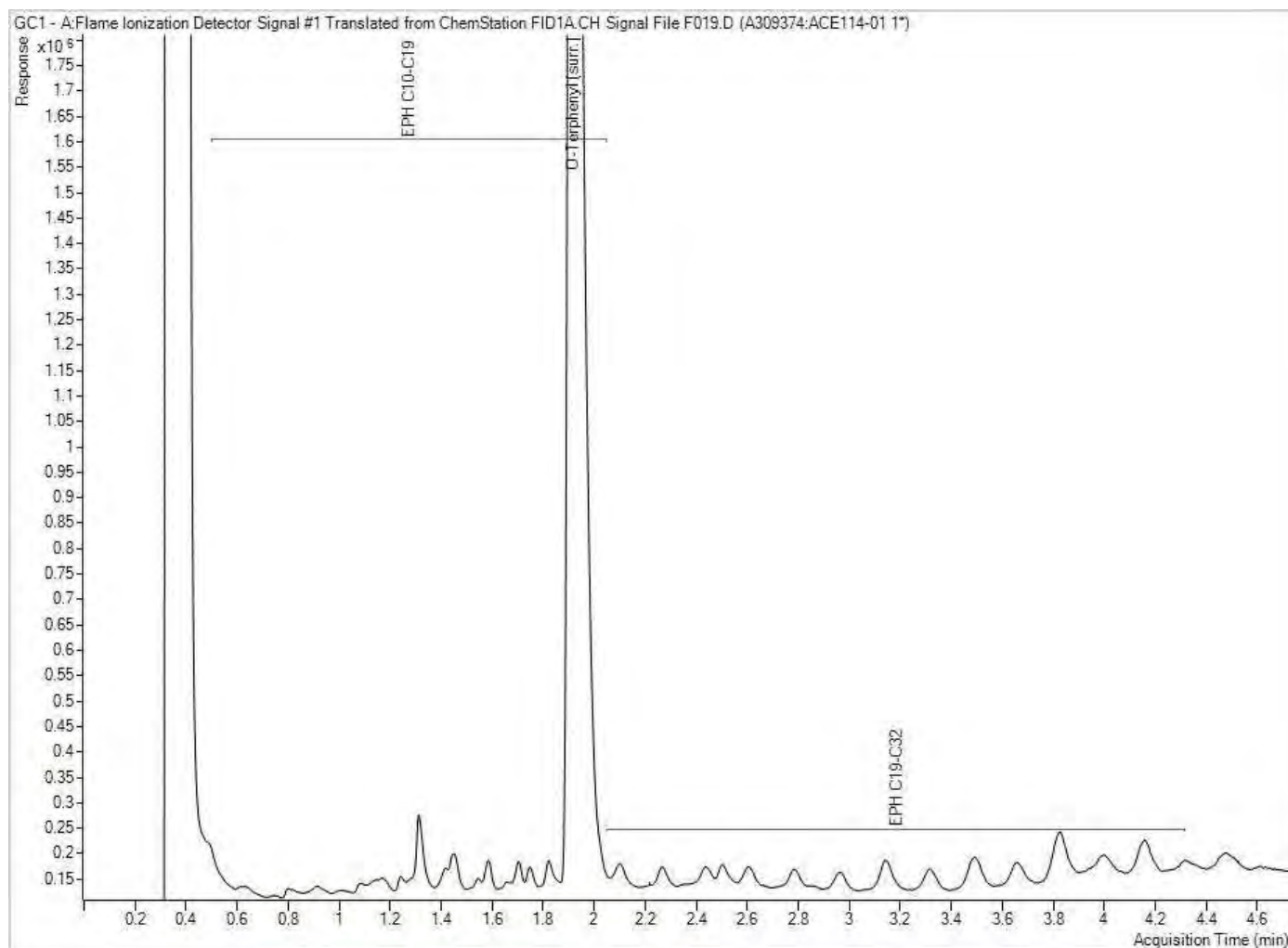
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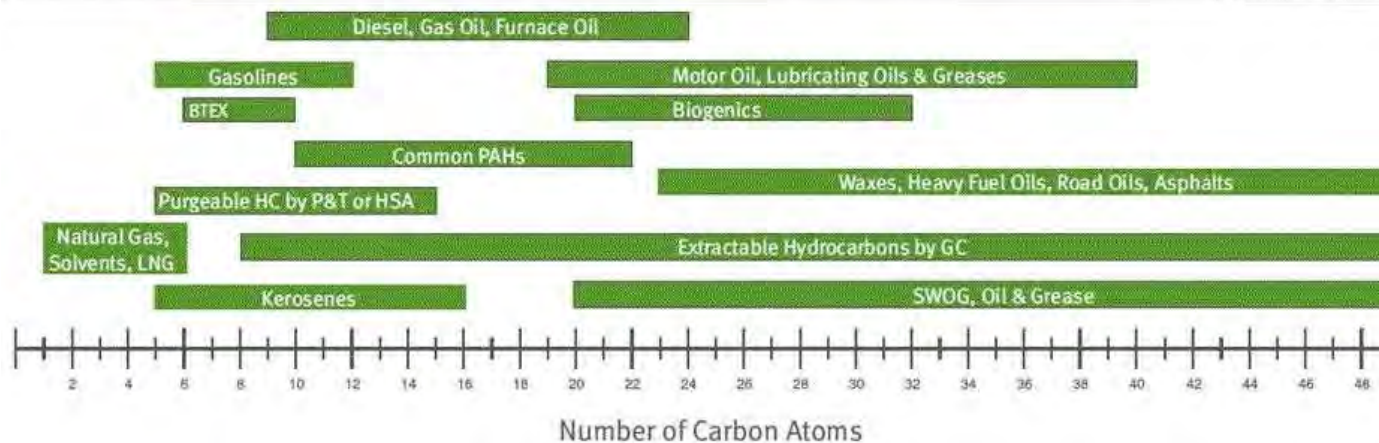
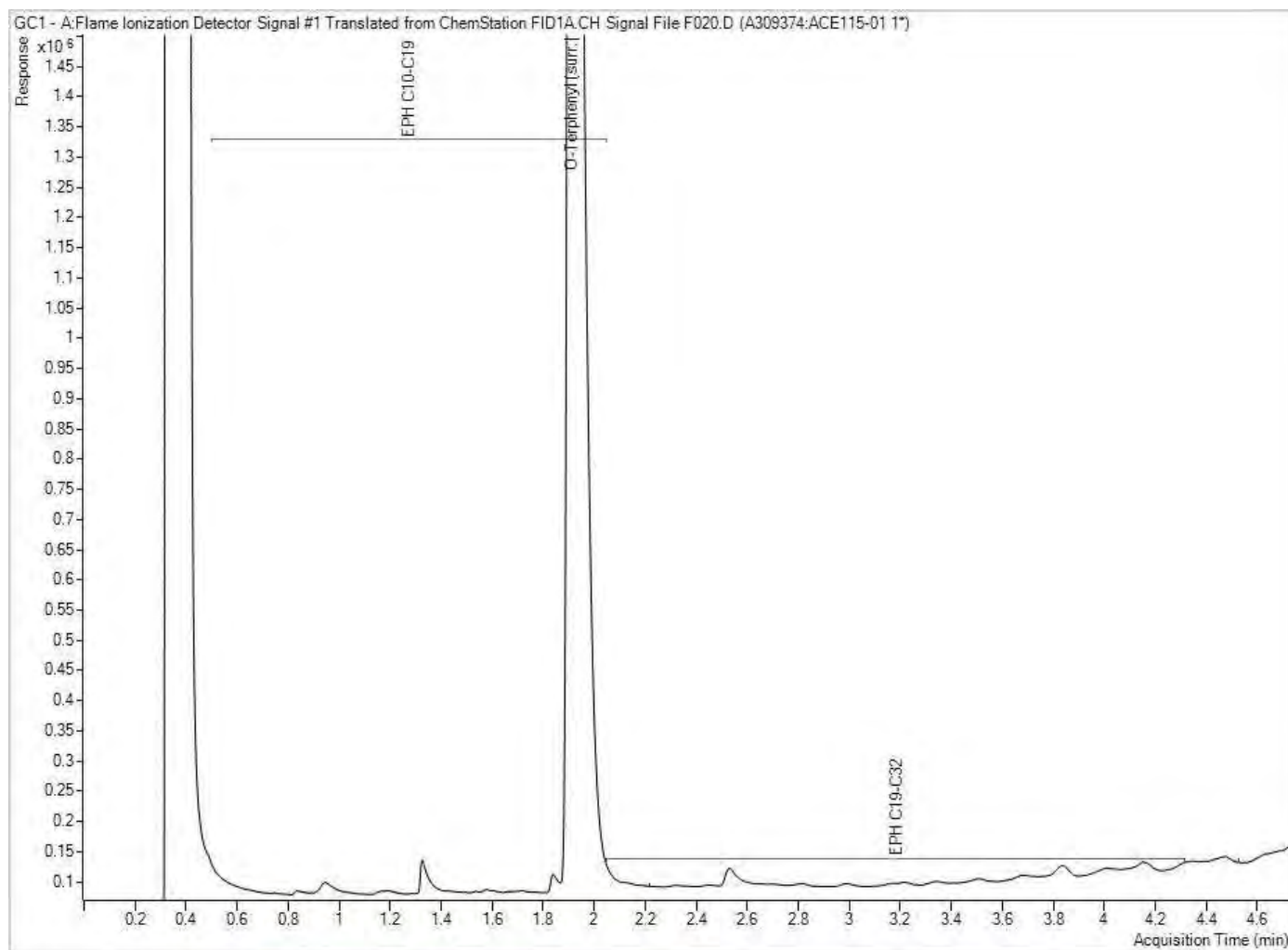
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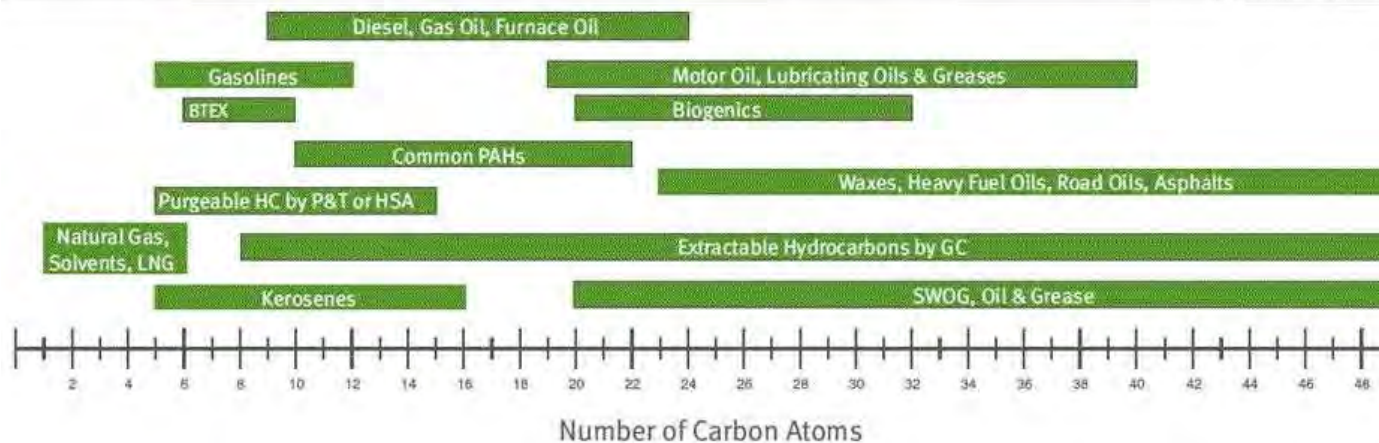
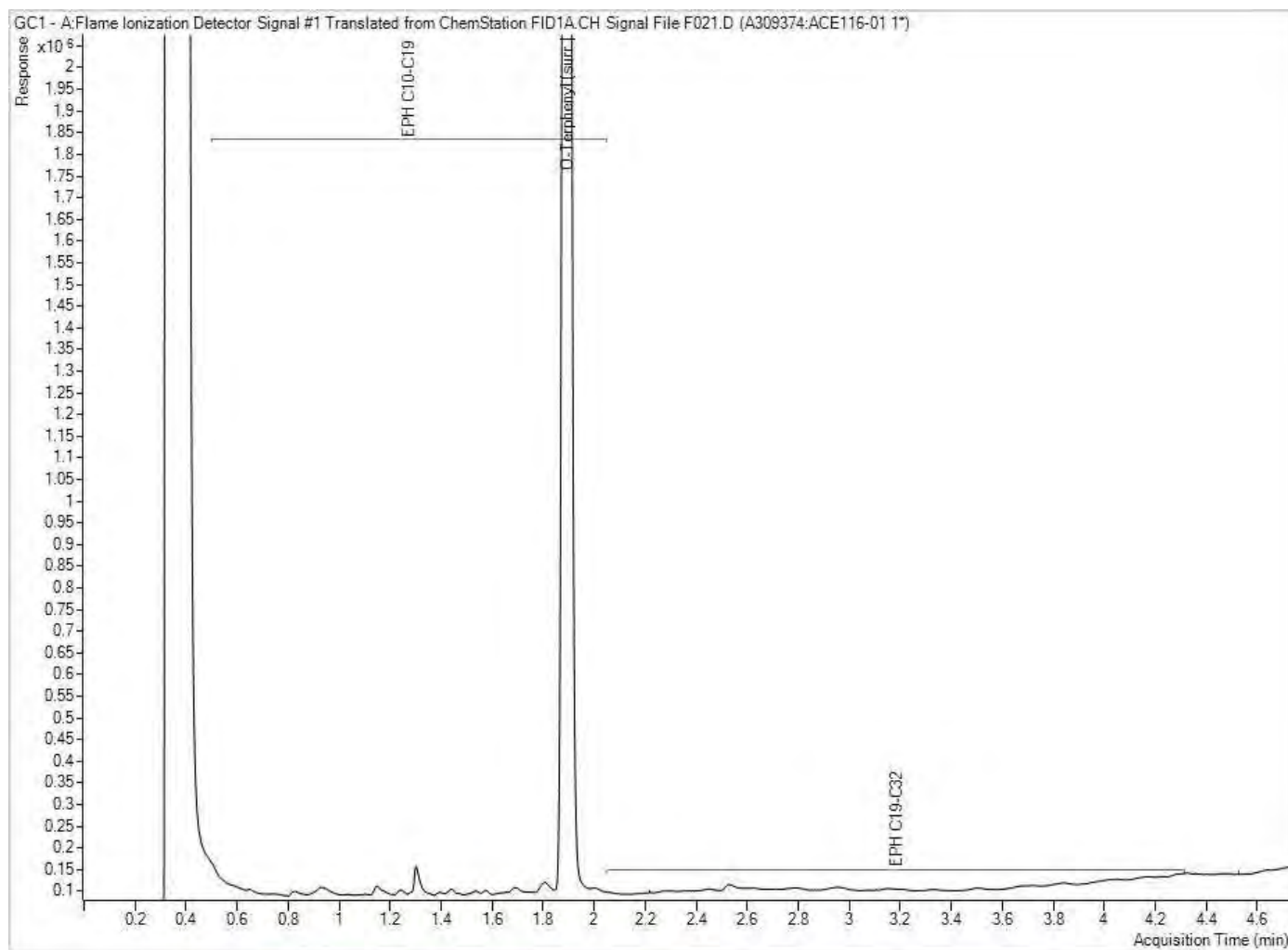
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EPH in Soil by GC/FID Chromatogram



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Your Project #: C151797

Attention: Customer Solutions West

Bureau Veritas Laboratories
4606 Canada Way
Burnaby, BC
Canada V5G 1K5

Report Date: 08/10/2021

Report #: R6758045

Version: 1 - Final

ANALYTICAL REPORT

BV LABS JOB #: C1L9877

Received: 08/05/2021, 00:00

Sample Matrix: Bulk
Samples Received: 13

Analyses	Quantity	Date	Laboratory Method	Analytical Method
		Analyzed		
Silica on Bulk material by NIOSH 7500	13	08/09/2021	NOV5SOP-00001	NIOSH 7500

This report shall not be reproduced except in full, without the written approval of the laboratory.

Results relate only to the items tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

Encryption Key

Please direct all questions regarding this Analytical Report to your Project Manager.

Daniel Elliott, CS

Email: daniel.elliott@bureauveritas.com

Phone# (248) 344-1770

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.



BV Labs Job #: C1L9877
Report Date: 08/10/2021

Bureau Veritas Laboratories
Client Project #: C151797

ANALYTICAL RESULTS

Client ID: ACE099-CS-11230615-071921-CT-01			Matrix: Bulk
BV Labs ID: QHG619			Sample Media: Bulk Material
Date Sampled: 07/19/2021			
	Result	RL	Date
ANALYTE	%w/w	%w/w	Test Method Analyzed
Quartz	3.4	0.25	NIOSH 7500 08/09/2021
Cristobalite	<1.1	1.1	NIOSH 7500 08/09/2021
Total (Quartz and Cristobalite)	3.4	1.4	NIOSH 7500 08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/09/2021
RL = Reporting Limit			

Client ID: ACE100-CS-11230615-071921-CT-02				Matrix: Bulk
BV Labs ID: QHG620				Sample Media: Bulk Material
Date Sampled: 07/19/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	5.5	0.25	NIOSH 7500	08/09/2021
Cristobalite	<0.60	0.60	NIOSH 7500	08/09/2021
Total (Quartz and Cristobalite)	5.5	0.85	NIOSH 7500	08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/09/2021
RL = Reporting Limit				

Client ID: ACE102-CS-11230615-071921-CT-04				Matrix: Bulk
BV Labs ID: QHG621				Sample Media: Bulk Material
Date Sampled: 07/19/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	26	0.25	NIOSH 7500	08/09/2021
Cristobalite	<0.80	0.80	NIOSH 7500	08/09/2021
Total (Quartz and Cristobalite)	26	1.1	NIOSH 7500	08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/09/2021
RL = Reporting Limit				

Client ID: ACE103-CS-11230615-071921-CT-05				Matrix: Bulk
BV Labs ID: QHG622				Sample Media: Bulk Material
Date Sampled: 07/19/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	0.72	0.25	NIOSH 7500	08/09/2021
Cristobalite	<0.25	0.25	NIOSH 7500	08/09/2021
Total (Quartz and Cristobalite)	0.72	0.50	NIOSH 7500	08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/09/2021
RL = Reporting Limit				



BV Labs Job #: C1L9877
Report Date: 08/10/2021

Bureau Veritas Laboratories
Client Project #: C151797

ANALYTICAL RESULTS

Client ID: ACE104-CS-11230615-071921-CT-06			Matrix: Bulk
BV Labs ID: QHG623			Sample Media: Bulk Material
Date Sampled: 07/19/2021			
ANALYTE	Result %w/w	RL %w/w	Date Test Method Analyzed
Quartz	9.9	0.25	NIOSH 7500 08/09/2021
Cristobalite	<0.70	0.70	NIOSH 7500 08/09/2021
Total (Quartz and Cristobalite)	9.9	0.95	NIOSH 7500 08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/09/2021
RL = Reporting Limit			

Client ID: ACE106-CS-11230615-071921-CT-08			Matrix: Bulk
BV Labs ID: QHG624			Sample Media: Bulk Material
Date Sampled: 07/19/2021			
ANALYTE	Result %w/w	RL %w/w	Date Test Method Analyzed
Quartz	7.6	1.5	NIOSH 7500 08/09/2021
Cristobalite	<1.3	1.3	NIOSH 7500 08/09/2021
Total (Quartz and Cristobalite)	7.6	2.8	NIOSH 7500 08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/09/2021
RL = Reporting Limit			

Client ID: ACE108-CS-11230615-072021-CT-10			Matrix: Bulk
BV Labs ID: QHG625			Sample Media: Bulk Material
Date Sampled: 07/20/2021			
ANALYTE	Result %w/w	RL %w/w	Date Test Method Analyzed
Quartz	11	0.25	NIOSH 7500 08/09/2021
Cristobalite	<0.90	0.90	NIOSH 7500 08/09/2021
Total (Quartz and Cristobalite)	11	1.2	NIOSH 7500 08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/09/2021
RL = Reporting Limit			

Client ID: ACE111-CS-11230615-072021-CT-11			Matrix: Bulk
BV Labs ID: QHG626			Sample Media: Bulk Material
Date Sampled: 07/20/2021			
ANALYTE	Result %w/w	RL %w/w	Date Test Method Analyzed
Quartz	24	0.25	NIOSH 7500 08/09/2021
Cristobalite	<0.50	0.50	NIOSH 7500 08/09/2021
Total (Quartz and Cristobalite)	24	0.75	NIOSH 7500 08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/09/2021
RL = Reporting Limit			



BV Labs Job #: C1L9877
Report Date: 08/10/2021

Bureau Veritas Laboratories
Client Project #: C151797

ANALYTICAL RESULTS

Client ID: ACE112-CS-11230615-072021-CT-12			Matrix: Bulk
BV Labs ID: QHG627			Sample Media: Bulk Material
Date Sampled: 07/20/2021			
	Result	RL	
ANALYTE	%w/w	%w/w	Test Method
Quartz	2.4	0.25	NIOSH 7500
Cristobalite	<0.25	0.25	NIOSH 7500
Total (Quartz and Cristobalite)	2.4	0.50	NIOSH 7500
Tridymite	<0.50	0.50	NIOSH 7500
RL = Reporting Limit			

Client ID: ACE113-CS-11230615-072021-CT-13				Matrix: Bulk
BV Labs ID: QHG628				Sample Media: Bulk Material
Date Sampled: 07/20/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	24	0.25	NIOSH 7500	08/09/2021
Cristobalite	<1.9	1.9	NIOSH 7500	08/09/2021
Total (Quartz and Cristobalite)	24	2.2	NIOSH 7500	08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/09/2021
RL = Reporting Limit				

Client ID: ACE114-CS-11230615-072021-CT-14			Matrix: Bulk
BV Labs ID: QHG629			Sample Media: Bulk Material
Date Sampled: 07/20/2021			
	Result	RL	
ANALYTE	%w/w	%w/w	Test Method
Quartz	9.7	0.25	NIOSH 7500
Cristobalite	<0.60	0.60	NIOSH 7500
Total (Quartz and Cristobalite)	9.7	0.85	NIOSH 7500
Tridymite	<0.50	0.50	NIOSH 7500
RL = Reporting Limit			

Client ID: ACE115-CS-11230615-072021-CT-15				Matrix:	Bulk
BV Labs ID: QHG630				Sample Media: Bulk Material	
Date Sampled: 07/20/2021					
		Result	RL	Date	
ANALYTE		%w/w	%w/w	Test Method	Analyzed
Quartz		25	0.25	NIOSH 7500	08/09/2021
Cristobalite		<2.7	2.7	NIOSH 7500	08/09/2021
Total (Quartz and Cristobalite)		25	3.0	NIOSH 7500	08/09/2021
Tridymite		<0.50	0.50	NIOSH 7500	08/09/2021
RL = Reporting Limit					



BV Labs Job #: C1L9877
Report Date: 08/10/2021

Bureau Veritas Laboratories
Client Project #: C151797

ANALYTICAL RESULTS

Client ID:	ACE116-CS-11230615-072021-CT-16			Matrix:	Bulk
BV Labs ID:	QHG631			Sample Media:	Bulk Material
Date Sampled:	07/20/2021				
	Result	RL			Date
ANALYTE	%w/w	%w/w	Test Method		Analyzed
Quartz	1.3	0.25	NIOSH 7500		08/09/2021
Cristobalite	<0.25	0.25	NIOSH 7500		08/09/2021
Total (Quartz and Cristobalite)	1.3	0.50	NIOSH 7500		08/09/2021
Tridymite	<0.50	0.50	NIOSH 7500		08/09/2021
RL = Reporting Limit					



GENERAL COMMENTS

Unless otherwise noted below the following statements apply: 1) all samples were received in acceptable condition, 2) all quality control results associated with this sample set were within acceptable limits and /or do not adversely affect the reported results and 3) the industrial hygiene results have not been blank corrected.

The client provided their pertinent field sampling data on the analysis request paperwork submitted with the samples. Results apply to the sample as received.

Sample QHG619 [ACE099-CS-11230615-071921-CT-01] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG620 [ACE100-CS-11230615-071921-CT-02] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG621 [ACE102-CS-11230615-071921-CT-04] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG623 [ACE104-CS-11230615-071921-CT-06] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG624 [ACE106-CS-11230615-071921-CT-08] : The reporting limit for quartz was raised due to interferences at the primary angle. The result was calculated on the secondary diffraction angle. The reporting limit for cristobalite was raised due to interferences.

Sample QHG625 [ACE108-CS-11230615-072021-CT-10] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG626 [ACE111-CS-11230615-072021-CT-11] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG628 [ACE113-CS-11230615-072021-CT-13] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG629 [ACE114-CS-11230615-072021-CT-14] : The reporting limit for cristobalite was raised due to interferences.

Sample QHG630 [ACE115-CS-11230615-072021-CT-15] : The reporting limit for cristobalite was raised due to interferences.

Results relate only to the items tested.



Sent To: Bureau Veritas North America, Inc. (Novi)
22345 Roethel Drive
Novi, MI, 48375
Tel: (248) 344-1770

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

Page 02 of 02

COC # C151797-VBVN-02-01

REPORT INFORMATION								ANALYSIS REQUESTED											
Company: Bureau Veritas Laboratories																			
Address: 4606 Canada Way, Burnaby, British Columbia, V5G 1K5																			
Contact Name: Nahed Amer																			
Email: Nahed.AMER@bureauveritas.com, Customersolutionswest@bureauveritas.com																			
Phone:																			
BV Labs Project #: C151797																			
#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.												ADDITIONAL SAMPLE INFORMATION	
1	ACE114-CS-11230615-072021-CT-14	X	BULK	2021/07/20	14:00	CT	1	X										(P: 05)	
2	ACE115-CS-11230615-072021-CT-15	X	BULK	2021/07/20	14:20	CT	1	X										(P: 05)	
3	ACE116-CS-11230615-072021-CT-16	X	BULK	2021/07/20	14:50	CT	1	X										(P: 05)	
4																			
5																			
6																			
7																			
8																			
9																			
10																			
REGULATORY CRITERIA			SPECIAL INSTRUCTIONS															TURNAROUND TIME	
			Please inform BV Labs immediately if you are not accredited for the requested test(s). **Please return a copy of this form with the report.**															☐ Rush Required	
																		2021/08/17	
																		Date Required	
																		Please inform us if rush charges will be incurred.	
COOLER ID:			COOLER ID:			COOLER ID:													
YES NO Temp: (°C)			YES NO Temp: (°C)			YES NO Temp: (°C)													
Custody Seal Present			Custody Seal Present			Custody Seal Present													
Custody Seal Intact			Custody Seal Intact			Custody Seal Intact													
Cooling Media Present			Cooling Media Present			Cooling Media Present													
RELINQUISHED BY: (SIGN & PRINT)			DATE: (YYYY/MM/DD)			TIME: (HH:MM)			RECEIVED BY: (SIGN & PRINT)			DATE: (YYYY/MM/DD)			TIME: (HH:MM)				
1. Juvahne Roy			2021/08/03			1730			1. Richard Kirtas			8-5-21			10:32				
2.									2. Richard Kirtas										



Your Project #: VANENV job# C151797

Attention: Nahed Amer

Bureau Veritas Laboratories
4606 Canada Way
Burnaby, BC
CANADA V5G 1K5

Report Date: 2021/08/10

Report #: R6758811

Version: 2 - Partial

CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

BV LABS JOB #: C1L7596

Received: 2021/08/05, 09:00

Sample Matrix: Soil
Samples Received: 13

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
ABN Compounds in soil by GC/MS	5	2021/08/06	2021/08/07	CAM SOP-00301	EPA 8270 m
ABN Compounds in soil by GC/MS	8	2021/08/06	2021/08/08	CAM SOP-00301	EPA 8270 m
F1 Hydrocarbons/BTEX in Leachate (SPLP)	13	2021/08/08	2021/08/09	CAM SOP-00315	CCME CWS
Moisture	13	N/A	2021/08/05	CAM SOP-00445	Carter 2nd ed 51.2 m
SPLP Zero Headspace Extraction	13	2021/08/06	2021/08/07	CAM SOP-00430	EPA 1312 m
Volatile organics in SPLP leachates	13	N/A	2021/08/08	CAM SOP-00228	EPA 8260D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your Project #: VANENV job# C151797

Attention: Nahed Amer

Bureau Veritas Laboratories
4606 Canada Way
Burnaby, BC
CANADA V5G 1K5

Report Date: 2021/08/10

Report #: R6758811

Version: 2 - Partial

CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

BV LABS JOB #: C1L7596

Received: 2021/08/05, 09:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Julie Clement, Technical Account Manager

Email: Julie.CLEMENT@bureauveritas.com

Phone# (613)868-6079

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2

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Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

RESULTS OF ANALYSES OF SOIL

BV Labs ID		QGU076		QGU076	QGU077			
Sampling Date		2021/07/19 11:20		2021/07/19 11:20	2021/07/19 12:10			
	UNITS	CS-11230615-071921-CT-01	RDL	CS-11230615-071921-CT-01 Lab-Dup	CS-11230615-071921-CT-02	RDL	MDL	QC Batch

Charge/Prep Analysis								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	25	25	N/A	N/A	7504848
Inorganics								
Moisture	%	<1.0	1.0	N/A	<1.0	1.0	0.50	7503112
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable								

BV Labs ID		QGU078	QGU079	QGU080			
Sampling Date		2021/07/19 13:10	2021/07/19 13:50	2021/07/19 14:20			
	UNITS	CS-11230615-071921-CT-04	CS-11230615-071921-CT-05	CS-11230615-071921-CT-06	RDL	MDL	QC Batch

Charge/Prep Analysis							
Amount Extracted (Wet Weight) (g)	N/A	25	25	25	N/A	N/A	7504848
Inorganics							
Moisture	%	<1.0	<1.0	<1.0	1.0	0.50	7503112
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

BV Labs ID		QGU082	QGU083	QGU084			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
	UNITS	CS-11230615-071921-CT-08	CS-11230615-072021-CT-10	CS-11230615-072021-CT-11	RDL	MDL	QC Batch

Charge/Prep Analysis							
Amount Extracted (Wet Weight) (g)	N/A	25	25	25	N/A	N/A	7504848
Inorganics							
Moisture	%	<1.0	1.4	<1.0	1.0	0.50	7503112
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

RESULTS OF ANALYSES OF SOIL

BV Labs ID		QGU087	QGU090	QGU091			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
	UNITS	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	RDL	MDL	QC Batch

Charge/Prep Analysis							
Amount Extracted (Wet Weight) (g)	N/A	25	25	25	N/A	N/A	7504848
Inorganics							
Moisture	%	1.3	<1.0	2.9	1.0	0.50	7503112
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
N/A = Not Applicable							

BV Labs ID		QGU097	QGU108			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
	UNITS	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	RDL	MDL	QC Batch

Charge/Prep Analysis						
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	N/A	7504848
Inorganics						
Moisture	%	1.0	6.5	1.0	0.50	7503112
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
N/A = Not Applicable						



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		QGU076	QGU076	QGU077			
Sampling Date		2021/07/19 11:20	2021/07/19 11:20	2021/07/19 12:10			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-01 Lab-Dup	CS-11230615-071921- CT-02	RDL	MDL	QC Batch

BTX & F1 Hydrocarbons							
Leachable (SPLP) Benzene	ug/L	<0.8	<0.8	2.0	0.8	N/A	7507562
Leachable (SPLP) Toluene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Ethylbenzene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) o-Xylene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) p+m-Xylene	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) Total Xylenes	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) F1 (C6-C10)	ug/L	<400	<400	<400	400	N/A	7507562
Leachable (SPLP) F1 (C6-C10) - BTX	ug/L	<400	<400	<400	400	N/A	7507562

Surrogate Recovery (%)							
Leachable (SPLP) 1,4-Difluorobenzene	%	108	107	103	N/A	N/A	7507562
Leachable (SPLP) 4-Bromofluorobenzene	%	99	95	97	N/A	N/A	7507562
Leachable (SPLP) D10-o-Xylene	%	101	101	101	N/A	N/A	7507562
Leachable (SPLP) D4-1,2-Dichloroethane	%	112	116	118	N/A	N/A	7507562

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		QGU078	QGU079	QGU080			
Sampling Date		2021/07/19 13:10	2021/07/19 13:50	2021/07/19 14:20			
	UNITS	CS-11230615-071921- CT-04	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	RDL	MDL	QC Batch

BTEX & F1 Hydrocarbons							
Leachable (SPLP) Benzene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Toluene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Ethylbenzene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) o-Xylene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) p+m-Xylene	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) Total Xylenes	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) F1 (C6-C10)	ug/L	<400	<400	<400	400	N/A	7507562
Leachable (SPLP) F1 (C6-C10) - BTEX	ug/L	<400	<400	<400	400	N/A	7507562

Surrogate Recovery (%)							
Leachable (SPLP) 1,4-Difluorobenzene	%	104	107	107	N/A	N/A	7507562
Leachable (SPLP) 4-Bromofluorobenzene	%	88	98	97	N/A	N/A	7507562
Leachable (SPLP) D10-o-Xylene	%	94	99	98	N/A	N/A	7507562
Leachable (SPLP) D4-1,2-Dichloroethane	%	115	116	115	N/A	N/A	7507562

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

BV Labs ID		QGU082	QGU083	QGU084			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch

BTEX & F1 Hydrocarbons							
Leachable (SPLP) Benzene	ug/L	1.3	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Toluene	ug/L	0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Ethylbenzene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) o-Xylene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) p+m-Xylene	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) Total Xylenes	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) F1 (C6-C10)	ug/L	<400	<400	<400	400	N/A	7507562
Leachable (SPLP) F1 (C6-C10) - BTEX	ug/L	<400	<400	<400	400	N/A	7507562

Surrogate Recovery (%)							
Leachable (SPLP) 1,4-Difluorobenzene	%	106	107	106	N/A	N/A	7507562
Leachable (SPLP) 4-Bromofluorobenzene	%	94	93	99	N/A	N/A	7507562
Leachable (SPLP) D10-o-Xylene	%	102	99	101	N/A	N/A	7507562
Leachable (SPLP) D4-1,2-Dichloroethane	%	119	117	115	N/A	N/A	7507562

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		QGU087	QGU090	QGU091			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
	UNITS	CS-11230615-072021-CT-12	CS-11230615-072021-CT-13	CS-11230615-072021-CT-14	RDL	MDL	QC Batch
BTEX & F1 Hydrocarbons							
Leachable (SPLP) Benzene	ug/L	1.8	<0.8	2.1	0.8	N/A	7507562
Leachable (SPLP) Toluene	ug/L	<0.8	<0.8	3.9	0.8	N/A	7507562
Leachable (SPLP) Ethylbenzene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) o-Xylene	ug/L	<0.8	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) p+m-Xylene	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) Total Xylenes	ug/L	<2	<2	<2	2	N/A	7507562
Leachable (SPLP) F1 (C6-C10)	ug/L	<400	<400	<400	400	N/A	7507562
Leachable (SPLP) F1 (C6-C10) - BTEX	ug/L	<400	<400	<400	400	N/A	7507562
Surrogate Recovery (%)							
Leachable (SPLP) 1,4-Difluorobenzene	%	108	107	109	N/A	N/A	7507562
Leachable (SPLP) 4-Bromofluorobenzene	%	97	98	98	N/A	N/A	7507562
Leachable (SPLP) D10-o-Xylene	%	102	99	102	N/A	N/A	7507562
Leachable (SPLP) D4-1,2-Dichloroethane	%	115	120	114	N/A	N/A	7507562
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

BV Labs ID		QGU097	QGU108			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
	UNITS	CS-11230615-072021-CT-15	CS-11230615-072021-CT-16	RDL	MDL	QC Batch
BTEX & F1 Hydrocarbons						
Leachable (SPLP) Benzene	ug/L	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Toluene	ug/L	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) Ethylbenzene	ug/L	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) o-Xylene	ug/L	<0.8	<0.8	0.8	N/A	7507562
Leachable (SPLP) p+m-Xylene	ug/L	<2	<2	2	N/A	7507562
Leachable (SPLP) Total Xylenes	ug/L	<2	<2	2	N/A	7507562
Leachable (SPLP) F1 (C6-C10)	ug/L	<400	<400	400	N/A	7507562
Leachable (SPLP) F1 (C6-C10) - BTEX	ug/L	<400	<400	400	N/A	7507562
Surrogate Recovery (%)						
Leachable (SPLP) 1,4-Difluorobenzene	%	107	107	N/A	N/A	7507562
Leachable (SPLP) 4-Bromofluorobenzene	%	94	95	N/A	N/A	7507562
Leachable (SPLP) D10-o-Xylene	%	100	100	N/A	N/A	7507562
Leachable (SPLP) D4-1,2-Dichloroethane	%	115	115	N/A	N/A	7507562
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable						



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU076			QGU077	QGU078			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10	2021/07/19 13:10			
	UNITS	CS-11230615-071921- CT-01	RDL	MDL	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
Semivolatile Organics									
Acenaphthene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Acenaphthylene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Anthracene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Benzo(a)anthracene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Benzo(a)pyrene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Benzo(b,j)fluoranthene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Benzo(g,h,i)perylene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Benzo(k)fluoranthene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
1-Chloronaphthalene	ug/g	<1	1	0.01	<2	<2	2	0.02	7506114
2-Chloronaphthalene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Chrysene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Dibenzo(a,h)anthracene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Fluoranthene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Fluorene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Indeno(1,2,3-cd)pyrene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
1-Methylnaphthalene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
2-Methylnaphthalene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Naphthalene	ug/g	<0.1	0.1	0.02	0.2	<0.2	0.2	0.04	7506114
Perylene	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
Phenanthrene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Pyrene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Quinoline	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
1,2-Dichlorobenzene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
1,3-Dichlorobenzene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
1,4-Dichlorobenzene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Hexachlorobenzene	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
Pentachlorobenzene	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
1,2,3,4-Tetrachlorobenzene	ug/g	<0.2	0.2	0.02	<0.4	<0.4	0.4	0.04	7506114
1,2,3,5-Tetrachlorobenzene	ug/g	<0.2	0.2	0.02	<0.4	<0.4	0.4	0.04	7506114
1,2,4,5-Tetrachlorobenzene	ug/g	<0.2	0.2	0.02	<0.4	<0.4	0.4	0.04	7506114
1,2,3-Trichlorobenzene	ug/g	<0.2	0.2	0.02	<0.4	<0.4	0.4	0.04	7506114
1,2,4-Trichlorobenzene	ug/g	<0.2	0.2	0.02	<0.4	<0.4	0.4	0.04	7506114
1,3,5-Trichlorobenzene	ug/g	<0.2	0.2	0.05	<0.4	<0.4	0.4	0.1	7506114
2-Chlorophenol	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
4-Chloro-3-Methylphenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
m/p-Cresol	ug/g	<0.2	0.2	0.02	<0.4	<0.4	0.4	0.04	7506114
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU076			QGU077	QGU078			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10	2021/07/19 13:10			
	UNITS	CS-11230615-071921- CT-01	RDL	MDL	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
o-Cresol	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
2,3-Dichlorophenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
2,4-Dichlorophenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
2,5-Dichlorophenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
2,6-Dichlorophenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
3,4-Dichlorophenol	ug/g	<0.1	0.1	0.03	<0.2	<0.2	0.2	0.06	7506114
3,5-Dichlorophenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
2,4-Dimethylphenol	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
2,4-Dinitrophenol	ug/g	<1	1	0.02	<2	<2	2	0.04	7506114
4,6-Dinitro-2-methylphenol	ug/g	<0.5	0.5	0.04	<1	<1	1	0.08	7506114
2-Nitrophenol	ug/g	<0.5	0.5	0.02	<1	<1	1	0.04	7506114
4-Nitrophenol	ug/g	<0.5	0.5	0.03	<1	<1	1	0.06	7506114
Pentachlorophenol	ug/g	<0.2	0.2	0.07	<0.4	<0.4	0.4	0.1	7506114
Phenol	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
2,3,4,5-Tetrachlorophenol	ug/g	<0.1	0.1	0.03	<0.2	<0.2	0.2	0.06	7506114
2,3,4,6-Tetrachlorophenol	ug/g	<0.1	0.1	0.03	<0.2	<0.2	0.2	0.06	7506114
2,3,5,6-Tetrachlorophenol	ug/g	<0.1	0.1	0.03	<0.2	<0.2	0.2	0.06	7506114
2,3,4-Trichlorophenol	ug/g	<0.1	0.1	0.04	<0.2	<0.2	0.2	0.08	7506114
2,3,5-Trichlorophenol	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
2,3,6-Trichlorophenol	ug/g	<0.1	0.1	0.04	<0.2	<0.2	0.2	0.08	7506114
2,4,5-Trichlorophenol	ug/g	<0.1	0.1	0.03	<0.2	<0.2	0.2	0.06	7506114
2,4,6-Trichlorophenol	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
3,4,5-Trichlorophenol	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Benzyl butyl phthalate	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
Bis(2-chloroethoxy)methane	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Bis(2-chloroisopropyl)ether	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Bis(2-ethylhexyl)phthalate	ug/g	<0.5	0.5	0.01	<1	<1	1	0.02	7506114
4-Bromophenyl phenyl ether	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
p-Chloroaniline	ug/g	<0.2	0.2	0.06	<0.4	<0.4	0.4	0.1	7506114
4-Chlorophenyl phenyl ether	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
3,3'-Dichlorobenzidine	ug/g	<0.5	0.5	0.2	<1	<1	1	0.4	7506114
Diethyl phthalate	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
Di-N-butyl phthalate	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
di-n-octyl phthalate	ug/g	<0.5	0.5	0.02	<1	<1	1	0.04	7506114
2,4-Dinitrotoluene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
2,6-Dinitrotoluene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Dimethyl phthalate	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU076			QGU077	QGU078			
Sampling Date		2021/07/19 11:20			2021/07/19 12:10	2021/07/19 13:10			
	UNITS	CS-11230615-071921- CT-01	RDL	MDL	CS-11230615-071921- CT-02	CS-11230615-071921- CT-04	RDL	MDL	QC Batch
Biphenyl	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Bis(2-chloroethyl)ether	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
Hexachlorobutadiene	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Hexachlorocyclopentadiene	ug/g	<0.5	0.5	0.02	<1	<1	1	0.04	7506114
Hexachloroethane	ug/g	<0.1	0.1	0.02	<0.2	<0.2	0.2	0.04	7506114
Isophorone	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Nitrobenzene	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.2	0.2	0.01	<0.4	<0.4	0.4	0.02	7506114
N-Nitroso-di-n-propylamine	ug/g	<0.1	0.1	0.01	<0.2	<0.2	0.2	0.02	7506114
Surrogate Recovery (%)									
2,4,6-Tribromophenol	%	54	N/A	N/A	21	22	N/A	N/A	7506114
2-Fluorobiphenyl	%	71	N/A	N/A	33	32	N/A	N/A	7506114
2-Fluorophenol	%	70	N/A	N/A	38	40	N/A	N/A	7506114
D14-Terphenyl	%	75	N/A	N/A	17 (1)	16 (1)	N/A	N/A	7506114
D5-Nitrobenzene	%	69	N/A	N/A	33	37	N/A	N/A	7506114
D5-Phenol	%	77	N/A	N/A	45	44	N/A	N/A	7506114
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.									

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU079	QGU079	QGU080			
Sampling Date		2021/07/19 13:50	2021/07/19 13:50	2021/07/19 14:20			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	RDL	MDL	QC Batch

Semivolatile Organics							
Acenaphthene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Acenaphthylene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Anthracene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Benzo(a)anthracene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Benzo(a)pyrene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Benzo(b,j)fluoranthene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Benzo(g,h,i)perylene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Benzo(k)fluoranthene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
1-Chloronaphthalene	ug/g	<1	<1	<1	1	0.01	7506114
2-Chloronaphthalene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Chrysene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Dibenzo(a,h)anthracene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Fluoranthene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Fluorene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Indeno(1,2,3-cd)pyrene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
1-Methylnaphthalene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
2-Methylnaphthalene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Naphthalene	ug/g	<0.1	<0.1	0.3	0.1	0.02	7506114
Perylene	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
Phenanthrene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Pyrene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Quinoline	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
1,2-Dichlorobenzene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
1,3-Dichlorobenzene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
1,4-Dichlorobenzene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Hexachlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
Pentachlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
1,2,3,4-Tetrachlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.02	7506114
1,2,3,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.02	7506114
1,2,4,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.02	7506114
1,2,3-Trichlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.02	7506114
1,2,4-Trichlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.02	7506114
1,3,5-Trichlorobenzene	ug/g	<0.2	<0.2	<0.2	0.2	0.05	7506114
2-Chlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
4-Chloro-3-Methylphenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU079	QGU079	QGU080			
Sampling Date		2021/07/19 13:50	2021/07/19 13:50	2021/07/19 14:20			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	RDL	MDL	QC Batch
m/p-Cresol	ug/g	<0.2	<0.2	0.3	0.2	0.02	7506114
o-Cresol	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
2,3-Dichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
2,4-Dichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
2,5-Dichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
2,6-Dichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
3,4-Dichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.03	7506114
3,5-Dichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
2,4-Dimethylphenol	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
2,4-Dinitrophenol	ug/g	<1	<1	<1	1	0.02	7506114
4,6-Dinitro-2-methylphenol	ug/g	<0.5	<0.5	<0.5	0.5	0.04	7506114
2-Nitrophenol	ug/g	<0.5	<0.5	<0.5	0.5	0.02	7506114
4-Nitrophenol	ug/g	<0.5	<0.5	<0.5	0.5	0.03	7506114
Pentachlorophenol	ug/g	<0.2	<0.2	<0.2	0.2	0.07	7506114
Phenol	ug/g	<0.2	<0.2	2.0	0.2	0.01	7506114
2,3,4,5-Tetrachlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.03	7506114
2,3,4,6-Tetrachlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.03	7506114
2,3,5,6-Tetrachlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.03	7506114
2,3,4-Trichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.04	7506114
2,3,5-Trichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
2,3,6-Trichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.04	7506114
2,4,5-Trichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.03	7506114
2,4,6-Trichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
3,4,5-Trichlorophenol	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Benzyl butyl phthalate	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
Bis(2-chloroethoxy)methane	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Bis(2-chloroisopropyl)ether	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Bis(2-ethylhexyl)phthalate	ug/g	<0.5	<0.5	<0.5	0.5	0.01	7506114
4-Bromophenyl phenyl ether	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
p-Chloroaniline	ug/g	<0.2	<0.2	<0.2	0.2	0.06	7506114
4-Chlorophenyl phenyl ether	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
3,3'-Dichlorobenzidine	ug/g	<0.5	<0.5	<0.5	0.5	0.2	7506114
Diethyl phthalate	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
Di-N-butyl phthalate	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
di-n-octyl phthalate	ug/g	<0.5	<0.5	<0.5	0.5	0.02	7506114
2,4-Dinitrotoluene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU079	QGU079	QGU080			
Sampling Date		2021/07/19 13:50	2021/07/19 13:50	2021/07/19 14:20			
	UNITS	CS-11230615-071921- CT-05	CS-11230615-071921- CT-05 Lab-Dup	CS-11230615-071921- CT-06	RDL	MDL	QC Batch
2,6-Dinitrotoluene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Dimethyl phthalate	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
Biphenyl	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Bis(2-chloroethyl)ether	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
Hexachlorobutadiene	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Hexachlorocyclopentadiene	ug/g	<0.5	<0.5	<0.5	0.5	0.02	7506114
Hexachloroethane	ug/g	<0.1	<0.1	<0.1	0.1	0.02	7506114
Isophorone	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Nitrobenzene	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.2	<0.2	<0.2	0.2	0.01	7506114
N-Nitroso-di-n-propylamine	ug/g	<0.1	<0.1	<0.1	0.1	0.01	7506114
Surrogate Recovery (%)							
2,4,6-Tribromophenol	%	39	29	18	N/A	N/A	7506114
2-Fluorobiphenyl	%	68	66	40	N/A	N/A	7506114
2-Fluorophenol	%	80	76	58	N/A	N/A	7506114
D14-Terphenyl	%	18 (1)	9.6 (1)	2.2 (1)	N/A	N/A	7506114
D5-Nitrobenzene	%	72	70	40	N/A	N/A	7506114
D5-Phenol	%	90	93	74	N/A	N/A	7506114
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.							



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU082	QGU083			QGU084			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10			2021/07/20 11:45			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Semivolatile Organics									
Acenaphthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Acenaphthylene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Anthracene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(a)anthracene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(a)pyrene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(b,j)fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(g,h,i)perylene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(k)fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
1-Chloronaphthalene	ug/g	<1	<1	1	0.01	<2	2	0.02	7506114
2-Chloronaphthalene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Chrysene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Dibenzo(a,h)anthracene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Fluorene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Indeno(1,2,3-cd)pyrene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
1-Methylnaphthalene	ug/g	<0.1	0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2-Methylnaphthalene	ug/g	<0.1	0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Naphthalene	ug/g	0.3	0.5	0.1	0.02	<0.2	0.2	0.04	7506114
Perylene	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Phenanthrene	ug/g	<0.1	0.2	0.1	0.01	<0.2	0.2	0.02	7506114
Pyrene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Quinoline	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
1,2-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
1,3-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
1,4-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Hexachlorobenzene	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Pentachlorobenzene	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
1,2,3,4-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,3,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,4,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,3-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,4-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,3,5-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.05	<0.4	0.4	0.1	7506114
2-Chlorophenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
4-Chloro-3-Methylphenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
m/p-Cresol	ug/g	<0.2	0.3	0.2	0.02	<0.4	0.4	0.04	7506114
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU082	QGU083			QGU084			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10			2021/07/20 11:45			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
o-Cresol	ug/g	<0.2	0.2	0.2	0.01	<0.4	0.4	0.02	7506114
2,3-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,4-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,5-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,6-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
3,4-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
3,5-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,4-Dimethylphenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
2,4-Dinitrophenol	ug/g	<1	<1	1	0.02	<2	2	0.04	7506114
4,6-Dinitro-2-methylphenol	ug/g	<0.5	<0.5	0.5	0.04	<1	1	0.08	7506114
2-Nitrophenol	ug/g	<0.5	<0.5	0.5	0.02	<1	1	0.04	7506114
4-Nitrophenol	ug/g	<0.5	<0.5	0.5	0.03	<1	1	0.06	7506114
Pentachlorophenol	ug/g	<0.2	<0.2	0.2	0.07	<0.4	0.4	0.1	7506114
Phenol	ug/g	0.6	2.2	0.2	0.01	<0.4	0.4	0.02	7506114
2,3,4,5-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,3,4,6-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,3,5,6-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,3,4-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.04	<0.2	0.2	0.08	7506114
2,3,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
2,3,6-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.04	<0.2	0.2	0.08	7506114
2,4,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,4,6-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
3,4,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Benzyl butyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Bis(2-chloroethoxy)methane	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Bis(2-chloroisopropyl)ether	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Bis(2-ethylhexyl)phthalate	ug/g	<0.5	<0.5	0.5	0.01	<1	1	0.02	7506114
4-Bromophenyl phenyl ether	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
p-Chloroaniline	ug/g	<0.2	<0.2	0.2	0.06	<0.4	0.4	0.1	7506114
4-Chlorophenyl phenyl ether	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
3,3'-Dichlorobenzidine	ug/g	<0.5	<0.5	0.5	0.2	<1	1	0.4	7506114
Diethyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Di-N-butyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
di-n-octyl phthalate	ug/g	<0.5	<0.5	0.5	0.02	<1	1	0.04	7506114
2,4-Dinitrotoluene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,6-Dinitrotoluene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Dimethyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU082	QGU083			QGU084			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10			2021/07/20 11:45			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	RDL	MDL	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Biphenyl	ug/g	<0.1	0.2	0.1	0.01	<0.2	0.2	0.02	7506114
Bis(2-chloroethyl)ether	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Hexachlorobutadiene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Hexachlorocyclopentadiene	ug/g	<0.5	<0.5	0.5	0.02	<1	1	0.04	7506114
Hexachloroethane	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Isophorone	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Nitrobenzene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
N-Nitroso-di-n-propylamine	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Surrogate Recovery (%)									
2,4,6-Tribromophenol	%	65	15	N/A	N/A	1.2 (1)	N/A	N/A	7506114
2-Fluorobiphenyl	%	62	59	N/A	N/A	30	N/A	N/A	7506114
2-Fluorophenol	%	73	59	N/A	N/A	17	N/A	N/A	7506114
D14-Terphenyl	%	4.0 (2)	25 (2)	N/A	N/A	19 (3)	N/A	N/A	7506114
D5-Nitrobenzene	%	67	48	N/A	N/A	28 (1)	N/A	N/A	7506114
D5-Phenol	%	76	70	N/A	N/A	32	N/A	N/A	7506114
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria. (2) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results. (3) Some surrogate recoveries were below the lower control limits due to matrix interference. This may represent a lower bias in some results.									



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU087	QGU090			QGU091			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10			2021/07/20 14:00			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	RDL	MDL	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
Semivolatile Organics									
Acenaphthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Acenaphthylene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Anthracene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(a)anthracene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(a)pyrene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(b,j)fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(g,h,i)perylene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Benzo(k)fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
1-Chloronaphthalene	ug/g	<1	<1	1	0.01	<2	2	0.02	7506114
2-Chloronaphthalene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Chrysene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Dibenzo(a,h)anthracene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Fluorene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Indeno(1,2,3-cd)pyrene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
1-Methylnaphthalene	ug/g	0.2	<0.1	0.1	0.02	0.3	0.2	0.04	7506114
2-Methylnaphthalene	ug/g	0.1	<0.1	0.1	0.02	0.3	0.2	0.04	7506114
Naphthalene	ug/g	1.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Perylene	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Phenanthrene	ug/g	<0.1	<0.1	0.1	0.01	0.3	0.2	0.02	7506114
Pyrene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Quinoline	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
1,2-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
1,3-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
1,4-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Hexachlorobenzene	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Pentachlorobenzene	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
1,2,3,4-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,3,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,4,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,3-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,2,4-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	<0.4	0.4	0.04	7506114
1,3,5-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.05	<0.4	0.4	0.1	7506114
2-Chlorophenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
4-Chloro-3-Methylphenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
m/p-Cresol	ug/g	<0.2	<0.2	0.2	0.02	3.5	0.4	0.04	7506114
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU087	QGU090			QGU091			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10			2021/07/20 14:00			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	RDL	MDL	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
o-Cresol	ug/g	<0.2	<0.2	0.2	0.01	1.1	0.4	0.02	7506114
2,3-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,4-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,5-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,6-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
3,4-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
3,5-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,4-Dimethylphenol	ug/g	<0.1	<0.1	0.1	0.01	0.6	0.2	0.02	7506114
2,4-Dinitrophenol	ug/g	<1	<1	1	0.02	<2	2	0.04	7506114
4,6-Dinitro-2-methylphenol	ug/g	<0.5	<0.5	0.5	0.04	<1	1	0.08	7506114
2-Nitrophenol	ug/g	<0.5	<0.5	0.5	0.02	<1	1	0.04	7506114
4-Nitrophenol	ug/g	<0.5	<0.5	0.5	0.03	<1	1	0.06	7506114
Pentachlorophenol	ug/g	<0.2	<0.2	0.2	0.07	<0.4	0.4	0.1	7506114
Phenol	ug/g	0.6	<0.2	0.2	0.01	7.1	0.4	0.02	7506114
2,3,4,5-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,3,4,6-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,3,5,6-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,3,4-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.04	<0.2	0.2	0.08	7506114
2,3,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
2,3,6-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.04	<0.2	0.2	0.08	7506114
2,4,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.03	<0.2	0.2	0.06	7506114
2,4,6-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
3,4,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Benzyl butyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Bis(2-chloroethoxy)methane	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Bis(2-chloroisopropyl)ether	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Bis(2-ethylhexyl)phthalate	ug/g	<0.5	<0.5	0.5	0.01	<1	1	0.02	7506114
4-Bromophenyl phenyl ether	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
p-Chloroaniline	ug/g	<0.2	<0.2	0.2	0.06	<0.4	0.4	0.1	7506114
4-Chlorophenyl phenyl ether	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
3,3'-Dichlorobenzidine	ug/g	<0.5	<0.5	0.5	0.2	<1	1	0.4	7506114
Diethyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Di-N-butyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
di-n-octyl phthalate	ug/g	<0.5	<0.5	0.5	0.02	<1	1	0.04	7506114
2,4-Dinitrotoluene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
2,6-Dinitrotoluene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Dimethyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU087	QGU090			QGU091			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10			2021/07/20 14:00			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	RDL	MDL	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
Biphenyl	ug/g	<0.1	<0.1	0.1	0.01	0.6	0.2	0.02	7506114
Bis(2-chloroethyl)ether	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
Hexachlorobutadiene	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Hexachlorocyclopentadiene	ug/g	<0.5	<0.5	0.5	0.02	<1	1	0.04	7506114
Hexachloroethane	ug/g	<0.1	<0.1	0.1	0.02	<0.2	0.2	0.04	7506114
Isophorone	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Nitrobenzene	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.2	<0.2	0.2	0.01	<0.4	0.4	0.02	7506114
N-Nitroso-di-n-propylamine	ug/g	<0.1	<0.1	0.1	0.01	<0.2	0.2	0.02	7506114
Surrogate Recovery (%)									
2,4,6-Tribromophenol	%	9.8 (1)	19	N/A	N/A	43	N/A	N/A	7506114
2-Fluorobiphenyl	%	10 (1)	31	N/A	N/A	37	N/A	N/A	7506114
2-Fluorophenol	%	27	62	N/A	N/A	38	N/A	N/A	7506114
D14-Terphenyl	%	0.60 (2)	0.80 (3)	N/A	N/A	44	N/A	N/A	7506114
D5-Nitrobenzene	%	31	41	N/A	N/A	38	N/A	N/A	7506114
D5-Phenol	%	33	81	N/A	N/A	39	N/A	N/A	7506114
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria. (2) Some surrogate recoveries were below the lower control limits due to matrix interference. This may represent a lower bias in some results. (3) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.									

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU097	QGU108			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Semivolatile Organics						
Acenaphthene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Acenaphthylene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Anthracene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Benzo(a)anthracene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Benzo(a)pyrene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Benzo(b,j)fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Benzo(g,h,i)perylene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Benzo(k)fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	7506114
1-Chloronaphthalene	ug/g	<1	<1	1	0.01	7506114
2-Chloronaphthalene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Chrysene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Dibenzo(a,h)anthracene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Fluoranthene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Fluorene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Indeno(1,2,3-cd)pyrene	ug/g	<0.1	<0.1	0.1	0.01	7506114
1-Methylnaphthalene	ug/g	<0.1	<0.1	0.1	0.02	7506114
2-Methylnaphthalene	ug/g	<0.1	<0.1	0.1	0.02	7506114
Naphthalene	ug/g	<0.1	<0.1	0.1	0.02	7506114
Perylene	ug/g	<0.2	<0.2	0.2	0.01	7506114
Phenanthrene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Pyrene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Quinoline	ug/g	<0.2	<0.2	0.2	0.01	7506114
1,2-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	7506114
1,3-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	7506114
1,4-Dichlorobenzene	ug/g	<0.1	<0.1	0.1	0.02	7506114
Hexachlorobenzene	ug/g	<0.2	<0.2	0.2	0.01	7506114
Pentachlorobenzene	ug/g	<0.2	<0.2	0.2	0.01	7506114
1,2,3,4-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	7506114
1,2,3,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	7506114
1,2,4,5-Tetrachlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	7506114
1,2,3-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	7506114
1,2,4-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.02	7506114
1,3,5-Trichlorobenzene	ug/g	<0.2	<0.2	0.2	0.05	7506114
2-Chlorophenol	ug/g	<0.1	<0.1	0.1	0.01	7506114
4-Chloro-3-Methylphenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
m/p-Cresol	ug/g	<0.2	<0.2	0.2	0.02	7506114
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU097	QGU108			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
o-Cresol	ug/g	<0.2	<0.2	0.2	0.01	7506114
2,3-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
2,4-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
2,5-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
2,6-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
3,4-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.03	7506114
3,5-Dichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
2,4-Dimethylphenol	ug/g	<0.1	<0.1	0.1	0.01	7506114
2,4-Dinitrophenol	ug/g	<1	<1	1	0.02	7506114
4,6-Dinitro-2-methylphenol	ug/g	<0.5	<0.5	0.5	0.04	7506114
2-Nitrophenol	ug/g	<0.5	<0.5	0.5	0.02	7506114
4-Nitrophenol	ug/g	<0.5	<0.5	0.5	0.03	7506114
Pentachlorophenol	ug/g	<0.2	<0.2	0.2	0.07	7506114
Phenol	ug/g	<0.2	<0.2	0.2	0.01	7506114
2,3,4,5-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	7506114
2,3,4,6-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	7506114
2,3,5,6-Tetrachlorophenol	ug/g	<0.1	<0.1	0.1	0.03	7506114
2,3,4-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.04	7506114
2,3,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.01	7506114
2,3,6-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.04	7506114
2,4,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.03	7506114
2,4,6-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.01	7506114
3,4,5-Trichlorophenol	ug/g	<0.1	<0.1	0.1	0.02	7506114
Benzyl butyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	7506114
Bis(2-chloroethoxy)methane	ug/g	<0.1	<0.1	0.1	0.01	7506114
Bis(2-chloroisopropyl)ether	ug/g	<0.1	<0.1	0.1	0.02	7506114
Bis(2-ethylhexyl)phthalate	ug/g	<0.5	<0.5	0.5	0.01	7506114
4-Bromophenyl phenyl ether	ug/g	<0.1	<0.1	0.1	0.02	7506114
p-Chloroaniline	ug/g	<0.2	<0.2	0.2	0.06	7506114
4-Chlorophenyl phenyl ether	ug/g	<0.1	<0.1	0.1	0.02	7506114
3,3'-Dichlorobenzidine	ug/g	<0.5	<0.5	0.5	0.2	7506114
Diethyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	7506114
Di-N-butyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	7506114
di-n-octyl phthalate	ug/g	<0.5	<0.5	0.5	0.02	7506114
2,4-Dinitrotoluene	ug/g	<0.1	<0.1	0.1	0.02	7506114
2,6-Dinitrotoluene	ug/g	<0.1	<0.1	0.1	0.02	7506114
Dimethyl phthalate	ug/g	<0.2	<0.2	0.2	0.01	7506114
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		QGU097	QGU108			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Biphenyl	ug/g	<0.1	<0.1	0.1	0.01	7506114
Bis(2-chloroethyl)ether	ug/g	<0.2	<0.2	0.2	0.01	7506114
Hexachlorobutadiene	ug/g	<0.1	<0.1	0.1	0.02	7506114
Hexachlorocyclopentadiene	ug/g	<0.5	<0.5	0.5	0.02	7506114
Hexachloroethane	ug/g	<0.1	<0.1	0.1	0.02	7506114
Isophorone	ug/g	<0.1	<0.1	0.1	0.01	7506114
Nitrobenzene	ug/g	<0.1	<0.1	0.1	0.01	7506114
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.2	<0.2	0.2	0.01	7506114
N-Nitroso-di-n-propylamine	ug/g	<0.1	<0.1	0.1	0.01	7506114
Surrogate Recovery (%)						
2,4,6-Tribromophenol	%	4.6 (1)	37	N/A	N/A	7506114
2-Fluorobiphenyl	%	69	20 (2)	N/A	N/A	7506114
2-Fluorophenol	%	27	32	N/A	N/A	7506114
D14-Terphenyl	%	59	9.2 (3)	N/A	N/A	7506114
D5-Nitrobenzene	%	70	19 (2)	N/A	N/A	7506114
D5-Phenol	%	66	38	N/A	N/A	7506114
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results. (2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria. (3) Some surrogate recoveries were below the lower control limits due to matrix interference. This may represent a lower bias in some results.						



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID		QGU076	QGU076	QGU077			
Sampling Date		2021/07/19 11:20	2021/07/19 11:20	2021/07/19 12:10			
	UNITS	CS-11230615-071921- CT-01	CS-11230615-071921- CT-01 Lab-Dup	CS-11230615-071921- CT-02	RDL	MDL	QC Batch

Volatile Organics							
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	7506904
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904

Surrogate Recovery (%)							
Leachable (SPLP) 4-Bromofluorobenzene	%	91	90	90	N/A	N/A	7506904
Leachable (SPLP) D4-1,2-Dichloroethane	%	115	118	119	N/A	N/A	7506904
Leachable (SPLP) D8-Toluene	%	91	90	90	N/A	N/A	7506904

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID		QGU078	QGU079	QGU080			
Sampling Date		2021/07/19 13:10	2021/07/19 13:50	2021/07/19 14:20			
	UNITS	CS-11230615-071921- CT-04	CS-11230615-071921- CT-05	CS-11230615-071921- CT-06	RDL	MDL	QC Batch
Volatile Organics							
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	7506904
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Surrogate Recovery (%)							
Leachable (SPLP) 4-Bromofluorobenzene	%	91	90	90	N/A	N/A	7506904
Leachable (SPLP) D4-1,2-Dichloroethane	%	120	121	121	N/A	N/A	7506904
Leachable (SPLP) D8-Toluene	%	90	93	90	N/A	N/A	7506904
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID		QGU082	QGU083	QGU084			
Sampling Date		2021/07/19 15:20	2021/07/20 11:10	2021/07/20 11:45			
	UNITS	CS-11230615-071921- CT-08	CS-11230615-072021- CT-10	CS-11230615-072021- CT-11	RDL	MDL	QC Batch
Volatile Organics							
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	7506904
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Surrogate Recovery (%)							
Leachable (SPLP) 4-Bromofluorobenzene	%	90	89	90	N/A	N/A	7506904
Leachable (SPLP) D4-1,2-Dichloroethane	%	119	122	123	N/A	N/A	7506904
Leachable (SPLP) D8-Toluene	%	91	90	90	N/A	N/A	7506904
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID		QGU087	QGU090	QGU091			
Sampling Date		2021/07/20 12:00	2021/07/20 13:10	2021/07/20 14:00			
	UNITS	CS-11230615-072021- CT-12	CS-11230615-072021- CT-13	CS-11230615-072021- CT-14	RDL	MDL	QC Batch
Volatile Organics							
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	7506904
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	0.47	0.40	N/A	7506904
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	7506904
Surrogate Recovery (%)							
Leachable (SPLP) 4-Bromofluorobenzene	%	89	89	90	N/A	N/A	7506904
Leachable (SPLP) D4-1,2-Dichloroethane	%	121	122	123	N/A	N/A	7506904
Leachable (SPLP) D8-Toluene	%	91	90	89	N/A	N/A	7506904
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID		QGU097	QGU108			
Sampling Date		2021/07/20 14:20	2021/07/20 14:50			
	UNITS	CS-11230615-072021- CT-15	CS-11230615-072021- CT-16	RDL	MDL	QC Batch
Volatile Organics						
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	0.90	N/A	7506904
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	N/A	7506904
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	0.19	N/A	7506904
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	0.40	N/A	7506904
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	0.40	N/A	7506904
Surrogate Recovery (%)						
Leachable (SPLP) 4-Bromofluorobenzene	%	89	89	N/A	N/A	7506904
Leachable (SPLP) D4-1,2-Dichloroethane	%	122	122	N/A	N/A	7506904
Leachable (SPLP) D8-Toluene	%	90	90	N/A	N/A	7506904
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable						



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

TEST SUMMARY

BV Labs ID: QGU076
Sample ID: CS-11230615-071921-CT-01
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/07	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU076 Dup
Sample ID: CS-11230615-071921-CT-01
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU077
Sample ID: CS-11230615-071921-CT-02
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/07	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU078
Sample ID: CS-11230615-071921-CT-04
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/07	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU079
Sample ID: CS-11230615-071921-CT-05
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/07	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

TEST SUMMARY

BV Labs ID: QGU079
Sample ID: CS-11230615-071921-CT-05
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU079 Dup
Sample ID: CS-11230615-071921-CT-05
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/07	Anh Lieu

BV Labs ID: QGU080
Sample ID: CS-11230615-071921-CT-06
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/07	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU082
Sample ID: CS-11230615-071921-CT-08
Matrix: Soil

Collected: 2021/07/19
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU083
Sample ID: CS-11230615-072021-CT-10
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

TEST SUMMARY

BV Labs ID: QGU084
Sample ID: CS-11230615-072021-CT-11
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU087
Sample ID: CS-11230615-072021-CT-12
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU090
Sample ID: CS-11230615-072021-CT-13
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU091
Sample ID: CS-11230615-072021-CT-14
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU097
Sample ID: CS-11230615-072021-CT-15
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

TEST SUMMARY

BV Labs ID: QGU097
Sample ID: CS-11230615-072021-CT-15
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan

BV Labs ID: QGU108
Sample ID: CS-11230615-072021-CT-16
Matrix: Soil

Collected: 2021/07/20
Shipped:
Received: 2021/08/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in soil by GC/MS	GC/MS	7506114	2021/08/06	2021/08/08	Anh Lieu
F1 Hydrocarbons/BTEX in Leachate (SPLP)	HSGC/MSFD	7507562	2021/08/08	2021/08/09	Joe Paino
Moisture	BAL	7503112	N/A	2021/08/05	Prgya Panchal
SPLP Zero Headspace Extraction		7504848	2021/08/06	2021/08/07	Jared King
Volatile organics in SPLP leachates	HS/MS	7506904	N/A	2021/08/08	Juan Pangilinan



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.0°C

ABN, SPLP VOC and SPLP F1 Analyses: Samples received at the analyzing laboratory past the recommended holding time. Analyses performed with client's consent.

ABN Analysis: Due to the sample matrix, some samples required dilutions. Detection limits were adjusted accordingly. Surrogate recoveries may have been impacted by the large amounts of charcoal chunks that were present in some of the samples.

Sample QGU076 [CS-11230615-071921-CT-01] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU077 [CS-11230615-071921-CT-02] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU078 [CS-11230615-071921-CT-04] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU079 [CS-11230615-071921-CT-05] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU080 [CS-11230615-071921-CT-06] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU082 [CS-11230615-071921-CT-08] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU083 [CS-11230615-072021-CT-10] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU084 [CS-11230615-072021-CT-11] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU087 [CS-11230615-072021-CT-12] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU090 [CS-11230615-072021-CT-13] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU091 [CS-11230615-072021-CT-14] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.



BV Labs Job #: C1L7596
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Client Project #: VANENV job# C151797
Sampler Initials: CT

Sample QGU097 [CS-11230615-072021-CT-15] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample QGU108 [CS-11230615-072021-CT-16] : SPLP VOCs Extraction: Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Results relate only to the items tested.

BV Labs - Partial/Rush Results



BV Labs Job #: C1L7596
Report Date: 2021/08/10

QUALITY ASSURANCE REPORT

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7506114	2,4,6-Tribromophenol	2021/08/07	47	10 - 130	81	10 - 130	77	%				
7506114	2-Fluorobiphenyl	2021/08/07	65	30 - 130	77	30 - 130	74	%				
7506114	2-Fluorophenol	2021/08/07	85	10 - 130	90	10 - 130	80	%				
7506114	D14-Terphenyl	2021/08/07	18 (1)	30 - 130	85	30 - 130	88	%				
7506114	D5-Nitrobenzene	2021/08/07	66	30 - 130	77	30 - 130	77	%				
7506114	D5-Phenol	2021/08/07	87	10 - 130	96	10 - 130	79	%				
7506904	Leachable (SPLP) 4-Bromofluorobenzene	2021/08/08	101	70 - 130	102	70 - 130	91	%				
7506904	Leachable (SPLP) D4-1,2-Dichloroethane	2021/08/08	104	70 - 130	106	70 - 130	115	%				
7506904	Leachable (SPLP) D8-Toluene	2021/08/08	110	70 - 130	108	70 - 130	91	%				
7507562	Leachable (SPLP) 1,4-Difluorobenzene	2021/08/09	96	70 - 130	101	70 - 130	106	%			107	%
7507562	Leachable (SPLP) 4-Bromofluorobenzene	2021/08/09	103	70 - 130	103	70 - 130	95	%			92	%
7507562	Leachable (SPLP) D10-o-Xylene	2021/08/09	91	70 - 130	91	70 - 130	100	%			101	%
7507562	Leachable (SPLP) D4-1,2-Dichloroethane	2021/08/09	103	70 - 130	94	70 - 130	114	%			114	%
7503112	Moisture	2021/08/05							0	20		
7506114	1,2,3,4-Tetrachlorobenzene	2021/08/07	57	30 - 130	63	30 - 130	<0.2	ug/g	NC	50		
7506114	1,2,3,5-Tetrachlorobenzene	2021/08/07	57	30 - 130	84	30 - 130	<0.2	ug/g	NC	50		
7506114	1,2,3-Trichlorobenzene	2021/08/07	65	30 - 130	77	30 - 130	<0.2	ug/g	NC	50		
7506114	1,2,4,5-Tetrachlorobenzene	2021/08/07	71	30 - 130	68	30 - 130	<0.2	ug/g	NC	50		
7506114	1,2,4-Trichlorobenzene	2021/08/07	79	30 - 130	87	30 - 130	<0.2	ug/g	NC	50		
7506114	1,2-Dichlorobenzene	2021/08/07	75	30 - 130	88	30 - 130	<0.1	ug/g	NC	50		
7506114	1,3,5-Trichlorobenzene	2021/08/07	61	30 - 130	80	30 - 130	<0.2	ug/g	NC	50		
7506114	1,3-Dichlorobenzene	2021/08/07	70	30 - 130	80	30 - 130	<0.1	ug/g	NC	50		
7506114	1,4-Dichlorobenzene	2021/08/07	78	30 - 130	89	30 - 130	<0.1	ug/g	NC	50		
7506114	1-Chloronaphthalene	2021/08/07	47	30 - 130	66	30 - 130	<1	ug/g	NC	50		
7506114	1-Methylnaphthalene	2021/08/07	75	30 - 130	90	30 - 130	<0.1	ug/g	NC	50		
7506114	2,3,4,5-Tetrachlorophenol	2021/08/07	21	10 - 130	81	10 - 130	<0.1	ug/g	NC	50		
7506114	2,3,4,6-Tetrachlorophenol	2021/08/07	21	10 - 130	103	10 - 130	<0.1	ug/g	NC	50		
7506114	2,3,4-Trichlorophenol	2021/08/07	56	10 - 130	91	10 - 130	<0.1	ug/g	NC	50		
7506114	2,3,5,6-Tetrachlorophenol	2021/08/07	17	10 - 130	115	10 - 130	<0.1	ug/g	NC	50		
7506114	2,3,5-Trichlorophenol	2021/08/07	47	10 - 130	97	10 - 130	<0.1	ug/g	NC	50		
7506114	2,3,6-Trichlorophenol	2021/08/07	48	10 - 130	95	10 - 130	<0.1	ug/g	NC	50		

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BV Labs Job #: C1L7596

Report Date: 2021/08/10

QUALITY ASSURANCE REPORT(CONT'D)

Bureau Veritas Laboratories

Client Project #: VANENV job# C151797

Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7506114	2,3-Dichlorophenol	2021/08/07	68	10 - 130	94	10 - 130	<0.1	ug/g	NC	50		
7506114	2,4,5-Trichlorophenol	2021/08/07	58	10 - 130	105	10 - 130	<0.1	ug/g	NC	50		
7506114	2,4,6-Trichlorophenol	2021/08/07	55	10 - 130	97	10 - 130	<0.1	ug/g	NC	50		
7506114	2,4-Dichlorophenol	2021/08/07	67	10 - 130	92	10 - 130	<0.1	ug/g	NC	50		
7506114	2,4-Dimethylphenol	2021/08/07	77	10 - 130	96	10 - 130	<0.1	ug/g	NC	50		
7506114	2,4-Dinitrophenol	2021/08/07	3.8 (2)	10 - 130	78	10 - 130	<1	ug/g	NC	50		
7506114	2,4-Dinitrotoluene	2021/08/07	66	30 - 130	94	30 - 130	<0.1	ug/g	NC	50		
7506114	2,5-Dichlorophenol	2021/08/07	77	10 - 130	83	10 - 130	<0.1	ug/g	NC	50		
7506114	2,6-Dichlorophenol	2021/08/07	65	10 - 130	89	10 - 130	<0.1	ug/g	NC	50		
7506114	2,6-Dinitrotoluene	2021/08/07	71	30 - 130	87	30 - 130	<0.1	ug/g	NC	50		
7506114	2-Chloronaphthalene	2021/08/07	56	30 - 130	87	30 - 130	<0.1	ug/g	NC	50		
7506114	2-Chlorophenol	2021/08/07	86	10 - 130	98	10 - 130	<0.1	ug/g	NC	50		
7506114	2-Methylnaphthalene	2021/08/07	61	30 - 130	87	30 - 130	<0.1	ug/g	NC	50		
7506114	2-Nitrophenol	2021/08/07	42	10 - 130	84	10 - 130	<0.5	ug/g	NC	50		
7506114	3,3'-Dichlorobenzidine	2021/08/07	12 (2)	30 - 130	50	30 - 130	<0.5	ug/g	NC	50		
7506114	3,4,5-Trichlorophenol	2021/08/07	57	10 - 130	99	10 - 130	<0.1	ug/g	NC	50		
7506114	3,4-Dichlorophenol	2021/08/07	70	10 - 130	91	10 - 130	<0.1	ug/g	NC	50		
7506114	3,5-Dichlorophenol	2021/08/07	81	10 - 130	100	10 - 130	<0.1	ug/g	NC	50		
7506114	4,6-Dinitro-2-methylphenol	2021/08/07	21	10 - 130	106	10 - 130	<0.5	ug/g	NC	50		
7506114	4-Bromophenyl phenyl ether	2021/08/07	75	30 - 130	79	30 - 130	<0.1	ug/g	NC	50		
7506114	4-Chloro-3-Methylphenol	2021/08/07	81	10 - 130	94	10 - 130	<0.1	ug/g	NC	50		
7506114	4-Chlorophenyl phenyl ether	2021/08/07	78	30 - 130	86	30 - 130	<0.1	ug/g	NC	50		
7506114	4-Nitrophenol	2021/08/07	39	10 - 130	88	10 - 130	<0.5	ug/g	NC	50		
7506114	Acenaphthene	2021/08/07	66	30 - 130	84	30 - 130	<0.1	ug/g	NC	50		
7506114	Acenaphthylene	2021/08/07	54	30 - 130	85	30 - 130	<0.1	ug/g	NC	50		
7506114	Anthracene	2021/08/07	15 (2)	30 - 130	80	30 - 130	<0.1	ug/g	NC	50		
7506114	Benzo(a)anthracene	2021/08/07	3.4 (2)	30 - 130	93	30 - 130	<0.1	ug/g	NC	50		
7506114	Benzo(a)pyrene	2021/08/07	0.54 (2)	30 - 130	85	30 - 130	<0.1	ug/g	NC	50		
7506114	Benzo(b,j)fluoranthene	2021/08/07	0.88 (2)	30 - 130	90	30 - 130	<0.1	ug/g	NC	50		
7506114	Benzo(g,h,i)perylene	2021/08/07	0.00 (2)	30 - 130	97	30 - 130	<0.1	ug/g	NC	50		
7506114	Benzo(k)fluoranthene	2021/08/07	1.7 (2)	30 - 130	98	30 - 130	<0.1	ug/g	NC	50		



BV Labs Job #: C117596
Report Date: 2021/08/10

QUALITY ASSURANCE REPORT(CONT'D)

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7506114	Benzyl butyl phthalate	2021/08/07	78	30 - 130	85	30 - 130	<0.2	ug/g	NC	50		
7506114	Biphenyl	2021/08/07	66	30 - 130	84	30 - 130	<0.1	ug/g	NC	50		
7506114	Bis(2-chloroethoxy)methane	2021/08/07	63	30 - 130	68	30 - 130	<0.1	ug/g	NC	50		
7506114	Bis(2-chloroethyl)ether	2021/08/07	73	30 - 130	84	30 - 130	<0.2	ug/g	NC	50		
7506114	Bis(2-chloroisopropyl)ether	2021/08/07	66	30 - 130	90	30 - 130	<0.1	ug/g	NC	50		
7506114	Bis(2-ethylhexyl)phthalate	2021/08/07	81	30 - 130	88	30 - 130	<0.5	ug/g	NC	50		
7506114	Chrysene	2021/08/07	2.1 (2)	30 - 130	94	30 - 130	<0.1	ug/g	NC	50		
7506114	Dibenzo(a,h)anthracene	2021/08/07	0.00 (2)	30 - 130	99	30 - 130	<0.1	ug/g	NC	50		
7506114	Diethyl phthalate	2021/08/07	83	30 - 130	88	30 - 130	<0.2	ug/g	NC	50		
7506114	Dimethyl phthalate	2021/08/07	81	30 - 130	84	30 - 130	<0.2	ug/g	NC	50		
7506114	Di-N-butyl phthalate	2021/08/07	92	30 - 130	93	30 - 130	<0.2	ug/g	NC	50		
7506114	di-n-octyl phthalate	2021/08/07	82	30 - 130	85	30 - 130	<0.5	ug/g	NC	50		
7506114	Fluoranthene	2021/08/07	13 (2)	30 - 130	97	30 - 130	<0.1	ug/g	NC	50		
7506114	Fluorene	2021/08/07	53	30 - 130	90	30 - 130	<0.1	ug/g	NC	50		
7506114	Hexachlorobenzene	2021/08/07	65	30 - 130	82	30 - 130	<0.2	ug/g	NC	50		
7506114	Hexachlorobutadiene	2021/08/07	72	30 - 130	80	30 - 130	<0.1	ug/g	NC	50		
7506114	Hexachlorocyclopentadiene	2021/08/07	63	30 - 130	74	30 - 130	<0.5	ug/g	NC	50		
7506114	Hexachloroethane	2021/08/07	73	30 - 130	79	30 - 130	<0.1	ug/g	NC	50		
7506114	Indeno(1,2,3-cd)pyrene	2021/08/07	0.00 (2)	30 - 130	96	30 - 130	<0.1	ug/g	NC	50		
7506114	Isophorone	2021/08/07	77	30 - 130	81	30 - 130	<0.1	ug/g	NC	50		
7506114	m/p-Cresol	2021/08/07	99	10 - 130	111	10 - 130	<0.2	ug/g	NC	50		
7506114	Naphthalene	2021/08/07	50	30 - 130	69	30 - 130	<0.1	ug/g	NC	50		
7506114	Nitrobenzene	2021/08/07	75	30 - 130	75	30 - 130	<0.1	ug/g	NC	50		
7506114	Nitrosodiphenylamine/Diphenylamine	2021/08/07	92	30 - 130	105	30 - 130	<0.2	ug/g	NC	50		
7506114	N-Nitroso-di-n-propylamine	2021/08/07	82	30 - 130	78	30 - 130	<0.1	ug/g	NC	50		
7506114	o-Cresol	2021/08/07	96	10 - 130	106	10 - 130	<0.2	ug/g	NC	50		
7506114	p-Chloroaniline	2021/08/07	65	30 - 130	75	30 - 130	<0.2	ug/g	NC	50		
7506114	Pentachlorobenzene	2021/08/07	66	30 - 130	76	30 - 130	<0.2	ug/g	NC	50		
7506114	Pentachlorophenol	2021/08/07	4.2 (2)	10 - 130	89	10 - 130	<0.2	ug/g	NC	50		
7506114	Perylene	2021/08/07	1.0 (2)	30 - 130	96	30 - 130	<0.2	ug/g	NC	50		
7506114	Phenanthrene	2021/08/07	25 (2)	30 - 130	87	30 - 130	<0.1	ug/g	NC	50		



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BV Labs Job #: C1L7596

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QUALITY ASSURANCE REPORT(CONT'D)

Bureau Veritas Laboratories

Client Project #: VANENV job# C151797

Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7506114	Phenol	2021/08/07	84	10 - 130	102	10 - 130	<0.2	ug/g	NC	50		
7506114	Pyrene	2021/08/07	11 (2)	30 - 130	91	30 - 130	<0.1	ug/g	NC	50		
7506114	Quinoline	2021/08/07	48	30 - 130	77	30 - 130	<0.2	ug/g	NC	50		
7506904	Leachable (SPLP) 1,1,1,2-Tetrachloroethane	2021/08/08	102	70 - 130	113	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,1,2,2-Tetrachloroethane	2021/08/08	102	70 - 130	107	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,1,2-Trichloroethane	2021/08/08	106	70 - 130	114	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,1-Dichloroethane	2021/08/08	98	70 - 130	105	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,1-Dichloroethylene	2021/08/08	96	70 - 130	106	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,2-Dichlorobenzene	2021/08/08	99	70 - 130	106	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,2-Dichloroethane	2021/08/08	98	70 - 130	106	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,2-Dichloropropane	2021/08/08	101	70 - 130	105	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) 1,4-Dichlorobenzene	2021/08/08	112	70 - 130	124	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) Bromomethane	2021/08/08	99	60 - 140	105	60 - 140	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) Carbon Tetrachloride	2021/08/08	96	70 - 130	110	70 - 130	<0.19	ug/L	NC	30		
7506904	Leachable (SPLP) Chloroform	2021/08/08	100	70 - 130	108	70 - 130	<0.90	ug/L	NC	30		
7506904	Leachable (SPLP) cis-1,2-Dichloroethylene	2021/08/08	101	70 - 130	110	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) cis-1,3-Dichloropropene	2021/08/08	99	70 - 130	101	70 - 130	<0.30	ug/L	NC	30		
7506904	Leachable (SPLP) Ethylbenzene	2021/08/08	92	70 - 130	97	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) Ethylene Dibromide	2021/08/08	101	70 - 130	105	70 - 130	<0.19	ug/L	NC	30		
7506904	Leachable (SPLP) Tetrachloroethylene	2021/08/08	93	70 - 130	104	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) trans-1,2-Dichloroethylene	2021/08/08	103	70 - 130	109	70 - 130	<0.40	ug/L	NC	30		
7506904	Leachable (SPLP) trans-1,3-Dichloropropene	2021/08/08	110	70 - 130	114	70 - 130	<0.30	ug/L	NC	30		
7506904	Leachable (SPLP) Trichloroethylene	2021/08/08	100	70 - 130	112	70 - 130	<0.40	ug/L	NC	30		
7507562	Leachable (SPLP) Benzene	2021/08/09	106	50 - 140	110	50 - 140	<0.8	ug/L	NC	40	<0.8	ug/L
7507562	Leachable (SPLP) Ethylbenzene	2021/08/09	106	50 - 140	119	50 - 140	<0.8	ug/L	NC	40	<0.8	ug/L
7507562	Leachable (SPLP) F1 (C6-C10) - BTEX	2021/08/09					<400	ug/L	NC	40	<400	ug/L
7507562	Leachable (SPLP) F1 (C6-C10)	2021/08/09	87	60 - 140	91	60 - 140	<400	ug/L	NC	40	<400	ug/L
7507562	Leachable (SPLP) o-Xylene	2021/08/09	106	50 - 140	112	50 - 140	<0.8	ug/L	NC	40	<0.8	ug/L
7507562	Leachable (SPLP) p+m-Xylene	2021/08/09	96	50 - 140	105	50 - 140	<2	ug/L	NC	40	<2	ug/L
7507562	Leachable (SPLP) Toluene	2021/08/09	94	50 - 140	100	50 - 140	<0.8	ug/L	NC	40	<0.8	ug/L



BV Labs Job #: C1L7596
Report Date: 2021/08/10

QUALITY ASSURANCE REPORT(CONT'D)

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7507562	Leachable (SPLP) Total Xylenes	2021/08/09					<2	ug/L	NC	40	<2	ug/L

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).

(1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BV Labs Job #: C1L7596
Report Date: 2021/08/10

Bureau Veritas Laboratories
Client Project #: VANENV job# C151797
Sampler Initials: CT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs - Partial/Rush Results



Your P.O. #: 735-000118
 Your Project #: 11230615
 Site Location: LYTTON, BC
 Your C.O.C. #: 08495597, 08495594

Attention: 11230615 Distribution

GHD Limited
 455 PHILLIP STREET
 WATERLOO, ON
 CANADA N2L 3X2

Report Date: 2021/08/27
 Report #: R3064185
 Version: 8 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C153218

Received: 2021/07/23, 08:50

Sample Matrix: Soil
 # Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Phenols in Soil by GCMS	6	2021/08/10	2021/08/11	BBY8SOP-00054	BCMOE BCLM Sep2017 m
Phenols in Soil by GCMS	8	2021/08/10	2021/08/12	BBY8SOP-00054	BCMOE BCLM Sep2017 m
Elements by ICPMS (total)	14	2021/08/10	2021/08/10	BBY7SOP-00004 / BBY7SOP-00001	EPA 6020b R2 m
Metals - TCLP	14	2021/08/11	2021/08/11	BBY7SOP-00001	EPA 1311, 6020bR2 m
ICPMS Metals on SPLP Leachate	14	2021/08/10	2021/08/11	BBY7SOP-00010 / BBY7SOP-00002	EPA 1312, 6020bR2 m
Moisture	14	2021/08/10	2021/08/10	BBY8SOP-00017	BCMOE BCLM Dec2000 m
Non Routine/Non Validated Matrix Tested (4)	14	N/A	2021/08/09		
PAH in Soil by GC/MS (SIM)	12	2021/08/10	2021/08/10	BBY8SOP-00022	BCMOE BCLM Jul2017m
PAH in Soil by GC/MS (SIM)	2	2021/08/10	2021/08/11	BBY8SOP-00022	BCMOE BCLM Jul2017m
Total PAH and B(a)P Calculation (5)	14	N/A	2021/08/11	BBY WI-00033	Auto Calc
Polychlorinated Biphenyls in Soil (1)	14	2021/08/12	2021/08/12	CAL SOP-00149	EPA 8082A R1 m
Total PCBs in Soil (1)	14	N/A	2021/08/12		Auto Calc
Phenols (Totals) in Soil - Calc. (6)	14	N/A	2021/08/12	BBY WI-00033	Auto Calc
pH (2:1 DI Water Extract)	14	2021/08/10	2021/08/10	BBY6SOP-00028	BCMOE BCLM Mar2005 m
pH on SPLP Leachate 2	14	N/A	2021/08/11	BBY7SOP-00010	EPA 1312 R0 m
TCLP pH Measurements	14	N/A	2021/08/11	BBY7SOP-00005	EPA 1311
EPH less PAH in Soil By GC/FID (7)	14	N/A	2021/08/11	BBY WI-00033	Auto Calc
EPH in Soil by GC/FID	14	2021/08/10	2021/08/10	BBY8SOP-00029	BCMOE BCLM Dec2016 m
VOCs, VH, F1, LH in Soil - Field Pres. (8)	14	N/A	2021/08/10	BBY8SOP-00009 / BBY8SOP-00011 / BBY8SOP-00012	BCMOE BCLM Sep 2017m
VOCs in Leachate by HS GC/MS (Std List) (1, 9)	14	N/A	2021/08/12	AB SOP-00056	EPA 5021a/8260d m
Volatile HC-BTEX for Soil (10)	14	N/A	2021/08/11	BBY WI-00033	Auto Calc
Silica Dust in Solid by XRD Subcontract (2)	14	N/A	N/A		NIOSH 7903
ABN Compounds in Soil by GC/MS (3)	14	2021/08/11	2021/08/12	CAM SOP-00301	EPA 8270 m
Dioxins/Furans in Soil (1613B) (3, 11)	5	2021/08/12	2021/08/16	BRL SOP-00406 (mod)	EPS 1/RM/23 m
Dioxins/Furans in Soil (1613B) (3, 11)	5	2021/08/12	2021/08/17	BRL SOP-00406 (mod)	EPS 1/RM/23 m
Dioxins/Furans in Soil (1613B) (3, 11)	4	2021/08/12	2021/08/18	BRL SOP-00406 (mod)	EPS 1/RM/23 m
2378TCDF Confirmation (M8290A/M1613) (3)	7	2021/08/12	2021/08/18	BRL SOP-00406	EPA M8290A / M1613
2378TCDF Confirmation (M8290A/M1613) (3)	5	2021/08/12	2021/08/19	BRL SOP-00406	EPA M8290A / M1613



Your P.O. #: 735-000118
 Your Project #: 11230615
 Site Location: LYTTON, BC
 Your C.O.C. #: 08495597, 08495594

Attention: 11230615 Distribution

GHD Limited
 455 PHILLIP STREET
 WATERLOO, ON
 CANADA N2L 3X2

Report Date: 2021/08/27
 Report #: R3064185
 Version: 8 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C153218

Received: 2021/07/23, 08:50

Sample Matrix: Soil
 # Samples Received: 14

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
SPLP Zero Headspace Extraction (3)	14	2021/08/13	2021/08/14	CAM SOP-00430	EPA 1312 m
Volatile organics in SPLP leachates (3)	14	N/A	2021/08/15	CAM SOP-00228	EPA 8260D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Calgary Environmental
- (2) This test was performed by Sub Vancouver to Bureau Veritas Novi
- (3) This test was performed by Bureau Veritas Ontario (From Burnaby)
- (4) Sample(s) analyzed using methodologies that have not been subjected to Bureau Veritas Laboratories' standard validation process for the submitted matrix and is not an accredited method. Analysis performed with client consent, however results should be viewed with discretion.
- (5) Total PAHs in Soil include: Quinoline, Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Acridine, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b&j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene.

Total PAHs in Sediment include (B.C. Reg. 116/2018, Schedule 3.4): Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(a)pyrene, and Dibenz(a,h)anthracene.

(6) Total Phenols include (from BC Lab Manual): Nonchlorinated Phenols [Phenol, 2,4-Dimethylphenol, 2,6-Dimethylphenol, 3,4-Dimethylphenol, 4-Methylphenol (para-Cresol), 4-



Your P.O. #: 735-000118
Your Project #: 11230615
Site Location: LYTTON, BC
Your C.O.C. #: 08495597, 08495594

Attention: 11230615 Distribution

GHD Limited
455 PHILLIP STREET
WATERLOO, ON
CANADA N2L 3X2

Report Date: 2021/08/27
Report #: R3064185
Version: 8 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C153218

Received: 2021/07/23, 08:50

Hydroxyphenol(Hydroquinone); Nitrophenols 2,4-Dinitrophenol, 2-Methyl-4,6-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol]; Chlorophenols [2-Chlorophenol, 3-Chlorophenol, 4-Chlorophenol, 4-Chloro-3-Methylphenol, 2,3-Dichlorophenol, 2,4-Dichlorophenol, 2,5-Dichlorophenol, 2,6-Dichlorophenol, 3,4-Dichlorophenol, 3,5-Dichlorophenol, 2,3,4-Trichlorophenol, 2,3,5-Trichlorophenol, 2,3,6-Trichlorophenol, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 3,4,5-Trichlorophenol, 2,3,4,5-Tetrachlorophenol, 2,3,4,6-Tetrachlorophenol, 2,3,5,6-Tetrachlorophenol, Pentachlorophenol].

(7) LEPH = EPH (C10 to C19) - (Naphthalene + Phenanthrene)

HEPH = EPH (C19 to C32) - (Benzo(a)anthracene + Benzo(a)pyrene + Benzo(b)fluoranthene + Benzo(k)fluoranthene + Dibenz(a,h)anthracene + Indeno(1,2,3-cd)pyrene + Pyrene)

(8) The extraction date for VOC, BTEX, VH, or F1 samples that are field preserved with methanol equals the date sampled, unless otherwise stated.

(9) Samples were extracted as per EPA 1311 unless otherwise noted in the report.

(10) VPH = VH - (Benzene + Toluene + Ethylbenzene + m & p-Xylene + o-Xylene + Styrene)

(11) Soils are reported on a dry weight basis unless otherwise specified.

Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

Encryption Key

Thomas Pinchin
Project Solutions Representative
27 Aug 2021 13:32:32

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Nahed Amer, Customer Solutions Representative

Email: Nahed.AMER@bureauveritas.com

Phone# (604) 734 7276

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
Parameter						
Subcontract Parameter	N/A	ATTACHED	ATTACHED	N/A	N/A	A321905
Base Neutrals						
Acenaphthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Acenaphthylene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Anthracene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(a)anthracene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(a)pyrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(b&j)fluoranthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(g,h,i)perylene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(k)fluoranthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
1-chloronaphthalene	ug/g	<1.0	<1.0	1.0	0.10	A323181
2-chloronaphthalene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Chrysene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Dibenz(a,h)anthracene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Fluoranthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Fluorene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
1-Methylnaphthalene	ug/g	<0.10	<0.10	0.10	0.020	A323181
2-Methylnaphthalene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Naphthalene	ug/g	<0.10	0.21	0.10	0.020	A323181
Perylene	ug/g	<0.20	<0.20	0.20	0.010	A323181
Phenanthrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Pyrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Quinoline	ug/g	<0.20	<0.20	0.20	0.010	A323181
1,2-dichlorobenzene	ug/g	<0.10	0.11	0.10	0.020	A323181
1,3-dichlorobenzene	ug/g	<0.10	0.15	0.10	0.020	A323181
1,4-dichlorobenzene	ug/g	<0.10	0.11	0.10	0.020	A323181
Hexachlorobenzene	ug/g	<0.20	<0.20	0.20	0.010	A323181
Pentachlorobenzene	ug/g	<0.20	<0.20	0.20	0.010	A323181
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
RDL = Reportable Detection Limit						
N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,2,3-trichlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,2,4-trichlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,3,5-trichlorobenzene	ug/g	<0.20	<0.20	0.20	0.050	A323181
2-chlorophenol	ug/g	<0.10	<0.10	0.10	0.010	A323181
4-chloro-3-methylphenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
m,p-Cresol	ug/g	<0.20	0.71	0.20	0.020	A323181
o-Cresol	ug/g	<0.20	0.32	0.20	0.010	A323181
2,3-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,4-dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,5-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,6-dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
3,4-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
3,5-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,4-dimethylphenol	ug/g	<0.10	<0.10	0.10	0.10	A323181
2,4-dinitrophenol	ug/g	<1.0	<1.0	1.0	0.020	A323181
4,6-dinitro-2-methylphenol	ug/g	<0.50	<0.50	0.50	0.040	A323181
2-nitrophenol	ug/g	<0.50	<0.50	0.50	0.020	A323181
4-nitrophenol	ug/g	<0.50	<0.50	0.50	0.030	A323181
Pentachlorophenol	ug/g	<0.20	<0.20	0.20	0.070	A323181
Phenol	ug/g	<0.20	2.4	0.20	0.010	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,3,4-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.040	A323181
2,3,5-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.010	A323181
2,3,6-Trichlorophenol	ug/g	<0.10	<0.10	0.10	0.040	A323181
2,4,5-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,4,6-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.010	A323181
3,4,5-Trichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
Butyl benzyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
RDL = Reportable Detection Limit						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	<0.10	0.10	0.010	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.10	<0.10	0.10	0.020	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	<0.50	0.50	0.010	A323181
4-bromophenyl phenyl ether	ug/g	<0.10	<0.10	0.10	0.020	A323181
p-Chloroaniline	ug/g	<0.20	<0.20	0.20	0.060	A323181
4-chlorophenyl phenyl ether	ug/g	<0.10	<0.10	0.10	0.020	A323181
3,3'-Dichlorobenzidine	ug/g	<0.50	<0.50	0.50	0.20	A323181
Diethyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
Di-n-butyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
Di-n-octyl phthalate	ug/g	<0.50	<0.50	0.50	0.020	A323181
2,4-Dinitrotoluene	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,6-Dinitrotoluene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Dimethyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
Biphenyl	ug/g	<0.10	<0.10	0.10	0.010	A323181
Bis(2-chloroethyl)ether	ug/g	<0.20	<0.20	0.20	0.010	A323181
Hexachlorobutadiene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Hexachlorocyclopentadiene	ug/g	<0.50	<0.50	0.50	0.020	A323181
Hexachloroethane	ug/g	<0.10	<0.10	0.10	0.020	A323181
Isophorone	ug/g	<0.10	<0.10	0.10	0.010	A323181
Nitrobenzene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	<0.20	0.20	0.010	A323181
N-nitroso-di-n-propylamine	ug/g	<0.10	<0.10	0.10	0.010	A323181
Charge						
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	N/A	A323182
SPLP Extraction Procedure						
SPLP Aluminum (Al)	mg/L	0.182	8.24	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	0.0789	0.0495	0.0010	0.020	A315647
SPLP Arsenic (As)	mg/L	0.0489	0.0064	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	0.68	0.78	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Boron (B)	mg/L	<0.50	1.42	0.50	0.10	A315647
RDL = Reportable Detection Limit						
N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	<0.000020	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	136	240	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	0.0388	0.0055	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	0.0068	0.0164	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	2.87	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	<0.0010	<0.0010	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	4.9	13.2	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	0.0286	0.0243	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0281	0.0354	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	0.0016	0.0011	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	11.7	65.4	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	0.049	0.031	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	<0.010	0.014	0.010	0.010	A315647
MISCELLANEOUS						
Sample Matrix	N/A	BULK	BULK	N/A	N/A	ONSITE
Surrogate Recovery (%)						
2,4,6-TRIBROMOPHENOL (sur.)	%	45	21	N/A	N/A	A323181
2-Fluorobiphenyl	%	84	23 (1)	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	78	73	N/A	N/A	A323181
D5-NITROBENZENE (sur.)	%	82	45	N/A	N/A	A323181
D5-PHENOL (sur.)	%	89	81	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	79	0.00 (1)	N/A	N/A	A323181
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a low bias in some results.						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM777			ACM778			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121-CT-20	RDL	MDL	CS-11230615-072121-CT-21	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A321905
Base Neutrals								
Acenaphthene	ug/g	3.4	0.10	0.010	<0.10	0.10	0.010	A323181
Acenaphthylene	ug/g	0.68	0.10	0.010	<0.10	0.10	0.010	A323181
Anthracene	ug/g	0.17	0.10	0.010	<0.10	0.10	0.010	A323181
Benzo(a)anthracene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Benzo(a)pyrene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Benzo(b&j)fluoranthene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Benzo(g,h,i)perylene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Benzo(k)fluoranthene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
1-chloronaphthalene	ug/g	<1.0	1.0	0.10	<1.0	1.0	0.10	A323181
2-chloronaphthalene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Chrysene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Dibenz(a,h)anthracene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Fluoranthene	ug/g	1.3	0.10	0.010	<0.10	0.10	0.010	A323181
Fluorene	ug/g	0.82	0.10	0.010	<0.10	0.10	0.010	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
1-Methylnaphthalene	ug/g	4.7	0.10	0.020	0.42	0.10	0.020	A323181
2-Methylnaphthalene	ug/g	7.9	0.10	0.020	0.39	0.10	0.020	A323181
Naphthalene	ug/g	32	0.10	0.020	1.6	0.10	0.020	A323181
Perylene	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
Phenanthrene	ug/g	1.5	0.10	0.010	<0.10	0.10	0.010	A323181
Pyrene	ug/g	0.68	0.10	0.010	<0.10	0.10	0.010	A323181
Quinoline	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
1,2-dichlorobenzene	ug/g	<0.10	0.10	0.020	0.34	0.10	0.020	A323181
1,3-dichlorobenzene	ug/g	<0.10	0.10	0.020	0.12	0.10	0.020	A323181
1,4-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
Hexachlorobenzene	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
Pentachlorobenzene	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.20	0.20	0.020	A323181
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM777			ACM778			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-20	RDL	MDL	CS-11230615-072121- CT-21	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.20	0.20	0.020	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.20	0.20	0.020	A323181
1,2,3-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.20	0.20	0.020	A323181
1,2,4-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.20	0.20	0.020	A323181
1,3,5-trichlorobenzene	ug/g	<0.20	0.20	0.050	<0.20	0.20	0.050	A323181
2-chlorophenol	ug/g	<0.10	0.10	0.010	0.19	0.10	0.010	A323181
4-chloro-3-methylphenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
m,p-Cresol	ug/g	<0.20	0.20	0.020	2.8	0.20	0.020	A323181
o-Cresol	ug/g	<0.20	0.20	0.010	1.2	0.20	0.010	A323181
2,3-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
2,4-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
2,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
2,6-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
3,4-Dichlorophenol	ug/g	<0.10	0.10	0.030	<0.10	0.10	0.030	A323181
3,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
2,4-dimethylphenol	ug/g	<0.10	0.10	0.10	<0.10	0.10	0.10	A323181
2,4-dinitrophenol	ug/g	<1.0	1.0	0.020	<1.0	1.0	0.020	A323181
4,6-dinitro-2-methylphenol	ug/g	<0.50	0.50	0.040	<0.50	0.50	0.040	A323181
2-nitrophenol	ug/g	<0.50	0.50	0.020	<0.50	0.50	0.020	A323181
4-nitrophenol	ug/g	<0.50	0.50	0.030	<0.50	0.50	0.030	A323181
Pentachlorophenol	ug/g	<0.20	0.20	0.070	<0.20	0.20	0.070	A323181
Phenol	ug/g	<0.20	0.20	0.010	9.1	0.20	0.010	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.10	0.10	0.030	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.10	0.10	0.030	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.10	0.10	0.030	A323181
2,3,4-trichlorophenol	ug/g	<0.10	0.10	0.040	<0.10	0.10	0.040	A323181
2,3,5-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
2,3,6-Trichlorophenol	ug/g	<0.10	0.10	0.040	<0.10	0.10	0.040	A323181
2,4,5-trichlorophenol	ug/g	<0.10	0.10	0.030	<0.10	0.10	0.030	A323181
2,4,6-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
3,4,5-Trichlorophenol	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
Butyl benzyl phthalate	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
RDL = Reportable Detection Limit								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM777			ACM778			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121-CT-20	RDL	MDL	CS-11230615-072121-CT-21	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	0.10	0.010	<0.20 (1)	0.20	0.020	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.10	0.10	0.020	<0.20 (1)	0.20	0.040	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	0.50	0.010	<0.50	0.50	0.010	A323181
4-bromophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
p-Chloroaniline	ug/g	<0.20	0.20	0.060	<0.20	0.20	0.060	A323181
4-chlorophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
3,3'-Dichlorobenzidine	ug/g	<0.50	0.50	0.20	<0.50	0.50	0.20	A323181
Diethyl phthalate	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
Di-n-butyl phthalate	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
Di-n-octyl phthalate	ug/g	<0.50	0.50	0.020	<0.50	0.50	0.020	A323181
2,4-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
2,6-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
Dimethyl phthalate	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
Biphenyl	ug/g	3.0	0.10	0.010	0.44	0.10	0.010	A323181
Bis(2-chloroethyl)ether	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
Hexachlorobutadiene	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
Hexachlorocyclopentadiene	ug/g	<0.50	0.50	0.020	<0.50	0.50	0.020	A323181
Hexachloroethane	ug/g	<0.10	0.10	0.020	<0.10	0.10	0.020	A323181
Isophorone	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Nitrobenzene	ug/g	<0.20 (1)	0.20	0.020	<0.10	0.10	0.010	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	0.20	0.010	<0.20	0.20	0.010	A323181
N-nitroso-di-n-propylamine	ug/g	<0.10	0.10	0.010	<0.10	0.10	0.010	A323181
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323182
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	9.09	0.020	0.020	3.87	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	0.0052	0.0010	0.020	0.217	0.0010	0.020	A315647
SPLP Arsenic (As)	mg/L	0.0010	0.0010	0.0020	0.0087	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	0.17	0.10	0.020	1.31	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Detection limit was raised due to matrix interference.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM777			ACM778			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121-CT-20	RDL	MDL	CS-11230615-072121-CT-21	RDL	MDL	QC Batch
SPLP Boron (B)	mg/L	<0.50	0.50	0.10	0.66	0.50	0.10	A315647
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	<0.000020	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	168	1.0	0.20	201	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	0.0046	0.0010	0.0010	0.0033	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	0.0011	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	<0.0020	0.0020	0.0020	0.177	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	<0.050	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	<0.0010	0.0010	0.00040	0.0038	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	<1.0	1.0	0.20	9.5	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	<0.0050	0.0050	0.020	0.0084	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0384	0.0050	0.0050	0.0464	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	<0.0010	0.0010	0.0020	<0.0010	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	14.6	1.0	1.0	112	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	0.013	0.010	0.010	<0.010	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	0.015	0.010	0.010	<0.010	0.010	0.010	A315647
MISCELLANEOUS								
Sample Matrix	N/A	BULK	N/A	N/A	BULK	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	37	N/A	N/A	25	N/A	N/A	A323181
2-Fluorobiphenyl	%	75	N/A	N/A	31	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	27	N/A	N/A	75	N/A	N/A	A323181
D5-NITROBENZENE (sur.)	%	66	N/A	N/A	52	N/A	N/A	A323181
D5-PHENOL (sur.)	%	78	N/A	N/A	75	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	59	N/A	N/A	1.0 (1)	N/A	N/A	A323181
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a low bias in some results.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
Parameter							
Subcontract Parameter	N/A	ATTACHED	ATTACHED	ATTACHED	N/A	N/A	A321905
Base Neutrals							
Acenaphthene	ug/g	<0.10	<0.10	6.3	0.10	0.010	A323181
Acenaphthylene	ug/g	<0.10	<0.10	1.2	0.10	0.010	A323181
Anthracene	ug/g	<0.10	<0.10	1.3	0.10	0.010	A323181
Benzo(a)anthracene	ug/g	<0.10	<0.10	0.32	0.10	0.010	A323181
Benzo(a)pyrene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Benzo(b&j)fluoranthene	ug/g	<0.10	<0.10	0.14	0.10	0.010	A323181
Benzo(g,h,i)perylene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Benzo(k)fluoranthene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
1-chloronaphthalene	ug/g	<1.0	<1.0	<1.0	1.0	0.10	A323181
2-chloronaphthalene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Chrysene	ug/g	<0.10	<0.10	0.36	0.10	0.010	A323181
Dibenz(a,h)anthracene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Fluoranthene	ug/g	<0.10	<0.10	4.9	0.10	0.010	A323181
Fluorene	ug/g	<0.10	<0.10	2.8	0.10	0.010	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
1-Methylnaphthalene	ug/g	<0.10	<0.10	9.7	0.10	0.020	A323181
2-Methylnaphthalene	ug/g	<0.10	<0.10	20	0.10	0.020	A323181
Naphthalene	ug/g	<0.10	<0.10	50	0.10	0.020	A323181
Perylene	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
Phenanthrene	ug/g	<0.10	<0.10	13	0.10	0.010	A323181
Pyrene	ug/g	<0.10	<0.10	2.3	0.10	0.010	A323181
Quinoline	ug/g	<0.20	<0.20	0.53	0.20	0.010	A323181
1,2-dichlorobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
1,3-dichlorobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
1,4-dichlorobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
Hexachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
Pentachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323181
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323181
1,2,3-trichlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323181
1,2,4-trichlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.020	A323181
1,3,5-trichlorobenzene	ug/g	<0.20	<0.20	<0.20	0.20	0.050	A323181
2-chlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
4-chloro-3-methylphenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
m,p-Cresol	ug/g	<0.20	<0.20	1.2	0.20	0.020	A323181
o-Cresol	ug/g	<0.20	<0.20	0.50	0.20	0.010	A323181
2,3-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
2,4-dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
2,5-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
2,6-dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
3,4-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323181
3,5-Dichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
2,4-dimethylphenol	ug/g	<0.10	<0.10	0.20	0.10	0.10	A323181
2,4-dinitrophenol	ug/g	<1.0	<1.0	<1.0	1.0	0.020	A323181
4,6-dinitro-2-methylphenol	ug/g	<0.50	<0.50	<0.50	0.50	0.040	A323181
2-nitrophenol	ug/g	<0.50	<0.50	<0.50	0.50	0.020	A323181
4-nitrophenol	ug/g	<0.50	<0.50	<0.50	0.50	0.030	A323181
Pentachlorophenol	ug/g	<0.20	<0.20	<0.20	0.20	0.070	A323181
Phenol	ug/g	<0.20	<0.20	1.2	0.20	0.010	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323181
2,3,4-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.040	A323181
2,3,5-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
2,3,6-Trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.040	A323181
2,4,5-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.030	A323181
2,4,6-trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
3,4,5-Trichlorophenol	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
Butyl benzyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	<0.50	<0.50	0.50	0.010	A323181
4-bromophenyl phenyl ether	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
p-Chloroaniline	ug/g	<0.20	<0.20	<0.20	0.20	0.060	A323181
4-chlorophenyl phenyl ether	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
3,3'-Dichlorobenzidine	ug/g	<0.50	<0.50	<0.50	0.50	0.20	A323181
Diethyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
Di-n-butyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
Di-n-octyl phthalate	ug/g	<0.50	<0.50	<0.50	0.50	0.020	A323181
2,4-Dinitrotoluene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
2,6-Dinitrotoluene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
Dimethyl phthalate	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
Biphenyl	ug/g	<0.10	<0.10	4.9	0.10	0.010	A323181
Bis(2-chloroethyl)ether	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
Hexachlorobutadiene	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
Hexachlorocyclopentadiene	ug/g	<0.50	<0.50	<0.50	0.50	0.020	A323181
Hexachloroethane	ug/g	<0.10	<0.10	<0.10	0.10	0.020	A323181
Isophorone	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Nitrobenzene	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	<0.20	<0.20	0.20	0.010	A323181
N-nitroso-di-n-propylamine	ug/g	<0.10	<0.10	<0.10	0.10	0.010	A323181
Charge							
Amount Extracted (Wet Weight) (g)	N/A	25	25	25	N/A	N/A	A323182
SPLP Extraction Procedure							
SPLP Aluminum (Al)	mg/L	0.177	0.174	4.00	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	1.28	0.0019	0.0984	0.0010	0.020	A315647
SPLP Arsenic (As)	mg/L	0.0907	0.0038	0.0017	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	0.25	0.61	0.15	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Boron (B)	mg/L	0.95	<0.50	<0.50	0.50	0.10	A315647
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	<0.000020	<0.000020	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	325	579	84.5	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	<0.0010	0.0215	<0.0010	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	<0.0020	0.0701	0.0381	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	<0.050	<0.050	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	<0.0010	0.0033	0.0346	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	1.3	<1.0	4.6	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	<0.0050	<0.0050	<0.0050	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0099	0.0552	<0.0050	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	<0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	0.0034	<0.0010	<0.0010	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	17.2	11.8	19.5	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	0.019	0.015	<0.010	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	<0.010	0.052	<0.010	0.010	0.010	A315647
MISCELLANEOUS							
Sample Matrix	N/A	BULK	BULK	BULK	N/A	N/A	ONSITE
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	23	77	72	N/A	N/A	A323181
2-Fluorobiphenyl	%	74	49	74	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	54	77	88	N/A	N/A	A323181
D5-NITROBENZENE (sur.)	%	72	65	66	N/A	N/A	A323181
D5-PHENOL (sur.)	%	70	83	99	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	88	87	69	N/A	N/A	A323181
RDL = Reportable Detection Limit N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM782			ACM783			
Sampling Date		2021/07/21 14:00			2021/07/21 14:30			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-25	RDL	MDL	CS-11230615-072121- CT-26	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A321905
Base Neutrals								
Acenaphthene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Acenaphthylene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Anthracene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Benzo(a)anthracene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Benzo(a)pyrene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Benzo(b&j)fluoranthene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Benzo(g,h,i)perylene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Benzo(k)fluoranthene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
1-chloronaphthalene	ug/g	<5.0	5.0	0.50	<1.0	1.0	0.10	A323181
2-chloronaphthalene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Chrysene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Dibenz(a,h)anthracene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Fluoranthene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Fluorene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
1-Methylnaphthalene	ug/g	<0.50	0.50	0.10	0.30	0.10	0.020	A323181
2-Methylnaphthalene	ug/g	<0.50	0.50	0.10	0.15	0.10	0.020	A323181
Naphthalene	ug/g	<0.50	0.50	0.10	0.52	0.10	0.020	A323181
Perylene	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
Phenanthrene	ug/g	<0.50	0.50	0.050	0.32	0.10	0.010	A323181
Pyrene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Quinoline	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
1,2-dichlorobenzene	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
1,3-dichlorobenzene	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
1,4-dichlorobenzene	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
Hexachlorobenzene	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
Pentachlorobenzene	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
1,2,3,4-tetrachlorobenzene	ug/g	<1.0	1.0	0.10	<0.20	0.20	0.020	A323181
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM782			ACM783			
Sampling Date		2021/07/21 14:00			2021/07/21 14:30			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-25	RDL	MDL	CS-11230615-072121- CT-26	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<1.0	1.0	0.10	<0.20	0.20	0.020	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<1.0	1.0	0.10	<0.20	0.20	0.020	A323181
1,2,3-trichlorobenzene	ug/g	<1.0	1.0	0.10	<0.20	0.20	0.020	A323181
1,2,4-trichlorobenzene	ug/g	<1.0	1.0	0.10	<0.20	0.20	0.020	A323181
1,3,5-trichlorobenzene	ug/g	<1.0	1.0	0.25	<0.20	0.20	0.050	A323181
2-chlorophenol	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
4-chloro-3-methylphenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
m,p-Cresol	ug/g	<1.0	1.0	0.10	<0.20	0.20	0.020	A323181
o-Cresol	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
2,3-Dichlorophenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
2,4-dichlorophenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
2,5-Dichlorophenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
2,6-dichlorophenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
3,4-Dichlorophenol	ug/g	<0.50	0.50	0.15	<0.10	0.10	0.030	A323181
3,5-Dichlorophenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
2,4-dimethylphenol	ug/g	<0.50	0.50	0.50	<0.10	0.10	0.10	A323181
2,4-dinitrophenol	ug/g	<5.0	5.0	0.10	<1.0	1.0	0.020	A323181
4,6-dinitro-2-methylphenol	ug/g	<2.5	2.5	0.20	<0.50	0.50	0.040	A323181
2-nitrophenol	ug/g	<2.5	2.5	0.10	<0.50	0.50	0.020	A323181
4-nitrophenol	ug/g	<2.5	2.5	0.15	<0.50	0.50	0.030	A323181
Pentachlorophenol	ug/g	<1.0	1.0	0.35	<0.20	0.20	0.070	A323181
Phenol	ug/g	<1.0	1.0	0.050	0.97	0.20	0.010	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.50	0.50	0.15	<0.10	0.10	0.030	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.50	0.50	0.15	<0.10	0.10	0.030	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.50	0.50	0.15	<0.10	0.10	0.030	A323181
2,3,4-trichlorophenol	ug/g	<0.50	0.50	0.20	<0.10	0.10	0.040	A323181
2,3,5-trichlorophenol	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
2,3,6-Trichlorophenol	ug/g	<0.50	0.50	0.20	<0.10	0.10	0.040	A323181
2,4,5-trichlorophenol	ug/g	<0.50	0.50	0.15	<0.10	0.10	0.030	A323181
2,4,6-trichlorophenol	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
3,4,5-Trichlorophenol	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
Butyl benzyl phthalate	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
RDL = Reportable Detection Limit								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM782			ACM783			
Sampling Date		2021/07/21 14:00			2021/07/21 14:30			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-25	RDL	MDL	CS-11230615-072121- CT-26	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<2.5	2.5	0.050	<0.50	0.50	0.010	A323181
4-bromophenyl phenyl ether	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
p-Chloroaniline	ug/g	<1.0	1.0	0.30	<0.20	0.20	0.060	A323181
4-chlorophenyl phenyl ether	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
3,3'-Dichlorobenzidine	ug/g	<2.5	2.5	1.0	<0.50	0.50	0.20	A323181
Diethyl phthalate	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
Di-n-butyl phthalate	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
Di-n-octyl phthalate	ug/g	<2.5	2.5	0.10	<0.50	0.50	0.020	A323181
2,4-Dinitrotoluene	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
2,6-Dinitrotoluene	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
Dimethyl phthalate	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
Biphenyl	ug/g	<0.50	0.50	0.050	1.8	0.10	0.010	A323181
Bis(2-chloroethyl)ether	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
Hexachlorobutadiene	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
Hexachlorocyclopentadiene	ug/g	<2.5	2.5	0.10	<0.50	0.50	0.020	A323181
Hexachloroethane	ug/g	<0.50	0.50	0.10	<0.10	0.10	0.020	A323181
Isophorone	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Nitrobenzene	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<1.0	1.0	0.050	<0.20	0.20	0.010	A323181
N-nitroso-di-n-propylamine	ug/g	<0.50	0.50	0.050	<0.10	0.10	0.010	A323181
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323182
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	3.86	0.020	0.020	1.81	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	0.344	0.0010	0.020	0.201	0.0010	0.020	A315647
SPLP Arsenic (As)	mg/L	0.0244	0.0010	0.0020	0.0161	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	<0.10	0.10	0.020	0.21	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Boron (B)	mg/L	<0.50	0.50	0.10	2.29	0.50	0.10	A315647
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM782			ACM783			
Sampling Date		2021/07/21 14:00			2021/07/21 14:30			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-25	RDL	MDL	CS-11230615-072121- CT-26	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	<0.000020	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	73.2	1.0	0.20	415	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	0.0146	0.0010	0.0010	0.0024	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	0.0255	0.0020	0.0020	0.0033	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	<0.050	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	<0.0010	0.0010	0.00040	<0.0010	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	<1.0	1.0	0.20	14.4	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	<0.0050	0.0050	0.020	0.0105	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0481	0.0050	0.0050	0.0467	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	0.0013	0.0010	0.0020	<0.0010	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	99.6	1.0	1.0	17.9	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	0.063	0.010	0.010	0.015	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	0.011	0.010	0.010	<0.010	0.010	0.010	A315647
MISCELLANEOUS								
Sample Matrix	N/A	BULK	N/A	N/A	BULK	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	85	N/A	N/A	38	N/A	N/A	A323181
2-Fluorobiphenyl	%	80	N/A	N/A	39	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	77	N/A	N/A	36	N/A	N/A	A323181
D5-NITROBENZENE (sur.)	%	78	N/A	N/A	36	N/A	N/A	A323181
D5-PHENOL (sur.)	%	90	N/A	N/A	26	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	88	N/A	N/A	26 (1)	N/A	N/A	A323181
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a low bias in some results.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM785	ACM786			
Sampling Date		2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
Parameter						
Subcontract Parameter	N/A	ATTACHED	ATTACHED	N/A	N/A	A321905
Base Neutrals						
Acenaphthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Acenaphthylene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Anthracene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(a)anthracene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(a)pyrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(b&j)fluoranthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(g,h,i)perylene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Benzo(k)fluoranthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
1-chloronaphthalene	ug/g	<1.0	<1.0	1.0	0.10	A323181
2-chloronaphthalene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Chrysene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Dibenz(a,h)anthracene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Fluoranthene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Fluorene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
1-Methylnaphthalene	ug/g	<0.10	<0.10	0.10	0.020	A323181
2-Methylnaphthalene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Naphthalene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Perylene	ug/g	<0.20	<0.20	0.20	0.010	A323181
Phenanthrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Pyrene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Quinoline	ug/g	<0.20	<0.20	0.20	0.010	A323181
1,2-dichlorobenzene	ug/g	<0.10	<0.10	0.10	0.020	A323181
1,3-dichlorobenzene	ug/g	<0.10	<0.10	0.10	0.020	A323181
1,4-dichlorobenzene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Hexachlorobenzene	ug/g	<0.20	<0.20	0.20	0.010	A323181
Pentachlorobenzene	ug/g	<0.20	<0.20	0.20	0.010	A323181
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
RDL = Reportable Detection Limit						
N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM785	ACM786			
Sampling Date		2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,2,3-trichlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,2,4-trichlorobenzene	ug/g	<0.20	<0.20	0.20	0.020	A323181
1,3,5-trichlorobenzene	ug/g	<0.20	<0.20	0.20	0.050	A323181
2-chlorophenol	ug/g	<0.10	<0.10	0.10	0.010	A323181
4-chloro-3-methylphenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
m,p-Cresol	ug/g	<0.20	<0.20	0.20	0.020	A323181
o-Cresol	ug/g	<0.20	<0.20	0.20	0.010	A323181
2,3-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,4-dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,5-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,6-dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
3,4-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
3,5-Dichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,4-dimethylphenol	ug/g	<0.10	<0.10	0.10	0.10	A323181
2,4-dinitrophenol	ug/g	<1.0	<1.0	1.0	0.020	A323181
4,6-dinitro-2-methylphenol	ug/g	<0.50	<0.50	0.50	0.040	A323181
2-nitrophenol	ug/g	<0.50	<0.50	0.50	0.020	A323181
4-nitrophenol	ug/g	<0.50	<0.50	0.50	0.030	A323181
Pentachlorophenol	ug/g	<0.20	<0.20	0.20	0.070	A323181
Phenol	ug/g	0.22	<0.20	0.20	0.010	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,3,4-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.040	A323181
2,3,5-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.010	A323181
2,3,6-Trichlorophenol	ug/g	<0.10	<0.10	0.10	0.040	A323181
2,4,5-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.030	A323181
2,4,6-trichlorophenol	ug/g	<0.10	<0.10	0.10	0.010	A323181
3,4,5-Trichlorophenol	ug/g	<0.10	<0.10	0.10	0.020	A323181
Butyl benzyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
RDL = Reportable Detection Limit						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM785	ACM786			
Sampling Date		2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	<0.10	0.10	0.010	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.10	<0.10	0.10	0.020	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	<0.50	0.50	0.010	A323181
4-bromophenyl phenyl ether	ug/g	<0.10	<0.10	0.10	0.020	A323181
p-Chloroaniline	ug/g	<0.20	<0.20	0.20	0.060	A323181
4-chlorophenyl phenyl ether	ug/g	<0.10	<0.10	0.10	0.020	A323181
3,3'-Dichlorobenzidine	ug/g	<0.50	<0.50	0.50	0.20	A323181
Diethyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
Di-n-butyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
Di-n-octyl phthalate	ug/g	<0.50	<0.50	0.50	0.020	A323181
2,4-Dinitrotoluene	ug/g	<0.10	<0.10	0.10	0.020	A323181
2,6-Dinitrotoluene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Dimethyl phthalate	ug/g	<0.20	<0.20	0.20	0.010	A323181
Biphenyl	ug/g	<0.10	<0.10	0.10	0.010	A323181
Bis(2-chloroethyl)ether	ug/g	<0.20	<0.20	0.20	0.010	A323181
Hexachlorobutadiene	ug/g	<0.10	<0.10	0.10	0.020	A323181
Hexachlorocyclopentadiene	ug/g	<0.50	<0.50	0.50	0.020	A323181
Hexachloroethane	ug/g	<0.10	<0.10	0.10	0.020	A323181
Isophorone	ug/g	<0.10	<0.10	0.10	0.010	A323181
Nitrobenzene	ug/g	<0.10	<0.10	0.10	0.010	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	<0.20	0.20	0.010	A323181
N-nitroso-di-n-propylamine	ug/g	<0.10	<0.10	0.10	0.010	A323181
Charge						
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	N/A	A323182
SPLP Extraction Procedure						
SPLP Aluminum (Al)	mg/L	24.4	26.2	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	0.0045	0.0143	0.0010	0.020	A315647
SPLP Arsenic (As)	mg/L	0.0016	0.0073	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	0.42	<0.10	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Boron (B)	mg/L	1.26	<0.50	0.50	0.10	A315647
RDL = Reportable Detection Limit						
N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM785	ACM786			
Sampling Date		2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000086	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	1100	24.0	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	0.0028	<0.0010	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	0.123	0.0146	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	<0.050	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	<0.0010	<0.0010	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	<1.0	<1.0	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	<0.0050	<0.0050	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0291	0.0297	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	<0.0010	<0.0010	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	24.7	11.2	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	0.021	0.054	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	<0.010	<0.010	0.010	0.010	A315647
MISCELLANEOUS						
Sample Matrix	N/A	BULK	BULK	N/A	N/A	ONSITE
Surrogate Recovery (%)						
2,4,6-TRIBROMOPHENOL (sur.)	%	11	17	N/A	N/A	A323181
2-Fluorobiphenyl	%	73	44	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	82	55	N/A	N/A	A323181
D5-NITROBENZENE (sur.)	%	75	60	N/A	N/A	A323181
D5-PHENOL (sur.)	%	87	75	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	63	2.4 (1)	N/A	N/A	A323181
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a low bias in some results.						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM787	ACM787			
Sampling Date		2021/07/22 10:45	2021/07/22 10:45			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-29 Lab-Dup	RDL	MDL	QC Batch
Parameter						
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	N/A	A321905
Base Neutrals						
Acenaphthene	ug/g	<0.50	N/A	0.50	0.050	A323181
Acenaphthylene	ug/g	<0.50	N/A	0.50	0.050	A323181
Anthracene	ug/g	<0.50	N/A	0.50	0.050	A323181
Benzo(a)anthracene	ug/g	<0.50	N/A	0.50	0.050	A323181
Benzo(a)pyrene	ug/g	<0.50	N/A	0.50	0.050	A323181
Benzo(b&j)fluoranthene	ug/g	<0.50	N/A	0.50	0.050	A323181
Benzo(g,h,i)perylene	ug/g	<0.50	N/A	0.50	0.050	A323181
Benzo(k)fluoranthene	ug/g	<0.50	N/A	0.50	0.050	A323181
1-chloronaphthalene	ug/g	<5.0	N/A	5.0	0.50	A323181
2-chloronaphthalene	ug/g	<0.50	N/A	0.50	0.050	A323181
Chrysene	ug/g	<0.50	N/A	0.50	0.050	A323181
Dibenz(a,h)anthracene	ug/g	<0.50	N/A	0.50	0.050	A323181
Fluoranthene	ug/g	<0.50	N/A	0.50	0.050	A323181
Fluorene	ug/g	<0.50	N/A	0.50	0.050	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.50	N/A	0.50	0.050	A323181
1-Methylnaphthalene	ug/g	<0.50	N/A	0.50	0.10	A323181
2-Methylnaphthalene	ug/g	<0.50	N/A	0.50	0.10	A323181
Naphthalene	ug/g	<0.50	N/A	0.50	0.10	A323181
Perylene	ug/g	<1.0	N/A	1.0	0.050	A323181
Phenanthrene	ug/g	<0.50	N/A	0.50	0.050	A323181
Pyrene	ug/g	<0.50	N/A	0.50	0.050	A323181
Quinoline	ug/g	<1.0	N/A	1.0	0.050	A323181
1,2-dichlorobenzene	ug/g	<0.50	N/A	0.50	0.10	A323181
1,3-dichlorobenzene	ug/g	<0.50	N/A	0.50	0.10	A323181
1,4-dichlorobenzene	ug/g	<0.50	N/A	0.50	0.10	A323181
Hexachlorobenzene	ug/g	<1.0	N/A	1.0	0.050	A323181
Pentachlorobenzene	ug/g	<1.0	N/A	1.0	0.050	A323181
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM787	ACM787			
Sampling Date		2021/07/22 10:45	2021/07/22 10:45			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-29 Lab-Dup	RDL	MDL	QC Batch
1,2,3,4-tetrachlorobenzene	ug/g	<1.0	N/A	1.0	0.10	A323181
1,2,3,5-tetrachlorobenzene	ug/g	<1.0	N/A	1.0	0.10	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<1.0	N/A	1.0	0.10	A323181
1,2,3-trichlorobenzene	ug/g	<1.0	N/A	1.0	0.10	A323181
1,2,4-trichlorobenzene	ug/g	<1.0	N/A	1.0	0.10	A323181
1,3,5-trichlorobenzene	ug/g	<1.0	N/A	1.0	0.25	A323181
2-chlorophenol	ug/g	<0.50	N/A	0.50	0.050	A323181
4-chloro-3-methylphenol	ug/g	<0.50	N/A	0.50	0.10	A323181
m,p-Cresol	ug/g	<1.0	N/A	1.0	0.10	A323181
o-Cresol	ug/g	<1.0	N/A	1.0	0.050	A323181
2,3-Dichlorophenol	ug/g	<0.50	N/A	0.50	0.10	A323181
2,4-dichlorophenol	ug/g	<0.50	N/A	0.50	0.10	A323181
2,5-Dichlorophenol	ug/g	<0.50	N/A	0.50	0.10	A323181
2,6-dichlorophenol	ug/g	<0.50	N/A	0.50	0.10	A323181
3,4-Dichlorophenol	ug/g	<0.50	N/A	0.50	0.15	A323181
3,5-Dichlorophenol	ug/g	<0.50	N/A	0.50	0.10	A323181
2,4-dimethylphenol	ug/g	<0.50	N/A	0.50	0.50	A323181
2,4-dinitrophenol	ug/g	<5.0	N/A	5.0	0.10	A323181
4,6-dinitro-2-methylphenol	ug/g	<2.5	N/A	2.5	0.20	A323181
2-nitrophenol	ug/g	<2.5	N/A	2.5	0.10	A323181
4-nitrophenol	ug/g	<2.5	N/A	2.5	0.15	A323181
Pentachlorophenol	ug/g	<1.0	N/A	1.0	0.35	A323181
Phenol	ug/g	<1.0	N/A	1.0	0.050	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.50	N/A	0.50	0.15	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.50	N/A	0.50	0.15	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.50	N/A	0.50	0.15	A323181
2,3,4-trichlorophenol	ug/g	<0.50	N/A	0.50	0.20	A323181
2,3,5-trichlorophenol	ug/g	<0.50	N/A	0.50	0.050	A323181
2,3,6-Trichlorophenol	ug/g	<0.50	N/A	0.50	0.20	A323181
2,4,5-trichlorophenol	ug/g	<0.50	N/A	0.50	0.15	A323181
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM787	ACM787			
Sampling Date		2021/07/22 10:45	2021/07/22 10:45			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-29 Lab-Dup	RDL	MDL	QC Batch
2,4,6-trichlorophenol	ug/g	<0.50	N/A	0.50	0.050	A323181
3,4,5-Trichlorophenol	ug/g	<0.50	N/A	0.50	0.10	A323181
Butyl benzyl phthalate	ug/g	<1.0	N/A	1.0	0.050	A323181
Bis(2-chloroethoxy)methane	ug/g	<0.50	N/A	0.50	0.050	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.50	N/A	0.50	0.10	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<2.5	N/A	2.5	0.050	A323181
4-bromophenyl phenyl ether	ug/g	<0.50	N/A	0.50	0.10	A323181
p-Chloroaniline	ug/g	<1.0	N/A	1.0	0.30	A323181
4-chlorophenyl phenyl ether	ug/g	<0.50	N/A	0.50	0.10	A323181
3,3'-Dichlorobenzidine	ug/g	<2.5	N/A	2.5	1.0	A323181
Diethyl phthalate	ug/g	<1.0	N/A	1.0	0.050	A323181
Di-n-butyl phthalate	ug/g	<1.0	N/A	1.0	0.050	A323181
Di-n-octyl phthalate	ug/g	<2.5	N/A	2.5	0.10	A323181
2,4-Dinitrotoluene	ug/g	<0.50	N/A	0.50	0.10	A323181
2,6-Dinitrotoluene	ug/g	<0.50	N/A	0.50	0.10	A323181
Dimethyl phthalate	ug/g	<1.0	N/A	1.0	0.050	A323181
Biphenyl	ug/g	<0.50	N/A	0.50	0.050	A323181
Bis(2-chloroethyl)ether	ug/g	<1.0	N/A	1.0	0.050	A323181
Hexachlorobutadiene	ug/g	<0.50	N/A	0.50	0.10	A323181
Hexachlorocyclopentadiene	ug/g	<2.5	N/A	2.5	0.10	A323181
Hexachloroethane	ug/g	<0.50	N/A	0.50	0.10	A323181
Isophorone	ug/g	<0.50	N/A	0.50	0.050	A323181
Nitrobenzene	ug/g	<0.50	N/A	0.50	0.050	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<1.0	N/A	1.0	0.050	A323181
N-nitroso-di-n-propylamine	ug/g	<0.50	N/A	0.50	0.050	A323181
Charge						
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	N/A	A323182
SPLP Extraction Procedure						
SPLP Aluminum (Al)	mg/L	6.01	5.94	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	0.0136	0.0136	0.0010	0.020	A315647
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable						



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
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Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM787	ACM787			
Sampling Date		2021/07/22 10:45	2021/07/22 10:45			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-29 Lab-Dup	RDL	MDL	QC Batch
SPLP Arsenic (As)	mg/L	0.0015	0.0015	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	0.30	0.30	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Boron (B)	mg/L	8.31	8.23	0.50	0.10	A315647
SPLP Cadmium (Cd)	mg/L	<0.000020	<0.000020	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	1020	1020	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	0.0203	0.0198	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	0.0219	0.0215	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	<0.050	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	<0.0010	<0.0010	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	<1.0	<1.0	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	<0.0050	<0.0050	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0464	0.0470	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	<0.0010	<0.0010	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	145	144	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	<0.010	<0.010	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	0.013	<0.010	0.010	0.010	A315647
MISCELLANEOUS						
Sample Matrix	N/A	BULK	N/A	N/A	N/A	ONSITE
Surrogate Recovery (%)						
2,4,6-TRIBROMOPHENOL (sur.)	%	56	N/A	N/A	N/A	A323181
2-Fluorobiphenyl	%	82	N/A	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	71	N/A	N/A	N/A	A323181
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BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM787	ACM787			
Sampling Date		2021/07/22 10:45	2021/07/22 10:45			
COC Number		08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-29 Lab-Dup	RDL	MDL	QC Batch
D5-NITROBENZENE (sur.)	%	82	N/A	N/A	N/A	A323181
D5-PHENOL (sur.)	%	82	N/A	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	111	N/A	N/A	N/A	A323181
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable						



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM789			ACM790			
Sampling Date		2021/07/22 11:50			2021/07/22 12:30			
COC Number		08495594			08495594			
	UNITS	CS-11230615-072221-CT-31	RDL	MDL	CS-11230615-072221-CT-32	RDL	MDL	QC Batch
Parameter								
Subcontract Parameter	N/A	ATTACHED	N/A	N/A	ATTACHED	N/A	N/A	A321905
Base Neutrals								
Acenaphthene	ug/g	0.26	0.10	0.010	<0.20	0.20	0.020	A323181
Acenaphthylene	ug/g	0.11	0.10	0.010	<0.20	0.20	0.020	A323181
Anthracene	ug/g	2.2	0.10	0.010	<0.20	0.20	0.020	A323181
Benzo(a)anthracene	ug/g	1.2	0.10	0.010	<0.20	0.20	0.020	A323181
Benzo(a)pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Benzo(b&j)fluoranthene	ug/g	0.33	0.10	0.010	<0.20	0.20	0.020	A323181
Benzo(g,h,i)perylene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Benzo(k)fluoranthene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
1-chloronaphthalene	ug/g	<1.0	1.0	0.10	<2.0	2.0	0.20	A323181
2-chloronaphthalene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Chrysene	ug/g	0.99	0.10	0.010	<0.20	0.20	0.020	A323181
Dibenz(a,h)anthracene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Fluoranthene	ug/g	15	0.10	0.010	<0.20	0.20	0.020	A323181
Fluorene	ug/g	0.77	0.10	0.010	<0.20	0.20	0.020	A323181
Indeno(1,2,3-cd)pyrene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
1-Methylnaphthalene	ug/g	0.26	0.10	0.020	<0.20	0.20	0.040	A323181
2-Methylnaphthalene	ug/g	0.42	0.10	0.020	<0.20	0.20	0.040	A323181
Naphthalene	ug/g	1.2	0.10	0.020	<0.20	0.20	0.040	A323181
Perylene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
Phenanthrene	ug/g	17	0.10	0.010	<0.20	0.20	0.020	A323181
Pyrene	ug/g	8.4	0.10	0.010	<0.20	0.20	0.020	A323181
Quinoline	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
1,2-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
1,3-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
1,4-dichlorobenzene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
Hexachlorobenzene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
Pentachlorobenzene	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
1,2,3,4-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323181
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM789			ACM790			
Sampling Date		2021/07/22 11:50			2021/07/22 12:30			
COC Number		08495594			08495594			
	UNITS	CS-11230615-072221-CT-31	RDL	MDL	CS-11230615-072221-CT-32	RDL	MDL	QC Batch
1,2,3,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323181
1,2,4,5-tetrachlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323181
1,2,3-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323181
1,2,4-trichlorobenzene	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323181
1,3,5-trichlorobenzene	ug/g	<0.20	0.20	0.050	<0.40	0.40	0.10	A323181
2-chlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
4-chloro-3-methylphenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
m,p-Cresol	ug/g	<0.20	0.20	0.020	<0.40	0.40	0.040	A323181
o-Cresol	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
2,3-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
2,4-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
2,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
2,6-dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
3,4-Dichlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323181
3,5-Dichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
2,4-dimethylphenol	ug/g	<0.10	0.10	0.10	<0.20	0.20	0.20	A323181
2,4-dinitrophenol	ug/g	<1.0	1.0	0.020	<2.0	2.0	0.040	A323181
4,6-dinitro-2-methylphenol	ug/g	<0.50	0.50	0.040	<1.0	1.0	0.080	A323181
2-nitrophenol	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323181
4-nitrophenol	ug/g	<0.50	0.50	0.030	<1.0	1.0	0.060	A323181
Pentachlorophenol	ug/g	<0.20	0.20	0.070	<0.40	0.40	0.14	A323181
Phenol	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
2,3,4,5-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323181
2,3,4,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323181
2,3,5,6-tetrachlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323181
2,3,4-trichlorophenol	ug/g	<0.10	0.10	0.040	<0.20	0.20	0.080	A323181
2,3,5-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
2,3,6-Trichlorophenol	ug/g	<0.10	0.10	0.040	<0.20	0.20	0.080	A323181
2,4,5-trichlorophenol	ug/g	<0.10	0.10	0.030	<0.20	0.20	0.060	A323181
2,4,6-trichlorophenol	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
3,4,5-Trichlorophenol	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
Butyl benzyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
RDL = Reportable Detection Limit								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM789			ACM790			
Sampling Date		2021/07/22 11:50			2021/07/22 12:30			
COC Number		08495594			08495594			
	UNITS	CS-11230615-072221-CT-31	RDL	MDL	CS-11230615-072221-CT-32	RDL	MDL	QC Batch
Bis(2-chloroethoxy)methane	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Bis(2-chloroisopropyl)ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
Bis(2-ethylhexyl)phthalate	ug/g	<0.50	0.50	0.010	<1.0	1.0	0.020	A323181
4-bromophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
p-Chloroaniline	ug/g	<0.20	0.20	0.060	<0.40	0.40	0.12	A323181
4-chlorophenyl phenyl ether	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
3,3'-Dichlorobenzidine	ug/g	<0.50	0.50	0.20	<1.0	1.0	0.40	A323181
Diethyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
Di-n-butyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
Di-n-octyl phthalate	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323181
2,4-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
2,6-Dinitrotoluene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
Dimethyl phthalate	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
Biphenyl	ug/g	0.34	0.10	0.010	<0.20	0.20	0.020	A323181
Bis(2-chloroethyl)ether	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
Hexachlorobutadiene	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
Hexachlorocyclopentadiene	ug/g	<0.50	0.50	0.020	<1.0	1.0	0.040	A323181
Hexachloroethane	ug/g	<0.10	0.10	0.020	<0.20	0.20	0.040	A323181
Isophorone	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Nitrobenzene	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Nitrosodiphenylamine/Diphenylamine	ug/g	<0.20	0.20	0.010	<0.40	0.40	0.020	A323181
N-nitroso-di-n-propylamine	ug/g	<0.10	0.10	0.010	<0.20	0.20	0.020	A323181
Charge								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	N/A	25	N/A	N/A	A323182
SPLP Extraction Procedure								
SPLP Aluminum (Al)	mg/L	0.252	0.020	0.020	7.49	0.020	0.020	A315647
SPLP Antimony (Sb)	mg/L	<0.0010	0.0010	0.020	0.0061	0.0010	0.020	A315647
SPLP Arsenic (As)	mg/L	0.0015	0.0010	0.0020	<0.0010	0.0010	0.0020	A315647
SPLP Barium (Ba)	mg/L	0.99	0.10	0.020	1.03	0.10	0.020	A315647
SPLP Beryllium (Be)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Boron (B)	mg/L	<0.50	0.50	0.10	<0.50	0.50	0.10	A315647
RDL = Reportable Detection Limit								
N/A = Not Applicable								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		ACM789			ACM790			
Sampling Date		2021/07/22 11:50			2021/07/22 12:30			
COC Number		08495594			08495594			
	UNITS	CS-11230615-072221-CT-31	RDL	MDL	CS-11230615-072221-CT-32	RDL	MDL	QC Batch
SPLP Cadmium (Cd)	mg/L	<0.000020	0.000020	0.000010	<0.000020	0.000020	0.000010	A315647
SPLP Calcium (Ca)	mg/L	1530	1.0	0.20	354	1.0	0.20	A315647
SPLP Chromium (Cr)	mg/L	0.0495	0.0010	0.0010	0.0012	0.0010	0.0010	A315647
SPLP Cobalt (Co)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Copper (Cu)	mg/L	0.0030	0.0020	0.0020	0.0104	0.0020	0.0020	A315647
SPLP Iron (Fe)	mg/L	<0.050	0.050	0.050	<0.050	0.050	0.050	A315647
SPLP Lead (Pb)	mg/L	0.0037	0.0010	0.00040	0.0036	0.0010	0.00040	A315647
SPLP Magnesium (Mg)	mg/L	<1.0	1.0	0.20	<1.0	1.0	0.20	A315647
SPLP Manganese (Mn)	mg/L	<0.0050	0.0050	0.020	<0.0050	0.0050	0.020	A315647
SPLP Mercury (Hg)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Molybdenum (Mo)	mg/L	0.0383	0.0050	0.0050	0.0335	0.0050	0.0050	A315647
SPLP Nickel (Ni)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A315647
SPLP Selenium (Se)	mg/L	<0.0010	0.0010	0.0020	<0.0010	0.0010	0.0020	A315647
SPLP Sodium (Na)	mg/L	42.8	1.0	1.0	63.1	1.0	1.0	A315647
SPLP Silver (Ag)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Thallium (Tl)	mg/L	<0.00010	0.00010	0.00010	<0.00010	0.00010	0.00010	A315647
SPLP Titanium (Ti)	mg/L	<0.10	0.10	0.10	<0.10	0.10	0.10	A315647
SPLP Uranium (U)	mg/L	<0.0010	0.0010	0.0010	<0.0010	0.0010	0.0010	A315647
SPLP Vanadium (V)	mg/L	<0.010	0.010	0.010	<0.010	0.010	0.010	A315647
SPLP Zinc (Zn)	mg/L	0.057	0.010	0.010	0.053	0.010	0.010	A315647
MISCELLANEOUS								
Sample Matrix	N/A	BULK	N/A	N/A	BULK	N/A	N/A	ONSITE
Surrogate Recovery (%)								
2,4,6-TRIBROMOPHENOL (sur.)	%	32	N/A	N/A	21	N/A	N/A	A323181
2-Fluorobiphenyl	%	67	N/A	N/A	51	N/A	N/A	A323181
2-FLUOROPHENOL (sur.)	%	65	N/A	N/A	67	N/A	N/A	A323181
D5-NITROBENZENE (sur.)	%	53	N/A	N/A	60	N/A	N/A	A323181
D5-PHENOL (sur.)	%	75	N/A	N/A	78	N/A	N/A	A323181
TERPHENYL-D14 (sur.)	%	63	N/A	N/A	8.4 (1)	N/A	N/A	A323181
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a low bias in some results.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		ACM774		ACM776	ACM777			
Sampling Date		2021/07/21 10:20		2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597		08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	RDL	CS-11230615-072121- CT-19	CS-11230615-072121- CT-20	RDL	MDL	QC Batch

Polychlorinated Biphenyls								
Aroclor 1016	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1221	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1232	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1242	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1248	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1254	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1260	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1262	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1268	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Total PCB	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A314688

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	70	N/A	75	50	N/A	N/A	A317464

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACM778	ACM779		ACM780			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45		2021/07/21 13:10			
COC Number		08495597	08495597		08495597			
	UNITS	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	RDL	CS-11230615-072121-CT-23	RDL	MDL	QC Batch

Polychlorinated Biphenyls									
Aroclor 1016	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1221	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1232	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1242	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1248	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1254	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1260	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1262	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Aroclor 1268	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A317464
Total PCB	mg/kg	<0.10		<0.10	0.10	<0.010	0.010	N/A	A314688

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	108		54	N/A	70	N/A	N/A	A317464

RDL = Reportable Detection Limit

N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		ACM781	ACM782	ACM782			
Sampling Date		2021/07/21 13:40	2021/07/21 14:00	2021/07/21 14:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	CS-11230615-072121- CT-25 Lab-Dup	RDL	MDL	QC Batch
Polychlorinated Biphenyls							
Aroclor 1016	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1221	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1232	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1242	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1248	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1254	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1260	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1262	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1268	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Total PCB	mg/kg	<0.010	<0.010	N/A	0.010	N/A	A314688
Surrogate Recovery (%)							
NONACHLOROBIPHENYL (sur.)	%	90	80	81	N/A	N/A	A317464
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch

Polychlorinated Biphenyls							
Aroclor 1016	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1221	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1232	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1242	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1248	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1254	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1260	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1262	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1268	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A317464
Total PCB	mg/kg	<0.010	<0.010	<0.010	0.010	N/A	A314688

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	61	78	75	N/A	N/A	A317464

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACM787		ACM789	ACM790			
Sampling Date		2021/07/22 10:45		2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594		08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	RDL	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch

Polychlorinated Biphenyls								
Aroclor 1016	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1221	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1232	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1242	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1248	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1254	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1260	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1262	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Aroclor 1268	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A317464
Total PCB	mg/kg	<0.10	0.10	<0.010	<0.010	0.010	N/A	A314688

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	104	N/A	68	72	N/A	N/A	A317464

RDL = Reportable Detection Limit

N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

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Sampler Initials: CT

PHYSICAL TESTING (SOIL)

BV Labs ID		ACM774	ACM774	ACM776	ACM777			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597	08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-17	CS-11230615-072121-CT-17 Lab-Dup	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20	RDL	MDL	QC Batch

Physical Properties

Moisture	%	34	34	1.8	6.2	0.30	N/A	A315442

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BV Labs ID		ACM778	ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	RDL	MDL	QC Batch

Physical Properties

Moisture	%	1.9	0.40	0.80	3.6	0.30	N/A	A315442

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACM782	ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:00	2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495597	08495594	08495594			
	UNITS	CS-11230615-072121-CT-25	CS-11230615-072121-CT-26	CS-11230615-072121-CT-27	CS-11230615-072121-CT-28	RDL	MDL	QC Batch

Physical Properties

Moisture	%	0.50	9.6	4.1	0.30	0.30	N/A	A315442

RDL = Reportable Detection Limit

N/A = Not Applicable

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32	RDL	MDL	QC Batch

Physical Properties

Moisture	%	2.0	5.7	1.1	0.30	N/A	A315442

RDL = Reportable Detection Limit

N/A = Not Applicable



BV Labs Job #: C153218
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GHD Limited
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Sampler Initials: CT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		ACM774	ACM776	ACM777	ACM778		
Sampling Date		2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30	2021/07/21 11:45		
COC Number		08495597	08495597	08495597	08495597		
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	CS-11230615-072121- CT-20	CS-11230615-072121- CT-21	MDL	QC Batch

TCLP Extraction Procedure

Initial pH of Sample	pH	8.66	9.28	11.5	9.71	N/A	A315566
pH after HCl	pH	1.59	1.79	2.43	2.15	N/A	A315566
Final pH of Leachate	pH	5.78	6.84	7.31	6.70	N/A	A315566
SPLP pH of SPLP Leachate 2	pH	9.27	9.18	11.2	9.28	N/A	A315655
pH of Leaching Fluid	pH	4.93	4.93	4.93	4.93	N/A	A315566

N/A = Not Applicable

BV Labs ID		ACM779	ACM780	ACM781	ACM782		
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40	2021/07/21 14:00		
COC Number		08495597	08495597	08495597	08495597		
	UNITS	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	MDL	QC Batch

TCLP Extraction Procedure

Initial pH of Sample	pH	9.67	12.1	8.53	10.3	N/A	A315566
pH after HCl	pH	1.66	2.24	1.52	2.20	N/A	A315566
Final pH of Leachate	pH	6.89	9.16	5.23	6.58	N/A	A315566
SPLP pH of SPLP Leachate 2	pH	10.3	11.9	9.44	10.8	N/A	A315655
pH of Leaching Fluid	pH	4.93	4.93	4.93	4.93	N/A	A315566

N/A = Not Applicable

BV Labs ID		ACM783	ACM785	ACM786	ACM787		
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30	2021/07/22 10:45		
COC Number		08495597	08495594	08495594	08495594		
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	CS-11230615-072221- CT-29	MDL	QC Batch

TCLP Extraction Procedure

Initial pH of Sample	pH	8.39	9.91	11.0	10.4	N/A	A315566
pH after HCl	pH	1.84	1.85	2.02	2.20	N/A	A315566
Final pH of Leachate	pH	6.44	7.35	6.69	7.55	N/A	A315566
SPLP pH of SPLP Leachate 2	pH	9.48	9.94	10.9	10.7	N/A	A315655
pH of Leaching Fluid	pH	4.93	4.93	4.93	4.93	N/A	A315566

N/A = Not Applicable



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GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		ACM787	ACM789	ACM790		
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30		
COC Number		08495594	08495594	08495594		
	UNITS	CS-11230615-072221- CT-29 Lab-Dup	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	MDL	QC Batch

TCLP Extraction Procedure						
Initial pH of Sample	pH	10.5	12.0	12.2	N/A	A315566
pH after HCl	pH	2.27	3.36	5.44	N/A	A315566
Final pH of Leachate	pH	7.58	10.6	6.60	N/A	A315566
SPLP pH of SPLP Leachate 2	pH	10.7	12.0	12.1	N/A	A315655
pH of Leaching Fluid	pH	4.93	4.93	2.85	N/A	A315566
Lab-Dup = Laboratory Initiated Duplicate						
N/A = Not Applicable						



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
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Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM774	ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	CS-11230615-072121- CT-19	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Benzene	ug/L	<0.40	N/A	0.49	0.40	N/A	A323183
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Bromomethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	N/A	<0.19	0.19	N/A	A323183
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Chloroform	ug/L	<0.90	N/A	<0.90	0.90	N/A	A323183
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM774	ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	N/A	<0.30	0.30	N/A	A323183
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	N/A	<0.30	0.30	N/A	A323183
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	N/A	<0.19	0.19	N/A	A323183
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Toluene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C153218
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GHD Limited
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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM774	ACM774	ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20	2021/07/21 11:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) o-Xylene	ug/L	<0.40	N/A	<0.40	0.40	N/A	A323183
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A317072
Leachable (SPLP) Total Xylenes	ug/L	<0.60	N/A	<0.60	0.60	0.010	A323183
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A317072
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	97	96	97	N/A	N/A	A317072
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	111	101	99	N/A	N/A	A317072
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	105	121	108	N/A	N/A	A317072
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	97	N/A	96	N/A	N/A	A323183
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	105	N/A	105	N/A	N/A	A323183
Leachable (SPLP) D8-TOLUENE (sur.)	%	94	N/A	98	N/A	N/A	A323183
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BV Labs Job #: C153218
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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM777	ACM778	ACM779			
Sampling Date		2021/07/21 11:30	2021/07/21 11:45	2021/07/21 12:45			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-20	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Benzene	ug/L	1.5	0.46	<0.40	0.40	N/A	A323183
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323183
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A317072

RDL = Reportable Detection Limit

N/A = Not Applicable



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GHD Limited
Client Project #: 11230615
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Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM777	ACM778	ACM779			
Sampling Date		2021/07/21 11:30	2021/07/21 11:45	2021/07/21 12:45			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-20	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylbenzene	ug/L	1.7	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Toluene	ug/L	1.2	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
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GHD Limited
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Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM777	ACM778	ACM779			
Sampling Date		2021/07/21 11:30	2021/07/21 11:45	2021/07/21 12:45			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-20	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) m & p-Xylene	ug/L	8.6	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) o-Xylene	ug/L	6.9	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A317072
Leachable (SPLP) Total Xylenes	ug/L	15	<0.60	<0.60	0.60	0.010	A323183
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A317072
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	95	95	93	N/A	N/A	A317072
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	109	105	113	N/A	N/A	A317072
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	110	107	102	N/A	N/A	A317072
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	99	93	96	N/A	N/A	A323183
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	104	105	105	N/A	N/A	A323183
Leachable (SPLP) D8-TOLUENE (sur.)	%	96	95	96	N/A	N/A	A323183
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
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GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM780	ACM781	ACM782			
Sampling Date		2021/07/21 13:10	2021/07/21 13:40	2021/07/21 14:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	CS-11230615-072121-CT-25	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Benzene	ug/L	0.65	<0.40	1.5	0.40	N/A	A323183
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323183
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A317072

RDL = Reportable Detection Limit

N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM780	ACM781	ACM782			
Sampling Date		2021/07/21 13:10	2021/07/21 13:40	2021/07/21 14:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Toluene	ug/L	<0.40	<0.40	0.94	0.40	N/A	A323183
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM780	ACM781	ACM782			
Sampling Date		2021/07/21 13:10	2021/07/21 13:40	2021/07/21 14:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A317072
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	<0.60	0.60	0.010	A323183
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A317072
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	96	97	95	N/A	N/A	A317072
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	99	90	90	N/A	N/A	A317072
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	111	107	106	N/A	N/A	A317072
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	97	96	97	N/A	N/A	A323183
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	106	106	107	N/A	N/A	A323183
Leachable (SPLP) D8-TOLUENE (sur.)	%	94	96	95	N/A	N/A	A323183
RDL = Reportable Detection Limit N/A = Not Applicable							



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GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch

Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Benzene	ug/L	<0.40	1.2	0.85	0.40	N/A	A323183
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323183
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A317072

RDL = Reportable Detection Limit

N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Toluene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
RDL = Reportable Detection Limit							
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BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A317072
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	<0.60	0.60	0.010	A323183
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A317072
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	95	97	96	N/A	N/A	A317072
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	98	99	99	N/A	N/A	A317072
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	105	113	106	N/A	N/A	A317072
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	98	95	95	N/A	N/A	A323183
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	106	105	104	N/A	N/A	A323183
Leachable (SPLP) D8-TOLUENE (sur.)	%	95	95	96	N/A	N/A	A323183
RDL = Reportable Detection Limit N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	CS-11230615-072221-CT-32	RDL	MDL	QC Batch
Volatiles							
Leachable (ZH) Benzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Benzene	ug/L	0.82	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Bromodichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromoform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Bromomethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Carbon tetrachloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Carbon tetrachloride	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Chlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dibromochloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	<0.90	0.90	N/A	A323183
Leachable (ZH) Chloroform	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Chloromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2-dibromoethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,4-dichlorobenzene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,4-dichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,2-dichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) cis-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) trans-1,2-dichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Dichloromethane	ug/L	<10	<10	<10	10	N/A	A317072
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (SPLP) 1,2-dichloropropane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2-dichloropropane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) cis-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) cis-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) trans-1,3-dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	N/A	A323183
Leachable (ZH) trans-1,3-dichloropropene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylbenzene	ug/L	0.48	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Ethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	<0.19	0.19	N/A	A323183
Leachable (ZH) Methyl methacrylate	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Methyl-tert-butylether (MTBE)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Styrene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,1,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,1,2,2-tetrachloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Tetrachloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) Toluene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,1,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,3-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2,2-tetrachloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,2,4-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,3,5-trichlorobenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,1-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Toluene	ug/L	0.52	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) 1,1,2-trichloroethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) 1,1,2-trichloroethane	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichloroethene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Trichlorofluoromethane	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) 1,2,4-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch
Leachable (ZH) 1,3,5-trimethylbenzene	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) m & p-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Vinyl chloride	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (SPLP) o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	N/A	A323183
Leachable (ZH) Xylenes (Total)	ug/L	<10	<10	<10	10	N/A	A317072
Leachable (ZH) m & p-Xylene	ug/L	<20	<20	<20	20	N/A	A317072
Leachable (SPLP) Total Xylenes	ug/L	<0.60	<0.60	<0.60	0.60	0.010	A323183
Leachable (ZH) o-Xylene	ug/L	<10	<10	<10	10	N/A	A317072
Surrogate Recovery (%)							
Leachable (ZH) 1,4-Difluorobenzene (sur.)	%	95	96	93	N/A	N/A	A317072
Leachable (ZH) 4-Bromofluorobenzene (sur.)	%	94	99	99	N/A	N/A	A317072
Leachable (ZH) D4-1,2-Dichloroethane (sur.)	%	106	117	110	N/A	N/A	A317072
Leachable (SPLP) 4-Bromofluorobenzene (sur.)	%	96	95	95	N/A	N/A	A323183
Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	%	104	105	105	N/A	N/A	A323183
Leachable (SPLP) D8-TOLUENE (sur.)	%	96	94	95	N/A	N/A	A323183
RDL = Reportable Detection Limit N/A = Not Applicable							



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM774							
Sampling Date		2021/07/21 10:20							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-17	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	39.8	0.54	5.0	0.18	0.100	3.98	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	3.98	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACM776							
Sampling Date		2021/07/21 11:00							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-19	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	111	0.25	5.0	0.18	0.100	11.1	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	11.1	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM777							
Sampling Date		2021/07/21 11:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-20	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	5.37	0.72	5.0	0.18	0.100	0.537	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.537	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACM778							
Sampling Date		2021/07/21 11:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-21	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	859	0.80	5.0	0.18	0.100	85.9	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	85.9	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-22	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	5.07	0.97	5.0	0.18	0.100	0.507	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.507	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	65	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-22 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	16.1 (1)	0.51	5.0	0.18	0.100	1.61	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1.61	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
Lab-Dup = Laboratory Initiated Duplicate
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BV Labs Job #: C153218
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GHD Limited
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Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM780							
Sampling Date		2021/07/21 13:10							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-23	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	1.50	0.62	5.0	0.18	0.100	0.150	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	0.150	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACM781							
Sampling Date		2021/07/21 13:40							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-24	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	506	0.79	5.0	0.18	0.100	50.6	N/A	A327123
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	50.6	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A327123

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C153218
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GHD Limited
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Site Location: LYTTON, BC
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Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM783							
Sampling Date		2021/07/21 14:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-26	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	61.3	0.86	5.0	0.18	0.100	6.13	N/A	A327235
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	6.13	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A327235

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable

BV Labs ID		ACM785							
Sampling Date		2021/07/21 15:00							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-27	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	48.1	0.64	5.0	0.18	0.100	4.81	N/A	A327235
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	4.81	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A327235

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM787							
Sampling Date		2021/07/22 10:45							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-29	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	407 (1)	0.62	25	0.18	0.100	40.7	N/A	A327235
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	40.7	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A327235

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable
(1) 5X Dilution

BV Labs ID		ACM789							
Sampling Date		2021/07/22 11:50							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-31	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	434	0.61	5.0	0.18	0.100	43.4	N/A	A327235
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	43.4	N/A	N/A

Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A327235

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

SUBCONTRACTED ANALYSIS (SOIL)

BV Labs ID		ACM790							
Sampling Date		2021/07/22 12:30							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-32	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

TCDF Confirmation									
Confirmation 2,3,7,8-Tetra CDF **	pg/g	22.5	0.54	5.0	0.18	0.100	2.25	N/A	A327235
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.25	N/A	N/A
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A327235

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM774							
Sampling Date		2021/07/21 10:20							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-17	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	23.2	0.883	25.0	0.200	0.0100	0.232	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	5.07	0.738	25.0	0.200	0.100	0.507	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	6.10	0.739	25.0	0.200	0.100	0.610	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	5.69	0.733	25.0	0.200	0.100	0.569	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	11.5	1.44	25.0	0.200	1.00	11.5	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	6.35	0.863	5.00	0.200	1.00	6.35	N/A	A330044
Octa CDD *	pg/g	24.7	0.982	50.0	0.400	0.000300	0.00741	N/A	A330044
Total Hepta CDD *	pg/g	53.9	0.883	25.0	0.200	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	116	0.741	25.0	0.200	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	296	1.44	25.0	0.200	N/A	N/A	8	A330044
Total Tetra CDD *	pg/g	1160	0.863	5.00	0.200	N/A	N/A	12	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	24.2	0.869	25.0	0.200	0.0100	0.242	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	4.50	0.873	25.0	0.200	0.0100	0.0450	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	40.8 (1)	0.824	25.0	0.200	0.100	4.08	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	19.4	0.860	25.0	0.200	0.100	1.94	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<1.04 (2)	1.04	25.0	0.200	0.100	0.104	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	29.0	1.12	25.0	0.200	0.0300	0.870	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	18.6	0.795	25.0	0.200	0.100	1.86	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / Merged Peak

(2) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM774							
Sampling Date		2021/07/21 10:20							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-17	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,4,7,8-Penta CDF **	pg/g	35.6	1.02	25.0	0.200	0.300	10.7	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	272	1.02	5.00	0.200	0.100	27.2	N/A	A330044
Octa CDF **	pg/g	<5.71 (1)	5.71	50.0	0.400	0.000300	0.00171	N/A	A330044
Total Hepta CDF **	pg/g	28.7	0.871	25.0	0.200	N/A	N/A	2	A330044
Total Hexa CDF **	pg/g	163	0.829	25.0	0.200	N/A	N/A	13	A330044
Total Penta CDF **	pg/g	428	1.07	25.0	0.200	N/A	N/A	14	A330044
Total Tetra CDF **	pg/g	1520	1.02	5.00	0.200	N/A	N/A	17	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	66.8	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	101	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	128	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	64	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit. RT>2 seconds - PCDD/DF analysis-Peak maxima of monitored ions exceeds 2 seconds									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM774							
Sampling Date		2021/07/21 10:20							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-17	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds * CDD = Chloro Dibenzo-p-Dioxin N/A = Not Applicable ** CDF = Chloro Dibenzo-p-Furan									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM776							
Sampling Date		2021/07/21 11:00							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-19	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	136	2.64	25.0	0.200	0.0100	1.36	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	15.1	2.05	25.0	0.200	0.100	1.51	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	19.0	2.05	25.0	0.200	0.100	1.90	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	15.9	2.03	25.0	0.200	0.100	1.59	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	24.4	1.28	25.0	0.200	1.00	24.4	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	11.1	1.95	5.00	0.200	1.00	11.1	N/A	A330044
Octa CDD *	pg/g	217	9.31	50.0	0.400	0.000300	0.0651	N/A	A330044
Total Hepta CDD *	pg/g	313	2.64	25.0	0.200	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	308	2.05	25.0	0.200	N/A	N/A	8	A330044
Total Penta CDD *	pg/g	452	1.28	25.0	0.200	N/A	N/A	11	A330044
Total Tetra CDD *	pg/g	1330	1.95	5.00	0.200	N/A	N/A	13	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	445	3.47	25.0	0.200	0.0100	4.45	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	32.0	3.49	25.0	0.200	0.0100	0.320	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	162	1.92	25.0	0.200	0.100	16.2	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	180	2.01	25.0	0.200	0.100	18.0	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	5.54	1.96	25.0	0.200	0.100	0.554	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	153	3.11	25.0	0.200	0.0300	4.59	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	233	1.85	25.0	0.200	0.100	23.3	N/A	A330044
2,3,4,7,8-Penta CDF **	pg/g	234	2.82	25.0	0.200	0.300	70.2	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	936	2.60	5.00	0.200	0.100	93.6	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM776							
Sampling Date		2021/07/21 11:00							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-19	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	64.9	2.98	50.0	0.400	0.000300	0.0195	N/A	A330044
Total Hepta CDF **	pg/g	606	3.48	25.0	0.200	N/A	N/A	4	A330044
Total Hexa CDF **	pg/g	1300	1.93	25.0	0.200	N/A	N/A	13	A330044
Total Penta CDF **	pg/g	2620	2.96	25.0	0.200	N/A	N/A	15	A330044
Total Tetra CDF **	pg/g	5750	2.60	5.00	0.200	N/A	N/A	19	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	273	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	67	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	115	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	68	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM777							
Sampling Date		2021/07/21 11:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-20	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	1550	0.736	24.9	0.199	0.0100	15.5	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	86.4	0.821	24.9	0.199	0.100	8.64	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	134	0.823	24.9	0.199	0.100	13.4	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	167	0.816	24.9	0.199	0.100	16.7	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	99.7	1.03	24.9	0.199	1.00	99.7	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	25.7	0.574	4.99	0.199	1.00	25.7	N/A	A330044
Octa CDD *	pg/g	2480	0.958	49.9	0.399	0.000300	0.744	N/A	A330044
Total Hepta CDD *	pg/g	4960	0.736	24.9	0.199	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	3030	0.825	24.9	0.199	N/A	N/A	8	A330044
Total Penta CDD *	pg/g	1550	1.03	24.9	0.199	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	816	0.574	4.99	0.199	N/A	N/A	15	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	55.5	1.17	24.9	0.199	0.0100	0.555	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	5.87	1.17	24.9	0.199	0.0100	0.0587	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	28.7	0.867	24.9	0.199	0.100	2.87	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	11.3	0.905	24.9	0.199	0.100	1.13	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.883	0.883	24.9	0.199	0.100	0.0883	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	6.77	0.753	24.9	0.199	0.0300	0.203	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	17.4	0.836	24.9	0.199	0.100	1.74	N/A	A330044
2,3,4,7,8-Penta CDF **	pg/g	9.45	0.682	24.9	0.199	0.300	2.84	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	46.4	0.901	4.99	0.199	0.100	4.64	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM777							
Sampling Date		2021/07/21 11:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-20	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	39.4	1.68	49.9	0.399	0.000300	0.0118	N/A	A330044
Total Hepta CDF **	pg/g	120	1.17	24.9	0.199	N/A	N/A	4	A330044
Total Hexa CDF **	pg/g	145	0.872	24.9	0.199	N/A	N/A	8	A330044
Total Penta CDF **	pg/g	296	0.715	24.9	0.199	N/A	N/A	11	A330044
Total Tetra CDF **	pg/g	242	0.901	4.99	0.199	N/A	N/A	16	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	195	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	81	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	129	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	63	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM778							
Sampling Date		2021/07/21 11:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-21	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	1150	2.54	25.0	0.200	0.0100	11.5	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	104	1.55	25.0	0.200	0.100	10.4	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	130	1.56	25.0	0.200	0.100	13.0	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	132	1.54	25.0	0.200	0.100	13.2	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	152	2.37	25.0	0.200	1.00	152	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	61.9	2.98	4.99	0.200	1.00	61.9	N/A	A330044
Octa CDD *	pg/g	1940	11.9	49.9	0.399	0.000300	0.582	N/A	A330044
Total Hepta CDD *	pg/g	2570	2.54	25.0	0.200	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	2310	1.56	25.0	0.200	N/A	N/A	8	A330044
Total Penta CDD *	pg/g	2830	2.37	25.0	0.200	N/A	N/A	13	A330044
Total Tetra CDD *	pg/g	5030	2.98	4.99	0.200	N/A	N/A	15	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	1930	4.52	25.0	0.200	0.0100	19.3	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	163	4.55	25.0	0.200	0.0100	1.63	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	622	3.75	25.0	0.200	0.100	62.2	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	<709 (1)	709	25.0	0.200	0.100	70.9	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	27.0	3.82	25.0	0.200	0.100	2.70	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	722	4.84	25.0	0.200	0.0300	21.7	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	724	3.61	25.0	0.200	0.100	72.4	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
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Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM778							
Sampling Date		2021/07/21 11:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-21	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,4,7,8-Penta CDF **	pg/g	866	4.38	25.0	0.200	0.300	260	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	3540 (1)	4.01	4.99	0.200	0.100	354	N/A	A330044
Octa CDF **	pg/g	475	8.64	49.9	0.399	0.000300	0.143	N/A	A330044
Total Hepta CDF **	pg/g	2640	4.54	25.0	0.200	N/A	N/A	4	A330044
Total Hexa CDF **	pg/g	4510	3.77	25.0	0.200	N/A	N/A	13	A330044
Total Penta CDF **	pg/g	10900	4.60	25.0	0.200	N/A	N/A	16	A330044
Total Tetra CDF **	pg/g	23100	4.01	4.99	0.200	N/A	N/A	19	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1130	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	81	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	62	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) EMCL - PCDD/DF analysis - Exceeds Maximum Calibration Limit									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM778							
Sampling Date		2021/07/21 11:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-21	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	67	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-22	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	5.62	2.29	24.9	0.199	0.0100	0.0562	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	<2.30	2.30	24.9	0.199	0.100	0.230	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	<2.30	2.30	24.9	0.199	0.100	0.230	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	<2.28	2.28	24.9	0.199	0.100	0.228	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	<1.98	1.98	24.9	0.199	1.00	1.98	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	<1.47	1.47	4.99	0.199	1.00	1.47	N/A	A330044
Octa CDD *	pg/g	12.0	6.68	49.9	0.399	0.000300	0.00360	N/A	A330044
Total Hepta CDD *	pg/g	5.62	2.29	24.9	0.199	N/A	N/A	1	A330044
Total Hexa CDD *	pg/g	2.80	2.31	24.9	0.199	N/A	N/A	1	A330044
Total Penta CDD *	pg/g	<1.98	1.98	24.9	0.199	N/A	N/A	0	A330044
Total Tetra CDD *	pg/g	5.05	1.47	4.99	0.199	N/A	N/A	2	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	27.9	2.29	24.9	0.199	0.0100	0.279	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<2.31	2.31	24.9	0.199	0.0100	0.0231	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	9.02	1.83	24.9	0.199	0.100	0.902	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	7.57	1.91	24.9	0.199	0.100	0.757	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<1.87	1.87	24.9	0.199	0.100	0.187	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	<3.43	3.43	24.9	0.199	0.0300	0.103	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	8.61	1.77	24.9	0.199	0.100	0.861	N/A	A330044
2,3,4,7,8-Penta CDF **	pg/g	8.52	3.11	24.9	0.199	0.300	2.56	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	22.3	2.09	4.99	0.199	0.100	2.23	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-22	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	9.18	4.45	49.9	0.399	0.000300	0.00275	N/A	A330044
Total Hepta CDF **	pg/g	27.9	2.30	24.9	0.199	N/A	N/A	1	A330044
Total Hexa CDF **	pg/g	62.9	1.84	24.9	0.199	N/A	N/A	6	A330044
Total Penta CDF **	pg/g	59.4	3.26	24.9	0.199	N/A	N/A	5	A330044
Total Tetra CDF **	pg/g	110	2.09	4.99	0.199	N/A	N/A	11	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	12.1	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	68	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	63	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	61	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	55	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	65	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	54	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-22 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	11.3	2.33	24.9	0.200	0.0100	0.113	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	<1.88	1.88	24.9	0.200	0.100	0.188	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	<1.88	1.88	24.9	0.200	0.100	0.188	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	4.24	1.87	24.9	0.200	0.100	0.424	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	<3.13	3.13	24.9	0.200	1.00	3.13	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	<1.90	1.90	4.99	0.200	1.00	1.90	N/A	A330044
Octa CDD *	pg/g	19.9	4.75	49.9	0.399	0.000300	0.00597	N/A	A330044
Total Hepta CDD *	pg/g	23.0	2.33	24.9	0.200	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	15.3	1.89	24.9	0.200	N/A	N/A	4	A330044
Total Penta CDD *	pg/g	<3.13	3.13	24.9	0.200	N/A	N/A	0	A330044
Total Tetra CDD *	pg/g	8.53	1.90	4.99	0.200	N/A	N/A	2	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	79.1 (1)	1.71	24.9	0.200	0.0100	0.791	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<5.83 (2)	5.83	24.9	0.200	0.0100	0.0583	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	23.8	2.29	24.9	0.200	0.100	2.38	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	25.8	2.39	24.9	0.200	0.100	2.58	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<2.34	2.34	24.9	0.200	0.100	0.234	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

Lab-Dup = Laboratory Initiated Duplicate

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-22 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
1,2,3,7,8-Penta CDF **	pg/g	18.9	3.70	24.9	0.200	0.0300	0.567	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	30.4	2.21	24.9	0.200	0.100	3.04	N/A	A330044
2,3,4,7,8-Penta CDF **	pg/g	29.1	3.35	24.9	0.200	0.300	8.73	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	71.3 (1)	3.40	4.99	0.200	0.100	7.13	N/A	A330044
Octa CDF **	pg/g	17.5	3.99	49.9	0.399	0.000300	0.00525	N/A	A330044
Total Hepta CDF **	pg/g	103 (1)	1.72	24.9	0.200	N/A	N/A	3	A330044
Total Hexa CDF **	pg/g	220 (1)	2.31	24.9	0.200	N/A	N/A	11	A330044
Total Penta CDF **	pg/g	267 (1)	3.51	24.9	0.200	N/A	N/A	9	A330044
Total Tetra CDF **	pg/g	403 (1)	3.40	4.99	0.200	N/A	N/A	17	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	31.5	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	128	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	66	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds Lab-Dup = Laboratory Initiated Duplicate ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM779							
Sampling Date		2021/07/21 12:45							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-22 Lab-Dup	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-123789 HexaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	60	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds Lab-Dup = Laboratory Initiated Duplicate ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM780							
Sampling Date		2021/07/21 13:10							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-23	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	34.0	3.11	25.0	0.200	0.0100	0.340	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	<1.78	1.78	25.0	0.200	0.100	0.178	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	<1.78	1.78	25.0	0.200	0.100	0.178	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	<1.77	1.77	25.0	0.200	0.100	0.177	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	<1.39	1.39	25.0	0.200	1.00	1.39	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	<2.26	2.26	5.00	0.200	1.00	2.26	N/A	A330044
Octa CDD *	pg/g	95.9	9.04	50.0	0.400	0.000300	0.0288	N/A	A330044
Total Hepta CDD *	pg/g	109	3.11	25.0	0.200	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	22.5	1.78	25.0	0.200	N/A	N/A	3	A330044
Total Penta CDD *	pg/g	3.54	1.39	25.0	0.200	N/A	N/A	1	A330044
Total Tetra CDD *	pg/g	30.2	2.26	5.00	0.200	N/A	N/A	2	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	6.68	1.38	25.0	0.200	0.0100	0.0668	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<1.39	1.39	25.0	0.200	0.0100	0.0139	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	2.85	1.64	25.0	0.200	0.100	0.285	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	2.11	1.71	25.0	0.200	0.100	0.211	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<1.67	1.67	25.0	0.200	0.100	0.167	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	<3.11	3.11	25.0	0.200	0.0300	0.0933	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	2.16	1.58	25.0	0.200	0.100	0.216	N/A	A330044
2,3,4,7,8-Penta CDF **	pg/g	<2.82	2.82	25.0	0.200	0.300	0.846	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM780							
Sampling Date		2021/07/21 13:10							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-23	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<9.00 (1)	9.00	5.00	0.200	0.100	0.900	N/A	A330044
Octa CDF **	pg/g	6.51	3.64	50.0	0.400	0.000300	0.00195	N/A	A330044
Total Hepta CDF **	pg/g	6.68	1.38	25.0	0.200	N/A	N/A	1	A330044
Total Hexa CDF **	pg/g	16.6	1.64	25.0	0.200	N/A	N/A	6	A330044
Total Penta CDF **	pg/g	3.92	2.96	25.0	0.200	N/A	N/A	1	A330044
Total Tetra CDF **	pg/g	14.3	2.22	5.00	0.200	N/A	N/A	2	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	7.35	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	118	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	66	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM780							
Sampling Date		2021/07/21 13:10							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-23	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	65	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM781							
Sampling Date		2021/07/21 13:40							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-24	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	399	2.92	24.9	0.199	0.0100	3.99	N/A	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	34.2	2.31	24.9	0.199	0.100	3.42	N/A	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	54.9	2.32	24.9	0.199	0.100	5.49	N/A	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	58.0	2.30	24.9	0.199	0.100	5.80	N/A	A330044
1,2,3,7,8-Penta CDD *	pg/g	51.8	2.19	24.9	0.199	1.00	51.8	N/A	A330044
2,3,7,8-Tetra CDD *	pg/g	18.4	1.88	4.99	0.199	1.00	18.4	N/A	A330044
Octa CDD *	pg/g	501	9.62	49.9	0.399	0.000300	0.150	N/A	A330044
Total Hepta CDD *	pg/g	919	2.92	24.9	0.199	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	1140	2.32	24.9	0.199	N/A	N/A	8	A330044
Total Penta CDD *	pg/g	1310	2.19	24.9	0.199	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	1610	1.88	4.99	0.199	N/A	N/A	15	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	829	2.64	24.9	0.199	0.0100	8.29	N/A	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	100	2.66	24.9	0.199	0.0100	1.00	N/A	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	302	2.22	24.9	0.199	0.100	30.2	N/A	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	306	2.32	24.9	0.199	0.100	30.6	N/A	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	21.3	2.26	24.9	0.199	0.100	2.13	N/A	A330044
1,2,3,7,8-Penta CDF **	pg/g	350	2.99	24.9	0.199	0.0300	10.5	N/A	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	347	2.14	24.9	0.199	0.100	34.7	N/A	A330044
2,3,4,7,8-Penta CDF **	pg/g	352	2.71	24.9	0.199	0.300	106	N/A	A330044
2,3,7,8-Tetra CDF **	pg/g	1810	3.54	4.99	0.199	0.100	181	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM781							
Sampling Date		2021/07/21 13:40							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-24	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	<302 (1)	302	49.9	0.399	0.000300	0.0906	N/A	A330044
Total Hepta CDF **	pg/g	1210	2.65	24.9	0.199	N/A	N/A	4	A330044
Total Hexa CDF **	pg/g	2640	2.24	24.9	0.199	N/A	N/A	15	A330044
Total Penta CDF **	pg/g	4330	2.84	24.9	0.199	N/A	N/A	15	A330044
Total Tetra CDF **	pg/g	9010	3.54	4.99	0.199	N/A	N/A	18	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	494	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	124	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM781							
Sampling Date		2021/07/21 13:40							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-24	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-OCDD *	%	62	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM782							
Sampling Date		2021/07/21 14:00							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-25	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	5.24	0.548	24.9	0.400	0.0100	0.0524	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	<0.569	0.569	24.9	0.400	0.100	0.0569	0	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	0.690	0.482	24.9	0.400	0.100	0.0690	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	1.16	0.520	24.9	0.400	0.100	0.116	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	0.648	0.572	24.9	0.400	1.00	0.648	1	A330044
2,3,7,8-Tetra CDD *	pg/g	<0.535	0.535	4.98	0.400	1.00	0.535	0	A330044
Octa CDD *	pg/g	12.9	0.564	49.8	0.800	0.000300	0.00387	1	A330044
Total Hepta CDD *	pg/g	11.6	0.548	24.9	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	12.4	0.521	24.9	0.400	N/A	N/A	5	A330044
Total Penta CDD *	pg/g	10.5	0.572	24.9	0.400	N/A	N/A	5	A330044
Total Tetra CDD *	pg/g	16.6	0.535	4.98	0.400	N/A	N/A	4	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	5.02	0.385	24.9	0.400	0.0100	0.0502	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	0.917	0.597	24.9	0.400	0.0100	0.00917	1	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	2.66	0.486	24.9	0.400	0.100	0.266	1	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	<1.15 (1)	1.15	24.9	0.400	0.100	0.115	0	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.679 (2)	0.679	24.9	0.400	0.100	0.0679	0	A330044
1,2,3,7,8-Penta CDF **	pg/g	0.859	0.643	24.9	0.400	0.0300	0.0258	1	A330044

EDL = Estimated Detection Limit

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* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.

(2) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM782							
Sampling Date		2021/07/21 14:00							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-25	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,4,6,7,8-Hexa CDF **	pg/g	<2.10 (1)	2.10	24.9	0.400	0.100	0.210	0	A330044
2,3,4,7,8-Penta CDF **	pg/g	1.06	0.516	24.9	0.400	0.300	0.318	1	A330044
2,3,7,8-Tetra CDF **	pg/g	<4.35 (2)	4.35	4.98	0.400	0.100	0.435	0	A330044
Octa CDF **	pg/g	4.60	0.610	49.8	0.800	0.000300	0.00138	1	A330044
Total Hepta CDF **	pg/g	7.66	0.469	24.9	0.400	N/A	N/A	3	A330044
Total Hexa CDF **	pg/g	7.15	0.494	24.9	0.400	N/A	N/A	3	A330044
Total Penta CDF **	pg/g	12.4	0.574	24.9	0.400	N/A	N/A	7	A330044
Total Tetra CDF **	pg/g	20.8	0.499	4.98	0.400	N/A	N/A	14	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	2.98	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	107	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	71	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	105	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

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TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

(2) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

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Site Location: LYTTON, BC
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Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM782							
Sampling Date		2021/07/21 14:00							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-25	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-234678 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	81	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	68	N/A	N/A	N/A	N/A	N/A	N/A	A330044

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GHD Limited
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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM783							
Sampling Date		2021/07/21 14:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-26	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	95.9	0.608	25.0	0.400	0.0100	0.959	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	9.15	0.648	25.0	0.400	0.100	0.915	1	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	15.6	0.547	25.0	0.400	0.100	1.56	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	26.7	0.591	25.0	0.400	0.100	2.67	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	13.7	0.569	25.0	0.400	1.00	13.7	1	A330044
2,3,7,8-Tetra CDD *	pg/g	4.09	0.578	5.00	0.400	1.00	4.09	1	A330044
Octa CDD *	pg/g	166	0.699	50.0	0.800	0.000300	0.0498	1	A330044
Total Hepta CDD *	pg/g	200	0.608	25.0	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	287	0.592	25.0	0.400	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	351	0.569	25.0	0.400	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	604	0.578	5.00	0.400	N/A	N/A	13	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	192	0.459	25.0	0.400	0.0100	1.92	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	28.5	0.710	25.0	0.400	0.0100	0.285	1	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	165	0.546	25.0	0.400	0.100	16.5	1	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	68.7	0.544	25.0	0.400	0.100	6.87	1	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	5.51	0.597	25.0	0.400	0.100	0.551	1	A330044
1,2,3,7,8-Penta CDF **	pg/g	58.2	0.719	25.0	0.400	0.0300	1.75	1	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	93.5	0.530	25.0	0.400	0.100	9.35	1	A330044
2,3,4,7,8-Penta CDF **	pg/g	<74.5 (1)	74.5	25.0	0.400	0.300	22.4	1	A330044

EDL = Estimated Detection Limit

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TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



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Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM783							
Sampling Date		2021/07/21 14:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-26	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<384 (1)	384	5.00	0.400	0.100	38.4	0	A330044
Octa CDF **	pg/g	135	0.732	50.0	0.800	0.000300	0.0405	1	A330044
Total Hepta CDF **	pg/g	319	0.558	25.0	0.400	N/A	N/A	4	A330044
Total Hexa CDF **	pg/g	681	0.553	25.0	0.400	N/A	N/A	12	A330044
Total Penta CDF **	pg/g	1150	0.653	25.0	0.400	N/A	N/A	14	A330044
Total Tetra CDF **	pg/g	2180	0.544	5.00	0.400	N/A	N/A	19	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	122	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	77	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	64	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

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The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

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** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.



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Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM783							
Sampling Date		2021/07/21 14:30							
COC Number		08495597				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-26	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	62	N/A	N/A	N/A	N/A	N/A	N/A	A330044

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TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

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Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM785							
Sampling Date		2021/07/21 15:00							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-27	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	92.9	0.550	24.9	0.400	0.0100	0.929	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	4.17	0.712	24.9	0.400	0.100	0.417	1	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	6.42	0.601	24.9	0.400	0.100	0.642	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	8.88	0.650	24.9	0.400	0.100	0.888	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	6.55	0.522	24.9	0.400	1.00	6.55	1	A330044
2,3,7,8-Tetra CDD *	pg/g	2.26	0.494	4.99	0.400	1.00	2.26	1	A330044
Octa CDD *	pg/g	741	0.611	49.9	0.800	0.000300	0.222	1	A330044
Total Hepta CDD *	pg/g	182	0.550	24.9	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	88.0	0.651	24.9	0.400	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	97.5	0.522	24.9	0.400	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	236	0.494	4.99	0.400	N/A	N/A	12	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	198	0.384	24.9	0.400	0.0100	1.98	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	27.1	0.740	24.9	0.400	0.0100	0.271	1	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	88.8	0.488	24.9	0.400	0.100	8.88	1	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	31.7	0.460	24.9	0.400	0.100	3.17	1	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	2.58	0.610	24.9	0.400	0.100	0.258	1	A330044
1,2,3,7,8-Penta CDF **	pg/g	24.5	0.574	24.9	0.400	0.0300	0.735	1	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	44.3	0.485	24.9	0.400	0.100	4.43	1	A330044
2,3,4,7,8-Penta CDF **	pg/g	28.5	0.468	24.9	0.400	0.300	8.55	1	A330044

EDL = Estimated Detection Limit

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TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

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N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM785							
Sampling Date		2021/07/21 15:00							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-27	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<145 (1)	145	4.99	0.400	0.100	14.5	0	A330044
Octa CDF **	pg/g	145	0.761	49.9	0.800	0.000300	0.0435	1	A330044
Total Hepta CDF **	pg/g	262	0.507	24.9	0.400	N/A	N/A	3	A330044
Total Hexa CDF **	pg/g	356	0.505	24.9	0.400	N/A	N/A	13	A330044
Total Penta CDF **	pg/g	358	0.517	24.9	0.400	N/A	N/A	16	A330044
Total Tetra CDF **	pg/g	880	0.474	4.99	0.400	N/A	N/A	16	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	54.7	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	101	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	124	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	118	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	122	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	108	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	116	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM785							
Sampling Date		2021/07/21 15:00							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121- CT-27	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM786							
Sampling Date		2021/07/21 15:30							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-28	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	31.0	0.686	24.9	0.400	0.0100	0.310	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	2.62	0.676	24.9	0.400	0.100	0.262	1	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	3.42	0.558	24.9	0.400	0.100	0.342	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	8.52	0.609	24.9	0.400	0.100	0.852	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	2.69	0.635	24.9	0.400	1.00	2.69	1	A330044
2,3,7,8-Tetra CDD *	pg/g	0.809	0.636	4.98	0.400	1.00	0.809	1	A330044
Octa CDD *	pg/g	36.6	0.830	49.8	0.800	0.000300	0.0110	1	A330044
Total Hepta CDD *	pg/g	86.7	0.686	24.9	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	73.9	0.610	24.9	0.400	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	41.9	0.635	24.9	0.400	N/A	N/A	11	A330044
Total Tetra CDD *	pg/g	25.4	0.636	4.98	0.400	N/A	N/A	11	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	1.90	0.482	24.9	0.400	0.0100	0.0190	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	<0.739	0.739	24.9	0.400	0.0100	0.00739	0	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	1.06	0.521	24.9	0.400	0.100	0.106	1	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	<0.517	0.517	24.9	0.400	0.100	0.0517	0	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	<0.562	0.562	24.9	0.400	0.100	0.0562	0	A330044
1,2,3,7,8-Penta CDF **	pg/g	<0.610	0.610	24.9	0.400	0.0300	0.0183	0	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	<0.489	0.489	24.9	0.400	0.100	0.0489	0	A330044
2,3,4,7,8-Penta CDF **	pg/g	<0.486	0.486	24.9	0.400	0.300	0.146	0	A330044
2,3,7,8-Tetra CDF **	pg/g	1.90	0.598	4.98	0.400	0.100	0.190	1	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM786							
Sampling Date		2021/07/21 15:30							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072121-CT-28	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Octa CDF **	pg/g	<1.06 (1)	1.06	49.8	0.800	0.000300	0.000318	0	A330044
Total Hepta CDF **	pg/g	3.05	0.584	24.9	0.400	N/A	N/A	2	A330044
Total Hexa CDF **	pg/g	3.09	0.521	24.9	0.400	N/A	N/A	2	A330044
Total Penta CDF **	pg/g	2.26	0.542	24.9	0.400	N/A	N/A	2	A330044
Total Tetra CDF **	pg/g	6.89	0.598	4.98	0.400	N/A	N/A	5	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	5.92	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	69	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	71	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	58	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	64	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	81	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	61	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	71	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	63	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	59	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	57	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM787							
Sampling Date		2021/07/22 10:45							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-29	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	3310	2.93	125	0.400	0.0100	33.1	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	288	5.34	125	0.400	0.100	28.8	1	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	453	3.19	125	0.400	0.100	45.3	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	725	3.98	125	0.400	0.100	72.5	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	352	4.25	125	0.400	1.00	352	1	A330044
2,3,7,8-Tetra CDD *	pg/g	66.4	2.91	24.9	0.400	1.00	66.4	1	A330044
Octa CDD *	pg/g	6760	8.11	249	0.800	0.000300	2.03	1	A330044
Total Hepta CDD *	pg/g	5420	2.93	125	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	14900	3.98	125	0.400	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	20700	4.25	125	0.400	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	50500	2.91	24.9	0.400	N/A	N/A	13	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	4730	4.15	125	0.400	0.0100	47.3	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	562	5.41	125	0.400	0.0100	5.62	1	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	2440	3.90	125	0.400	0.100	244	1	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	816	3.88	125	0.400	0.100	81.6	1	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	48.6	4.17	125	0.400	0.100	4.86	1	A330044
1,2,3,7,8-Penta CDF **	pg/g	447	3.24	125	0.400	0.0300	13.4	1	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	1040	3.83	125	0.400	0.100	104	1	A330044
2,3,4,7,8-Penta CDF **	pg/g	<628 (1)	628	125	0.400	0.300	188	0	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM787							
Sampling Date		2021/07/22 10:45							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221- CT-29	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<3170 (1)	3170	24.9	0.400	0.100	317	1	A330044
Octa CDF **	pg/g	4510	4.55	249	0.800	0.000300	1.35	1	A330044
Total Hepta CDF **	pg/g	6380	4.70	125	0.400	N/A	N/A	3	A330044
Total Hexa CDF **	pg/g	8500	3.94	125	0.400	N/A	N/A	10	A330044
Total Penta CDF **	pg/g	8190	2.85	125	0.400	N/A	N/A	12	A330044
Total Tetra CDF **	pg/g	16100	1.84	24.9	0.400	N/A	N/A	19	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1610	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	112	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	130	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	112	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds ** CDF = Chloro Dibenzo-p-Furan N/A = Not Applicable * CDD = Chloro Dibenzo-p-Dioxin (1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM787							
Sampling Date		2021/07/22 10:45							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221- CT-29	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	108	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM789							
Sampling Date		2021/07/22 11:50							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-31	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	2790	0.604	25.0	0.400	0.0100	27.9	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	311	0.655	25.0	0.400	0.100	31.1	1	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	458	0.517	25.0	0.400	0.100	45.8	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	819	0.576	25.0	0.400	0.100	81.9	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	279	0.583	25.0	0.400	1.00	279	1	A330044
2,3,7,8-Tetra CDD *	pg/g	33.4	0.563	5.00	0.400	1.00	33.4	1	A330044
Octa CDD *	pg/g	2370	0.667	50.0	0.800	0.000300	0.711	1	A330044
Total Hepta CDD *	pg/g	5410	0.604	25.0	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	6390	0.577	25.0	0.400	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	5560	0.583	25.0	0.400	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	5480	0.563	5.00	0.400	N/A	N/A	14	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	2390	0.451	25.0	0.400	0.0100	23.9	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	463	0.707	25.0	0.400	0.0100	4.63	1	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	2010	0.522	25.0	0.400	0.100	201	1	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	873	0.514	25.0	0.400	0.100	87.3	1	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	82.7	0.583	25.0	0.400	0.100	8.27	1	A330044
1,2,3,7,8-Penta CDF **	pg/g	538	0.723	25.0	0.400	0.0300	16.1	1	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	1140	0.514	25.0	0.400	0.100	114	1	A330044
2,3,4,7,8-Penta CDF **	pg/g	674	0.589	25.0	0.400	0.300	202	1	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM789							
Sampling Date		2021/07/22 11:50							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-31	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDF **	pg/g	<2940 (1)	2940	5.00	0.400	0.100	294	0	A330044
Octa CDF **	pg/g	<890 (2)	890	50.0	0.800	0.000300	0.267	0	A330044
Total Hepta CDF **	pg/g	4030	0.552	25.0	0.400	N/A	N/A	4	A330044
Total Hexa CDF **	pg/g	8060	0.532	25.0	0.400	N/A	N/A	11	A330044
Total Penta CDF **	pg/g	10700	0.651	25.0	0.400	N/A	N/A	17	A330044
Total Tetra CDF **	pg/g	15100	0.563	5.00	0.400	N/A	N/A	19	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1450	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	79	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	62	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	85	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.

(2) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM789							
Sampling Date		2021/07/22 11:50							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221- CT-31	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-23478 PentaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDD *	%	74	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	58	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM790							
Sampling Date		2021/07/22 12:30							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-32	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

DIOXINS

1,2,3,4,6,7,8-Hepta CDD *	pg/g	25.4	0.661	25.0	0.400	0.0100	0.254	1	A330044
1,2,3,4,7,8-Hexa CDD *	pg/g	2.68	0.720	25.0	0.400	0.100	0.268	1	A330044
1,2,3,6,7,8-Hexa CDD *	pg/g	3.21	0.573	25.0	0.400	0.100	0.321	1	A330044
1,2,3,7,8,9-Hexa CDD *	pg/g	7.89	0.636	25.0	0.400	0.100	0.789	1	A330044
1,2,3,7,8-Penta CDD *	pg/g	3.27	0.742	25.0	0.400	1.00	3.27	1	A330044
2,3,7,8-Tetra CDD *	pg/g	1.19	0.639	4.99	0.400	1.00	1.19	1	A330044
Octa CDD *	pg/g	38.6	0.771	49.9	0.800	0.000300	0.0116	1	A330044
Total Hepta CDD *	pg/g	54.8	0.661	25.0	0.400	N/A	N/A	2	A330044
Total Hexa CDD *	pg/g	70.1	0.637	25.0	0.400	N/A	N/A	7	A330044
Total Penta CDD *	pg/g	88.2	0.742	25.0	0.400	N/A	N/A	12	A330044
Total Tetra CDD *	pg/g	156	0.639	4.99	0.400	N/A	N/A	12	A330044

FURANS

1,2,3,4,6,7,8-Hepta CDF **	pg/g	108	0.499	25.0	0.400	0.0100	1.08	1	A330044
1,2,3,4,7,8,9-Hepta CDF **	pg/g	9.68	0.790	25.0	0.400	0.0100	0.0968	1	A330044
1,2,3,4,7,8-Hexa CDF **	pg/g	<91.6 (1)	91.6	25.0	0.400	0.100	9.16	0	A330044
1,2,3,6,7,8-Hexa CDF **	pg/g	<24.1 (1)	24.1	25.0	0.400	0.100	2.41	0	A330044
1,2,3,7,8,9-Hexa CDF **	pg/g	1.31	0.687	25.0	0.400	0.100	0.131	1	A330044
1,2,3,7,8-Penta CDF **	pg/g	16.8	0.778	25.0	0.400	0.0300	0.504	1	A330044
2,3,4,6,7,8-Hexa CDF **	pg/g	38.9	0.590	25.0	0.400	0.100	3.89	1	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / DPE - Diphenylether interference present caused dibenzofuran detected to become a non-detect with an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM790							
Sampling Date		2021/07/22 12:30							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221-CT-32	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,4,7,8-Penta CDF **	pg/g	24.4	0.627	25.0	0.400	0.300	7.32	1	A330044
2,3,7,8-Tetra CDF **	pg/g	<131 (1)	131	4.99	0.400	0.100	13.1	0	A330044
Octa CDF **	pg/g	39.0	0.832	49.9	0.800	0.000300	0.0117	1	A330044
Total Hepta CDF **	pg/g	134	0.613	25.0	0.400	N/A	N/A	3	A330044
Total Hexa CDF **	pg/g	182	0.621	25.0	0.400	N/A	N/A	10	A330044
Total Penta CDF **	pg/g	378	0.696	25.0	0.400	N/A	N/A	11	A330044
Total Tetra CDF **	pg/g	772	0.609	4.99	0.400	N/A	N/A	19	A330044
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	43.8	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDD *	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234678 HeptaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDD *	%	99	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123478 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-1234789 HeptaCDF **	%	65	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDD *	%	104	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123678 HexaCDF **	%	78	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-12378 PentaCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-123789 HexaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-234678 HexaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-23478 PentaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds and has resulted in an elevated detection limit.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

DIOXIN AND FURANS BY HRMS (SOIL)

BV Labs ID		ACM790							
Sampling Date		2021/07/22 12:30							
COC Number		08495594				TOXIC EQUIVALENCY		# of	
	UNITS	CS-11230615-072221- CT-32	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-2378 TetraCDD *	%	75	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-2378 TetraCDF **	%	70	N/A	N/A	N/A	N/A	N/A	N/A	A330044
C13-OCDD *	%	62	N/A	N/A	N/A	N/A	N/A	N/A	A330044

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM774	ACM776	ACM777			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-17	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	<0.0050	0.0090	0.039	0.0050	0.0050	A314734
Total Dichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Trichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Chlorophenols	mg/kg	<0.0050	0.0090	0.039	0.0050	0.0050	A314734
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734
Total Phenolic Compounds	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	<0.050	2.5	0.46	0.050	0.050	A316490
2-chlorophenol	mg/kg	<0.0050	0.0092	<0.0050	0.0050	0.0050	A316490
3 & 4-chlorophenol	mg/kg	<0.0050	<0.0050	0.039 (1)	0.0050	0.0050	A316490
2-methylphenol	mg/kg	<0.050	0.12	0.095	0.050	0.050	A316490
3 & 4-methylphenol	mg/kg	<0.050	0.18	0.093	0.050	0.050	A316490
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,4-dimethylphenol	mg/kg	<0.050	0.11	0.076 (1)	0.050	0.050	A316490
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,6-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490

RDL = Reportable Detection Limit

(1) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM774	ACM776	ACM777			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	CS-11230615-072121- CT-20	RDL	MDL	QC Batch
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	15 (1)	16 (1)	0.099 (1)	N/A	N/A	A316490
2,4-DIBROMOPHENOL (sur.)	%	64	8.4 (1)	1.3 (1)	N/A	N/A	A316490
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM778	ACM779	ACM780			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45	2021/07/21 13:10			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	<0.0050	0.047	<0.0050	0.0050	0.0050	A314734
Total Dichlorophenols	mg/kg	<0.0050	0.012	<0.0050	0.0050	0.0050	A314734
Total Trichlorophenols	mg/kg	<0.0050	0.017	<0.0050	0.0050	0.0050	A314734
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Chlorophenols	mg/kg	<0.0050	0.075	<0.0050	0.0050	0.0050	A314734
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734
Total Phenolic Compounds	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	<0.050	1.4	0.25	0.050	0.050	A316490
2-chlorophenol	mg/kg	<0.0050	0.024	<0.0050	0.0050	0.0050	A316490
3 & 4-chlorophenol	mg/kg	<0.0050	0.022 (1)	<0.0050	0.0050	0.0050	A316490
2-methylphenol	mg/kg	<0.050	0.096	<0.050	0.050	0.050	A316490
3 & 4-methylphenol	mg/kg	<0.050	0.21	0.059	0.050	0.050	A316490
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,4-dimethylphenol	mg/kg	<0.050	0.087	<0.050	0.050	0.050	A316490
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	0.012	<0.0050	0.0050	0.0050	A316490
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,6-trichlorophenol	mg/kg	<0.0050	0.017	<0.0050	0.0050	0.0050	A316490
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490

RDL = Reportable Detection Limit

(1) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM778	ACM779	ACM780			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45	2021/07/21 13:10			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	RDL	MDL	QC Batch
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	86	45 (1)	74	N/A	N/A	A316490
2,4-DIBROMOPHENOL (sur.)	%	81	32 (1)	76	N/A	N/A	A316490
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM781	ACM782	ACM783			
Sampling Date		2021/07/21 13:40	2021/07/21 14:00	2021/07/21 14:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	CS-11230615-072121- CT-26	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	<0.0050	<0.0050	0.0080	0.0050	0.0050	A314734
Total Dichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Trichlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Chlorophenols	mg/kg	<0.0050	<0.0050	0.0080	0.0050	0.0050	A314734
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734
Total Phenolic Compounds	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	0.19	0.11	1.5	0.050	0.050	A316490
2-chlorophenol	mg/kg	<0.0050	<0.0050	0.0080	0.0050	0.0050	A316490
3 & 4-chlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2-methylphenol	mg/kg	<0.050	<0.050	0.25	0.050	0.050	A316490
3 & 4-methylphenol	mg/kg	0.051	<0.050	0.64	0.050	0.050	A316490
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,4-dimethylphenol	mg/kg	<0.050	<0.050	0.15	0.050	0.050	A316490
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,6-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050 (1)	0.050	0.050	A316490
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050 (1)	0.050	0.050	A316490
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490

RDL = Reportable Detection Limit

(1) Matrix spike recovery below acceptance criteria due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM781	ACM782	ACM783			
Sampling Date		2021/07/21 13:40	2021/07/21 14:00	2021/07/21 14:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	CS-11230615-072121- CT-26	RDL	MDL	QC Batch
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	0.053	0.050	0.0050	A316490
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	86	21 (1)	92	N/A	N/A	A316490
2,4-DIBROMOPHENOL (sur.)	%	89	18 (1)	80	N/A	N/A	A316490
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26 Lab-Dup	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch

Calculated Parameters							
Total Monochlorophenols	mg/kg	N/A	0.036	<0.0050	0.0050	0.0050	A314734
Total Dichlorophenols	mg/kg	N/A	0.024	<0.0050	0.0050	0.0050	A314734
Total Trichlorophenols	mg/kg	N/A	0.029	<0.0050	0.0050	0.0050	A314734
Total Tetrachlorophenols	mg/kg	N/A	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Chlorophenols	mg/kg	N/A	0.089	<0.0050	0.0050	0.0050	A314734
Total Nonchlorinated Phenols	mg/kg	N/A	<5.0	<5.0	5.0	5.0	A314734
Total Phenolic Compounds	mg/kg	N/A	<5.0	<5.0	5.0	5.0	A314734

SEMI-VOLATILE ORGANICS							
Phenol	mg/kg	1.6	0.23	0.56	0.050	0.050	A316490
2-chlorophenol	mg/kg	0.0071	0.014	<0.0050	0.0050	0.0050	A316490
3 & 4-chlorophenol	mg/kg	<0.0050	0.022	<0.0050	0.0050	0.0050	A316490
2-methylphenol	mg/kg	0.30	<0.050	0.057	0.050	0.050	A316490
3 & 4-methylphenol	mg/kg	0.77	<0.050	0.11	0.050	0.050	A316490
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,4-dimethylphenol	mg/kg	0.21	<0.050	<0.050	0.050	0.050	A316490
2,4 + 2,5-Dichlorophenol	mg/kg	<0.0050	0.018	<0.0050	0.0050	0.0050	A316490
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,6-dichlorophenol	mg/kg	<0.0050	0.0059	<0.0050	0.0050	0.0050	A316490
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,6-trichlorophenol	mg/kg	<0.0050	0.029	<0.0050	0.0050	0.0050	A316490
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26 Lab-Dup	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
3,4-Dimethylphenol	mg/kg	0.083	<0.050	<0.050	0.050	0.0050	A316490
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	96	55	16 (1)	N/A	N/A	A316490
2,4-DIBROMOPHENOL (sur.)	%	66	57	17 (1)	N/A	N/A	A316490
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch

Calculated Parameters

Total Monochlorophenols	mg/kg	0.016	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Dichlorophenols	mg/kg	0.0060	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Trichlorophenols	mg/kg	0.019	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Tetrachlorophenols	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Chlorophenols	mg/kg	0.041	<0.0050	<0.0050	0.0050	0.0050	A314734
Total Nonchlorinated Phenols	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734
Total Phenolic Compounds	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A314734

SEMI-VOLATILE ORGANICS

Phenol	mg/kg	0.25	<0.050	0.18	0.050	0.050	A316490
2-chlorophenol	mg/kg	0.0051	<0.0050	<0.0050	0.0050	0.0050	A316490
3 & 4-chlorophenol	mg/kg	0.011	<0.0050	<0.0050	0.0050	0.0050	A316490
2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
3 & 4-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,4-dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,4 + 2,5-Dichlorophenol	mg/kg	0.0058	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,6-dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,5-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4-Dichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4,6-trichlorophenol	mg/kg	0.019	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,5-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,6-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4-trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
3,4,5-Trichlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,4-dinitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
4,6-dinitro-2-methylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,3,4,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,4,5-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
2,3,5,6-tetrachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490

RDL = Reportable Detection Limit



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

COMBINED CP/NCP PHENOLS IN SOIL (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch
4-nitrophenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A316490
2,6-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
3,4-Dimethylphenol	mg/kg	<0.050	<0.050	<0.050	0.050	0.0050	A316490
Pentachlorophenol	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.0050	A316490
4-Chloro-3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
4-Hydroxyphenol (Hydroquinone)	mg/kg	<5.0	<5.0	<5.0	5.0	5.0	A316490
Surrogate Recovery (%)							
2,4,6-TRIBROMOPHENOL (sur.)	%	75	18 (1)	59	N/A	N/A	A316490
2,4-DIBROMOPHENOL (sur.)	%	73	57	50	N/A	N/A	A316490
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM774	ACM774			ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20			2021/07/21 11:00			
COC Number		08495597	08495597			08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	RDL	MDL	CS-11230615-072121- CT-19	RDL	MDL	QC Batch

Calculated Parameters

Low Molecular Weight PAH's	mg/kg	0.095	N/A	0.050	0.050	0.19	0.080	0.080	A314092
High Molecular Weight PAH's	mg/kg	0.063	N/A	0.050	0.050	<0.050	0.050	0.050	A314092
Total PAH	mg/kg	0.16	N/A	0.050	0.050	0.19	0.080	0.080	A314092

Polycyclic Aromatics

Quinoline	mg/kg	<0.050	<0.050	0.050	0.050	<0.080 (1)	0.080	0.080	A315568
Naphthalene	mg/kg	0.019	<0.010	0.010	0.010	0.14	0.010	0.010	A315568
1-Methylnaphthalene	mg/kg	<0.050	<0.050	0.050	0.050	<0.050	0.050	0.050	A315568
2-Methylnaphthalene	mg/kg	<0.020	<0.020	0.020	0.020	0.027	0.020	0.020	A315568
Acenaphthylene	mg/kg	0.0088	<0.0050	0.0050	0.0050	0.0066	0.0050	0.0050	A315568
Acenaphthene	mg/kg	0.0076	<0.0050	0.0050	0.0050	0.0085	0.0050	0.0050	A315568
Fluorene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Phenanthrene	mg/kg	0.048	0.030	0.010	0.010	<0.010	0.010	0.010	A315568
Anthracene	mg/kg	0.011	<0.0040	0.0040	0.0040	<0.0040	0.0040	0.0040	A315568
Fluoranthene	mg/kg	0.037	0.031	0.020	0.020	<0.020	0.020	0.020	A315568
Pyrene	mg/kg	0.026	0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Benzo(a)anthracene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Chrysene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Benzo(a)pyrene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	0.020	0.020	<0.020	0.020	0.020	A315568
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	0.050	0.050	<0.050	0.050	0.050	A315568

Calculated Parameters

LEPH (C10-C19 less PAH)	mg/kg	<100	N/A	100	100	<100	100	100	A314095
HEPH (C19-C32 less PAH)	mg/kg	<100	N/A	100	100	<100	100	100	A314095

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Detection limits raised due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM774	ACM774			ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20			2021/07/21 11:00			
COC Number		08495597	08495597			08495597			
	UNITS	CS-11230615-072121-CT-17	CS-11230615-072121-CT-17 Lab-Dup	RDL	MDL	CS-11230615-072121-CT-19	RDL	MDL	QC Batch

Hydrocarbons									
EPH (C10-C19)	mg/kg	<100	<100	100	100	<100	100	100	A315573
EPH (C19-C32)	mg/kg	<100	<100	100	100	<100	100	100	A315573
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	84	74	N/A	N/A	1.6 (1)	N/A	N/A	A315568
D8-ACENAPHTHYLENE (sur.)	%	75	69	N/A	N/A	3.3 (1)	N/A	N/A	A315568
D8-NAPHTHALENE (sur.)	%	74	63	N/A	N/A	8.8 (1)	N/A	N/A	A315568
TERPHENYL-D14 (sur.)	%	82	75	N/A	N/A	0.45 (1)	N/A	N/A	A315568
O-TERPHENYL (sur.)	%	84	84	N/A	N/A	66	N/A	N/A	A315573

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Surrogate recovery below acceptance criteria due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM777			ACM778	ACM779			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45	2021/07/21 12:45			
COC Number		08495597			08495597	08495597			
	UNITS	CS-11230615-072121- CT-20	RDL	MDL	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	RDL	MDL	QC Batch

Calculated Parameters

Low Molecular Weight PAH's	mg/kg	280	1.0	1.0	0.92	<0.050	0.050	0.050	A314092
High Molecular Weight PAH's	mg/kg	7.5	0.050	0.050	0.062	<0.050	0.050	0.050	A314092
Total PAH	mg/kg	290	1.0	1.0	0.98	<0.050	0.050	0.050	A314092

Polycyclic Aromatics

Quinoline	mg/kg	0.50	0.050	0.050	0.059	<0.050	0.050	0.050	A315568
Naphthalene	mg/kg	140	0.20	0.20	0.49	<0.010	0.010	0.010	A315568
1-Methylnaphthalene	mg/kg	28	1.0	1.0	0.063	<0.050	0.050	0.050	A315568
2-Methylnaphthalene	mg/kg	51	0.40	0.40	0.087	<0.020	0.020	0.020	A315568
Acenaphthylene	mg/kg	3.2	0.0050	0.0050	0.052	<0.0050	0.0050	0.0050	A315568
Acenaphthene	mg/kg	21	0.10	0.10	0.018	<0.0050	0.0050	0.0050	A315568
Fluorene	mg/kg	7.3	0.020	0.020	0.026	<0.020	0.020	0.020	A315568
Phenanthrene	mg/kg	25	0.20	0.20	0.11	<0.010	0.010	0.010	A315568
Anthracene	mg/kg	2.0	0.0040	0.0040	0.010	<0.0040	0.0040	0.0040	A315568
Fluoranthene	mg/kg	4.3	0.020	0.020	0.039	<0.020	0.020	0.020	A315568
Pyrene	mg/kg	2.3	0.020	0.020	0.023	<0.020	0.020	0.020	A315568
Benzo(a)anthracene	mg/kg	0.34	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Chrysene	mg/kg	0.56	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(b&j)fluoranthene	mg/kg	0.077	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(b)fluoranthene	mg/kg	0.054	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(a)pyrene	mg/kg	<0.020	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Dibenz(a,h)anthracene	mg/kg	<0.020	0.020	0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	0.050	<0.050	<0.050	0.050	0.050	A315568

Calculated Parameters

LEPH (C10-C19 less PAH)	mg/kg	1100	100	100	<100	<100	100	100	A314095
HEPH (C19-C32 less PAH)	mg/kg	130	100	100	320	<100	100	100	A314095

Hydrocarbons

EPH (C10-C19)	mg/kg	1300	100	100	<100	<100	100	100	A315573
EPH (C19-C32)	mg/kg	140	100	100	320	<100	100	100	A315573

RDL = Reportable Detection Limit



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM777			ACM778	ACM779			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45	2021/07/21 12:45			
COC Number		08495597			08495597	08495597			
	UNITS	CS-11230615-072121- CT-20	RDL	MDL	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	RDL	MDL	QC Batch

Surrogate Recovery (%)

D10-ANTHRACENE (sur.)	%	45 (1)	N/A	N/A	13 (2)	69	N/A	N/A	A315568
D8-ACENAPHTHYLENE (sur.)	%	64	N/A	N/A	38 (2)	71	N/A	N/A	A315568
D8-NAPHTHALENE (sur.)	%	61	N/A	N/A	49 (2)	67	N/A	N/A	A315568
TERPHENYL-D14 (sur.)	%	53	N/A	N/A	16 (2)	71	N/A	N/A	A315568
O-TERPHENYL (sur.)	%	73	N/A	N/A	74	87	N/A	N/A	A315573

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Surrogate recovery below acceptance criteria due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM780			ACM781			
Sampling Date		2021/07/21 13:10			2021/07/21 13:40			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-23	RDL	MDL	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
Calculated Parameters								
Low Molecular Weight PAH's	mg/kg	0.24	0.050	0.050	26	0.10	0.10	A314092
High Molecular Weight PAH's	mg/kg	0.062	0.050	0.050	11	0.050	0.050	A314092
Total PAH	mg/kg	0.30	0.050	0.050	37	0.10	0.10	A314092
Polycyclic Aromatics								
Quinoline	mg/kg	0.057	0.050	0.050	0.072	0.050	0.050	A315568
Naphthalene	mg/kg	0.070	0.010	0.010	0.58	0.010	0.010	A315568
1-Methylnaphthalene	mg/kg	<0.050	0.050	0.050	0.26	0.050	0.050	A315568
2-Methylnaphthalene	mg/kg	0.040	0.020	0.020	0.49	0.020	0.020	A315568
Acenaphthylene	mg/kg	0.0051	0.0050	0.0050	0.087	0.0050	0.0050	A315568
Acenaphthene	mg/kg	0.0058	0.0050	0.0050	1.9	0.0050	0.0050	A315568
Fluorene	mg/kg	<0.020	0.020	0.020	3.3	0.020	0.020	A315568
Phenanthrene	mg/kg	0.055	0.010	0.010	17	0.10	0.10	A315568
Anthracene	mg/kg	0.0053	0.0040	0.0040	1.5	0.0040	0.0040	A315568
Fluoranthene	mg/kg	0.036	0.020	0.020	5.9	0.020	0.020	A315568
Pyrene	mg/kg	0.026	0.020	0.020	2.8	0.020	0.020	A315568
Benzo(a)anthracene	mg/kg	<0.020	0.020	0.020	0.73	0.020	0.020	A315568
Chrysene	mg/kg	<0.020	0.020	0.020	0.82	0.020	0.020	A315568
Benzo(b&j)fluoranthene	mg/kg	<0.020	0.020	0.020	0.58	0.020	0.020	A315568
Benzo(b)fluoranthene	mg/kg	<0.020	0.020	0.020	0.40	0.020	0.020	A315568
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	0.020	0.18	0.020	0.020	A315568
Benzo(a)pyrene	mg/kg	<0.020	0.020	0.020	0.22	0.020	0.020	A315568
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	0.020	0.020	0.085	0.020	0.020	A315568
Dibenz(a,h)anthracene	mg/kg	<0.020	0.020	0.020	0.027	0.020	0.020	A315568
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	0.050	0.086	0.050	0.050	A315568
Calculated Parameters								
LEPH (C10-C19 less PAH)	mg/kg	<100	100	100	<100	100	100	A314095
HEPH (C19-C32 less PAH)	mg/kg	<100	100	100	<100	100	100	A314095
Hydrocarbons								
EPH (C10-C19)	mg/kg	<100	100	100	<100	100	100	A315573
EPH (C19-C32)	mg/kg	<100	100	100	<100	100	100	A315573
RDL = Reportable Detection Limit								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM780			ACM781			
Sampling Date		2021/07/21 13:10			2021/07/21 13:40			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-23	RDL	MDL	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	45 (1)	N/A	N/A	83	N/A	N/A	A315568
D8-ACENAPHTHYLENE (sur.)	%	67	N/A	N/A	89	N/A	N/A	A315568
D8-NAPHTHALENE (sur.)	%	71	N/A	N/A	85	N/A	N/A	A315568
TERPHENYL-D14 (sur.)	%	45 (1)	N/A	N/A	81	N/A	N/A	A315568
O-TERPHENYL (sur.)	%	86	N/A	N/A	76	N/A	N/A	A315573
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM782	ACM783	ACM785			
Sampling Date		2021/07/21 14:00	2021/07/21 14:30	2021/07/21 15:00			
COC Number		08495597	08495597	08495594			
	UNITS	CS-11230615-072121- CT-25	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	RDL	MDL	QC Batch
Calculated Parameters							
Low Molecular Weight PAH's	mg/kg	<0.050	0.67	0.28	0.050	0.050	A314092
High Molecular Weight PAH's	mg/kg	<0.050	0.076	<0.050	0.050	0.050	A314092
Total PAH	mg/kg	<0.050	0.74	0.28	0.050	0.050	A314092
Polycyclic Aromatics							
Quinoline	mg/kg	<0.050	0.079	<0.050	0.050	0.050	A315568
Naphthalene	mg/kg	0.019	0.28	0.12	0.010	0.010	A315568
1-Methylnaphthalene	mg/kg	<0.050	0.056	0.054	0.050	0.050	A315568
2-Methylnaphthalene	mg/kg	<0.020	0.076	0.057	0.020	0.020	A315568
Acenaphthylene	mg/kg	<0.0050	0.019	<0.0050	0.0050	0.0050	A315568
Acenaphthene	mg/kg	<0.0050	0.011	<0.0050	0.0050	0.0050	A315568
Fluorene	mg/kg	<0.020	0.024	<0.020	0.020	0.020	A315568
Phenanthrene	mg/kg	<0.010	0.11	0.043	0.010	0.010	A315568
Anthracene	mg/kg	<0.0040	0.014	0.0061	0.0040	0.0040	A315568
Fluoranthene	mg/kg	<0.020	0.044	<0.020	0.020	0.020	A315568
Pyrene	mg/kg	<0.020	0.032	<0.020	0.020	0.020	A315568
Benzo(a)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Chrysene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(a)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A315568
Calculated Parameters							
LEPH (C10-C19 less PAH)	mg/kg	<100	<100	<100	100	100	A314095
HEPH (C19-C32 less PAH)	mg/kg	<100	<100	<100	100	100	A314095
Hydrocarbons							
EPH (C10-C19)	mg/kg	<100	<100	<100	100	100	A315573
EPH (C19-C32)	mg/kg	<100	<100	<100	100	100	A315573
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM782	ACM783	ACM785			
Sampling Date		2021/07/21 14:00	2021/07/21 14:30	2021/07/21 15:00			
COC Number		08495597	08495597	08495594			
	UNITS	CS-11230615-072121- CT-25	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	RDL	MDL	QC Batch
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	1.3 (1)	55	75	N/A	N/A	A315568
D8-ACENAPHTHYLENE (sur.)	%	4.9 (1)	65	73	N/A	N/A	A315568
D8-NAPHTHALENE (sur.)	%	9.9 (1)	68	71	N/A	N/A	A315568
TERPHENYL-D14 (sur.)	%	0.54 (1)	61	74	N/A	N/A	A315568
O-TERPHENYL (sur.)	%	66	77	82	N/A	N/A	A315573
RDL = Reportable Detection Limit							
N/A = Not Applicable							
(1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM786	ACM787	ACM789			
Sampling Date		2021/07/21 15:30	2021/07/22 10:45	2021/07/22 11:50			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072121-CT-28	CS-11230615-072221-CT-29	CS-11230615-072221-CT-31	RDL	MDL	QC Batch
Calculated Parameters							
Low Molecular Weight PAH's	mg/kg	1.0	0.13	2.8	0.050	0.050	A314092
High Molecular Weight PAH's	mg/kg	<0.050	<0.050	0.74	0.050	0.050	A314092
Total PAH	mg/kg	1.0	0.13	3.5	0.050	0.050	A314092
Polycyclic Aromatics							
Quinoline	mg/kg	<0.050	0.050	0.094	0.050	0.050	A315568
Naphthalene	mg/kg	0.59	0.052	0.77	0.010	0.010	A315568
1-Methylnaphthalene	mg/kg	0.085	<0.050	0.19	0.050	0.050	A315568
2-Methylnaphthalene	mg/kg	0.11	<0.020	0.28	0.020	0.020	A315568
Acenaphthylene	mg/kg	0.030	<0.0050	0.085	0.0050	0.0050	A315568
Acenaphthene	mg/kg	0.064	<0.0050	0.11	0.0050	0.0050	A315568
Fluorene	mg/kg	0.027	<0.020	0.098	0.020	0.020	A315568
Phenanthrene	mg/kg	0.12	0.030	0.93	0.010	0.010	A315568
Anthracene	mg/kg	0.021	<0.0040	0.080	0.0040	0.0040	A315568
Fluoranthene	mg/kg	<0.020	<0.020	0.49	0.020	0.020	A315568
Pyrene	mg/kg	<0.020	<0.020	0.22	0.020	0.020	A315568
Benzo(a)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Chrysene	mg/kg	<0.020	<0.020	0.027	0.020	0.020	A315568
Benzo(b&j)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(a)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A315568
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A315568
Calculated Parameters							
LEPH (C10-C19 less PAH)	mg/kg	<100	<100	<100	100	100	A314095
HEPH (C19-C32 less PAH)	mg/kg	<100	<100	330	100	100	A314095
Hydrocarbons							
EPH (C10-C19)	mg/kg	<100	<100	<100	100	100	A315573
EPH (C19-C32)	mg/kg	<100	<100	330	100	100	A315573
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM786	ACM787	ACM789			
Sampling Date		2021/07/21 15:30	2021/07/22 10:45	2021/07/22 11:50			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072121- CT-28	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	RDL	MDL	QC Batch
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	5.4 (1)	64	42 (1)	N/A	N/A	A315568
D8-ACENAPHTHYLENE (sur.)	%	29 (1)	68	61	N/A	N/A	A315568
D8-NAPHTHALENE (sur.)	%	37 (1)	66	62	N/A	N/A	A315568
TERPHENYL-D14 (sur.)	%	5.4 (1)	68	41 (1)	N/A	N/A	A315568
O-TERPHENYL (sur.)	%	80	83	79	N/A	N/A	A315573
RDL = Reportable Detection Limit							
N/A = Not Applicable							
(1) Surrogate recovery below acceptance criteria due to matrix interference.							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM790			
Sampling Date		2021/07/22 12:30			
COC Number		08495594			
	UNITS	CS-11230615-072221- CT-32	RDL	MDL	QC Batch
Calculated Parameters					
Low Molecular Weight PAH's	mg/kg	0.051	0.050	0.050	A314092
High Molecular Weight PAH's	mg/kg	<0.050	0.050	0.050	A314092
Total PAH	mg/kg	0.051	0.050	0.050	A314092
Polycyclic Aromatics					
Quinoline	mg/kg	<0.050	0.050	0.050	A315568
Naphthalene	mg/kg	0.031	0.010	0.010	A315568
1-Methylnaphthalene	mg/kg	<0.050	0.050	0.050	A315568
2-Methylnaphthalene	mg/kg	<0.020	0.020	0.020	A315568
Acenaphthylene	mg/kg	0.020	0.0050	0.0050	A315568
Acenaphthene	mg/kg	<0.0050	0.0050	0.0050	A315568
Fluorene	mg/kg	<0.020	0.020	0.020	A315568
Phenanthrene	mg/kg	<0.010	0.010	0.010	A315568
Anthracene	mg/kg	<0.0040	0.0040	0.0040	A315568
Fluoranthene	mg/kg	<0.020	0.020	0.020	A315568
Pyrene	mg/kg	<0.020	0.020	0.020	A315568
Benzo(a)anthracene	mg/kg	<0.020	0.020	0.020	A315568
Chrysene	mg/kg	<0.020	0.020	0.020	A315568
Benzo(b&j)fluoranthene	mg/kg	<0.020	0.020	0.020	A315568
Benzo(b)fluoranthene	mg/kg	<0.020	0.020	0.020	A315568
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	0.020	A315568
Benzo(a)pyrene	mg/kg	<0.020	0.020	0.020	A315568
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	0.020	0.020	A315568
Dibenz(a,h)anthracene	mg/kg	<0.020	0.020	0.020	A315568
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	0.050	A315568
Calculated Parameters					
LEPH (C10-C19 less PAH)	mg/kg	<100	100	100	A314095
HEPH (C19-C32 less PAH)	mg/kg	<100	100	100	A314095
Hydrocarbons					
EPH (C10-C19)	mg/kg	<100	100	100	A315573
EPH (C19-C32)	mg/kg	<100	100	100	A315573
RDL = Reportable Detection Limit					



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

LEPH & HEPH WITH PAH FOR CSR IN SOIL (SOIL)

BV Labs ID		ACM790			
Sampling Date		2021/07/22 12:30			
COC Number		08495594			
	UNITS	CS-11230615-072221- CT-32	RDL	MDL	QC Batch
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	23 (1)	N/A	N/A	A315568
D8-ACENAPHTHYLENE (sur.)	%	58	N/A	N/A	A315568
D8-NAPHTHALENE (sur.)	%	67	N/A	N/A	A315568
TERPHENYL-D14 (sur.)	%	24 (1)	N/A	N/A	A315568
O-TERPHENYL (sur.)	%	82	N/A	N/A	A315573
RDL = Reportable Detection Limit N/A = Not Applicable (1) Surrogate recovery below acceptance criteria due to matrix interference.					



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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM774	ACM776	ACM777			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-17	CS-11230615-072121-CT-19	CS-11230615-072121-CT-20	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	8.55	9.33	11.4	N/A	N/A	A314929
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	14600	29000	15900	100	100	A314894
Total Antimony (Sb)	mg/kg	65.2	55.6	74.6	0.10	0.10	A314894
Total Arsenic (As)	mg/kg	152	35.9	51.4	0.20	0.20	A314894
Total Barium (Ba)	mg/kg	662	2610	859	0.10	0.10	A314894
Total Beryllium (Be)	mg/kg	0.37	0.37	0.37	0.20	0.20	A314894
Total Bismuth (Bi)	mg/kg	0.40	0.17	0.13	0.10	0.10	A314894
Total Boron (B)	mg/kg	18.5	162	530	1.0	0.30	A314894
Total Cadmium (Cd)	mg/kg	1.64	1.57	1.09	0.050	0.050	A314894
Total Calcium (Ca)	mg/kg	47200	55100	124000	100	100	A314894
Total Chromium (Cr)	mg/kg	51.3	86.7	73.7	0.50	0.50	A314894
Total Cobalt (Co)	mg/kg	18.4	29.6	29.2	0.10	0.10	A314894
Total Copper (Cu)	mg/kg	204	327	343	0.50	0.50	A314894
Total Iron (Fe)	mg/kg	30000	28000	19500	100	100	A314894
Total Lead (Pb)	mg/kg	1320	417	75.9	0.10	0.10	A314894
Total Lithium (Li)	mg/kg	8.55	7.86	9.82	0.50	0.50	A314894
Total Magnesium (Mg)	mg/kg	8910	10700	9540	100	100	A314894
Total Manganese (Mn)	mg/kg	534	936	511	0.20	0.20	A314894
Total Mercury (Hg)	mg/kg	0.547	0.178	0.101	0.050	0.050	A314894
Total Molybdenum (Mo)	mg/kg	10.7	3.92	12.0	0.10	0.050	A314894
Total Nickel (Ni)	mg/kg	52.0	55.6	45.9	0.50	0.50	A314894
Total Phosphorus (P)	mg/kg	1310	1370	1260	10	10	A314894
Total Potassium (K)	mg/kg	2420	3880	4210	100	100	A314894
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A314894
Total Silver (Ag)	mg/kg	0.400	0.689	10.5	0.050	0.050	A314894
Total Sodium (Na)	mg/kg	1010	4080	5820	100	100	A314894
Total Strontium (Sr)	mg/kg	120	230	221	0.10	0.10	A314894
Total Thallium (Tl)	mg/kg	0.136	<0.050	<0.050	0.050	0.050	A314894
Total Tin (Sn)	mg/kg	11.5	134	20.5	0.10	0.10	A314894
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM774	ACM776	ACM777			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	CS-11230615-072121- CT-20	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	704	1990	2240	1.0	1.0	A314894
Total Tungsten (W)	mg/kg	<0.50	<0.50	1.26	0.50	0.50	A314894
Total Uranium (U)	mg/kg	0.770	1.21	0.484	0.050	0.050	A314894
Total Vanadium (V)	mg/kg	86.3	76.5	57.2	1.0	1.0	A314894
Total Zinc (Zn)	mg/kg	1190	2060	2150	1.0	1.0	A314894
Total Zirconium (Zr)	mg/kg	5.38	7.84	13.7	0.50	0.50	A314894
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM778	ACM779	ACM780			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45	2021/07/21 13:10			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-21	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	RDL	MDL	QC Batch
Physical Properties							
Soluble (2:1) pH	pH	8.92	8.93	12.3	N/A	N/A	A314929
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	18400	14500	14000	100	100	A314894
Total Antimony (Sb)	mg/kg	73.3	86.6	13.0	0.10	0.10	A314894
Total Arsenic (As)	mg/kg	31.5	23.6	35.0	0.20	0.20	A314894
Total Barium (Ba)	mg/kg	1090	207	714	0.10	0.10	A314894
Total Beryllium (Be)	mg/kg	0.31	0.28	0.26	0.20	0.20	A314894
Total Bismuth (Bi)	mg/kg	1.72	0.14	0.17	0.10	0.10	A314894
Total Boron (B)	mg/kg	142	22.0	30.0	1.0	0.30	A314894
Total Cadmium (Cd)	mg/kg	3.74	0.553	0.362	0.050	0.050	A314894
Total Calcium (Ca)	mg/kg	52300	15800	39000	100	100	A314894
Total Chromium (Cr)	mg/kg	102	51.4	47.0	0.50	0.50	A314894
Total Cobalt (Co)	mg/kg	51.7	25.5	11.4	0.10	0.10	A314894
Total Copper (Cu)	mg/kg	679	62.2	119	0.50	0.50	A314894
Total Iron (Fe)	mg/kg	21200	30800	24800	100	100	A314894
Total Lead (Pb)	mg/kg	6100	46.4	102	0.10	0.10	A314894
Total Lithium (Li)	mg/kg	15.0	12.3	9.30	0.50	0.50	A314894
Total Magnesium (Mg)	mg/kg	10600	11300	8220	100	100	A314894
Total Manganese (Mn)	mg/kg	928	569	515	0.20	0.20	A314894
Total Mercury (Hg)	mg/kg	0.105	0.072	0.092	0.050	0.050	A314894
Total Molybdenum (Mo)	mg/kg	4.80	1.01	4.06	0.10	0.050	A314894
Total Nickel (Ni)	mg/kg	101	62.4	47.0	0.50	0.50	A314894
Total Phosphorus (P)	mg/kg	1710	644	956	10	10	A314894
Total Potassium (K)	mg/kg	4960	896	1610	100	100	A314894
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A314894
Total Silver (Ag)	mg/kg	1.34	0.092	0.243	0.050	0.050	A314894
Total Sodium (Na)	mg/kg	7160	383	744	100	100	A314894
Total Strontium (Sr)	mg/kg	439	48.8	121	0.10	0.10	A314894
Total Thallium (Tl)	mg/kg	<0.050	0.066	0.057	0.050	0.050	A314894
Total Tin (Sn)	mg/kg	48.2	1.24	8.76	0.10	0.10	A314894
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM778	ACM779	ACM780			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45	2021/07/21 13:10			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	4080	582	815	1.0	1.0	A314894
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A314894
Total Uranium (U)	mg/kg	0.614	0.359	0.742	0.050	0.050	A314894
Total Vanadium (V)	mg/kg	51.1	53.9	66.4	1.0	1.0	A314894
Total Zinc (Zn)	mg/kg	14800	1520	1320	1.0	1.0	A314894
Total Zirconium (Zr)	mg/kg	14.6	4.36	2.85	0.50	0.50	A314894
RDL = Reportable Detection Limit							



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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM780	ACM781	ACM782			
Sampling Date		2021/07/21 13:10	2021/07/21 13:40	2021/07/21 14:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-23 Lab-Dup	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	12.2	8.00	9.84	N/A	N/A	A314929
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	N/A	15500	12600	100	100	A314894
Total Antimony (Sb)	mg/kg	N/A	399	38.0	0.10	0.10	A314894
Total Arsenic (As)	mg/kg	N/A	28.7	104	0.20	0.20	A314894
Total Barium (Ba)	mg/kg	N/A	260	346	0.10	0.10	A314894
Total Beryllium (Be)	mg/kg	N/A	0.29	0.34	0.20	0.20	A314894
Total Bismuth (Bi)	mg/kg	N/A	0.72	0.32	0.10	0.10	A314894
Total Boron (B)	mg/kg	N/A	47.8	22.7	1.0	0.30	A314894
Total Cadmium (Cd)	mg/kg	N/A	0.706	0.749	0.050	0.050	A314894
Total Calcium (Ca)	mg/kg	N/A	12500	52200	100	100	A314894
Total Chromium (Cr)	mg/kg	N/A	68.2	43.2	0.50	0.50	A314894
Total Cobalt (Co)	mg/kg	N/A	11.3	16.2	0.10	0.10	A314894
Total Copper (Cu)	mg/kg	N/A	195	368	0.50	0.50	A314894
Total Iron (Fe)	mg/kg	N/A	26000	23800	100	100	A314894
Total Lead (Pb)	mg/kg	N/A	7680	333	0.10	0.10	A314894
Total Lithium (Li)	mg/kg	N/A	8.59	7.62	0.50	0.50	A314894
Total Magnesium (Mg)	mg/kg	N/A	7150	7310	100	100	A314894
Total Manganese (Mn)	mg/kg	N/A	585	576	0.20	0.20	A314894
Total Mercury (Hg)	mg/kg	N/A	0.152	<0.050	0.050	0.050	A314894
Total Molybdenum (Mo)	mg/kg	N/A	1.41	6.36	0.10	0.050	A314894
Total Nickel (Ni)	mg/kg	N/A	40.5	42.5	0.50	0.50	A314894
Total Phosphorus (P)	mg/kg	N/A	1080	2000	10	10	A314894
Total Potassium (K)	mg/kg	N/A	2110	3400	100	100	A314894
Total Selenium (Se)	mg/kg	N/A	<0.50	<0.50	0.50	0.50	A314894
Total Silver (Ag)	mg/kg	N/A	0.499	0.570	0.050	0.050	A314894
Total Sodium (Na)	mg/kg	N/A	1130	2950	100	100	A314894
Total Strontium (Sr)	mg/kg	N/A	60.5	134	0.10	0.10	A314894
Total Thallium (Tl)	mg/kg	N/A	0.076	0.073	0.050	0.050	A314894
RDL = Reportable Detection Limit							
Lab-Dup = Laboratory Initiated Duplicate							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM780	ACM781	ACM782			
Sampling Date		2021/07/21 13:10	2021/07/21 13:40	2021/07/21 14:00			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-23 Lab-Dup	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	RDL	MDL	QC Batch
Total Tin (Sn)	mg/kg	N/A	19.3	10.2	0.10	0.10	A314894
Total Titanium (Ti)	mg/kg	N/A	1250	775	1.0	1.0	A314894
Total Tungsten (W)	mg/kg	N/A	<0.50	<0.50	0.50	0.50	A314894
Total Uranium (U)	mg/kg	N/A	0.760	1.02	0.050	0.050	A314894
Total Vanadium (V)	mg/kg	N/A	53.6	48.3	1.0	1.0	A314894
Total Zinc (Zn)	mg/kg	N/A	827	1710	1.0	1.0	A314894
Total Zirconium (Zr)	mg/kg	N/A	5.84	6.30	0.50	0.50	A314894
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	8.28	9.26	11.8	N/A	N/A	A314929
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	17400	20900	19500	100	100	A314894
Total Antimony (Sb)	mg/kg	39.8	3.99	3.09	0.10	0.10	A314894
Total Arsenic (As)	mg/kg	119	7.64	4.97	0.20	0.20	A314894
Total Barium (Ba)	mg/kg	299	199	436	0.10	0.10	A314894
Total Beryllium (Be)	mg/kg	0.30	0.26	<0.20	0.20	0.20	A314894
Total Bismuth (Bi)	mg/kg	0.20	<0.10	0.26	0.10	0.10	A314894
Total Boron (B)	mg/kg	43.2	72.5	95.1	1.0	0.30	A314894
Total Cadmium (Cd)	mg/kg	1.28	0.436	2.97	0.050	0.050	A314894
Total Calcium (Ca)	mg/kg	27700	67200	159000	100	100	A314894
Total Chromium (Cr)	mg/kg	52.8	37.9	24.8	0.50	0.50	A314894
Total Cobalt (Co)	mg/kg	17.2	9.77	8.81	0.10	0.10	A314894
Total Copper (Cu)	mg/kg	646	4060	160	0.50	0.50	A314894
Total Iron (Fe)	mg/kg	24300	21800	14800	100	100	A314894
Total Lead (Pb)	mg/kg	127	163	69.0	0.10	0.10	A314894
Total Lithium (Li)	mg/kg	8.37	7.96	5.40	0.50	0.50	A314894
Total Magnesium (Mg)	mg/kg	8770	7870	16400	100	100	A314894
Total Manganese (Mn)	mg/kg	526	472	608	0.20	0.20	A314894
Total Mercury (Hg)	mg/kg	0.050	0.077	0.053	0.050	0.050	A314894
Total Molybdenum (Mo)	mg/kg	9.55	1.68	4.85	0.10	0.050	A314894
Total Nickel (Ni)	mg/kg	41.6	37.2	30.2	0.50	0.50	A314894
Total Phosphorus (P)	mg/kg	958	1340	4210	10	10	A314894
Total Potassium (K)	mg/kg	2270	3300	24000	100	100	A314894
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A314894
Total Silver (Ag)	mg/kg	0.358	0.289	0.453	0.050	0.050	A314894
Total Sodium (Na)	mg/kg	1400	913	1870	100	100	A314894
Total Strontium (Sr)	mg/kg	90.0	228	822	0.10	0.10	A314894
Total Thallium (Tl)	mg/kg	0.068	0.052	<0.050	0.050	0.050	A314894
Total Tin (Sn)	mg/kg	7.90	72.4	22.3	0.10	0.10	A314894
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM783	ACM785	ACM786			
Sampling Date		2021/07/21 14:30	2021/07/21 15:00	2021/07/21 15:30			
COC Number		08495597	08495594	08495594			
	UNITS	CS-11230615-072121- CT-26	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	774	3490	542	1.0	1.0	A314894
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A314894
Total Uranium (U)	mg/kg	0.580	0.922	0.277	0.050	0.050	A314894
Total Vanadium (V)	mg/kg	46.6	58.0	36.2	1.0	1.0	A314894
Total Zinc (Zn)	mg/kg	3450	414	747	1.0	1.0	A314894
Total Zirconium (Zr)	mg/kg	6.38	8.14	3.21	0.50	0.50	A314894
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch

Physical Properties							
Soluble (2:1) pH	pH	9.74	11.7	12.5	N/A	N/A	A314929
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	14100	13800	18400	100	100	A314894
Total Antimony (Sb)	mg/kg	13.8	34.1	15.6	0.10	0.10	A314894
Total Arsenic (As)	mg/kg	12.8	34.5	14.7	0.20	0.20	A314894
Total Barium (Ba)	mg/kg	173	220	435	0.10	0.10	A314894
Total Beryllium (Be)	mg/kg	0.23	<0.20	0.23	0.20	0.20	A314894
Total Bismuth (Bi)	mg/kg	0.22	0.86	0.24	0.10	0.10	A314894
Total Boron (B)	mg/kg	552	116	74.2	1.0	0.30	A314894
Total Cadmium (Cd)	mg/kg	0.778	0.880	0.360	0.050	0.050	A314894
Total Calcium (Ca)	mg/kg	68200	84500	106000	100	100	A314894
Total Chromium (Cr)	mg/kg	37.1	67.3	22.4	0.50	0.50	A314894
Total Cobalt (Co)	mg/kg	137	11.7	9.26	0.10	0.10	A314894
Total Copper (Cu)	mg/kg	133	143	5900	0.50	0.50	A314894
Total Iron (Fe)	mg/kg	23600	18500	25000	100	100	A314894
Total Lead (Pb)	mg/kg	29.4	20.1	28.1	0.10	0.10	A314894
Total Lithium (Li)	mg/kg	7.57	5.74	6.33	0.50	0.50	A314894
Total Magnesium (Mg)	mg/kg	9310	7780	7710	100	100	A314894
Total Manganese (Mn)	mg/kg	507	665	575	0.20	0.20	A314894
Total Mercury (Hg)	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A314894
Total Molybdenum (Mo)	mg/kg	3.08	2.34	3.68	0.10	0.050	A314894
Total Nickel (Ni)	mg/kg	34.1	64.0	26.3	0.50	0.50	A314894
Total Phosphorus (P)	mg/kg	8730	1170	1580	10	10	A314894
Total Potassium (K)	mg/kg	10900	3420	3810	100	100	A314894
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	0.50	0.50	A314894
Total Silver (Ag)	mg/kg	0.267	0.360	0.394	0.050	0.050	A314894
Total Sodium (Na)	mg/kg	7530	2770	3370	100	100	A314894
Total Strontium (Sr)	mg/kg	250	192	306	0.10	0.10	A314894
Total Thallium (Tl)	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A314894
Total Tin (Sn)	mg/kg	18.9	44.0	13.3	0.10	0.10	A314894
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR/CCME METALS IN SOIL WITH HG (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch
Total Titanium (Ti)	mg/kg	823	1860	931	1.0	1.0	A314894
Total Tungsten (W)	mg/kg	1.18	<0.50	<0.50	0.50	0.50	A314894
Total Uranium (U)	mg/kg	0.503	0.474	0.634	0.050	0.050	A314894
Total Vanadium (V)	mg/kg	39.4	55.6	88.2	1.0	1.0	A314894
Total Zinc (Zn)	mg/kg	502	1230	2350	1.0	1.0	A314894
Total Zirconium (Zr)	mg/kg	5.88	9.89	5.21	0.50	0.50	A314894
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACM774	ACM776	ACM777			
Sampling Date		2021/07/21 10:20	2021/07/21 11:00	2021/07/21 11:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-19	CS-11230615-072121- CT-20	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	0.17	0.13	0.17	0.10	0.020	A317070
Leachate Arsenic (As)	mg/L	0.15	<0.10	<0.10	0.10	0.0020	A317070
Leachate Barium (Ba)	mg/L	5.85	1.09	0.32	0.10	0.020	A317070
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Boron (B)	mg/L	1.11	2.49	4.99	0.10	0.10	A317070
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A317070
Leachate Copper (Cu)	mg/L	<0.10	<0.10	<0.10	0.10	0.0040	A317070
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A317070
Leachate Lead (Pb)	mg/L	3.45	<0.10	<0.10	0.10	0.00040	A317070
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A317070
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A317070
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Vanadium (V)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070
Leachate Zinc (Zn)	mg/L	25.7	9.34	2.47	0.10	0.10	A317070
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070

RDL = Reportable Detection Limit



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACM778	ACM779	ACM780			
Sampling Date		2021/07/21 11:45	2021/07/21 12:45	2021/07/21 13:10			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-21	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	0.16	2.94	0.10	0.10	0.020	A317070
Leachate Arsenic (As)	mg/L	<0.10	0.13	<0.10	0.10	0.0020	A317070
Leachate Barium (Ba)	mg/L	0.62	0.43	1.46	0.10	0.020	A317070
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Boron (B)	mg/L	1.63	2.12	0.87	0.10	0.10	A317070
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Cobalt (Co)	mg/L	0.25	0.67	<0.10	0.10	0.010	A317070
Leachate Copper (Cu)	mg/L	0.20	<0.10	<0.10	0.10	0.0040	A317070
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A317070
Leachate Lead (Pb)	mg/L	1.90	<0.10	<0.10	0.10	0.00040	A317070
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A317070
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A317070
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Vanadium (V)	mg/L	<0.10	<0.10	0.18	0.10	0.10	A317070
Leachate Zinc (Zn)	mg/L	172	104	<0.10	0.10	0.10	A317070
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070

RDL = Reportable Detection Limit



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACM781	ACM782	ACM783			
Sampling Date		2021/07/21 13:40	2021/07/21 14:00	2021/07/21 14:30			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-24	CS-11230615-072121- CT-25	CS-11230615-072121- CT-26	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	2.06	1.07	0.30	0.10	0.020	A317070
Leachate Arsenic (As)	mg/L	<0.10	0.67	<0.10	0.10	0.0020	A317070
Leachate Barium (Ba)	mg/L	1.34	0.89	0.22	0.10	0.020	A317070
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Boron (B)	mg/L	0.97	0.63	3.47	0.10	0.10	A317070
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A317070
Leachate Copper (Cu)	mg/L	<0.10	<0.10	<0.10	0.10	0.0040	A317070
Leachate Iron (Fe)	mg/L	9.98	<0.50	<0.50	0.50	0.10	A317070
Leachate Lead (Pb)	mg/L	56.5	0.26	<0.10	0.10	0.00040	A317070
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A317070
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A317070
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Vanadium (V)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070
Leachate Zinc (Zn)	mg/L	24.6	6.55	47.7	0.10	0.10	A317070
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070

RDL = Reportable Detection Limit



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACM785	ACM786	ACM787			
Sampling Date		2021/07/21 15:00	2021/07/21 15:30	2021/07/22 10:45			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072121- CT-27	CS-11230615-072121- CT-28	CS-11230615-072221- CT-29	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	<0.10	<0.10	0.11	0.10	0.020	A317070
Leachate Arsenic (As)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Barium (Ba)	mg/L	0.40	1.19	0.49	0.10	0.020	A317070
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Boron (B)	mg/L	2.38	0.69	16.3	0.10	0.10	A317070
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A317070
Leachate Copper (Cu)	mg/L	0.24	<0.10	<0.10	0.10	0.0040	A317070
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A317070
Leachate Lead (Pb)	mg/L	<0.10	<0.10	<0.10	0.10	0.00040	A317070
Leachate Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	0.0020	A317070
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A317070
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Vanadium (V)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070
Leachate Zinc (Zn)	mg/L	0.39	7.41	0.25	0.10	0.10	A317070
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070

RDL = Reportable Detection Limit



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

TCLP METALS (SOIL)

BV Labs ID		ACM787	ACM789	ACM790			
Sampling Date		2021/07/22 10:45	2021/07/22 11:50	2021/07/22 12:30			
COC Number		08495594	08495594	08495594			
	UNITS	CS-11230615-072221- CT-29 Lab-Dup	CS-11230615-072221- CT-31	CS-11230615-072221- CT-32	RDL	MDL	QC Batch

TCLP Extraction Procedure							
Leachate Antimony (Sb)	mg/L	0.11	0.11	0.17	0.10	0.020	A317070
Leachate Arsenic (As)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Barium (Ba)	mg/L	0.49	0.72	0.52	0.10	0.020	A317070
Leachate Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Boron (B)	mg/L	16.6	4.42	2.07	0.10	0.10	A317070
Leachate Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	0.010	A317070
Leachate Copper (Cu)	mg/L	<0.10	<0.10	0.29	0.10	0.0040	A317070
Leachate Iron (Fe)	mg/L	<0.50	<0.50	<0.50	0.50	0.10	A317070
Leachate Lead (Pb)	mg/L	<0.10	<0.10	<0.10	0.10	0.00040	A317070
Leachate Mercury (Hg)	mg/L	<0.0020	0.0074	0.0042	0.0020	0.0020	A317070
Leachate Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Nickel (Ni)	mg/L	<0.10	<0.10	0.18	0.10	0.020	A317070
Leachate Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Silver (Ag)	mg/L	<0.010	<0.010	<0.010	0.010	0.0020	A317070
Leachate Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	0.0020	A317070
Leachate Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	0.020	A317070
Leachate Vanadium (V)	mg/L	<0.10	0.27	0.30	0.10	0.10	A317070
Leachate Zinc (Zn)	mg/L	0.25	<0.10	7.94	0.10	0.10	A317070
Leachate Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	0.10	A317070

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM774	ACM774			ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20			2021/07/21 11:00			
COC Number		08495597	08495597			08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	RDL	MDL	CS-11230615-072121- CT-19	RDL	MDL	QC Batch

Calculated Parameters									
VPH (VH6 to 10 - BTEX)	mg/kg	<34	N/A	34	34	<34	34	34	A314096
Volatiles									
VH C6-C10	mg/kg	<34 (1)	<34	34	34	<34 (1)	34	34	A314722
1,1,1,2-tetrachloroethane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,1,1-trichloroethane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,1,2,2-tetrachloroethane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,1,2-trichloroethane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,1-dichloroethane	mg/kg	<0.086 (1)	<0.086	0.086	0.086	<0.084 (1)	0.084	0.084	A314722
1,1-dichloroethene	mg/kg	<0.086 (1)	<0.086	0.086	0.086	<0.084 (1)	0.084	0.084	A314722
1,2,3-trichlorobenzene	mg/kg	<0.10 (1)	<0.10	0.10	0.10	<0.10 (1)	0.10	0.10	A314722
1,2,4-trichlorobenzene	mg/kg	<0.10 (1)	<0.10	0.10	0.10	<0.10 (1)	0.10	0.10	A314722
1,2-dibromoethane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,2-dichlorobenzene	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,2-dichloroethane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,2-dichloropropane	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,3,5-trimethylbenzene	mg/kg	<0.69 (1)	<0.69	0.69	0.69	<0.67 (1)	0.67	0.67	A314722
1,3-dichlorobenzene	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
1,4-dichlorobenzene	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
Benzene	mg/kg	6.2 (1)	6.3	0.017	0.017	5.8 (1)	0.017	0.017	A314722
Bromobenzene	mg/kg	<0.69 (1)	<0.69	0.69	0.69	<0.67 (1)	0.67	0.67	A314722
Bromodichloromethane	mg/kg	<0.17 (1)	<0.17	0.17	0.17	<0.17 (1)	0.17	0.17	A314722
Bromoform	mg/kg	<0.17 (1)	<0.17	0.17	0.17	<0.17 (1)	0.17	0.17	A314722
Bromomethane	mg/kg	<1.0 (2)	<1.0	1.0	1.0	<1.0 (1)	1.0	1.0	A314722
Carbon tetrachloride	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
Chlorobenzene	mg/kg	<0.069 (1)	<0.069	0.069	0.069	0.13 (1)	0.067	0.067	A314722

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Detection limits raised based on sample weight or volume used for analysis.

(2) Detection limits raised based on sample weight or volume used for analysis.

Matrix Spike recovery below acceptance criteria. DLC within criteria, sensitivity is not an issue, As results are non-detect, there is no impact on data quality.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM774	ACM774			ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20			2021/07/21 11:00			
COC Number		08495597	08495597			08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	RDL	MDL	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
Dibromochloromethane	mg/kg	<0.17 (1)	<0.17	0.17	0.17	<0.17 (1)	0.17	0.17	A314722
Chloroethane	mg/kg	<0.34 (2)	<0.34	0.34	0.34	<0.34 (1)	0.34	0.34	A314722
Chloroform	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
Chloromethane	mg/kg	<0.17 (2)	<0.17	0.17	0.17	<0.17 (1)	0.17	0.17	A314722
cis-1,2-dichloroethene	mg/kg	<0.10 (1)	<0.10	0.10	0.10	<0.10 (1)	0.10	0.10	A314722
cis-1,3-dichloropropene	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
Dichloromethane	mg/kg	<0.27 (1)	<0.27	0.27	0.27	<0.27 (1)	0.27	0.27	A314722
Ethylbenzene	mg/kg	0.73 (1)	0.75	0.034	0.034	0.68 (1)	0.034	0.034	A314722
Hexachlorobutadiene	mg/kg	<0.69 (1)	<0.69	0.69	0.69	<0.67 (1)	0.67	0.67	A314722
Isopropylbenzene	mg/kg	<0.69 (1)	<0.69	0.69	0.69	<0.67 (1)	0.67	0.67	A314722
Methyl-tert-butylether (MTBE)	mg/kg	<0.34 (1)	<0.34	0.34	0.34	<0.34 (1)	0.34	0.34	A314722
Styrene	mg/kg	0.21 (1)	0.22	0.10	0.10	0.21 (1)	0.10	0.10	A314722
Tetrachloroethene	mg/kg	<0.034 (1)	<0.034	0.034	0.034	0.039 (1)	0.034	0.034	A314722
Toluene	mg/kg	2.3 (1)	2.4	0.17	0.17	1.8 (1)	0.17	0.17	A314722
trans-1,2-dichloroethene	mg/kg	<0.10 (1)	<0.10	0.10	0.10	<0.10 (1)	0.10	0.10	A314722
trans-1,3-dichloropropene	mg/kg	<0.069 (1)	<0.069	0.069	0.069	<0.067 (1)	0.067	0.067	A314722
Trichloroethene	mg/kg	<0.031 (1)	<0.031	0.031	0.031	<0.030 (1)	0.030	0.030	A314722
Trichlorofluoromethane	mg/kg	<0.69 (1)	<0.69	0.69	0.69	<0.67 (1)	0.67	0.67	A314722
Vinyl chloride	mg/kg	<0.14 (2)	<0.14	0.14	0.14	<0.13 (1)	0.13	0.13	A314722
m & p-Xylene	mg/kg	0.37 (1)	0.38	0.14	0.14	0.26 (1)	0.13	0.13	A314722
o-Xylene	mg/kg	0.16 (1)	0.17	0.14	0.14	0.20 (1)	0.13	0.13	A314722
Xylenes (Total)	mg/kg	0.52	0.54	0.14	0.14	0.45	0.13	0.13	A314722
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	96	96	N/A	N/A	97	N/A	N/A	A314722
4-Bromofluorobenzene (sur.)	%	90	94	N/A	N/A	94	N/A	N/A	A314722
D10-o-Xylene (sur.)	%	53	53	N/A	N/A	66	N/A	N/A	A314722

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Detection limits raised based on sample weight or volume used for analysis.

(2) Detection limits raised based on sample weight or volume used for analysis.

Matrix Spike recovery below acceptance criteria. DLC within criteria, sensitivity is not an issue, As results are non-detect, there is no impact on data quality.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM774	ACM774			ACM776			
Sampling Date		2021/07/21 10:20	2021/07/21 10:20			2021/07/21 11:00			
COC Number		08495597	08495597			08495597			
	UNITS	CS-11230615-072121- CT-17	CS-11230615-072121- CT-17 Lab-Dup	RDL	MDL	CS-11230615-072121- CT-19	RDL	MDL	QC Batch
D4-1,2-Dichloroethane (sur.)	%	92	93	N/A	N/A	93	N/A	N/A	A314722

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM777			ACM778			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121-CT-20	RDL	MDL	CS-11230615-072121-CT-21	RDL	MDL	QC Batch
Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<10	10	10	<31	31	31	A314096
Volatiles								
VH C6-C10	mg/kg	21	10	10	<31 (1)	31	31	A314722
1,1,1,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,1,1-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,1,2,2-tetrachloroethane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,1,2-trichloroethane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,1-dichloroethane	mg/kg	<0.025	0.025	0.025	<0.078 (1)	0.078	0.078	A314722
1,1-dichloroethene	mg/kg	<0.025	0.025	0.025	<0.078 (1)	0.078	0.078	A314722
1,2,3-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.093 (1)	0.093	0.093	A314722
1,2,4-trichlorobenzene	mg/kg	<0.030	0.030	0.030	<0.093 (1)	0.093	0.093	A314722
1,2-dibromoethane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,2-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,2-dichloroethane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,2-dichloropropane	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,3,5-trimethylbenzene	mg/kg	0.25	0.20	0.20	<0.62 (1)	0.62	0.62	A314722
1,3-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
1,4-dichlorobenzene	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
Benzene	mg/kg	2.0	0.0050	0.0050	3.9 (1)	0.016	0.016	A314722
Bromobenzene	mg/kg	<0.20	0.20	0.20	<0.62 (1)	0.62	0.62	A314722
Bromodichloromethane	mg/kg	<0.050	0.050	0.050	<0.16 (1)	0.16	0.16	A314722
Bromoform	mg/kg	<0.050	0.050	0.050	<0.16 (1)	0.16	0.16	A314722
Bromomethane	mg/kg	<0.30	0.30	0.30	<0.93 (1)	0.93	0.93	A314722
Carbon tetrachloride	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
Chlorobenzene	mg/kg	0.069	0.020	0.020	<0.038 (1)	0.038	0.038	A314722
Dibromochloromethane	mg/kg	<0.050	0.050	0.050	<0.16 (1)	0.16	0.16	A314722
Chloroethane	mg/kg	<0.10	0.10	0.10	<0.31 (1)	0.31	0.31	A314722
Chloroform	mg/kg	<0.079 (1)	0.079	0.079	<0.062 (1)	0.062	0.062	A314722
Chloromethane	mg/kg	<0.050	0.050	0.050	<0.16 (1)	0.16	0.16	A314722
cis-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.093 (1)	0.093	0.093	A314722
RDL = Reportable Detection Limit								
(1) Detection limits raised based on sample weight or volume used for analysis.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM777			ACM778			
Sampling Date		2021/07/21 11:30			2021/07/21 11:45			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-20	RDL	MDL	CS-11230615-072121- CT-21	RDL	MDL	QC Batch
cis-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
Dichloromethane	mg/kg	<0.080	0.080	0.080	<0.25 (1)	0.25	0.25	A314722
Ethylbenzene	mg/kg	3.1	0.010	0.010	0.34 (1)	0.031	0.031	A314722
Hexachlorobutadiene	mg/kg	<0.20	0.20	0.20	<0.62 (1)	0.62	0.62	A314722
Isopropylbenzene	mg/kg	0.40	0.20	0.20	<0.62 (1)	0.62	0.62	A314722
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	0.10	<0.31 (1)	0.31	0.31	A314722
Styrene	mg/kg	3.2	0.030	0.030	0.24 (1)	0.093	0.093	A314722
Tetrachloroethene	mg/kg	<0.010	0.010	0.010	0.049 (1)	0.031	0.031	A314722
Toluene	mg/kg	6.0	0.050	0.050	1.6 (1)	0.16	0.16	A314722
trans-1,2-dichloroethene	mg/kg	<0.030	0.030	0.030	<0.093 (1)	0.093	0.093	A314722
trans-1,3-dichloropropene	mg/kg	<0.020	0.020	0.020	<0.062 (1)	0.062	0.062	A314722
Trichloroethene	mg/kg	<0.0090	0.0090	0.0090	<0.028 (1)	0.028	0.028	A314722
Trichlorofluoromethane	mg/kg	<0.20	0.20	0.20	<0.62 (1)	0.62	0.62	A314722
Vinyl chloride	mg/kg	<0.040	0.040	0.040	<0.12 (1)	0.12	0.12	A314722
m & p-Xylene	mg/kg	1.5	0.040	0.040	0.28 (1)	0.12	0.12	A314722
o-Xylene	mg/kg	0.59	0.040	0.040	<0.12 (1)	0.12	0.12	A314722
Xylenes (Total)	mg/kg	2.1	0.040	0.040	0.28	0.12	0.12	A314722
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	97	N/A	N/A	98	N/A	N/A	A314722
4-Bromofluorobenzene (sur.)	%	104	N/A	N/A	97	N/A	N/A	A314722
D10-o-Xylene (sur.)	%	72	N/A	N/A	82	N/A	N/A	A314722
D4-1,2-Dichloroethane (sur.)	%	94	N/A	N/A	96	N/A	N/A	A314722
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Detection limits raised based on sample weight or volume used for analysis.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121-CT-22	CS-11230615-072121-CT-23	CS-11230615-072121-CT-24	RDL	MDL	QC Batch
Calculated Parameters							
VPH (VH6 to 10 - BTEX)	mg/kg	<10	<10	<10	10	10	A314096
Volatiles							
VH C6-C10	mg/kg	<10	<10	<10	10	10	A314722
1,1,1,2-tetrachloroethane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,1,1-trichloroethane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,1,2,2-tetrachloroethane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,1,2-trichloroethane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,1-dichloroethane	mg/kg	<0.025	<0.025	<0.025	0.025	0.025	A314722
1,1-dichloroethene	mg/kg	<0.025	<0.025	<0.025	0.025	0.025	A314722
1,2,3-trichlorobenzene	mg/kg	<0.030	<0.030	<0.030	0.030	0.030	A314722
1,2,4-trichlorobenzene	mg/kg	<0.030	<0.030	<0.030	0.030	0.030	A314722
1,2-dibromoethane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,2-dichlorobenzene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,2-dichloroethane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,2-dichloropropane	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,3,5-trimethylbenzene	mg/kg	<0.20	<0.20	<0.20	0.20	0.20	A314722
1,3-dichlorobenzene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
1,4-dichlorobenzene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
Benzene	mg/kg	0.050	0.43	0.025	0.0050	0.0050	A314722
Bromobenzene	mg/kg	<0.20	<0.20	<0.20	0.20	0.20	A314722
Bromodichloromethane	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A314722
Bromoform	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A314722
Bromomethane	mg/kg	<0.30	<0.30	<0.30	0.30	0.30	A314722
Carbon tetrachloride	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
Chlorobenzene	mg/kg	<0.020	0.045	<0.020	0.020	0.020	A314722
Dibromochloromethane	mg/kg	<0.050	<0.050	<0.050	0.050	0.050	A314722
Chloroethane	mg/kg	<0.10	<0.10	<0.10	0.10	0.10	A314722
Chloroform	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
Chloromethane	mg/kg	<0.050	0.12	<0.050	0.050	0.050	A314722
cis-1,2-dichloroethene	mg/kg	<0.030	<0.030	<0.030	0.030	0.030	A314722
cis-1,3-dichloropropene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
RDL = Reportable Detection Limit							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM779	ACM780	ACM781			
Sampling Date		2021/07/21 12:45	2021/07/21 13:10	2021/07/21 13:40			
COC Number		08495597	08495597	08495597			
	UNITS	CS-11230615-072121- CT-22	CS-11230615-072121- CT-23	CS-11230615-072121- CT-24	RDL	MDL	QC Batch
Dichloromethane	mg/kg	<0.080	<0.080	<0.080	0.080	0.080	A314722
Ethylbenzene	mg/kg	0.026	0.13	0.012	0.010	0.010	A314722
Hexachlorobutadiene	mg/kg	<0.20	<0.20	<0.20	0.20	0.20	A314722
Isopropylbenzene	mg/kg	<0.20	<0.20	<0.20	0.20	0.20	A314722
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	<0.10	0.10	0.10	A314722
Styrene	mg/kg	0.11	0.070	0.034	0.030	0.030	A314722
Tetrachloroethene	mg/kg	<0.010	<0.010	<0.010	0.010	0.010	A314722
Toluene	mg/kg	<0.050	0.60	<0.050	0.050	0.050	A314722
trans-1,2-dichloroethene	mg/kg	<0.030	<0.030	<0.030	0.030	0.030	A314722
trans-1,3-dichloropropene	mg/kg	<0.020	<0.020	<0.020	0.020	0.020	A314722
Trichloroethene	mg/kg	<0.0090	<0.0090	<0.0090	0.0090	0.0090	A314722
Trichlorofluoromethane	mg/kg	<0.20	<0.20	<0.20	0.20	0.20	A314722
Vinyl chloride	mg/kg	<0.040	<0.040	<0.040	0.040	0.040	A314722
m & p-Xylene	mg/kg	<0.040	0.16	<0.040	0.040	0.040	A314722
o-Xylene	mg/kg	<0.040	0.075	<0.040	0.040	0.040	A314722
Xylenes (Total)	mg/kg	<0.040	0.23	<0.040	0.040	0.040	A314722
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	101	100	101	N/A	N/A	A314722
4-Bromofluorobenzene (sur.)	%	97	96	95	N/A	N/A	A314722
D10-o-Xylene (sur.)	%	83	83	92	N/A	N/A	A314722
D4-1,2-Dichloroethane (sur.)	%	102	100	103	N/A	N/A	A314722
RDL = Reportable Detection Limit							
N/A = Not Applicable							



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM782			ACM783			
Sampling Date		2021/07/21 14:00			2021/07/21 14:30			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-25	RDL	MDL	CS-11230615-072121- CT-26	RDL	MDL	QC Batch

Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<24	24	24	<28	28	28	A314096
Volatiles								
VH C6-C10	mg/kg	<24 (1)	24	24	<28 (1)	28	28	A314722
1,1,1,2-tetrachloroethane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,1,1-trichloroethane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,1,2,2-tetrachloroethane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,1,2-trichloroethane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,1-dichloroethane	mg/kg	<0.060 (1)	0.060	0.060	<0.071 (1)	0.071	0.071	A314722
1,1-dichloroethene	mg/kg	<0.060 (1)	0.060	0.060	<0.071 (1)	0.071	0.071	A314722
1,2,3-trichlorobenzene	mg/kg	<0.072 (1)	0.072	0.072	<0.085 (1)	0.085	0.085	A314722
1,2,4-trichlorobenzene	mg/kg	<0.072 (1)	0.072	0.072	<0.085 (1)	0.085	0.085	A314722
1,2-dibromoethane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,2-dichlorobenzene	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,2-dichloroethane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,2-dichloropropane	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,3,5-trimethylbenzene	mg/kg	<0.48 (1)	0.48	0.48	<0.57 (1)	0.57	0.57	A314722
1,3-dichlorobenzene	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
1,4-dichlorobenzene	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
Benzene	mg/kg	0.39 (1)	0.012	0.012	1.0 (1)	0.014	0.014	A314722
Bromobenzene	mg/kg	<0.48 (1)	0.48	0.48	<0.57 (1)	0.57	0.57	A314722
Bromodichloromethane	mg/kg	<0.12 (1)	0.12	0.12	<0.14 (1)	0.14	0.14	A314722
Bromoform	mg/kg	<0.12 (1)	0.12	0.12	<0.14 (1)	0.14	0.14	A314722
Bromomethane	mg/kg	<0.72 (1)	0.72	0.72	<0.85 (1)	0.85	0.85	A314722
Carbon tetrachloride	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
Chlorobenzene	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
Dibromochloromethane	mg/kg	<0.12 (1)	0.12	0.12	<0.14 (1)	0.14	0.14	A314722
Chloroethane	mg/kg	<0.24 (1)	0.24	0.24	<0.28 (1)	0.28	0.28	A314722
Chloroform	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
Chloromethane	mg/kg	0.33 (1)	0.12	0.12	<0.14 (1)	0.14	0.14	A314722
cis-1,2-dichloroethene	mg/kg	<0.072 (1)	0.072	0.072	<0.085 (1)	0.085	0.085	A314722
RDL = Reportable Detection Limit								
(1) Detection limits raised based on sample weight or volume used for analysis.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM782			ACM783			
Sampling Date		2021/07/21 14:00			2021/07/21 14:30			
COC Number		08495597			08495597			
	UNITS	CS-11230615-072121- CT-25	RDL	MDL	CS-11230615-072121- CT-26	RDL	MDL	QC Batch
cis-1,3-dichloropropene	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
Dichloromethane	mg/kg	<0.19 (1)	0.19	0.19	<0.23 (1)	0.23	0.23	A314722
Ethylbenzene	mg/kg	<0.024 (1)	0.024	0.024	0.37 (1)	0.028	0.028	A314722
Hexachlorobutadiene	mg/kg	<0.48 (1)	0.48	0.48	<0.57 (1)	0.57	0.57	A314722
Isopropylbenzene	mg/kg	<0.48 (1)	0.48	0.48	<0.57 (1)	0.57	0.57	A314722
Methyl-tert-butylether (MTBE)	mg/kg	<0.24 (1)	0.24	0.24	<0.28 (1)	0.28	0.28	A314722
Styrene	mg/kg	<0.072 (1)	0.072	0.072	0.57 (1)	0.085	0.085	A314722
Tetrachloroethene	mg/kg	<0.024 (1)	0.024	0.024	<0.028 (1)	0.028	0.028	A314722
Toluene	mg/kg	<0.12 (1)	0.12	0.12	1.4 (1)	0.14	0.14	A314722
trans-1,2-dichloroethene	mg/kg	<0.072 (1)	0.072	0.072	<0.085 (1)	0.085	0.085	A314722
trans-1,3-dichloropropene	mg/kg	<0.048 (1)	0.048	0.048	<0.057 (1)	0.057	0.057	A314722
Trichloroethene	mg/kg	<0.022 (1)	0.022	0.022	<0.025 (1)	0.025	0.025	A314722
Trichlorofluoromethane	mg/kg	<0.48 (1)	0.48	0.48	<0.57 (1)	0.57	0.57	A314722
Vinyl chloride	mg/kg	<0.096 (1)	0.096	0.096	<0.11 (1)	0.11	0.11	A314722
m & p-Xylene	mg/kg	<0.096 (1)	0.096	0.096	0.46 (1)	0.11	0.11	A314722
o-Xylene	mg/kg	<0.096 (1)	0.096	0.096	0.23 (1)	0.11	0.11	A314722
Xylenes (Total)	mg/kg	<0.096	0.096	0.096	0.69	0.11	0.11	A314722
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	101	N/A	N/A	101	N/A	N/A	A314722
4-Bromofluorobenzene (sur.)	%	92	N/A	N/A	107	N/A	N/A	A314722
D10-o-Xylene (sur.)	%	62	N/A	N/A	97	N/A	N/A	A314722
D4-1,2-Dichloroethane (sur.)	%	106	N/A	N/A	104	N/A	N/A	A314722
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Detection limits raised based on sample weight or volume used for analysis.								



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM785			ACM786	ACM787			
Sampling Date		2021/07/21 15:00			2021/07/21 15:30	2021/07/22 10:45			
COC Number		08495594			08495594	08495594			
	UNITS	CS-11230615-072121-CT-27	RDL	MDL	CS-11230615-072121-CT-28	CS-11230615-072221-CT-29	RDL	MDL	QC Batch

Calculated Parameters									
VPH (VH6 to 10 - BTEX)	mg/kg	<22	22	22	<10	<10	10	10	A314096
Volatiles									
VH C6-C10	mg/kg	<22 (1)	22	22	<10	<10	10	10	A314722
1,1,1,2-tetrachloroethane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,1,1-trichloroethane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,1,2,2-tetrachloroethane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,1,2-trichloroethane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,1-dichloroethane	mg/kg	<0.055 (1)	0.055	0.055	<0.025	<0.025	0.025	0.025	A314722
1,1-dichloroethene	mg/kg	<0.055 (1)	0.055	0.055	<0.025	<0.025	0.025	0.025	A314722
1,2,3-trichlorobenzene	mg/kg	<0.066 (1)	0.066	0.066	<0.030	<0.030	0.030	0.030	A314722
1,2,4-trichlorobenzene	mg/kg	<0.066 (1)	0.066	0.066	<0.030	<0.030	0.030	0.030	A314722
1,2-dibromoethane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,2-dichlorobenzene	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,2-dichloroethane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,2-dichloropropane	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,3,5-trimethylbenzene	mg/kg	<0.44 (1)	0.44	0.44	<0.20	<0.20	0.20	0.20	A314722
1,3-dichlorobenzene	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
1,4-dichlorobenzene	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
Benzene	mg/kg	0.34 (1)	0.011	0.011	0.061	0.24	0.0050	0.0050	A314722
Bromobenzene	mg/kg	<0.44 (1)	0.44	0.44	<0.20	<0.20	0.20	0.20	A314722
Bromodichloromethane	mg/kg	<0.11 (1)	0.11	0.11	<0.050	<0.050	0.050	0.050	A314722
Bromoform	mg/kg	<0.11 (1)	0.11	0.11	<0.050	<0.050	0.050	0.050	A314722
Bromomethane	mg/kg	<0.66 (1)	0.66	0.66	<0.30	<0.30	0.30	0.30	A314722
Carbon tetrachloride	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
Chlorobenzene	mg/kg	<0.044 (1)	0.044	0.044	<0.020	0.052	0.020	0.020	A314722
Dibromochloromethane	mg/kg	<0.11 (1)	0.11	0.11	<0.050	<0.050	0.050	0.050	A314722
Chloroethane	mg/kg	<0.22 (1)	0.22	0.22	<0.10	<0.10	0.10	0.10	A314722
Chloroform	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
Chloromethane	mg/kg	<0.11 (1)	0.11	0.11	<0.050	0.083	0.050	0.050	A314722
cis-1,2-dichloroethene	mg/kg	<0.066 (1)	0.066	0.066	<0.030	<0.030	0.030	0.030	A314722

RDL = Reportable Detection Limit

(1) Detection limits raised based on sample weight or volume used for analysis.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM785			ACM786	ACM787			
Sampling Date		2021/07/21 15:00			2021/07/21 15:30	2021/07/22 10:45			
COC Number		08495594			08495594	08495594			
	UNITS	CS-11230615-072121- CT-27	RDL	MDL	CS-11230615-072121- CT-28	CS-11230615-072221- CT-29	RDL	MDL	QC Batch
cis-1,3-dichloropropene	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
Dichloromethane	mg/kg	<0.18 (1)	0.18	0.18	<0.080	<0.080	0.080	0.080	A314722
Ethylbenzene	mg/kg	0.52 (1)	0.022	0.022	0.043	1.1	0.010	0.010	A314722
Hexachlorobutadiene	mg/kg	<0.44 (1)	0.44	0.44	<0.20	<0.20	0.20	0.20	A314722
Isopropylbenzene	mg/kg	<0.44 (1)	0.44	0.44	<0.20	<0.20	0.20	0.20	A314722
Methyl-tert-butylether (MTBE)	mg/kg	<0.22 (1)	0.22	0.22	<0.10	<0.10	0.10	0.10	A314722
Styrene	mg/kg	0.34 (1)	0.066	0.066	0.092	2.9	0.030	0.030	A314722
Tetrachloroethene	mg/kg	<0.022 (1)	0.022	0.022	<0.010	<0.010	0.010	0.010	A314722
Toluene	mg/kg	1.6 (1)	0.11	0.11	0.097	0.52	0.050	0.050	A314722
trans-1,2-dichloroethene	mg/kg	<0.066 (1)	0.066	0.066	<0.030	<0.030	0.030	0.030	A314722
trans-1,3-dichloropropene	mg/kg	<0.044 (1)	0.044	0.044	<0.020	<0.020	0.020	0.020	A314722
Trichloroethene	mg/kg	<0.020 (1)	0.020	0.020	<0.0090	<0.0090	0.0090	0.0090	A314722
Trichlorofluoromethane	mg/kg	<0.44 (1)	0.44	0.44	<0.20	<0.20	0.20	0.20	A314722
Vinyl chloride	mg/kg	<0.088 (1)	0.088	0.088	<0.040	<0.040	0.040	0.040	A314722
m & p-Xylene	mg/kg	1.0 (1)	0.088	0.088	0.041	<0.040	0.040	0.040	A314722
o-Xylene	mg/kg	0.31 (1)	0.088	0.088	<0.040	<0.040	0.040	0.040	A314722
Xylenes (Total)	mg/kg	1.3	0.088	0.088	0.041	<0.040	0.040	0.040	A314722
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	98	N/A	N/A	101	101	N/A	N/A	A314722
4-Bromofluorobenzene (sur.)	%	101	N/A	N/A	97	100	N/A	N/A	A314722
D10-o-Xylene (sur.)	%	89	N/A	N/A	82	90	N/A	N/A	A314722
D4-1,2-Dichloroethane (sur.)	%	96	N/A	N/A	103	100	N/A	N/A	A314722
RDL = Reportable Detection Limit									
N/A = Not Applicable									
(1) Detection limits raised based on sample weight or volume used for analysis.									



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM789			ACM790			
Sampling Date		2021/07/22 11:50			2021/07/22 12:30			
COC Number		08495594			08495594			
	UNITS	CS-11230615-072221-CT-31	RDL	MDL	CS-11230615-072221-CT-32	RDL	MDL	QC Batch

Calculated Parameters								
VPH (VH6 to 10 - BTEX)	mg/kg	<35	35	35	<10	10	10	A314096
Volatiles								
VH C6-C10	mg/kg	<35 (1)	35	35	<10	10	10	A314722
1,1,1,2-tetrachloroethane	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,1,1-trichloroethane	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,1,2,2-tetrachloroethane	mg/kg	<0.070 (1)	0.070	0.070	0.069 (2)	0.020	0.020	A314722
1,1,2-trichloroethane	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,1-dichloroethane	mg/kg	<0.087 (1)	0.087	0.087	<0.025	0.025	0.025	A314722
1,1-dichloroethene	mg/kg	<0.087 (1)	0.087	0.087	<0.025	0.025	0.025	A314722
1,2,3-trichlorobenzene	mg/kg	<0.11 (1)	0.11	0.11	<0.030	0.030	0.030	A314722
1,2,4-trichlorobenzene	mg/kg	<0.11 (1)	0.11	0.11	<0.030	0.030	0.030	A314722
1,2-dibromoethane	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,2-dichlorobenzene	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,2-dichloroethane	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,2-dichloropropane	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,3,5-trimethylbenzene	mg/kg	<0.70 (1)	0.70	0.70	0.53	0.20	0.20	A314722
1,3-dichlorobenzene	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
1,4-dichlorobenzene	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
Benzene	mg/kg	0.99 (1)	0.018	0.018	0.52	0.0050	0.0050	A314722
Bromobenzene	mg/kg	<0.70 (1)	0.70	0.70	<0.20	0.20	0.20	A314722
Bromodichloromethane	mg/kg	<0.18 (1)	0.18	0.18	<0.050	0.050	0.050	A314722
Bromoform	mg/kg	<0.18 (1)	0.18	0.18	<0.050	0.050	0.050	A314722
Bromomethane	mg/kg	<1.1 (1)	1.1	1.1	<0.30	0.30	0.30	A314722
Carbon tetrachloride	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
Chlorobenzene	mg/kg	<0.070 (1)	0.070	0.070	0.038	0.020	0.020	A314722
Dibromochloromethane	mg/kg	<0.18 (1)	0.18	0.18	<0.050	0.050	0.050	A314722
Chloroethane	mg/kg	<0.35 (1)	0.35	0.35	<0.10	0.10	0.10	A314722
Chloroform	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
Chloromethane	mg/kg	<0.18 (1)	0.18	0.18	0.052	0.050	0.050	A314722

RDL = Reportable Detection Limit

(1) Detection limits raised based on sample weight or volume used for analysis.

(2) Tentatively identified result and may be potentially biased high due to matrix interference.



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

CSR VOC + VPH IN SOIL - FIELD PRESERVED (SOIL)

BV Labs ID		ACM789			ACM790			
Sampling Date		2021/07/22 11:50			2021/07/22 12:30			
COC Number		08495594			08495594			
	UNITS	CS-11230615-072221-CT-31	RDL	MDL	CS-11230615-072221-CT-32	RDL	MDL	QC Batch
cis-1,2-dichloroethene	mg/kg	<0.11 (1)	0.11	0.11	<0.030	0.030	0.030	A314722
cis-1,3-dichloropropene	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
Dichloromethane	mg/kg	<0.28 (1)	0.28	0.28	0.16	0.080	0.080	A314722
Ethylbenzene	mg/kg	0.092 (1)	0.035	0.035	0.044	0.010	0.010	A314722
Hexachlorobutadiene	mg/kg	<0.70 (1)	0.70	0.70	<0.20	0.20	0.20	A314722
Isopropylbenzene	mg/kg	<0.70 (1)	0.70	0.70	<0.20	0.20	0.20	A314722
Methyl-tert-butylether (MTBE)	mg/kg	<0.35 (1)	0.35	0.35	<0.10	0.10	0.10	A314722
Styrene	mg/kg	<0.11 (1)	0.11	0.11	0.062	0.030	0.030	A314722
Tetrachloroethene	mg/kg	<0.035 (1)	0.035	0.035	<0.010	0.010	0.010	A314722
Toluene	mg/kg	0.28 (1)	0.18	0.18	0.19	0.050	0.050	A314722
trans-1,2-dichloroethene	mg/kg	<0.11 (1)	0.11	0.11	<0.030	0.030	0.030	A314722
trans-1,3-dichloropropene	mg/kg	<0.070 (1)	0.070	0.070	<0.020	0.020	0.020	A314722
Trichloroethene	mg/kg	<0.032 (1)	0.032	0.032	<0.0090	0.0090	0.0090	A314722
Trichlorofluoromethane	mg/kg	<0.70 (1)	0.70	0.70	<0.20	0.20	0.20	A314722
Vinyl chloride	mg/kg	<0.14 (1)	0.14	0.14	<0.040	0.040	0.040	A314722
m & p-Xylene	mg/kg	<0.14 (1)	0.14	0.14	0.13	0.040	0.040	A314722
o-Xylene	mg/kg	<0.14 (1)	0.14	0.14	<0.040	0.040	0.040	A314722
Xylenes (Total)	mg/kg	<0.14	0.14	0.14	0.13	0.040	0.040	A314722
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	100	N/A	N/A	100	N/A	N/A	A314722
4-Bromofluorobenzene (sur.)	%	97	N/A	N/A	96	N/A	N/A	A314722
D10-o-Xylene (sur.)	%	82	N/A	N/A	91	N/A	N/A	A314722
D4-1,2-Dichloroethane (sur.)	%	101	N/A	N/A	102	N/A	N/A	A314722
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Detection limits raised based on sample weight or volume used for analysis.								



GENERAL COMMENTS

Sample analyzed past method specified hold time for leachable VOCs. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. ABN and SPLP Analyses: Samples received at the analyzing laboratory past the recommended holding time. Analyses performed with client's consent.

Version 8: Report reissued to amend parameter comment on 2,3,7,8-Tetra CDF on the following samples on 2021/08/27

CS-11230615-072121-CT-23 [ACM780]
CS-11230615-072121-CT-25 [ACM782]
CS-11230615-072121-CT-26 [ACM783]
CS-11230615-072121-CT-27 [ACM785]
CS-11230615-072221-CT-29 [ACM787]
CS-11230615-072221-CT-31 [ACM789]
CS-11230615-072221-CT-32 [ACM790]

Sample ACM774 [CS-11230615-072121-CT-17] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM776 [CS-11230615-072121-CT-19] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM776 [CS-11230615-072121-CT-19] : Detection limits raised based on sample weight or volume used for analysis. on Volatiles Batch: a314722

Sample ACM777 [CS-11230615-072121-CT-20] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM778 [CS-11230615-072121-CT-21] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM778 [CS-11230615-072121-CT-21] : Detection limits raised based on sample weight or volume used for analysis. on Volatiles Batch: a314722

Sample ACM779 [CS-11230615-072121-CT-22] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Duplicate results for some parameters exceeded RPD acceptance criteria. This may be due to sample heterogeneity.



Sample ACM780 [CS-11230615-072121-CT-23] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM781 [CS-11230615-072121-CT-24] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM782 [CS-11230615-072121-CT-25] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. ABN analysis: Due to the nature of the sample matrix, sample required dilution. Detection limits were adjusted accordingly. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM783 [CS-11230615-072121-CT-26] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM785 [CS-11230615-072121-CT-27] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM786 [CS-11230615-072121-CT-28] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

Sample ACM787 [CS-11230615-072221-CT-29] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. ABN analysis: Due to the nature of the sample matrix, sample required dilution. Detection limits were adjusted accordingly. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level. ABN analysis: Due to the nature of the sample matrix, sample required dilution. Detection limits were adjusted accordingly. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

DF analysis: Results reported are based on 5x dilution due to matrix interference. RDLs raised accordingly.

Sample ACM789 [CS-11230615-072221-CT-31] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.



BV Labs Job #: C153218
Report Date: 2021/08/27

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Client Project #: 11230615
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Your P.O. #: 735-000118
Sampler Initials: CT

Sample ACM790 [CS-11230615-072221-CT-32] : Sample analyzed past method specified hold time for PAH in Soil by GC/MS (SIM). Sample analyzed past method specified hold time for EPH in Soil by GC/FID. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample analyzed past method specified hold time for Phenols in Soil by GCMS. ABN analysis: Due to the nature of the sample matrix, sample required dilution. Detection limits were adjusted accordingly.
Sample extracted past holding time. Analysis was performed past sample holding time. This may increase the variability associated with these results. Reported result in a minimum concentration and is not acceptable for establishing that the waste does not exceed the regulatory level.

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL) Comments

Sample ACM774 [CS-11230615-072121-CT-17] Polychlorinated Biphenyls in Soil: Detection limits raised due to matrix interference.
Sample ACM778 [CS-11230615-072121-CT-21] Polychlorinated Biphenyls in Soil: Detection limits raised due to matrix interference.
Sample ACM779 [CS-11230615-072121-CT-22] Polychlorinated Biphenyls in Soil: Detection limits raised due to matrix interference.
Sample ACM787 [CS-11230615-072221-CT-29] Polychlorinated Biphenyls in Soil: Detection limits raised due to matrix interference.

Results relate only to the items tested.



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A314722	1,4-Difluorobenzene (sur.)	2021/08/10	100 (1)	50 - 140	100	50 - 140	101	%				
A314722	4-Bromofluorobenzene (sur.)	2021/08/10	110 (1)	50 - 140	111	50 - 140	92	%				
A314722	D10-o-Xylene (sur.)	2021/08/10	64 (1)	50 - 140	114	50 - 140	103	%				
A314722	D4-1,2-Dichloroethane (sur.)	2021/08/10	116 (1)	50 - 140	85	50 - 140	103	%				
A315568	D10-ANTHRACENE (sur.)	2021/08/10	76 (10)	50 - 140	83	50 - 140	71	%				
A315568	D8-ACENAPHTHYLENE (sur.)	2021/08/10	74 (10)	50 - 140	78	50 - 140	63	%				
A315568	D8-NAPHTHALENE (sur.)	2021/08/10	75 (10)	50 - 140	76	50 - 140	62	%				
A315568	TERPHENYL-D14 (sur.)	2021/08/10	78 (10)	50 - 140	81	50 - 140	72	%				
A315573	O-TERPHENYL (sur.)	2021/08/10	81 (10)	60 - 140	72	60 - 140	84	%				
A316490	2,4,6-TRIBROMOPHENOL (sur.)	2021/08/11	95 (12)	50 - 140	76	50 - 140	89	%				
A316490	2,4-DIBROMOPHENOL (sur.)	2021/08/11	85 (12)	50 - 140	74	50 - 140	87	%				
A317072	Leachable (ZH) 1,4-Difluorobenzene (sur.)	2021/08/12	99 (14)	50 - 140	102	50 - 140	98	%				
A317072	Leachable (ZH) 4-Bromofluorobenzene (sur.)	2021/08/12	105 (14)	50 - 140	106	50 - 140	99	%				
A317072	Leachable (ZH) D4-1,2-Dichloroethane (sur.)	2021/08/12	101 (14)	50 - 140	106	50 - 140	105	%				
A317464	NONACHLOROBIPHENYL (sur.)	2021/08/12	80 (16)	50 - 130	77	50 - 130	75	%				
A323181	2,4,6-TRIBROMOPHENOL (sur.)	2021/08/12	49	10 - 130	89	10 - 130	80	%				
A323181	2-Fluorobiphenyl	2021/08/12	85	30 - 130	82	30 - 130	84	%				
A323181	2-FLUOROPHENOL (sur.)	2021/08/12	87	10 - 130	97	10 - 130	93	%				
A323181	D5-NITROBENZENE (sur.)	2021/08/12	75	30 - 130	85	30 - 130	80	%				
A323181	D5-PHENOL (sur.)	2021/08/12	97	10 - 130	100	10 - 130	96	%				
A323181	TERPHENYL-D14 (sur.)	2021/08/12	113	30 - 130	98	30 - 130	101	%				
A323183	Leachable (SPLP) 4-Bromofluorobenzene (sur.)	2021/08/15	102 (19)	70 - 130	102	70 - 130	96	%				
A323183	Leachable (SPLP) D4-1,2-Dichloroethane (sur.)	2021/08/15	106 (19)	70 - 130	99	70 - 130	104	%				
A323183	Leachable (SPLP) D8-TOLUENE (sur.)	2021/08/15	99 (19)	70 - 130	104	70 - 130	96	%				
A327123	Confirmation C13-2378 TetraCDF	2021/08/18					49	%				
A327235	Confirmation C13-2378 TetraCDF	2021/08/19					64	%				
A330044	37CL4 2378 Tetra CDD	2021/08/16	76 (21)	35 - 197	83	35 - 197	59	%				
A330044	C13-1234678 HeptaCDD	2021/08/16	81 (21)	23 - 140	60	23 - 140	58	%				
A330044	C13-1234678 HeptaCDF	2021/08/16	90 (21)	28 - 143	71	28 - 143	66	%				
A330044	C13-123478 HexaCDD	2021/08/16	84 (21)	32 - 141	62	32 - 141	61	%				
A330044	C13-123478 HexaCDF	2021/08/16	81 (21)	26 - 152	64	26 - 152	59	%				



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A330044	C13-1234789 HeptaCDF	2021/08/16	71 (21)	26 - 138	55	26 - 138	52	%				
A330044	C13-123678 HexaCDD	2021/08/16	115 (21)	28 - 130	95	28 - 130	91	%				
A330044	C13-123678 HexaCDF	2021/08/16	88 (21)	26 - 123	68	26 - 123	63	%				
A330044	C13-12378 PentaCDD	2021/08/16	80 (21)	25 - 181	66	25 - 181	59	%				
A330044	C13-12378 PentaCDF	2021/08/16	69 (21)	24 - 185	57	24 - 185	50	%				
A330044	C13-123789 HexaCDF	2021/08/16	84 (21)	29 - 147	67	29 - 147	71	%				
A330044	C13-234678 HexaCDF	2021/08/16	85 (21)	28 - 136	68	28 - 136	72	%				
A330044	C13-23478 PentaCDF	2021/08/16	87 (21)	21 - 178	75	21 - 178	70	%				
A330044	C13-2378 TetraCDD	2021/08/16	74 (21)	25 - 164	58	25 - 164	53	%				
A330044	C13-2378 TetraCDF	2021/08/16	75 (21)	24 - 169	62	24 - 169	56	%				
A330044	C13-OCDD	2021/08/16	69 (21)	17 - 157	48	17 - 157	46	%				
A314722	1,1,1,2-tetrachloroethane	2021/08/10	101 (1)	50 - 140	96	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,1,1-trichloroethane	2021/08/10	96 (1)	50 - 140	95	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,1,2,2-tetrachloroethane	2021/08/10	100 (1)	50 - 140	95	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,1,2-trichloroethane	2021/08/10	102 (1)	50 - 140	98	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,1-dichloroethane	2021/08/10	95 (1)	50 - 140	95	60 - 130	<0.025	mg/kg	NC (4)	50		
A314722	1,1-dichloroethene	2021/08/10	63 (1)	50 - 140	72	60 - 130	<0.025	mg/kg	NC (4)	50		
A314722	1,2,3-trichlorobenzene	2021/08/10	125 (1)	50 - 140	120	60 - 130	<0.030	mg/kg	NC (4)	50		
A314722	1,2,4-trichlorobenzene	2021/08/10	122 (1)	50 - 140	116	60 - 130	<0.030	mg/kg	NC (4)	50		
A314722	1,2-dibromoethane	2021/08/10	106 (1)	50 - 140	105	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,2-dichlorobenzene	2021/08/10	114 (1)	50 - 140	105	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,2-dichloroethane	2021/08/10	93 (1)	50 - 140	92	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,2-dichloropropane	2021/08/10	101 (1)	50 - 140	99	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,3,5-trimethylbenzene	2021/08/10	115 (1)	50 - 140	109	60 - 130	<0.20	mg/kg	NC (4)	50		
A314722	1,3-dichlorobenzene	2021/08/10	115 (1)	50 - 140	109	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	1,4-dichlorobenzene	2021/08/10	110 (1)	50 - 140	105	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	Benzene	2021/08/10	99 (1)	50 - 140	97	60 - 130	<0.0050	mg/kg	1.0 (4)	50		
A314722	Bromobenzene	2021/08/10	106 (1)	50 - 140	100	60 - 130	<0.20	mg/kg	NC (4)	50		
A314722	Bromodichloromethane	2021/08/10	104 (1)	50 - 140	98	60 - 130	<0.050	mg/kg	NC (4)	50		
A314722	Bromoform	2021/08/10	101 (1)	50 - 140	95	60 - 130	<0.050	mg/kg	NC (4)	50		
A314722	Bromomethane	2021/08/10	47 (2,1)	50 - 140	89	50 - 140	<0.30	mg/kg	NC (4)	50		



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A314722	Carbon tetrachloride	2021/08/10	99 (1)	50 - 140	96	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	Chlorobenzene	2021/08/10	103 (1)	50 - 140	100	60 - 130	<0.020	mg/kg	NC (4)	50		
A314722	Chloroethane	2021/08/10	48 (2,1)	50 - 140	75	50 - 140	<0.10	mg/kg	NC (4)	50		
A314722	Chloroform	2021/08/10	100 (1)	50 - 140	97	60 - 130	0.033, RDL=0.020 (3)	mg/kg	NC (4)	50		
A314722	Chloromethane	2021/08/10	19 (2,1)	50 - 140	89	50 - 140	<0.050	mg/kg	NC (4)	50		
A314722	cis-1,2-dichloroethene	2021/08/10	95 (1)	50 - 140	94	60 - 130	<0.030	mg/kg	NC (4)	50		
A314722	cis-1,3-dichloropropene	2021/08/10	108 (1)	50 - 140	103	50 - 140	<0.020	mg/kg	NC (4)	50		
A314722	Dibromochloromethane	2021/08/10	115 (1)	50 - 140	111	60 - 130	<0.050	mg/kg	NC (4)	50		
A314722	Dichloromethane	2021/08/10	107 (1)	50 - 140	115	60 - 130	<0.080	mg/kg	NC (4)	50		
A314722	Ethylbenzene	2021/08/10	123 (1)	50 - 140	120	60 - 130	<0.010	mg/kg	2.1 (4)	50		
A314722	Hexachlorobutadiene	2021/08/10	108 (1)	50 - 140	100	50 - 130	<0.20	mg/kg	NC (4)	50		
A314722	Isopropylbenzene	2021/08/10	112 (1)	50 - 140	105	60 - 130	<0.20	mg/kg	NC (4)	50		
A314722	m & p-Xylene	2021/08/10	126 (1)	50 - 140	123	60 - 130	<0.040	mg/kg	3.4 (4)	50		
A314722	Methyl-tert-butylether (MTBE)	2021/08/10	101 (1)	50 - 140	107	60 - 130	<0.10	mg/kg	NC (4)	50		
A314722	o-Xylene	2021/08/10	129 (1)	50 - 140	125	60 - 130	<0.040	mg/kg	5.9 (4)	50		
A314722	Styrene	2021/08/10	114 (1)	50 - 140	112	60 - 130	<0.030	mg/kg	2.9 (4)	50		
A314722	Tetrachloroethene	2021/08/10	102 (1)	50 - 140	102	60 - 130	<0.010	mg/kg	NC (4)	50		
A314722	Toluene	2021/08/10	117 (1)	50 - 140	113	60 - 130	<0.050	mg/kg	5.4 (4)	50		
A314722	trans-1,2-dichloroethene	2021/08/10	78 (1)	50 - 140	81	60 - 130	<0.030	mg/kg	NC (4)	50		
A314722	trans-1,3-dichloropropene	2021/08/10	109 (1)	50 - 140	105	50 - 140	<0.020	mg/kg	NC (4)	50		
A314722	Trichloroethene	2021/08/10	104 (1)	50 - 140	101	60 - 130	<0.0090	mg/kg	NC (4)	50		
A314722	Trichlorofluoromethane	2021/08/10	60 (1)	50 - 140	87	60 - 130	<0.20	mg/kg	NC (4)	50		
A314722	VH C6-C10	2021/08/10			88	70 - 130	<10	mg/kg	NC (4)	50		
A314722	Vinyl chloride	2021/08/10	31 (2,1)	50 - 140	91	50 - 140	<0.040	mg/kg	NC (4)	50		
A314722	Xylenes (Total)	2021/08/10					<0.040	mg/kg	4.2 (4)	50		
A314894	Total Aluminum (Al)	2021/08/10	NC	75 - 125	103	75 - 125	<100	mg/kg			98	70 - 130
A314894	Total Antimony (Sb)	2021/08/10	78	75 - 125	101	75 - 125	<0.10	mg/kg			102	70 - 130
A314894	Total Arsenic (As)	2021/08/10	91	75 - 125	102	75 - 125	<0.20	mg/kg	4.3 (6)	30	88	70 - 130
A314894	Total Barium (Ba)	2021/08/10	NC	75 - 125	98	75 - 125	<0.10	mg/kg			98	70 - 130
A314894	Total Beryllium (Be)	2021/08/10	87	75 - 125	99	75 - 125	<0.20	mg/kg			95	70 - 130



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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A314894	Total Bismuth (Bi)	2021/08/10	89	75 - 125	96	75 - 125	<0.10	mg/kg				
A314894	Total Boron (B)	2021/08/10	85	75 - 125	103	75 - 125	<1.0	mg/kg	9.4 (6)	30		
A314894	Total Cadmium (Cd)	2021/08/10	93	75 - 125	100	75 - 125	<0.050	mg/kg			101	70 - 130
A314894	Total Calcium (Ca)	2021/08/10	NC	75 - 125	106	75 - 125	<100	mg/kg			98	70 - 130
A314894	Total Chromium (Cr)	2021/08/10	96	75 - 125	102	75 - 125	<0.50	mg/kg			95	70 - 130
A314894	Total Cobalt (Co)	2021/08/10	91	75 - 125	103	75 - 125	<0.10	mg/kg			96	70 - 130
A314894	Total Copper (Cu)	2021/08/10	93	75 - 125	106	75 - 125	<0.50	mg/kg			100	70 - 130
A314894	Total Iron (Fe)	2021/08/10	NC	75 - 125	101	75 - 125	<100	mg/kg	6.6 (6)	30	99	70 - 130
A314894	Total Lead (Pb)	2021/08/10	93	75 - 125	99	75 - 125	<0.10	mg/kg			108	70 - 130
A314894	Total Lithium (Li)	2021/08/10	87	75 - 125	98	75 - 125	<0.50	mg/kg			100	70 - 130
A314894	Total Magnesium (Mg)	2021/08/10	NC	75 - 125	103	75 - 125	<100	mg/kg			104	70 - 130
A314894	Total Manganese (Mn)	2021/08/10	90	75 - 125	101	75 - 125	<0.20	mg/kg			100	70 - 130
A314894	Total Mercury (Hg)	2021/08/10	88	75 - 125	97	75 - 125	<0.050	mg/kg			131 (5)	70 - 130
A314894	Total Molybdenum (Mo)	2021/08/10	89	75 - 125	96	75 - 125	<0.10	mg/kg			106	70 - 130
A314894	Total Nickel (Ni)	2021/08/10	89	75 - 125	100	75 - 125	<0.50	mg/kg			100	70 - 130
A314894	Total Phosphorus (P)	2021/08/10	77	75 - 125	95	75 - 125	<10	mg/kg			91	70 - 130
A314894	Total Potassium (K)	2021/08/10	144 (2)	75 - 125	101	75 - 125	<100	mg/kg			88	70 - 130
A314894	Total Selenium (Se)	2021/08/10	93	75 - 125	102	75 - 125	<0.50	mg/kg				
A314894	Total Silver (Ag)	2021/08/10	90	75 - 125	98	75 - 125	<0.050	mg/kg			120	70 - 130
A314894	Total Sodium (Na)	2021/08/10	93	75 - 125	106	75 - 125	<100	mg/kg			95	70 - 130
A314894	Total Strontium (Sr)	2021/08/10	99	75 - 125	101	75 - 125	<0.10	mg/kg			104	70 - 130
A314894	Total Thallium (Tl)	2021/08/10	90	75 - 125	98	75 - 125	<0.050	mg/kg			92	70 - 130
A314894	Total Tin (Sn)	2021/08/10	94	75 - 125	103	75 - 125	<0.10	mg/kg			101	70 - 130
A314894	Total Titanium (Ti)	2021/08/10	298 (2)	75 - 125	97	75 - 125	<1.0	mg/kg				
A314894	Total Tungsten (W)	2021/08/10	40 (2)	75 - 125	103	75 - 125	<0.50	mg/kg				
A314894	Total Uranium (U)	2021/08/10	94	75 - 125	99	75 - 125	<0.050	mg/kg			93	70 - 130
A314894	Total Vanadium (V)	2021/08/10	98	75 - 125	101	75 - 125	<1.0	mg/kg			99	70 - 130
A314894	Total Zinc (Zn)	2021/08/10	89	75 - 125	101	75 - 125	<1.0	mg/kg	6.0 (6)	30	102	70 - 130
A314894	Total Zirconium (Zr)	2021/08/10	14 (2)	75 - 125	102	75 - 125	<0.50	mg/kg				
A314929	Soluble (2:1) pH	2021/08/10			100	97 - 103			0.24 (7)	N/A		
A315442	Moisture	2021/08/10					<0.30	%	0.88 (8)	20		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A315566	Final pH of Leachate	2021/08/11					4.89	pH	0.40 (9)	N/A		
A315566	Initial pH of Sample	2021/08/11					4.93	pH	1.1 (9)	N/A		
A315566	pH after HCl	2021/08/11							3.1 (9)	N/A		
A315566	pH of Leaching Fluid	2021/08/11					4.93	pH	0 (9)	N/A		
A315568	1-Methylnaphthalene	2021/08/10	77 (10)	50 - 140	80	50 - 140	<0.050	mg/kg	NC (8)	50		
A315568	2-Methylnaphthalene	2021/08/10	77 (10)	50 - 140	80	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Acenaphthene	2021/08/10	78 (10)	50 - 140	80	50 - 140	<0.0050	mg/kg	41 (8)	50		
A315568	Acenaphthylene	2021/08/10	74 (10)	50 - 140	79	50 - 140	<0.0050	mg/kg	NC (8)	50		
A315568	Anthracene	2021/08/10	79 (10)	50 - 140	81	50 - 140	<0.0040	mg/kg	NC (8)	50		
A315568	Benzo(a)anthracene	2021/08/10	76 (10)	50 - 140	81	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Benzo(a)pyrene	2021/08/10	65 (10)	50 - 140	75	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Benzo(b&j)fluoranthene	2021/08/10	74 (10)	50 - 140	80	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Benzo(b)fluoranthene	2021/08/10	75 (10)	50 - 140	78	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Benzo(g,h,i)perylene	2021/08/10	70 (10)	50 - 140	80	50 - 140	<0.050	mg/kg	NC (8)	50		
A315568	Benzo(k)fluoranthene	2021/08/10	76 (10)	50 - 140	83	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Chrysene	2021/08/10	74 (10)	50 - 140	80	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Dibenz(a,h)anthracene	2021/08/10	72 (10)	50 - 140	81	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Fluoranthene	2021/08/10	78 (10)	50 - 140	84	50 - 140	<0.020	mg/kg	17 (8)	50		
A315568	Fluorene	2021/08/10	79 (10)	50 - 140	83	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Indeno(1,2,3-cd)pyrene	2021/08/10	75 (10)	50 - 140	84	50 - 140	<0.020	mg/kg	NC (8)	50		
A315568	Naphthalene	2021/08/10	73 (10)	50 - 140	78	50 - 140	<0.010	mg/kg	NC (8)	50		
A315568	Phenanthrene	2021/08/10	70 (10)	50 - 140	80	50 - 140	<0.010	mg/kg	46 (8)	50		
A315568	Pyrene	2021/08/10	75 (10)	50 - 140	80	50 - 140	<0.020	mg/kg	26 (8)	50		
A315568	Quinoline	2021/08/10	117 (10)	50 - 140	113	50 - 140	<0.050	mg/kg	NC (8)	50		
A315573	EPH (C10-C19)	2021/08/10	93 (10)	60 - 140	81	70 - 130	<100	mg/kg	NC (8)	40		
A315573	EPH (C19-C32)	2021/08/10	79 (10)	60 - 140	76	70 - 130	<100	mg/kg	NC (8)	40		
A315647	SPLP Aluminum (Al)	2021/08/11	NC (11)	80 - 120	95	80 - 120	<0.020	mg/L	1.1 (9)	35		
A315647	SPLP Antimony (Sb)	2021/08/11	NC (11)	80 - 120	89	80 - 120	<0.0010	mg/L	0.0074 (9)	35		
A315647	SPLP Arsenic (As)	2021/08/11	112 (11)	80 - 120	89	80 - 120	<0.0010	mg/L	1.1 (9)	35		
A315647	SPLP Barium (Ba)	2021/08/11	NC (11)	80 - 120	89	80 - 120	<0.10	mg/L	0.75 (9)	35		
A315647	SPLP Beryllium (Be)	2021/08/11	106 (11)	80 - 120	94	80 - 120	<0.0010	mg/L	NC (9)	35		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A315647	SPLP Boron (B)	2021/08/11	NC (11)	80 - 120	97	80 - 120	<0.50	mg/L	0.97 (9)	35		
A315647	SPLP Cadmium (Cd)	2021/08/11	108 (11)	80 - 120	89	80 - 120	<0.000020	mg/L	NC (9)	35		
A315647	SPLP Calcium (Ca)	2021/08/11	NC (11)	80 - 120	92	80 - 120	<1.0	mg/L	0.57 (9)	35		
A315647	SPLP Chromium (Cr)	2021/08/11	105 (11)	80 - 120	87	80 - 120	<0.0010	mg/L	2.5 (9)	35		
A315647	SPLP Cobalt (Co)	2021/08/11	102 (11)	80 - 120	88	80 - 120	<0.0010	mg/L	NC (9)	35		
A315647	SPLP Copper (Cu)	2021/08/11	99 (11)	80 - 120	88	80 - 120	<0.0020	mg/L	2.0 (9)	35		
A315647	SPLP Iron (Fe)	2021/08/11	118 (11)	80 - 120	95	80 - 120	<0.050	mg/L	NC (9)	35		
A315647	SPLP Lead (Pb)	2021/08/11	102 (11)	80 - 120	88	80 - 120	<0.0010	mg/L	NC (9)	35		
A315647	SPLP Magnesium (Mg)	2021/08/11	113 (11)	80 - 120	97	80 - 120	<1.0	mg/L	NC (9)	35		
A315647	SPLP Manganese (Mn)	2021/08/11	104 (11)	80 - 120	89	80 - 120	<0.0050	mg/L	NC (9)	35		
A315647	SPLP Mercury (Hg)	2021/08/11	113 (11)	80 - 120	94	80 - 120	<0.00010	mg/L	NC (9)	35		
A315647	SPLP Molybdenum (Mo)	2021/08/11	NC (11)	80 - 120	97	80 - 120	<0.0050	mg/L	1.1 (9)	35		
A315647	SPLP Nickel (Ni)	2021/08/11	100 (11)	80 - 120	89	80 - 120	<0.010	mg/L	NC (9)	35		
A315647	SPLP Selenium (Se)	2021/08/11	110 (11)	80 - 120	88	80 - 120	<0.0010	mg/L	NC (9)	35		
A315647	SPLP Silver (Ag)	2021/08/11	108 (11)	80 - 120	87	80 - 120	<0.00010	mg/L	NC (9)	35		
A315647	SPLP Sodium (Na)	2021/08/11	NC (11)	80 - 120	98	80 - 120	<1.0	mg/L	0.64 (9)	35		
A315647	SPLP Thallium (Tl)	2021/08/11	105 (11)	80 - 120	89	80 - 120	<0.00010	mg/L	NC (9)	35		
A315647	SPLP Titanium (Ti)	2021/08/11	110 (11)	80 - 120	96	80 - 120	<0.10	mg/L	NC (9)	35		
A315647	SPLP Uranium (U)	2021/08/11	109 (11)	80 - 120	89	80 - 120	<0.0010	mg/L	NC (9)	35		
A315647	SPLP Vanadium (V)	2021/08/11	109 (11)	80 - 120	87	80 - 120	<0.010	mg/L	NC (9)	35		
A315647	SPLP Zinc (Zn)	2021/08/11	83 (11)	80 - 120	91	80 - 120	<0.010	mg/L	24 (9)	35		
A315655	SPLP pH of SPLP Leachate 2	2021/08/11					5.03	pH	0.19 (9)	N/A		
A316490	2,3,4,5-tetrachlorophenol	2021/08/12	63 (12)	50 - 140	74	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,3,4,6-tetrachlorophenol	2021/08/12	76 (12)	50 - 140	79	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,3,4-trichlorophenol	2021/08/12	75 (12)	50 - 140	72	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,3,5,6-tetrachlorophenol	2021/08/12	67 (12)	50 - 140	75	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,3,5-trichlorophenol	2021/08/12	74 (12)	50 - 140	71	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,3,6-Trichlorophenol	2021/08/12	83 (12)	50 - 140	69	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,3-Dichlorophenol	2021/08/12	83 (12)	50 - 140	73	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,4 + 2,5-Dichlorophenol	2021/08/12	89 (12)	50 - 140	76	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,4,5-trichlorophenol	2021/08/12	74 (12)	50 - 140	76	50 - 140	<0.0050	mg/kg	NC (13)	50		



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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A316490	2,4,6-trichlorophenol	2021/08/12	94 (12)	50 - 140	78	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,4-dimethylphenol	2021/08/12	129 (12)	50 - 140	112	50 - 140	<0.050	mg/kg	35 (13)	50		
A316490	2,4-dinitrophenol	2021/08/12	8.2 (2,12)	30 - 130	97	30 - 130	<0.050	mg/kg	NC (13)	50		
A316490	2,6-dichlorophenol	2021/08/12	109 (12)	50 - 140	82	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	2,6-Dimethylphenol	2021/08/12	125 (12)	50 - 140	76	50 - 140	<0.050	mg/kg	NC (13)	50		
A316490	2-chlorophenol	2021/08/12	102 (12)	50 - 140	84	50 - 140	<0.0050	mg/kg	12 (13)	50		
A316490	2-methylphenol	2021/08/12	NC (12)	50 - 140	74	50 - 140	<0.050	mg/kg	17 (13)	50		
A316490	2-nitrophenol	2021/08/12	104 (12)	30 - 130	74	30 - 130	<0.050	mg/kg	NC (13)	50		
A316490	3 & 4-chlorophenol	2021/08/12	89 (12)	50 - 140	90	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	3 & 4-methylphenol	2021/08/12	NC (12)	50 - 140	71	50 - 140	<0.050	mg/kg	18 (13)	50		
A316490	3,4,5-Trichlorophenol	2021/08/12	53 (12)	50 - 140	75	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	3,4-Dichlorophenol	2021/08/12	74 (12)	50 - 140	80	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	3,4-Dimethylphenol	2021/08/12	105 (12)	50 - 140	77	50 - 140	<0.050	mg/kg	44 (13)	50		
A316490	3,5-Dichlorophenol	2021/08/12	71 (12)	50 - 140	85	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	4,6-dinitro-2-methylphenol	2021/08/12	22 (2,12)	30 - 130	86	30 - 130	<0.050	mg/kg	NC (13)	50		
A316490	4-Chloro-3-Methylphenol	2021/08/12	115 (12)	50 - 140	80	50 - 140	<5.0	mg/kg	NC (13)	50		
A316490	4-Hydroxyphenol (Hydroquinone)	2021/08/12	127 (12)	50 - 140	110	50 - 140	<5.0	mg/kg	NC (13)	50		
A316490	4-nitrophenol	2021/08/12	54 (12)	30 - 130	78	30 - 130	<0.050	mg/kg	NC (13)	50		
A316490	Pentachlorophenol	2021/08/12	79 (12)	50 - 140	79	50 - 140	<0.0050	mg/kg	NC (13)	50		
A316490	Phenol	2021/08/12	NC (12)	50 - 140	102	50 - 140	<0.050	mg/kg	11 (13)	50		
A317070	Leachate Antimony (Sb)	2021/08/11	105 (11)	75 - 125	104	75 - 125	<0.10	mg/L	2.0 (9)	35		
A317070	Leachate Arsenic (As)	2021/08/11	107 (11)	75 - 125	105	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Barium (Ba)	2021/08/11	100 (11)	75 - 125	105	75 - 125	<0.10	mg/L	0.85 (9)	35		
A317070	Leachate Beryllium (Be)	2021/08/11	110 (11)	75 - 125	102	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Boron (B)	2021/08/11	NC (11)	75 - 125	101	75 - 125	<0.10	mg/L	1.4 (9)	35		
A317070	Leachate Cadmium (Cd)	2021/08/11	106 (11)	75 - 125	103	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Chromium (Cr)	2021/08/11	108 (11)	75 - 125	107	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Cobalt (Co)	2021/08/11	105 (11)	75 - 125	102	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Copper (Cu)	2021/08/11	105 (11)	75 - 125	105	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Iron (Fe)	2021/08/11	106 (11)	75 - 125	103	75 - 125	<0.50	mg/L	NC (9)	35		
A317070	Leachate Lead (Pb)	2021/08/11	104 (11)	75 - 125	103	75 - 125	<0.10	mg/L	NC (9)	35		



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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A317070	Leachate Mercury (Hg)	2021/08/11	100 (11)	75 - 125	99	75 - 125	<0.0020	mg/L	NC (9)	35		
A317070	Leachate Molybdenum (Mo)	2021/08/11	104 (11)	75 - 125	101	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Nickel (Ni)	2021/08/11	100 (11)	75 - 125	100	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Selenium (Se)	2021/08/11	109 (11)	75 - 125	103	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Silver (Ag)	2021/08/11	106 (11)	75 - 125	104	75 - 125	<0.010	mg/L	NC (9)	35		
A317070	Leachate Thallium (Tl)	2021/08/11	101 (11)	75 - 125	99	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Uranium (U)	2021/08/11	105 (11)	75 - 125	103	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Vanadium (V)	2021/08/11	107 (11)	75 - 125	105	75 - 125	<0.10	mg/L	NC (9)	35		
A317070	Leachate Zinc (Zn)	2021/08/11	101 (11)	75 - 125	101	75 - 125	<0.10	mg/L	1.0 (9)	35		
A317070	Leachate Zirconium (Zr)	2021/08/11	110 (11)	75 - 125	106	75 - 125	<0.10	mg/L	NC (9)	35		
A317072	Leachable (ZH) 1,1,1,2-tetrachloroethane	2021/08/12	92 (14)	50 - 140	83	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,1,1-trichloroethane	2021/08/12	92 (14)	50 - 140	101	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,1,2,2-tetrachloroethane	2021/08/12	100 (14)	50 - 140	87	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,1,2-trichloroethane	2021/08/12	91 (14)	50 - 140	96	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,1-dichloroethane	2021/08/12	86 (14)	50 - 140	90	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,1-dichloroethene	2021/08/12	73 (14)	50 - 140	79	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2,3-trichlorobenzene	2021/08/12	93 (14)	50 - 140	91	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2,4-trichlorobenzene	2021/08/12	92 (14)	50 - 140	91	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2,4-trimethylbenzene	2021/08/12	105 (14)	50 - 140	104	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2-dibromoethane	2021/08/12	94 (14)	50 - 140	87	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2-dichlorobenzene	2021/08/12	104 (14)	50 - 140	103	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2-dichloroethane	2021/08/12	95 (14)	50 - 140	100	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,2-dichloropropane	2021/08/12	88 (14)	50 - 140	94	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,3,5-trichlorobenzene	2021/08/12	91 (14)	50 - 140	92	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,3,5-trimethylbenzene	2021/08/12	110 (14)	50 - 140	105	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,3-dichlorobenzene	2021/08/12	98 (14)	50 - 140	100	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) 1,4-dichlorobenzene	2021/08/12	96 (14)	50 - 140	97	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Benzene	2021/08/12	85 (14)	50 - 140	81	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Bromodichloromethane	2021/08/12	84 (14)	50 - 140	90	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Bromoform	2021/08/12	96 (14)	50 - 140	83	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Bromomethane	2021/08/12	75 (14)	50 - 140	76	60 - 130	<10	ug/L	NC (15)	40		



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GHD Limited
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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A317072	Leachable (ZH) Carbon tetrachloride	2021/08/12	86 (14)	50 - 140	89	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Chlorobenzene	2021/08/12	94 (14)	50 - 140	89	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Chloroethane	2021/08/12	77 (14)	50 - 140	79	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Chloroform	2021/08/12	85 (14)	50 - 140	92	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Chloromethane	2021/08/12	84 (14)	50 - 140	78	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) cis-1,2-dichloroethene	2021/08/12	85 (14)	50 - 140	91	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) cis-1,3-dichloropropene	2021/08/12	103 (14)	50 - 140	106	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Dibromochloromethane	2021/08/12	99 (14)	50 - 140	93	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Dichloromethane	2021/08/12	78 (14)	50 - 140	82	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Ethylbenzene	2021/08/12	85 (14)	50 - 140	78	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) m & p-Xylene	2021/08/12	83 (14)	50 - 140	76	60 - 130	<20	ug/L	NC (15)	40		
A317072	Leachable (ZH) Methyl methacrylate	2021/08/12	95 (14)	50 - 140	97	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Methyl-tert-butylether (MTBE)	2021/08/12	93 (14)	50 - 140	89	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) o-Xylene	2021/08/12	75 (14)	50 - 140	69	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Styrene	2021/08/12	91 (14)	50 - 140	83	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Tetrachloroethene	2021/08/12	81 (14)	50 - 140	79	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Toluene	2021/08/12	85 (14)	50 - 140	77	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) trans-1,2-dichloroethene	2021/08/12	74 (14)	50 - 140	74	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) trans-1,3-dichloropropene	2021/08/12	117 (14)	50 - 140	113	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Trichloroethene	2021/08/12	86 (14)	50 - 140	94	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Trichlorofluoromethane	2021/08/12	78 (14)	50 - 140	83	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Vinyl chloride	2021/08/12	89 (14)	50 - 140	88	60 - 130	<10	ug/L	NC (15)	40		
A317072	Leachable (ZH) Xylenes (Total)	2021/08/12					<10	ug/L	NC (15)	40		
A317464	Aroclor 1016	2021/08/12					<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1221	2021/08/12					<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1232	2021/08/12					<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1242	2021/08/12					<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1248	2021/08/12					<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1254	2021/08/12					<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1260	2021/08/12	98 (16)	50 - 130	92	50 - 130	<0.010	mg/kg	NC (17)	50		
A317464	Aroclor 1262	2021/08/12					<0.010	mg/kg	NC (17)	50		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A317464	Aroclor 1268	2021/08/12					<0.010	mg/kg	NC (17)	50		
A323181	1,2,3,4-tetrachlorobenzene	2021/08/12	83	30 - 130	69	30 - 130	<0.20	ug/g				
A323181	1,2,3,5-tetrachlorobenzene	2021/08/12	109	30 - 130	92	30 - 130	<0.20	ug/g				
A323181	1,2,3-trichlorobenzene	2021/08/12	74	30 - 130	81	30 - 130	<0.20	ug/g				
A323181	1,2,4,5-tetrachlorobenzene	2021/08/12	92	30 - 130	72	30 - 130	<0.20	ug/g				
A323181	1,2,4-trichlorobenzene	2021/08/12	104	30 - 130	92	30 - 130	<0.20	ug/g				
A323181	1,2-dichlorobenzene	2021/08/12	76	30 - 130	86	30 - 130	<0.10	ug/g				
A323181	1,3,5-trichlorobenzene	2021/08/12	81	30 - 130	81	30 - 130	<0.20	ug/g				
A323181	1,3-dichlorobenzene	2021/08/12	69	30 - 130	77	30 - 130	<0.10	ug/g				
A323181	1,4-dichlorobenzene	2021/08/12	83	30 - 130	89	30 - 130	<0.10	ug/g				
A323181	1-chloronaphthalene	2021/08/12	96	30 - 130	81	30 - 130	<1.0	ug/g				
A323181	1-Methylnaphthalene	2021/08/12	111	30 - 130	102	30 - 130	<0.10	ug/g				
A323181	2,3,4,5-tetrachlorophenol	2021/08/12	57	10 - 130	101	10 - 130	<0.10	ug/g				
A323181	2,3,4,6-tetrachlorophenol	2021/08/12	44	10 - 130	116	10 - 130	<0.10	ug/g				
A323181	2,3,4-trichlorophenol	2021/08/12	106	10 - 130	99	10 - 130	<0.10	ug/g				
A323181	2,3,5,6-tetrachlorophenol	2021/08/12	34	10 - 130	109	10 - 130	<0.10	ug/g				
A323181	2,3,5-trichlorophenol	2021/08/12	94	10 - 130	110	10 - 130	<0.10	ug/g				
A323181	2,3,6-Trichlorophenol	2021/08/12	51	10 - 130	106	10 - 130	<0.10	ug/g				
A323181	2,3-Dichlorophenol	2021/08/12	97	10 - 130	108	10 - 130	<0.10	ug/g				
A323181	2,4,5-trichlorophenol	2021/08/12	95	10 - 130	112	10 - 130	<0.10	ug/g				
A323181	2,4,6-trichlorophenol	2021/08/12	65	10 - 130	95	10 - 130	<0.10	ug/g				
A323181	2,4-dichlorophenol	2021/08/12	103	10 - 130	111	10 - 130	<0.10	ug/g				
A323181	2,4-dimethylphenol	2021/08/12	111	10 - 130	103	10 - 130	<0.10	ug/g				
A323181	2,4-dinitrophenol	2021/08/12	36	10 - 130	37	10 - 130	<1.0	ug/g				
A323181	2,4-Dinitrotoluene	2021/08/12	79	30 - 130	91	30 - 130	<0.10	ug/g				
A323181	2,5-Dichlorophenol	2021/08/12	105	10 - 130	112	10 - 130	<0.10	ug/g				
A323181	2,6-dichlorophenol	2021/08/12	70	10 - 130	101	10 - 130	<0.10	ug/g				
A323181	2,6-Dinitrotoluene	2021/08/12	103	30 - 130	84	30 - 130	<0.10	ug/g				
A323181	2-chloronaphthalene	2021/08/12	109	30 - 130	99	30 - 130	<0.10	ug/g				
A323181	2-chlorophenol	2021/08/12	90	10 - 130	106	10 - 130	<0.10	ug/g				
A323181	2-Methylnaphthalene	2021/08/12	97	30 - 130	94	30 - 130	<0.10	ug/g				



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Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323181	2-nitrophenol	2021/08/12	66	10 - 130	84	10 - 130	<0.50	ug/g				
A323181	3,3'-Dichlorobenzidine	2021/08/12	66	30 - 130	64	30 - 130	<0.50	ug/g				
A323181	3,4,5-Trichlorophenol	2021/08/12	88	10 - 130	103	10 - 130	<0.10	ug/g				
A323181	3,4-Dichlorophenol	2021/08/12	98	10 - 130	104	10 - 130	<0.10	ug/g				
A323181	3,5-Dichlorophenol	2021/08/12	99	10 - 130	105	10 - 130	<0.10	ug/g				
A323181	4,6-dinitro-2-methylphenol	2021/08/12	91	10 - 130	68	10 - 130	<0.50	ug/g				
A323181	4-bromophenyl phenyl ether	2021/08/12	91	30 - 130	88	30 - 130	<0.10	ug/g				
A323181	4-chloro-3-methylphenol	2021/08/12	93	10 - 130	109	10 - 130	<0.10	ug/g				
A323181	4-chlorophenyl phenyl ether	2021/08/12	87	30 - 130	88	30 - 130	<0.10	ug/g				
A323181	4-nitrophenol	2021/08/12	55	10 - 130	96	10 - 130	<0.50	ug/g				
A323181	Acenaphthene	2021/08/12	101	30 - 130	94	30 - 130	<0.10	ug/g				
A323181	Acenaphthylene	2021/08/12	101	30 - 130	93	30 - 130	<0.10	ug/g				
A323181	Anthracene	2021/08/12	100	30 - 130	96	30 - 130	<0.10	ug/g				
A323181	Benzo(a)anthracene	2021/08/12	109	30 - 130	110	30 - 130	<0.10	ug/g				
A323181	Benzo(a)pyrene	2021/08/12	91	30 - 130	94	30 - 130	<0.10	ug/g				
A323181	Benzo(b&j)fluoranthene	2021/08/12	108	30 - 130	109	30 - 130	<0.10	ug/g				
A323181	Benzo(g,h,i)perylene	2021/08/12	102	30 - 130	101	30 - 130	<0.10	ug/g				
A323181	Benzo(k)fluoranthene	2021/08/12	100	30 - 130	109	30 - 130	<0.10	ug/g				
A323181	Biphenyl	2021/08/12	113	30 - 130	98	30 - 130	<0.10	ug/g				
A323181	Bis(2-chloroethoxy)methane	2021/08/12	72	30 - 130	72	30 - 130	<0.10	ug/g				
A323181	Bis(2-chloroethyl)ether	2021/08/12	64	30 - 130	83	30 - 130	<0.20	ug/g				
A323181	Bis(2-chloroisopropyl)ether	2021/08/12	71	30 - 130	65	30 - 130	<0.10	ug/g				
A323181	Bis(2-ethylhexyl)phthalate	2021/08/12	97	30 - 130	100	30 - 130	<0.50	ug/g				
A323181	Butyl benzyl phthalate	2021/08/12	108	30 - 130	98	30 - 130	<0.20	ug/g				
A323181	Chrysene	2021/08/12	109	30 - 130	108	30 - 130	<0.10	ug/g				
A323181	Dibenz(a,h)anthracene	2021/08/12	101	30 - 130	108	30 - 130	<0.10	ug/g				
A323181	Diethyl phthalate	2021/08/12	98	30 - 130	94	30 - 130	<0.20	ug/g				
A323181	Dimethyl phthalate	2021/08/12	89	30 - 130	92	30 - 130	<0.20	ug/g				
A323181	Di-n-butyl phthalate	2021/08/12	103	30 - 130	102	30 - 130	<0.20	ug/g				
A323181	Di-n-octyl phthalate	2021/08/12	108	30 - 130	107	30 - 130	<0.50	ug/g				
A323181	Fluoranthene	2021/08/12	106	30 - 130	110	30 - 130	<0.10	ug/g				



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323181	Fluorene	2021/08/12	102	30 - 130	101	30 - 130	<0.10	ug/g				
A323181	Hexachlorobenzene	2021/08/12	92	30 - 130	88	30 - 130	<0.20	ug/g				
A323181	Hexachlorobutadiene	2021/08/12	89	30 - 130	82	30 - 130	<0.10	ug/g				
A323181	Hexachlorocyclopentadiene	2021/08/12	NA (18)	30 - 130	55	30 - 130	<0.50	ug/g				
A323181	Hexachloroethane	2021/08/12	70	30 - 130	85	30 - 130	<0.10	ug/g				
A323181	Indeno(1,2,3-cd)pyrene	2021/08/12	112	30 - 130	105	30 - 130	<0.10	ug/g				
A323181	Isophorone	2021/08/12	82	30 - 130	87	30 - 130	<0.10	ug/g				
A323181	m,p-Cresol	2021/08/12	109	10 - 130	115	10 - 130	<0.20	ug/g				
A323181	Naphthalene	2021/08/12	80	30 - 130	80	30 - 130	<0.10	ug/g				
A323181	Nitrobenzene	2021/08/12	79	30 - 130	89	30 - 130	<0.10	ug/g				
A323181	Nitrosodiphenylamine/Diphenylamine	2021/08/12	124	30 - 130	116	30 - 130	<0.20	ug/g				
A323181	N-nitroso-di-n-propylamine	2021/08/12	78	30 - 130	87	30 - 130	<0.10	ug/g				
A323181	o-Cresol	2021/08/12	100	10 - 130	114	10 - 130	<0.20	ug/g				
A323181	p-Chloroaniline	2021/08/12	67	30 - 130	75	30 - 130	<0.20	ug/g				
A323181	Pentachlorobenzene	2021/08/12	88	30 - 130	81	30 - 130	<0.20	ug/g				
A323181	Pentachlorophenol	2021/08/12	37	10 - 130	90	10 - 130	<0.20	ug/g				
A323181	Perylene	2021/08/12	97	30 - 130	105	30 - 130	<0.20	ug/g				
A323181	Phenanthrene	2021/08/12	115	30 - 130	105	30 - 130	<0.10	ug/g				
A323181	Phenol	2021/08/12	110	10 - 130	110	10 - 130	<0.20	ug/g				
A323181	Pyrene	2021/08/12	124	30 - 130	106	30 - 130	<0.10	ug/g				
A323181	Quinoline	2021/08/12	73	30 - 130	79	30 - 130	<0.20	ug/g				
A323183	Leachable (SPLP) 1,1,1,2-tetrachloroethane	2021/08/15	81 (19)	70 - 130	86	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,1,2,2-tetrachloroethane	2021/08/15	83 (19)	70 - 130	83	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,1,2-trichloroethane	2021/08/15	84 (19)	70 - 130	85	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,1-dichloroethane	2021/08/15	80 (19)	70 - 130	82	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,1-Dichloroethylene	2021/08/15	79 (19)	70 - 130	85	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,2-dichlorobenzene	2021/08/15	81 (19)	70 - 130	85	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,2-dichloroethane	2021/08/15	85 (19)	70 - 130	82	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,2-dichloropropane	2021/08/15	82 (19)	70 - 130	81	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) 1,4-dichlorobenzene	2021/08/15	92 (19)	70 - 130	98	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) Benzene	2021/08/15	78 (19)	70 - 130	78	70 - 130	<0.40	ug/L				



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323183	Leachable (SPLP) Bromomethane	2021/08/15	83 (19)	60 - 140	83	60 - 140	<0.40	ug/L				
A323183	Leachable (SPLP) Carbon tetrachloride	2021/08/15	83 (19)	70 - 130	87	70 - 130	<0.19	ug/L				
A323183	Leachable (SPLP) Chloroform	2021/08/15	85 (19)	70 - 130	85	70 - 130	<0.90	ug/L				
A323183	Leachable (SPLP) cis-1,2-Dichloroethylene	2021/08/15	88 (19)	70 - 130	89	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) cis-1,3-dichloropropene	2021/08/15	86 (19)	70 - 130	80	70 - 130	<0.30	ug/L				
A323183	Leachable (SPLP) Ethylbenzene	2021/08/15	75 (19)	70 - 130	82	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) Ethylene Dibromide	2021/08/15	83 (19)	70 - 130	83	70 - 130	<0.19	ug/L				
A323183	Leachable (SPLP) m & p-Xylene	2021/08/15	80 (19)	70 - 130	87	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) o-Xylene	2021/08/15	73 (19)	70 - 130	81	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) Tetrachloroethylene	2021/08/15	73 (19)	70 - 130	81	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) Toluene	2021/08/15	78 (19)	70 - 130	83	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) Total Xylenes	2021/08/15					<0.60	ug/L				
A323183	Leachable (SPLP) trans-1,2-Dichloroethylene	2021/08/15	78 (19)	70 - 130	82	70 - 130	<0.40	ug/L				
A323183	Leachable (SPLP) trans-1,3-dichloropropene	2021/08/15	95 (19)	70 - 130	89	70 - 130	<0.30	ug/L				
A323183	Leachable (SPLP) Trichloroethylene	2021/08/15	87 (19)	70 - 130	90	70 - 130	<0.40	ug/L				
A327123	Confirmation 2,3,7,8-Tetra CDF	2021/08/18					<0.090	pg/g	104 (2,20)	100		
A327235	Confirmation 2,3,7,8-Tetra CDF	2021/08/19					<0.18	pg/g				
A330044	1,2,3,4,6,7,8-Hepta CDD	2021/08/17	94 (21)	70 - 140	98	70 - 140	<0.484, EDL=0.484	pg/g	NC (20)	25		
A330044	1,2,3,4,6,7,8-Hepta CDF	2021/08/17	100 (21)	82 - 122	97	82 - 122	<1.04, EDL=1.04	pg/g	96 (2,20)	25		
A330044	1,2,3,4,7,8,9-Hepta CDF	2021/08/17	116 (21)	78 - 138	117	78 - 138	<1.04, EDL=1.04	pg/g	NC (22,20)	25		
A330044	1,2,3,4,7,8-Hexa CDD	2021/08/17	99 (21)	70 - 164	105	70 - 164	<1.00, EDL=1.00	pg/g	NC (20)	25		
A330044	1,2,3,4,7,8-Hexa CDF	2021/08/17	113 (21)	72 - 134	111	72 - 134	<0.643, EDL=0.643	pg/g	NC (20)	25		
A330044	1,2,3,6,7,8-Hexa CDD	2021/08/17	89 (21)	76 - 134	85	76 - 134	<1.00, EDL=1.00	pg/g	NC (20)	25		
A330044	1,2,3,6,7,8-Hexa CDF	2021/08/17	108 (21)	84 - 130	114	84 - 130	<0.671, EDL=0.671	pg/g	3.3 (20)	25		
A330044	1,2,3,7,8,9-Hexa CDD	2021/08/17	92 (21)	64 - 162	93	64 - 162	<0.995, EDL=0.995	pg/g	NC (20)	25		



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A330044	1,2,3,7,8,9-Hexa CDF	2021/08/17	106 (21)	78 - 130	106	78 - 130	<0.655, EDL=0.655	pg/g	NC (20)	25		
A330044	1,2,3,7,8-Penta CDD	2021/08/17	89 (21)	25 - 181	90	25 - 181	<0.450, EDL=0.450	pg/g	NC (20)	25		
A330044	1,2,3,7,8-Penta CDF	2021/08/17	114 (21)	80 - 134	112	80 - 134	<0.939, EDL=0.939	pg/g	NC (20)	25		
A330044	2,3,4,6,7,8-Hexa CDF	2021/08/17	115 (21)	70 - 156	116	70 - 156	<0.620, EDL=0.620	pg/g	20 (20)	25		
A330044	2,3,4,7,8-Penta CDF	2021/08/17	108 (21)	68 - 160	105	68 - 160	<0.850, EDL=0.850	pg/g	16 (20)	25		
A330044	2,3,7,8-Tetra CDD	2021/08/17	89 (21)	67 - 158	94	67 - 158	<0.369, EDL=0.369	pg/g	NC (20)	25		
A330044	2,3,7,8-Tetra CDF	2021/08/17	105 (21)	75 - 158	105	75 - 158	<0.982, EDL=0.982	pg/g	105 (2,20)	25		
A330044	Octa CDD	2021/08/17	91 (21)	78 - 144	91	78 - 144	<0.592, EDL=0.592	pg/g	NC (20)	25		
A330044	Octa CDF	2021/08/17	98 (21)	63 - 170	101	63 - 170	<0.404, EDL=0.404	pg/g	NC (20)	25		
A330044	Total Hepta CDD	2021/08/17					<0.484, EDL=0.484	pg/g	NC (20)	25		
A330044	Total Hepta CDF	2021/08/17					<1.04, EDL=1.04	pg/g	115 (2,20)	25		
A330044	Total Hexa CDD	2021/08/17					<1.01, EDL=1.01	pg/g	NC (20)	25		
A330044	Total Hexa CDF	2021/08/17					<0.647, EDL=0.647	pg/g	111 (2,20)	25		
A330044	Total Penta CDD	2021/08/17					<0.450, EDL=0.450	pg/g	NC (20)	25		
A330044	Total Penta CDF	2021/08/17					<0.892, EDL=0.892	pg/g	127 (2,20)	25		
A330044	Total Tetra CDD	2021/08/17					<0.369, EDL=0.369	pg/g	NC (20)	25		
A330044	Total Tetra CDF	2021/08/17					<0.982, EDL=0.982	pg/g	114 (2,20)	25		



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON,BC
Your P.O. #: 735-000118
Sampler Initials: CT

		Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard		
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
N/A = Not Applicable												
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.												
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.												
QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.												
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.												
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.												
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.												
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)												
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).												
(1) Matrix Spike Parent ID [ACM774-10]												
(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.												
(3) Blank recovery exceeds acceptance criteria (high recovery). As results are non-detect, there is no impact on data quality.												
(4) Duplicate Parent ID [ACM774-10]												
(5) Matrix Spike outside acceptance criteria due to sample matrix interference.												
(6) Duplicate Parent ID												
(7) Duplicate Parent ID [ACM780-11]												
(8) Duplicate Parent ID [ACM774-01]												
(9) Duplicate Parent ID [ACM787-11]												
(10) Matrix Spike Parent ID [ACM774-01]												
(11) Matrix Spike Parent ID [ACM787-11]												
(12) Matrix Spike Parent ID [ACM783-01]												
(13) Duplicate Parent ID [ACM783-01]												
(14) Matrix Spike Parent ID [ACM774-04]												
(15) Duplicate Parent ID [ACM774-04]												
(16) Matrix Spike Parent ID [ACM782-04]												
(17) Duplicate Parent ID [ACM782-04]												



BV Labs Job #: C153218
Report Date: 2021/08/27

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
(18) The recovery in the matrix spike was not availabble (NA) due to dilution.												
(19) Matrix Spike Parent ID [ACM774-03]												
(20) Duplicate Parent ID [ACM779-02]												
(21) Matrix Spike Parent ID [ACM786-02]												
(22) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.												



BV Labs Job #: C153218
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GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

Cathy Xu, Senior Analyst, HRMS Services, Senior Analyst, HRMS Services

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Janet Gao, B.Sc., QP, Supervisor, Organics

Thomas Pinchin, Project Solutions Representative

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics



BV Labs Job #: C153218
Report Date: 2021/08/27

GHD Limited
Client Project #: 11230615
Site Location: LYTTON, BC
Your P.O. #: 735-000118
Sampler Initials: CT

VALIDATION SIGNATURE PAGE(CONT'D)

The analytical data and all QC contained in this report were reviewed and validated by:

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



C153218_ACTR

COOLER OBSERVATIONS:

[illegible]

GLYSTOUFF SEAL	YES	NO	COOLER ID	1		
PRESENT	/	-	TEMP	10 ₁	10 ₂	14 ₃
DETACT	/	-				
GLYSTOUFF SEAL	YES	NO	COOLER ID	2		
PRESENT	/	-	TEMP	9 ₁	10 ₂	10 ₃
DETACT	/	-				
GLYSTOUFF SEAL	YES	NO	COOLER ID	3		
PRESENT	/	-	TEMP	10 ₁	10 ₂	10 ₃
DETACT	/	-				
GLYSTOUFF SEAL	YES	NO	COOLER ID	4		
PRESENT	/	-	TEMP	14 ₁	12 ₂	11 ₃
DETACT	/	-				
GLYSTOUFF SEAL	YES	NO	COOLER ID	5		
PRESENT	/	-	TEMP	11 ₁	11 ₂	11 ₃
DETACT	/	-				
GLYSTOUFF SEAL	YES	NO	COOLER ID	6		
PRESENT	/	-	TEMP	9 ₁	9 ₂	8 ₃
DETACT	/	-				
GLYSTOUFF SEAL	YES	NO	COOLER ID			
PRESENT			TEMP			
DETACT				1	2	3
GLYSTOUFF SEAL	YES	NO	COOLER ID			
PRESENT			TEMP			
DETACT				1	2	3
GLYSTOUFF SEAL	YES	NO	COOLER ID			
PRESENT			TEMP			
DETACT				1	2	3
GLYSTOUFF SEAL	YES	NO	COOLER ID			
PRESENT			TEMP			
DETACT				1	2	3
GLYSTOUFF SEAL	YES	NO	COOLER ID			
PRESENT			TEMP			
DETACT				1	2	3

CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	
CUSTOMER SEAL	YES	NO	COOLER RP			
PRESIDENT			TEMP			
INTERACT						
ALL PRESIDENT			1	2	3	

RECEIVED BY (SIGN & PRINT)

DATE (YYYY/MM/DD)

TIME (HH:MM)



Page 1 of 2

Invoice Information			Report Information (if differs from invoice)			Project Information			Turnaround Time (TAT) Required		
Company: GHD Ltd			Company:			Quotation:			☒ 5 - 7 Days Regular (Most analyses)		
Contact Name: Alesse MacPhee			Contact Name:			P.O. #/AFR:	TBD - see draft P.O.		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS		
Address: 455 Philip St Waterloo, ON PC: N2L 3X2			Address:			Project #:	11230615		Rush TAT (Surcharges will be applied)		
Phone/Fax: 519-884-0510			Phone/Fax:			Site Location:	Lytton, BC		☐ Same Day	☐ 2 Days	
Email: alesse.macphee@ghd.com			Email:			Site #:			☐ 1 Day	☐ 3-4 Days	
Copies: trevor.ceccanese@ghd.com			Copies:			Sampled By:	C Thiele		Date Required:		
									Rush Confirmation #:		

Laboratory Use Only					Analysis Requested															Regulatory Criteria					
Depot Reception					YES NO Cooler ID																	☐ BC CSR ☐ YK CSR ☐ CCME ☐ Drinking Water ☐ BC Water Quality ☐ Other _____			
					Seal Present Seal Intact Cooling Media		Temp																		
YES NO Cooler ID																									
Seal Present Seal Intact Cooling Media		Temp																							
YES NO Cooler ID																									
Seal Present Seal Intact Cooling Media		Temp																							
Sample Identification				Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	VOC's/VPI	TCLP Metals	TCLP VOCs	SPUP Metals	SPUP VOCs	CR Metals (including pH/mercury)	Bioassay/Petroleum	LEPA/HHEPH	Total PCBs	Silica Quartz, Cristobalite, Tridymite Chlorinated phenols / non-chlorinated phenols	ONVOCs	HOLD - DO NOT ANALYZE	Special Instructions					
1	CS-11230615-072121-CT-17	2021/07/21	10:20	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Samples on hold pending provision of EMSI asbestos results					
2	CS-11230615-072121-CT-18	2021/07/21	10:35	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
3	CS-11230615-072121-CT-19	2021/07/21	11:00	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
4	CS-11230615-072121-CT-20	2021/07/21	11:30	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Report copies also to: keal.macnaughton@ghd.com					
5	CS-11230615-072121-CT-21	2021/07/21	11:45	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	jessica.masters@ghd.com					
6	CS-11230615-072121-CT-22	2021/07/21	12:45	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
7	CS-11230615-072121-CT-23	2021/07/21	13:10	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
8	CS-11230615-072121-CT-24	2021/07/21	13:40	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
9	CS-11230615-072121-CT-25	2021/07/21	14:00	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
10	CS-11230615-072121-CT-26	2021/07/21	14:30	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X						

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at https://www.bv.com/en-us/terms-and-conditions

Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd)	Time (hh:mm)	Received by: (Signature/ Print)	Date (yyyy/mm/dd)	Time (hh:mm)	BV Job #
Alexis J Kim / ASB	2021/07/23	09:00	[Signature]	21/07/23	08:50	



C153218 COC



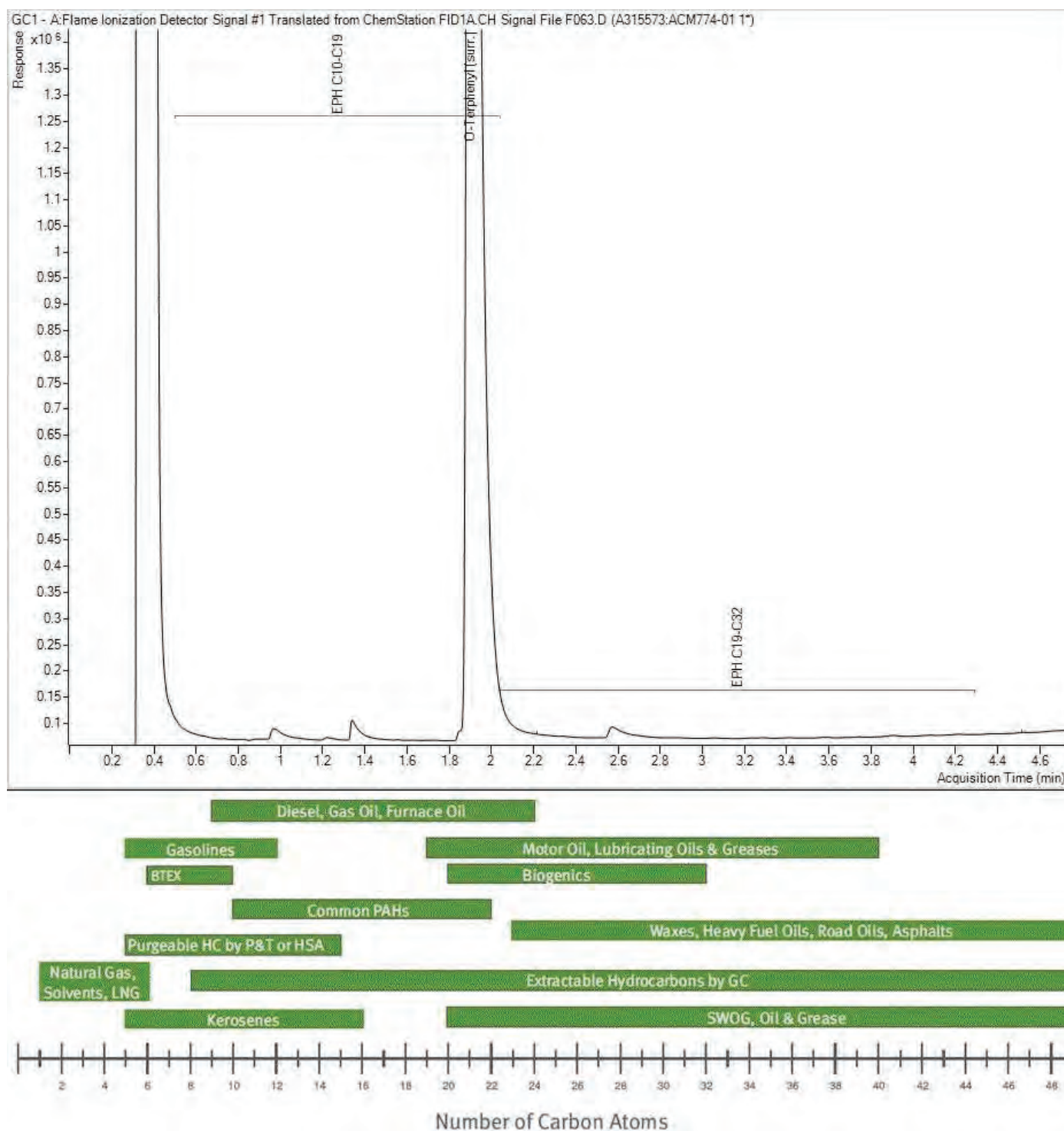
Page 2 of 2

Invoice Information				Report Information (if differs from invoice)				Project Information				Turnaround Time (TAT) Required																							
Company: GHD Ltd				Company:				Quotation				☒ 5 - 7 Days Regular (Most analyses)																							
Contact Name: Alesse MacPhee				Contact Name:				P.O. #/AFR: TBD - see draft P.O.				PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS																							
Address: 455 Phillip St Waterloo, ON PC: N2L 3X2				Address:				Project #: 11230615				Rush TAT (Surcharges will be applied) ☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3-4 Days																							
Phone/Fax: 519-884-0510				Phone/Fax:				Site Location: Lytton, BC				Date Required:																							
Email: alesse.macphee@ghd.com				Email:				Site #:				Rush Confirmation #:																							
Copies: trevor.ceccanese@ghd.com				Copies:				Sampled By: C Thiele																											
Laboratory Use Only						Analysis Requested										Regulatory Criteria																			
☐	YES	NO	Cauler ID	Depot Reception		# of Containers	VOC/VPH	TCF Metals	TECP VOCs	SHF Metals	SPVP VOCs	CSH Metals (including pH/mercury)	Dioxin/Furans	LEPA/HAPs	Total PCBs	Silica Quartz, Crystalline, Tridymite	Chlorinated phenols / non-chlorinated phenols	ONVOCs	HOLD - DO NOT ANALYZE	☐ BC CSR ☐ YK CSR ☐ CCME ☐ Drinking Water ☐ BC Water Quality ☐ Other															
☐	Seal Present																																		
☐	Seal Intact																																		
☐	Coating Media																																		
☐	YES	NO	Cauler ID																																
☐	Seal Present																																		
☐	Seal Intact																																		
☐	Coating Media																																		
☐	YES	NO	Cauler ID																																
☐	Seal Present																																		
☐	Seal Intact																																		
☐	Coating Media																																		
Sample Identification				Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix																													
1	CS-11230615-072121-CT-27			2021/07/21	15:00	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X															
2	CS-11230615-072121-CT-28			2021/07/21	15:30	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X															
3	CS-11230615-072221-CT-29			2021/07/22	10:45	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X															
4	CS-11230615-072221-CT-30			2021/07/22	11:20	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X															
5	CS-11230615-072221-CT-31			2021/07/22	11:50	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X															
6	CS-11230615-072221-CT-32			2021/07/22	12:30	BULK	12	X	X	X	X	X	X	X	X	X	X	X	X	X															
7																																			
8																																			
9																																			
10																																			
Unless otherwise agreed to in writing, work submitted on the Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at https://www.bv.com/en/svc/terms-and-conditions																																			
Relinquished by: (Signature/ Print)				Date (yyyy/mm/dd)	Time (hh:mm)	Received by: (Signature/ Print)				Date (yyyy/mm/dd)	Time (hh:mm)	BV Job #																							
Anthony O'Brien / AB				2021/07/23	09:00	[Signature]				21/07/23	08:50																								



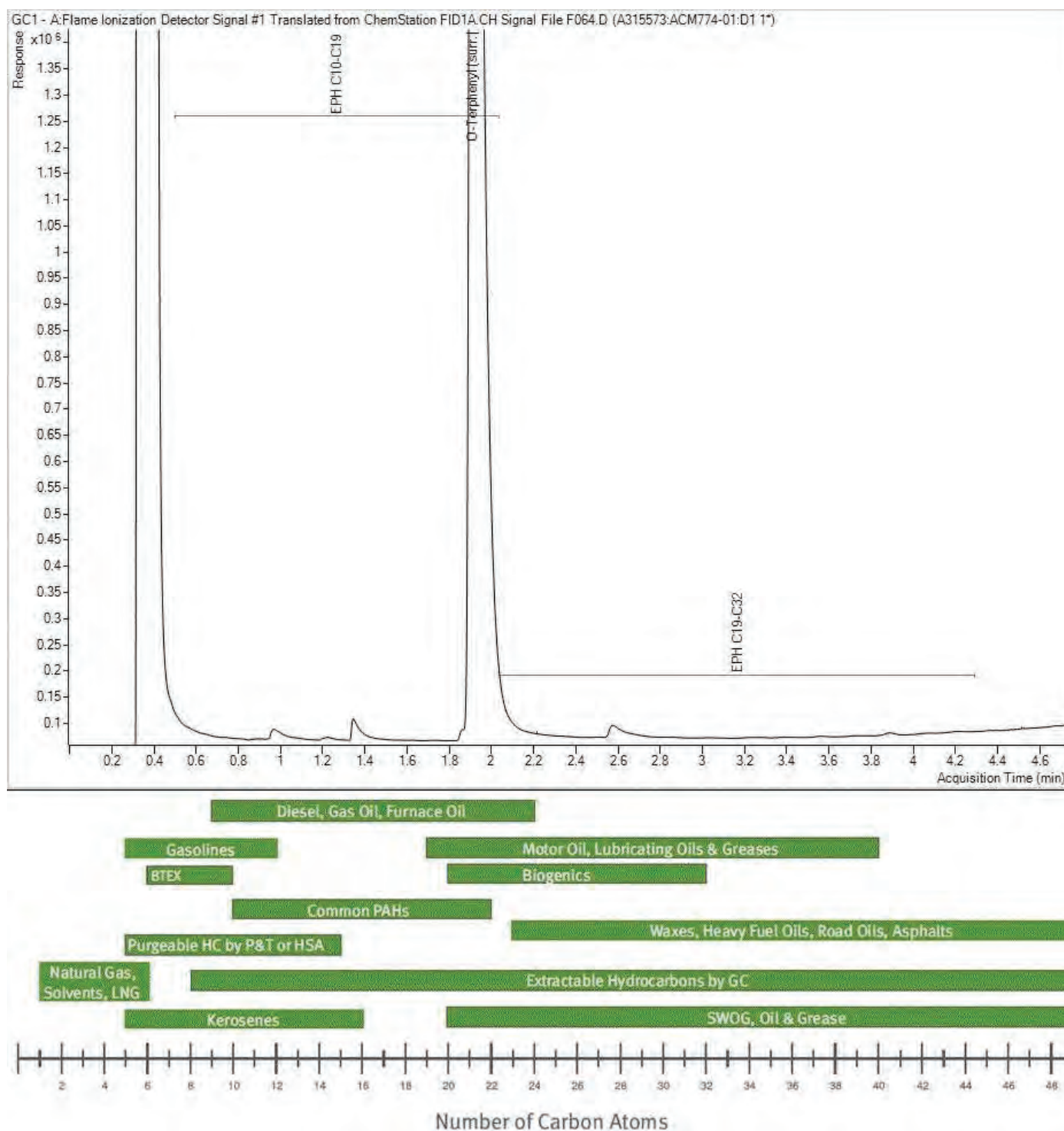
C153218_COC

EPH in Soil by GC/FID Chromatogram



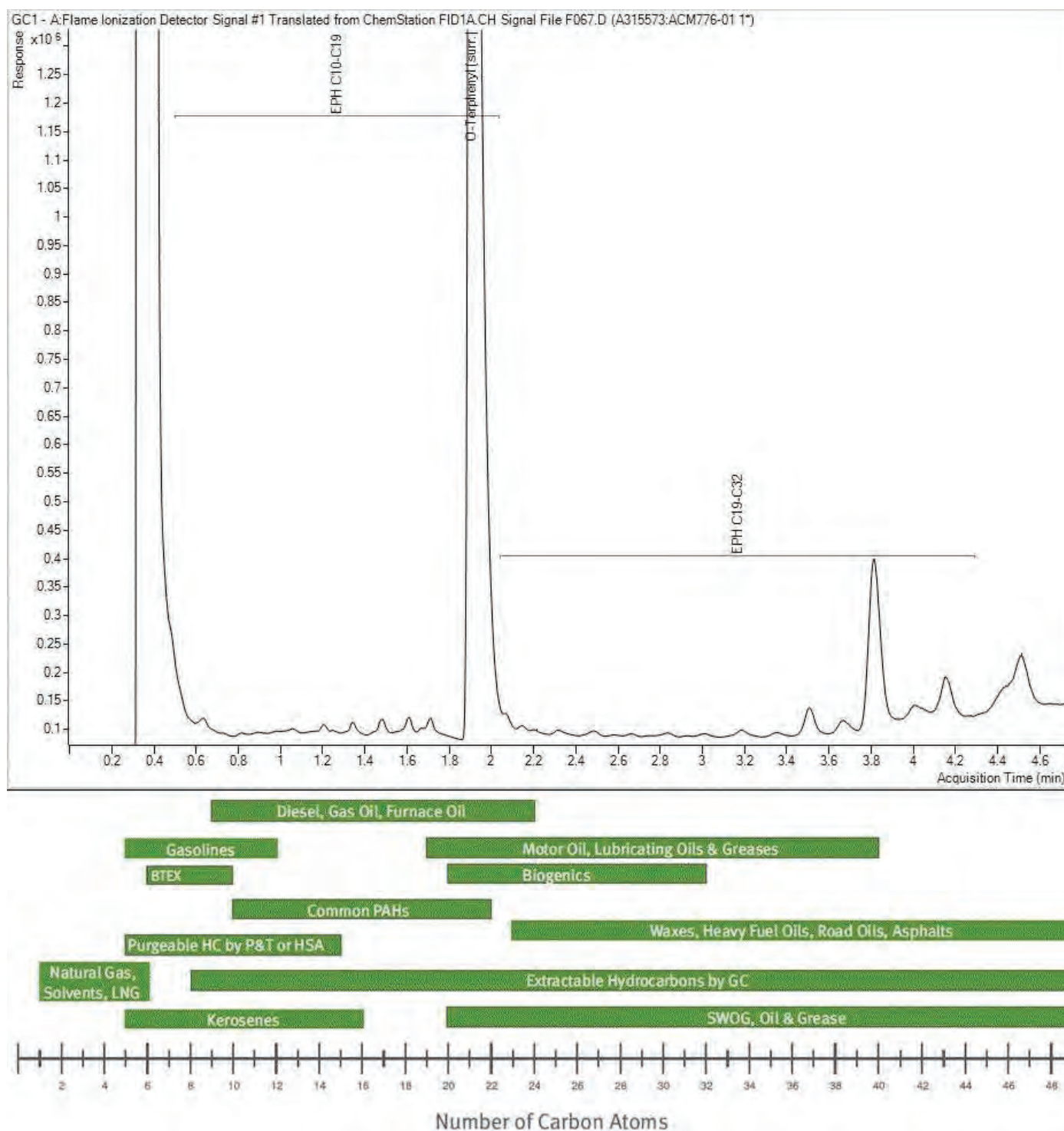
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



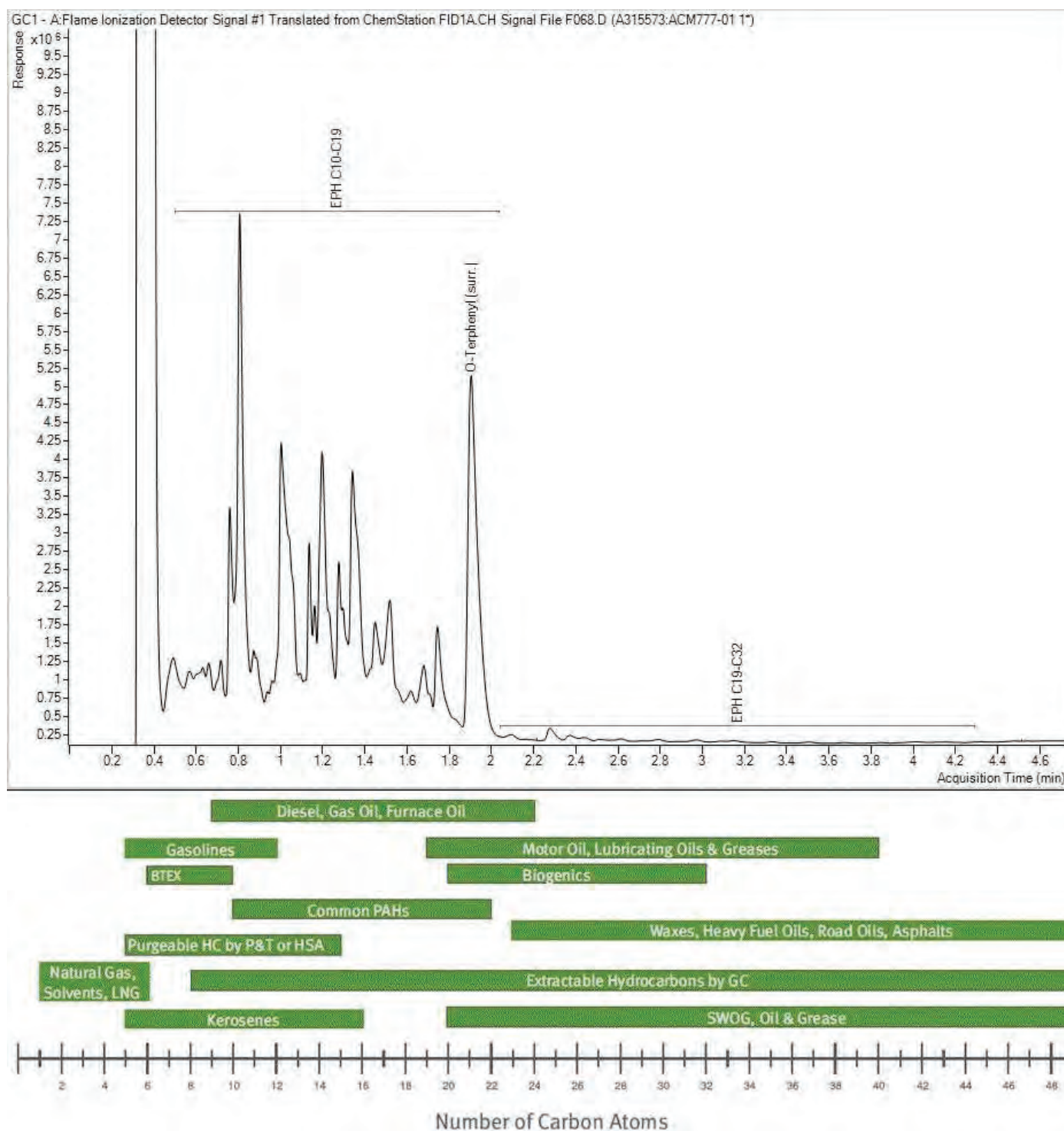
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



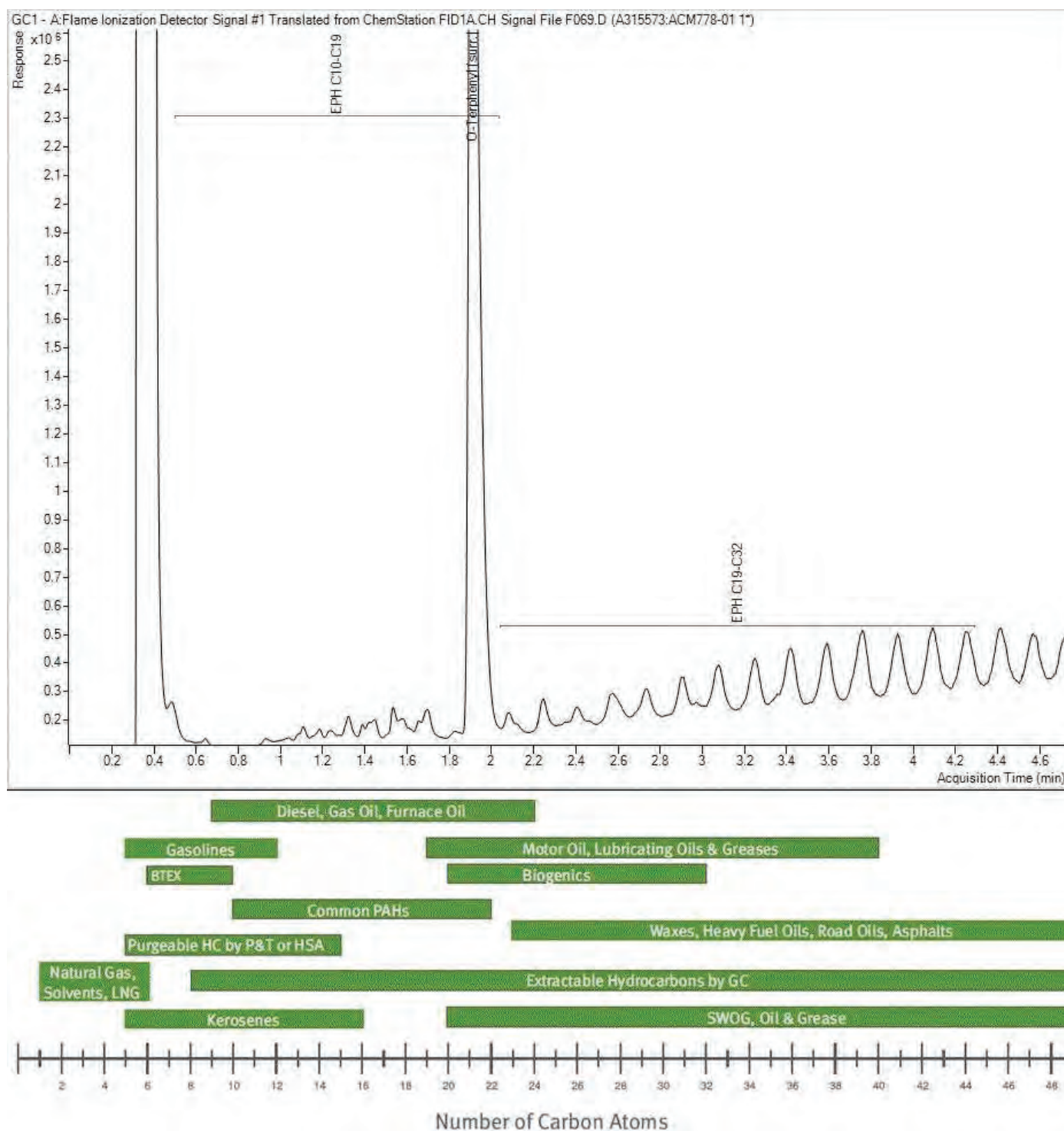
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



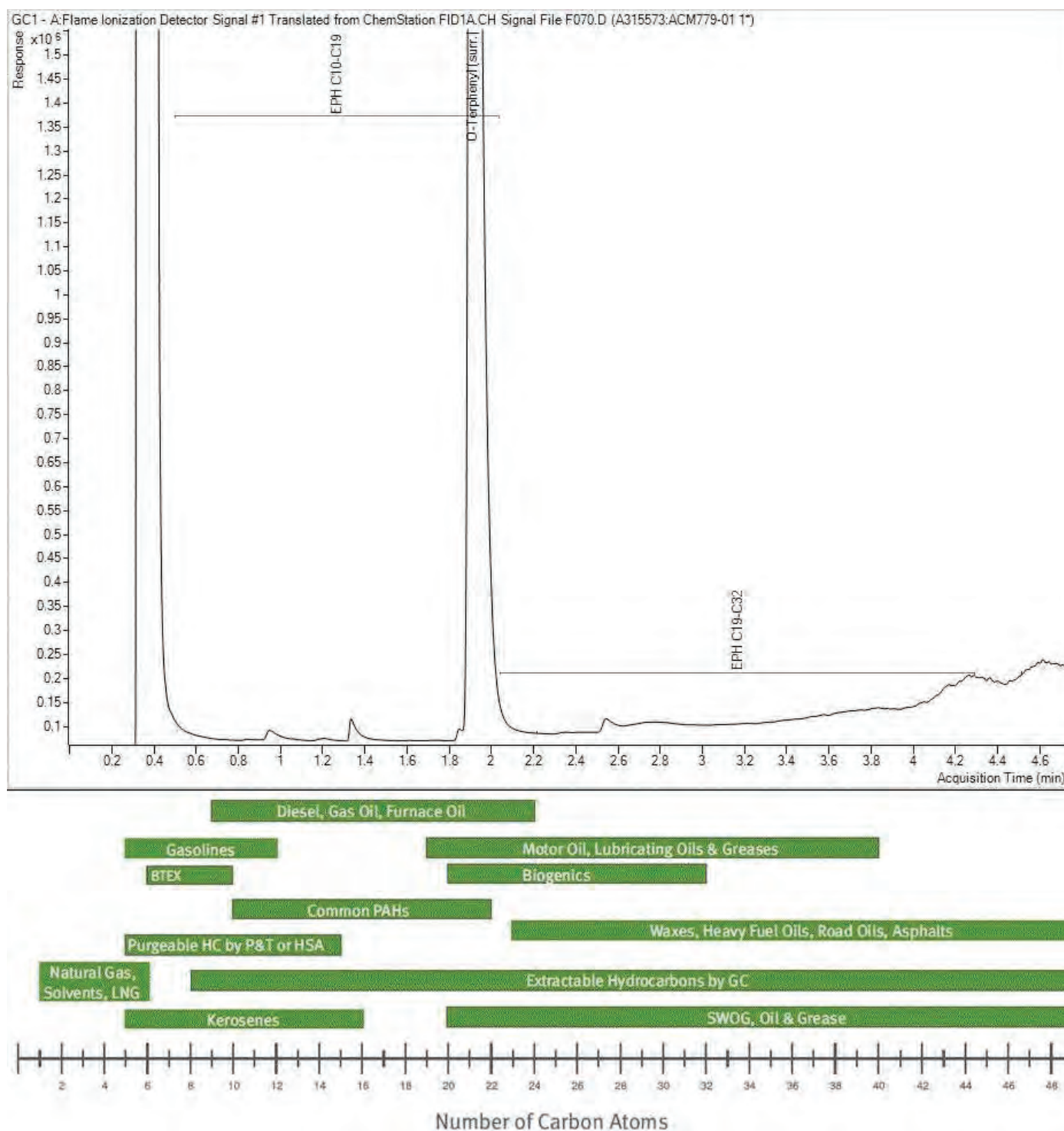
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



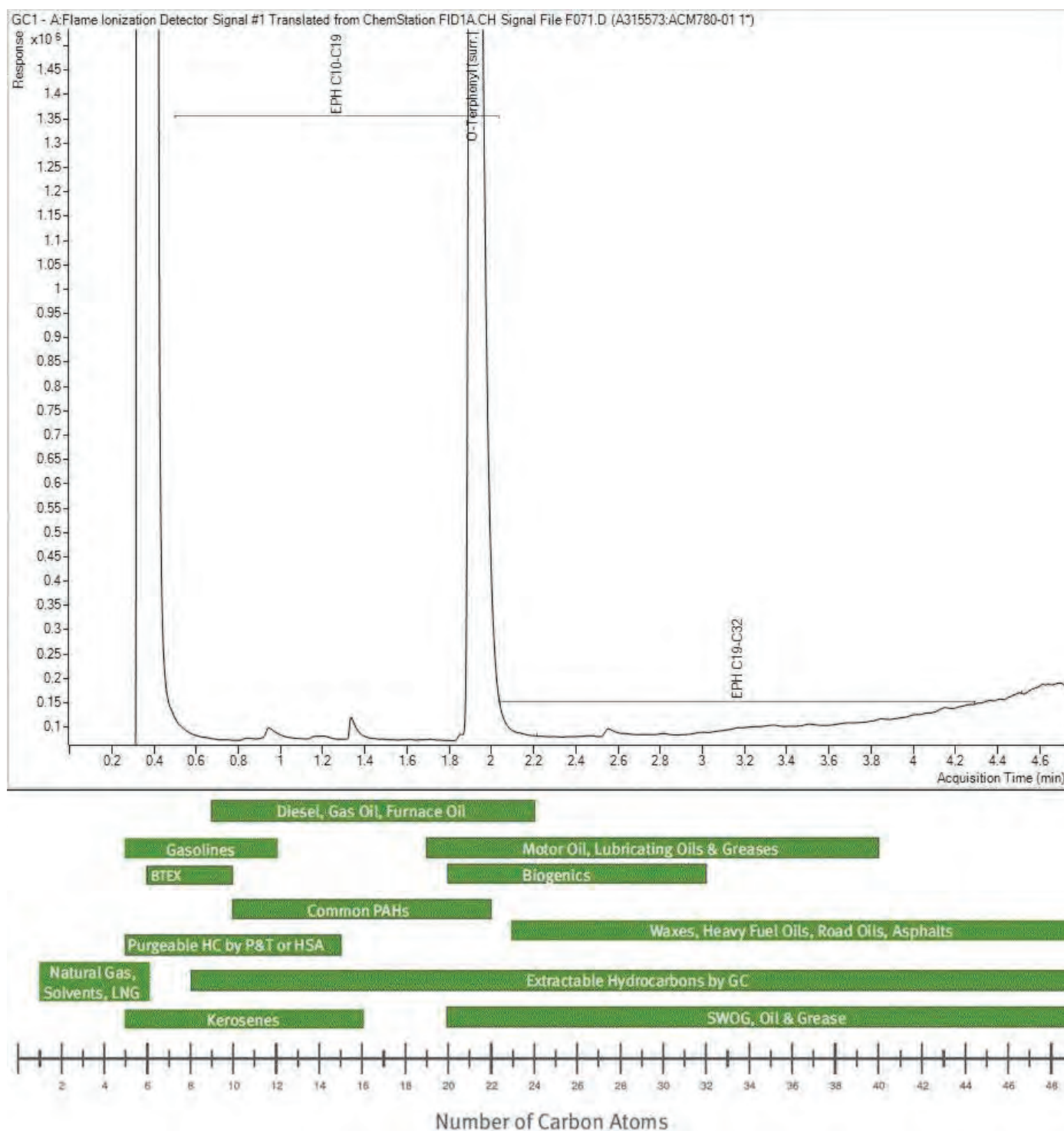
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



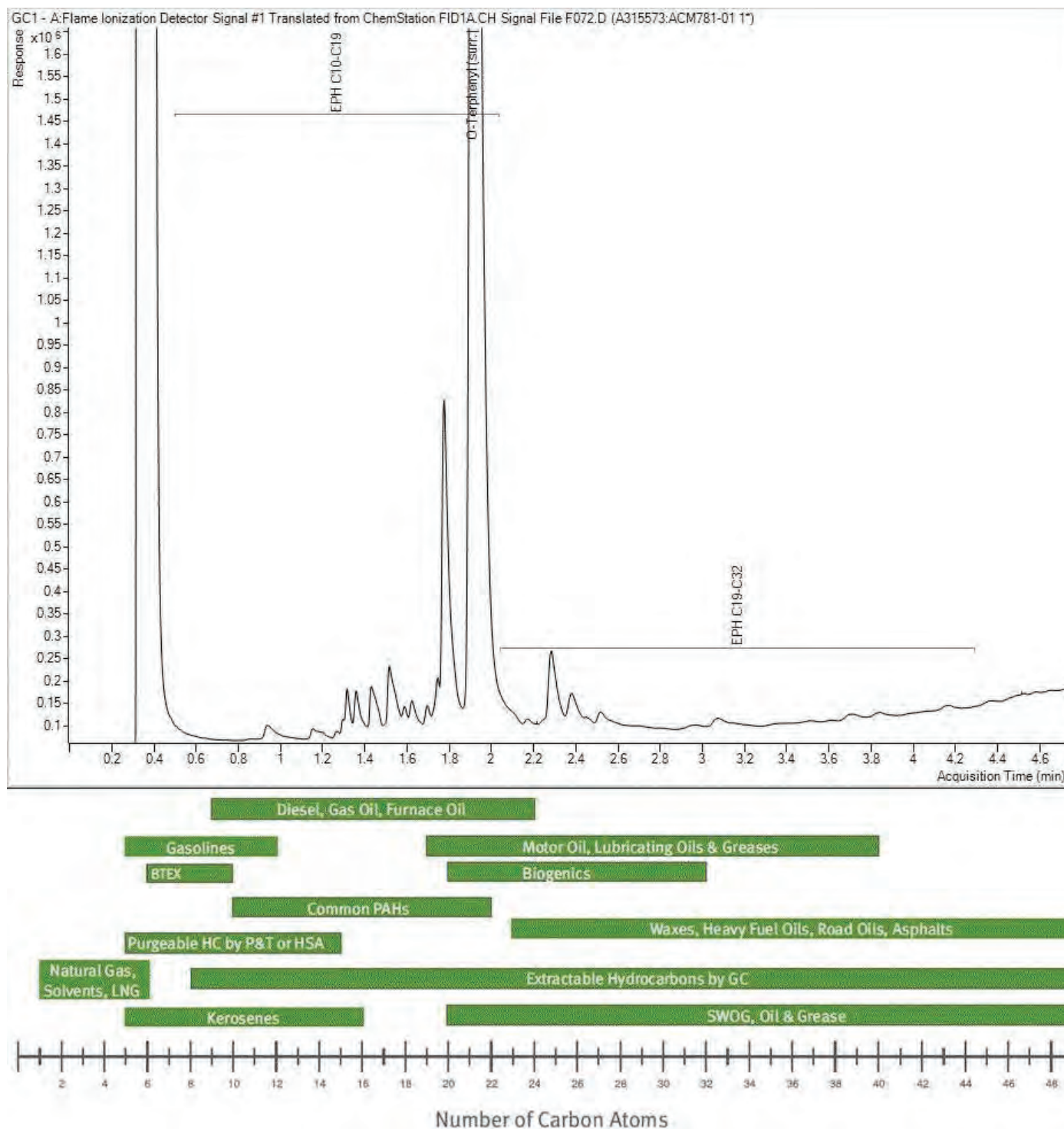
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



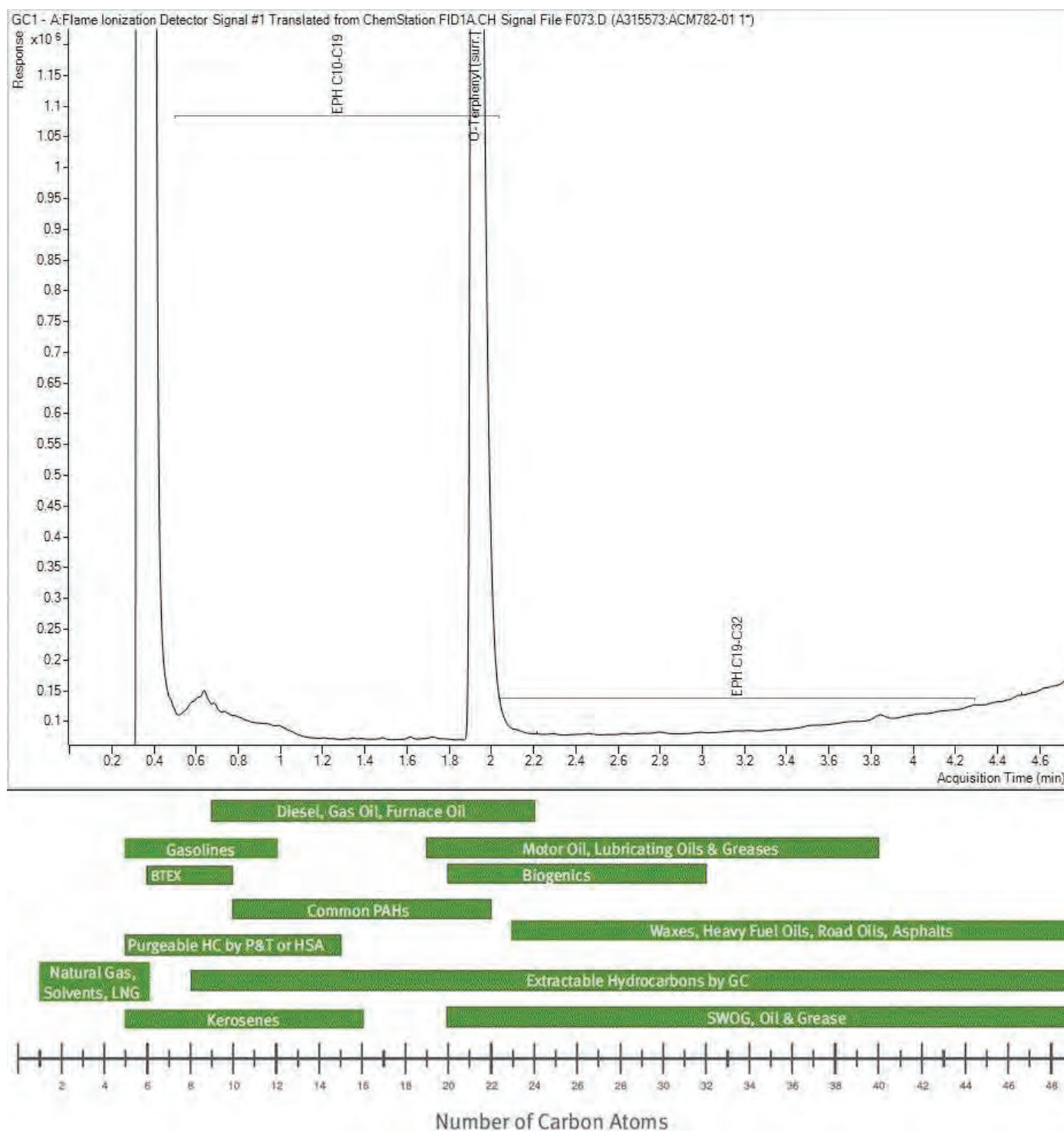
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



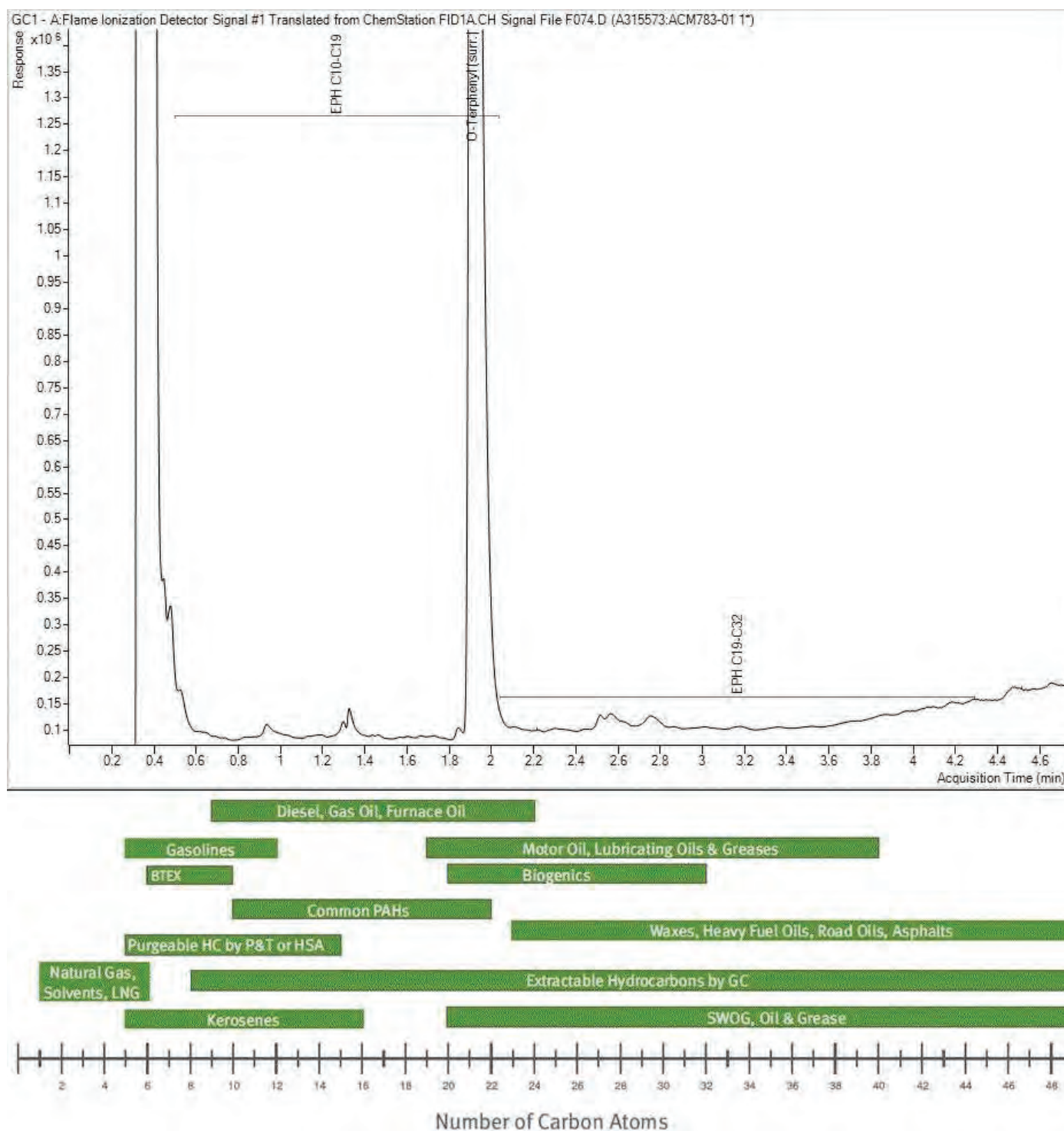
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



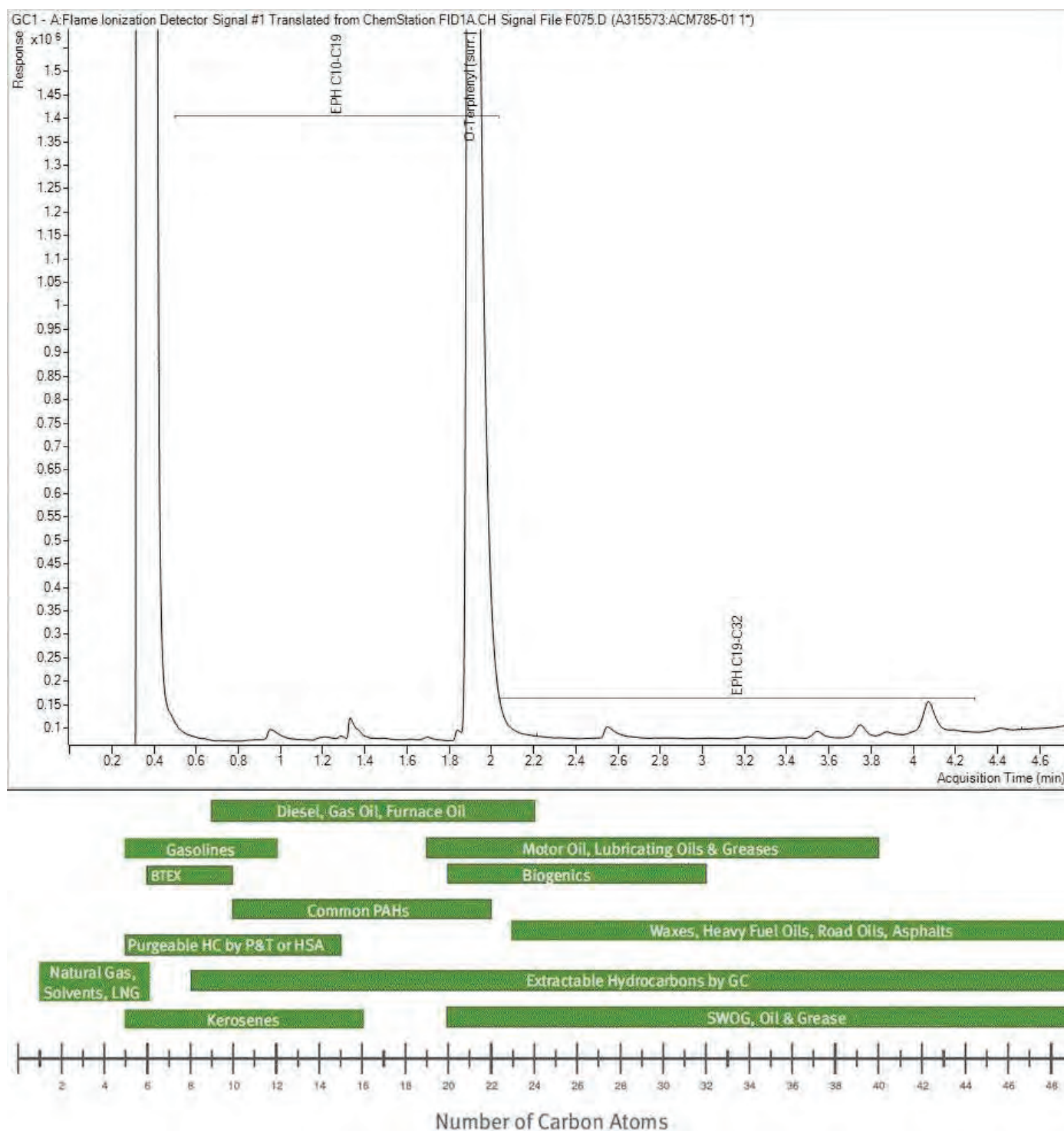
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



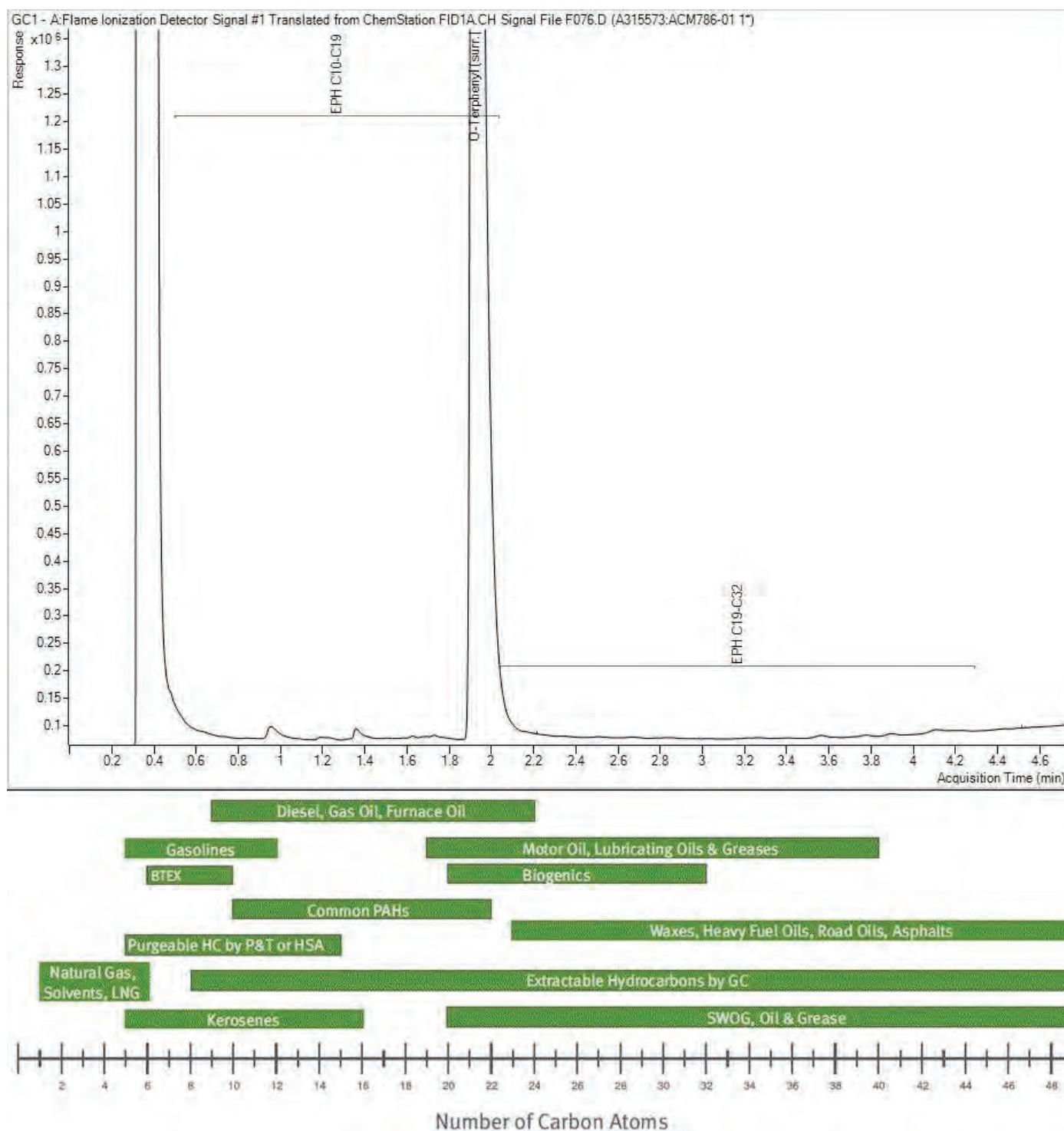
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



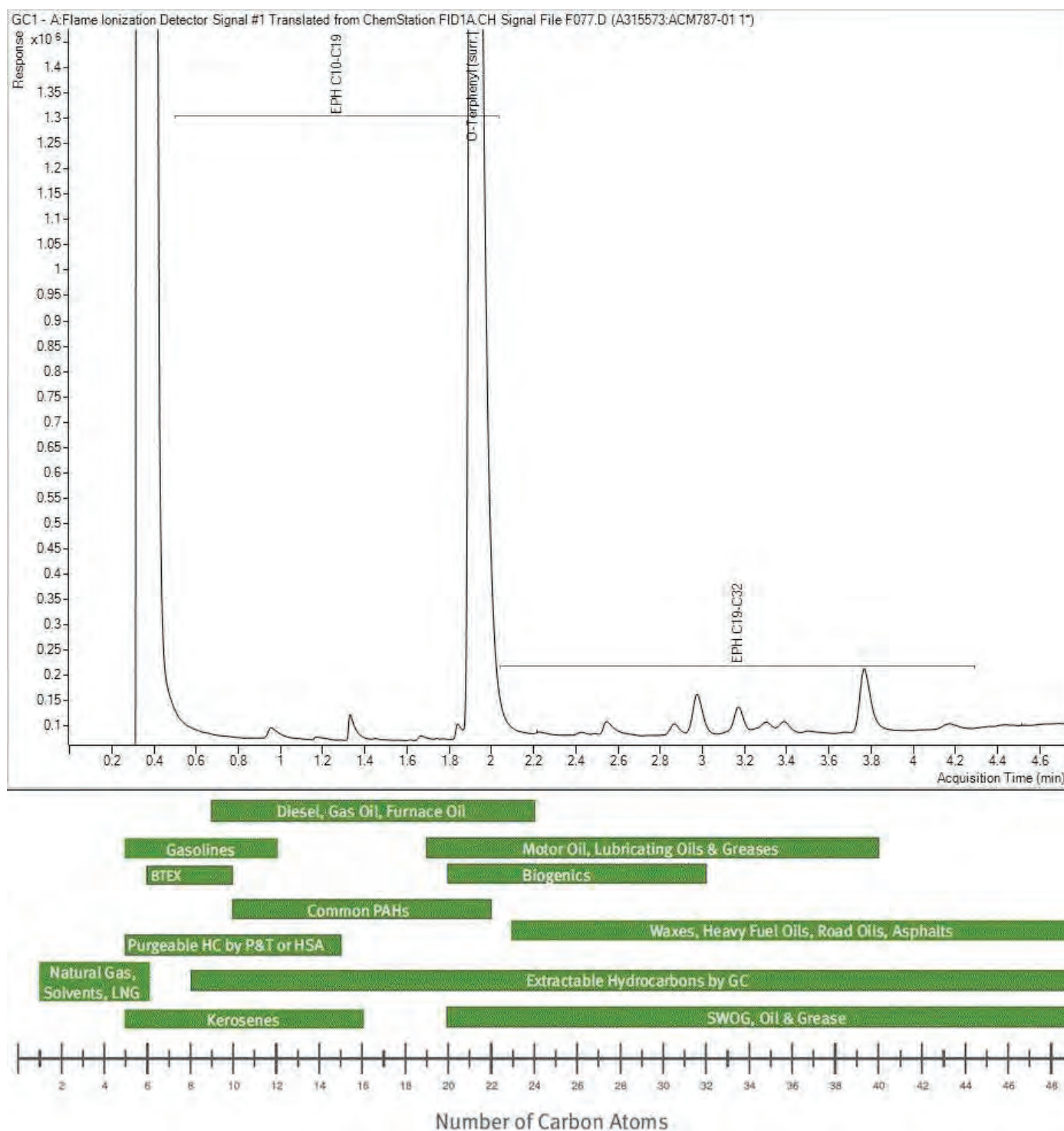
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



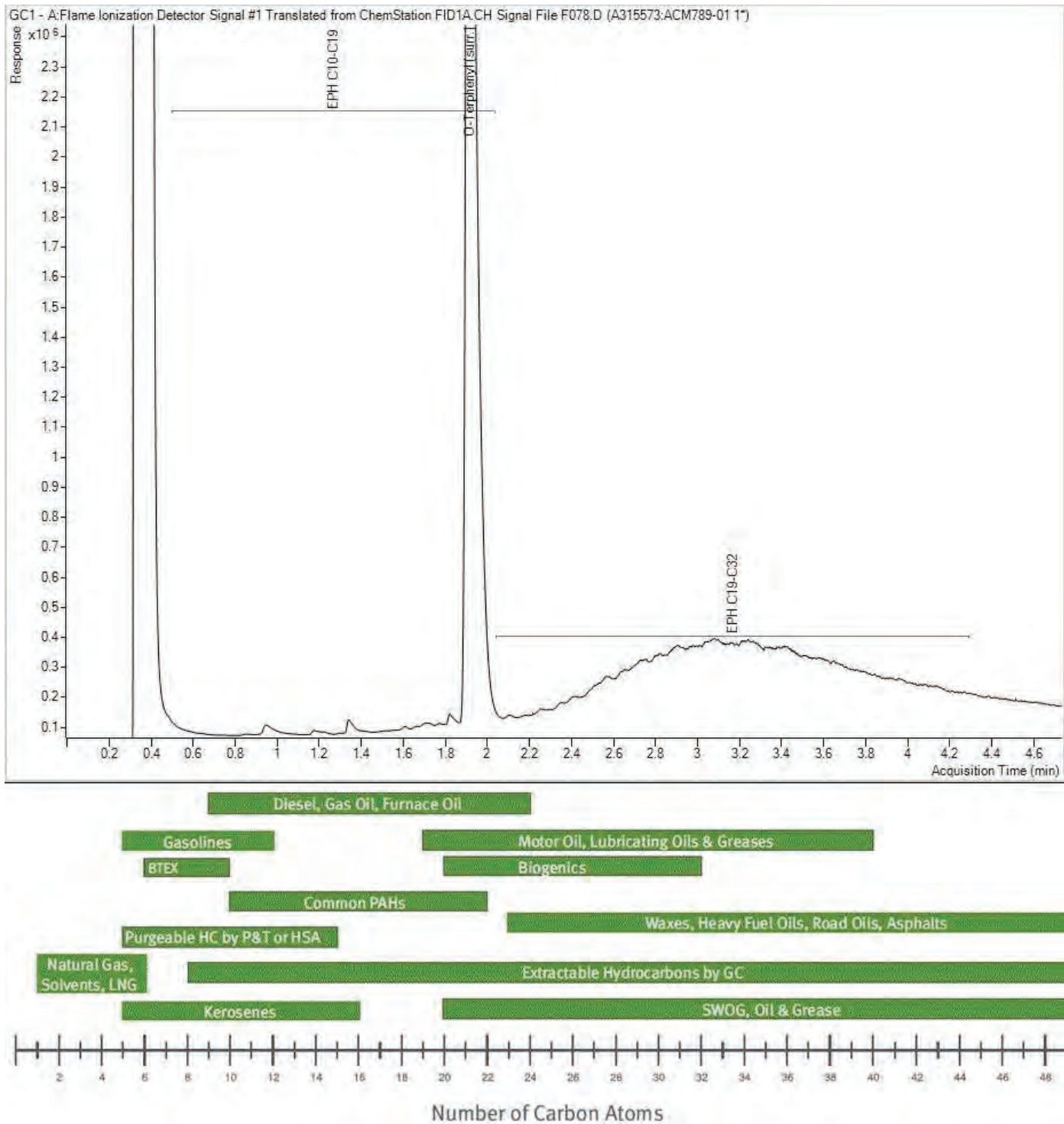
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



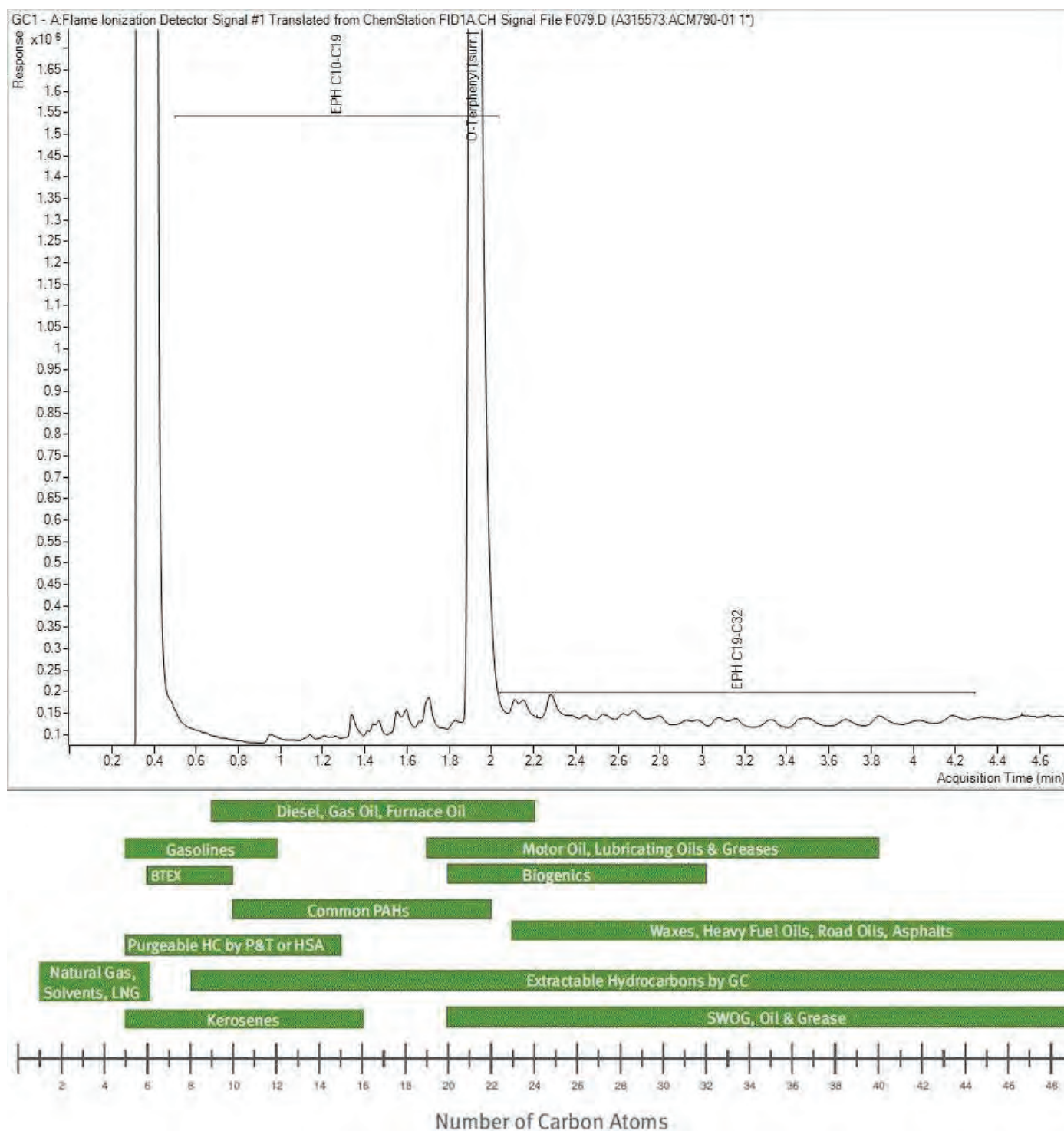
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Soil by GC/FID Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Your Project #: C153218

Attention: Customer Solutions West

Bureau Veritas Laboratories
4606 Canada Way
Burnaby, BC
Canada V5G 1K5

Report Date: 08/16/2021

Report #: R6767353

Version: 1 - Final

ANALYTICAL REPORT

BV LABS JOB #: C1M6267

Received: 08/11/2021, 00:00

Sample Matrix: Bulk
Samples Received: 14

Analyses	Quantity	Date Analyzed	Laboratory Method	Analytical Method
Silica on Bulk material by NIOSH 7500	14	08/13/2021	NOV5SOP-00001	NIOSH 7500

This report shall not be reproduced except in full, without the written approval of the laboratory.

Results relate only to the items tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

Encryption Key

Daniel Elliott
CS
16 Aug 2021 16:29:29

Please direct all questions regarding this Analytical Report to your Project Manager.

Daniel Elliott, CS

Email: daniel.elliott@bureauveritas.com

Phone# (248) 344-1770

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.



BV Labs Job #: C1M6267
Report Date: 08/16/2021

Bureau Veritas Laboratories
Client Project #: C153218

ANALYTICAL RESULTS

Client ID: ACM774-CS-11230615-072121-CT-17			Matrix: Bulk
BV Labs ID: QIQ023			Sample Media: Bulk Material
Date Sampled: 07/21/2021			
	Result	RL	
ANALYTE	%w/w	%w/w	Test Method
Quartz	17	0.25	NIOSH 7500
Cristobalite	<1.6	1.6	NIOSH 7500
Total (Quartz and Cristobalite)	17	1.8	NIOSH 7500
Tridymite	<0.50	0.50	NIOSH 7500
RL = Reporting Limit			

Client ID: ACM776-CS-11230615-072121-CT-19			Matrix:	Bulk
BV Labs ID: QIQ024			Sample Media: Bulk Material	
Date Sampled: 07/21/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	7.9	0.25	NIOSH 7500	08/13/2021
Cristobalite	<0.50	0.50	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	7.9	0.75	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				

Client ID: ACM777-CS-11230615-072121-CT-20			Matrix:	Bulk
BV Labs ID: QIQ025			Sample Media: Bulk Material	
Date Sampled: 07/21/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	7.5	0.25	NIOSH 7500	08/13/2021
Cristobalite	<0.75	0.75	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	7.5	1.0	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				

Client ID: ACM778-CS-11230615-072121-CT-21			Matrix: Bulk
BV Labs ID: QIQ026			Sample Media: Bulk Material
Date Sampled: 07/21/2021			
	Result	RL	Date
ANALYTE	%w/w	%w/w	Test Method Analyzed
Quartz	8.4	0.25	NIOSH 7500 08/13/2021
Cristobalite	<0.35	0.35	NIOSH 7500 08/13/2021
Total (Quartz and Cristobalite)	8.4	0.60	NIOSH 7500 08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/13/2021
RL = Reporting Limit			



BV Labs Job #: C1M6267
Report Date: 08/16/2021

Bureau Veritas Laboratories
Client Project #: C153218

ANALYTICAL RESULTS

Client ID: ACM779-CS-11230615-072121-CT-22			Matrix: Bulk
BV Labs ID: QIQ027			Sample Media: Bulk Material
Date Sampled: 07/21/2021			
	Result	RL	
ANALYTE	%w/w	%w/w	Test Method
Quartz	13	0.25	NIOSH 7500
Cristobalite	<1.0	1.0	NIOSH 7500
Total (Quartz and Cristobalite)	13	1.3	NIOSH 7500
Tridymite	<0.50	0.50	NIOSH 7500
RL = Reporting Limit			

Client ID: ACM780-CS-11230615-072121-CT-23			Matrix:	Bulk
BV Labs ID: QIQ028			Sample Media: Bulk Material	
Date Sampled: 07/21/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	4.0	0.25	NIOSH 7500	08/13/2021
Cristobalite	<0.45	0.45	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	4.0	0.70	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				

Client ID: ACM781-CS-11230615-072121-CT-24			Matrix:	Bulk
BV Labs ID: QIQ029			Sample Media: Bulk Material	
Date Sampled: 07/21/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	8.3	0.25	NIOSH 7500	08/13/2021
Cristobalite	<0.65	0.65	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	8.3	0.90	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				

Client ID: ACM782-CS-11230615-072121-CT-25			Matrix: Bulk
BV Labs ID: QIQ030			Sample Media: Bulk Material
Date Sampled: 07/21/2021			
	Result	RL	Date
ANALYTE	%w/w	%w/w	Test Method Analyzed
Quartz	1.9	0.25	NIOSH 7500 08/13/2021
Cristobalite	<0.25	0.25	NIOSH 7500 08/13/2021
Total (Quartz and Cristobalite)	1.9	0.50	NIOSH 7500 08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/13/2021
RL = Reporting Limit			



BV Labs Job #: C1M6267
Report Date: 08/16/2021

Bureau Veritas Laboratories
Client Project #: C153218

ANALYTICAL RESULTS

Client ID: ACM783-CS-11230615-072121-CT-26			Matrix: Bulk
BV Labs ID: QIQ031			Sample Media: Bulk Material
Date Sampled: 07/21/2021			
	Result	RL	Date
ANALYTE	%w/w	%w/w	Test Method Analyzed
Quartz	15	0.25	NIOSH 7500 08/13/2021
Cristobalite	<0.90	0.90	NIOSH 7500 08/13/2021
Total (Quartz and Cristobalite)	15	1.2	NIOSH 7500 08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500 08/13/2021
RL = Reporting Limit			

Client ID: ACM785-CS-11230615-072121-CT-27				Matrix:	Bulk
BV Labs ID: QIQ032				Sample Media:	Bulk Material
Date Sampled: 07/21/2021					
		Result	RL		Date
ANALYTE		%w/w	%w/w	Test Method	Analyzed
Quartz		8.0	0.25	NIOSH 7500	08/13/2021
Cristobalite		<0.75	0.75	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)		8.0	1.0	NIOSH 7500	08/13/2021
Tridymite		<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit					

Client ID: ACM786-CS-11230615-072121-CT-28				Matrix:	Bulk
BV Labs ID: QIQ033				Sample Media:	Bulk Material
Date Sampled: 07/21/2021					
		Result	RL		Date
ANALYTE		%w/w	%w/w	Test Method	Analyzed
Quartz		22	0.25	NIOSH 7500	08/13/2021
Cristobalite		<2.3	2.3	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)		22	2.5	NIOSH 7500	08/13/2021
Tridymite		<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit					

Client ID: ACM787-CS-11230615-072121-CT-29				Matrix: Bulk
BV Labs ID: QIQ034				Sample Media: Bulk Material
Date Sampled: 07/22/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	12	0.25	NIOSH 7500	08/13/2021
Cristobalite	<1.1	1.1	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	12	1.3	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				



BV Labs Job #: C1M6267
Report Date: 08/16/2021

Bureau Veritas Laboratories
Client Project #: C153218

ANALYTICAL RESULTS

Client ID: ACM789-CS-11230615-072121-CT-31			Matrix:	Bulk
BV Labs ID: QIQ035			Sample Media:	Bulk Material
Date Sampled: 07/22/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	0.28	0.25	NIOSH 7500	08/13/2021
Cristobalite	<0.25	0.25	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	<0.50	0.50	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				

Client ID: ACM790-CS-11230615-072121-CT-32			Matrix:	Bulk
BV Labs ID: QIQ036			Sample Media:	Bulk Material
Date Sampled: 07/22/2021				
	Result	RL		Date
ANALYTE	%w/w	%w/w	Test Method	Analyzed
Quartz	5.0	0.25	NIOSH 7500	08/13/2021
Cristobalite	<0.75	0.75	NIOSH 7500	08/13/2021
Total (Quartz and Cristobalite)	5.0	1.0	NIOSH 7500	08/13/2021
Tridymite	<0.50	0.50	NIOSH 7500	08/13/2021
RL = Reporting Limit				



GENERAL COMMENTS

Unless otherwise noted below the following statements apply: 1) all samples were received in acceptable condition, 2) all quality control results associated with this sample set were within acceptable limits and /or do not adversely affect the reported results and 3) the industrial hygiene results have not been blank corrected.

The client provided their pertinent field sampling data on the analysis request paperwork submitted with the samples. Results apply to the sample as received.

Please note the bulk samples were not homogenous.

Sample QIQ023 [ACM774-CS-11230615-072121-CT-17] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ024 [ACM776-CS-11230615-072121-CT-19] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ025 [ACM777-CS-11230615-072121-CT-20] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ026 [ACM778-CS-11230615-072121-CT-21] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ027 [ACM779-CS-11230615-072121-CT-22] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ028 [ACM780-CS-11230615-072121-CT-23] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ029 [ACM781-CS-11230615-072121-CT-24] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ031 [ACM783-CS-11230615-072121-CT-26] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ032 [ACM785-CS-11230615-072121-CT-27] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ033 [ACM786-CS-11230615-072121-CT-28] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ034 [ACM787-CS-11230615-072121-CT-29] : The reporting limit for cristobalite was raised due to interferences.

Sample QIQ036 [ACM790-CS-11230615-072121-CT-32] : The reporting limit for cristobalite was raised due to interferences.

Results relate only to the items tested.



Sent To: Bureau Veritas North America, Inc. (Novi)
22345 Roethel Drive
Novi, MI, 48375
Tel: (248) 344-1770

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

Page 02 of 02

COC # C153218-VBVN-02-01

REPORT INFORMATION										ANALYSIS REQUESTED										ADDITIONAL SAMPLE INFORMATION																																							
Company: Bureau Veritas Laboratories										Silica Dust in Solid by XRD Subcontract																																																	
Address: 4606 Canada Way, Burnaby, British Columbia, V5G 1K5																																																											
Contact Name: Nahed Amer																																																											
Email: Nahed.AMER@bureauveritas.com, Customersolutionswest@bureauveritas.com																																																											
Phone:																																																											
BV Labs Project #: C153218																																																											
#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	#	CONT.																																																				
1	ACM786-CS-11230615-072121-CT-28	X	BULK	2021/07/21	15:30	CT	1	X																																																			
2	ACM787-CS-11230615-072121-CT-29	X	BULK	2021/07/22	10:45	CT	1	X																																																			
3	ACM789-CS-11230615-072121-CT-31	X	BULK	2021/07/22	11:50	CT	1	X																																																			
4	ACM790-CS-11230615-072121-CT-32	X	BULK	2021/07/22	12:30	CT	1	X																																																			
5																																																											
6																																																											
7																																																											
8																																																											
9																																																											
10																																																											
REGULATORY CRITERIA										SPECIAL INSTRUCTIONS										TURNAROUND TIME																																							
										Please inform BV Labs immediately if you are not accredited for the requested test(s). **Please return a copy of this form with the report.** *** Crystalline Silica- Quartz, Cristobalite, Tridymite - 3 DAY TAT due 2021/08/13										☒ Rush Required 2021/08/13 Date Required Please inform us if rush charges will be incurred.																																							
COOLER ID:										COOLER ID:										COOLER ID:																																							
Custody Seal Present										Custody Seal Present										Custody Seal Present																																							
Custody Seal Intact										Custody Seal Intact										Custody Seal Intact																																							
Cooling Media Present										Cooling Media Present										Cooling Media Present																																							
RELINQUISHED BY: (SIGN & PRINT)										DATE: (YYYY/MM/DD)										TIME: (HH:MM)										RECEIVED BY: (SIGN & PRINT)										DATE: (YYYY/MM/DD)										TIME: (HH:MM)									
1. Francisco Cantu										2021/08/09										1700										1. Richard Kirtas										8-11-21										10:29									
2.																														2. Richard Kirtas																													

Attachment C

Data Quality Assessment and Validation Memoranda

Technical Memorandum

September 1, 2021

To	Trevor Ceccanese, Kristjana Zoras, Keal MacNaughton	Tel	604-248-3661
Copy to		Email	Airesse.Macphee@ghd.com
From	Airesse MacPhee/an/15	Ref. No.	11230615
Subject	Data Quality Assessment and Verification		

Laboratory:	Bureau Veritas
Lab Job No.:	C151797, C153218
Date(s) Sampled:	July 19-22, 2021
Media Sampled:	Soot

QA/QC	Criteria	Pass	Qualifiers	Fail	N/A
Holding Times	Analyte specific	☐	☒	☐	☐
Temperature	<10°C at receipt	☐	☐	☐	☒
Sample Preservation	Required container/preservatives	☐	☒	☐	☐
Field Duplicate (blind)	Matrix Specific	☐	☐	☐	☒
Field Blank (blind)	Non detect	☐	☐	☐	☒
Trip Blank	Non detect	☐	☐	☐	☒
Lab QA/QC	Within standard recoveries	☐	☒	☒	☐

Due to delays associated with extended asbestos clearance reporting from EMSL Analytical Inc, the below samples were analyzed past the associated extraction/analysis holding times:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/19/2021	CS-11230615-071921-CT-01 CS-11230615-071921-CT-02 CS-11230615-071921-CT-04 CS-11230615-071921-CT-06 CS-11230615-071921-CT-08	Phenols, LEPH, HEPH, EPHs, PAHs,	various	UJ/J-	various
C151797	07/19/2021, 07/20/2021	CS-11230615-071921-CT-01 CS-11230615-071921-CT-02 CS-11230615-071921-CT-04 CS-11230615-071921-CT-06 CS-11230615-071921-CT-08	VOC/VPH	various	UJ/J	various

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
		CS-11230615-072021-CT-10 CS-11230615-072021-CT-11 CS-11230615-072021-CT-12 CS-11230615-072021-CT-14 CS-11230615-072021-CT-16				
C151797	07/19/2021, 07/20/2021	CS-11230615-071921-CT-01 CS-11230615-071921-CT-02 CS-11230615-071921-CT-04 CS-11230615-071921-CT-05 CS-11230615-071921-CT-06 CS-11230615-071921-CT-08 CS-11230615-072021-CT-10 CS-11230615-072021-CT-11 CS-11230615-072021-CT-12 CS-11230615-072021-CT-13 CS-11230615-072021-CT-14 CS-11230615-072021-CT-15 CS-11230615-072021-CT-16	TCLP VOCs, SVOCs, SPLP VOCs	various	UJ/JJ-	various
C153218	07/21/2021, 07/22/2021	CS-11230615-072121-CT-17 CS-11230615-072121-CT-19 CS-11230615-072121-CT-20 CS-11230615-072121-CT-21 CS-11230615-072121-CT-22 CS-11230615-072121-CT-23 CS-11230615-072121-CT-24 CS-11230615-072121-CT-25 CS-11230615-072121-CT-26 CS-11230615-072121-CT-27 CS-11230615-072121-CT-28 CS-11230615-072221-CT-29 CS-11230615-072221-CT-31 CS-11230615-072221-CT-32	LEPH, HEPH, EPHs, PAHs, SVOCs	various	UJ/J-	various

The following results are qualified due to the usage of a sampling container that was not in compliance with BC CSR and CCME sampling requirements for VOC/BTEX/F1/VPH in soil:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/19/2021, 07/20/2021	CS-11230615-071921-CT-01 CS-11230615-071921-CT-02 CS-11230615-071921-CT-04 CS-11230615-071921-CT-06 CS-11230615-071921-CT-08 CS-11230615-072021-CT-10 CS-11230615-072021-CT-11 CS-11230615-072021-CT-12	VOC/VPH	various	UJ/J	various

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
		CS-11230615-072021-CT-14 CS-11230615-072021-CT-15 CS-11230615-072021-CT-16				

The following results are qualified based on laboratory duplicate variability:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/19/2021, 07/20/2021	CS-11230615-071921-CT-01 CS-11230615-071921-CT-02 CS-11230615-071921-CT-04 CS-11230615-071921-CT-05 CS-11230615-071921-CT-06 CS-11230615-071921-CT-08 CS-11230615-072021-CT-10 CS-11230615-072021-CT-11 CS-11230615-072021-CT-12 CS-11230615-072021-CT-13 CS-11230615-072021-CT-14 CS-11230615-072021-CT-15 CS-11230615-072021-CT-16	1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) 1,2,3,4,6,7,8- Heptachlorodibenzo-p- dioxin (HpCDD) Total heptachlorodibenzofuran (HpCDF) Total heptachlorodibenzo- p-dioxin (HpCDD) Total hexachlorodibenzofuran (HxCDF) Total hexachlorodibenzo-p- dioxin (HxCDD) Total pentachlorodibenzofuran (PeCDF) Total pentachlorodibenzo- p-dioxin (PeCDD)	various	J	pg/g
C153218	07/21/2021, 07/22/2021	CS-11230615-072121-CT-26 CS-11230615-072121-CT-27 CS-11230615-072221-CT-29 CS-11230615-072221-CT-31 CS-11230615-072221-CT-32	Confirmation 2,3,7,8- Tetrachlorodibenzofuran (TCDF)	various	J	pg/g
C153218	07/21/2021, 07/22/2021	CS-11230615-072121-CT-17 CS-11230615-072121-CT-19 CS-11230615-072121-CT-20 CS-11230615-072121-CT-21 CS-11230615-072121-CT-22 CS-11230615-072121-CT-23 CS-11230615-072121-CT-24 CS-11230615-072121-CT-25 CS-11230615-072121-CT-26 CS-11230615-072121-CT-27 CS-11230615-072121-CT-28 CS-11230615-072221-CT-29 CS-11230615-072221-CT-31 CS-11230615-072221-CT-32	1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) 1,2,3,4,6,7,8- Heptachlorodibenzo-p- dioxin (HpCDD) 1,2,3,4,7,8- Hexachlorodibenzofuran (HxCDF) 1,2,3,6,7,8- Hexachlorodibenzofuran (HxCDF) 1,2,3,7,8- Pentachlorodibenzofuran (PeCDF)	various	J/UJ	pg/g

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
			2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) 2,3,7,8-Tetrachlorodibenzofuran (TCDF) Total heptachlorodibenzofuran (HpCDF) Total heptachlorodibenzo-p-dioxin (HpCDD) Total hexachlorodibenzofuran (HxCDF) Total hexachlorodibenzo-p-dioxin (HxCDD) Total pentachlorodibenzofuran (PeCDF) Total tetrachlorodibenzofuran (TCDF)			

The following results are qualified due to exceedance of the maximum calibration limit:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C153218	07/21/2021	CS-11230615-072121-CT-21	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	3540	J	pg/g

The following results are qualified as estimated maximum possible concentrations due to the presence of merged peaks:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/20/2021	CS-11230615-072021-CT-16	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	2500	J	pg/g
C151797	07/20/2021	CS-11230615-072021-CT-16	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	643	J	pg/g
C153218	07/21/2021	CS-11230615-072121-CT-17	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	40.8	J	pg/g

The following results are qualified based on laboratory control standard acceptance violations:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C153218	07/21/2021	CS-11230615-072121-CT-17	Mercury	0.547	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-19	Mercury	0.178	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-20	Mercury	0.101	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-21	Mercury	0.105	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-22	Mercury	0.072	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-23	Mercury	0.092	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-24	Mercury	0.152	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-26	Mercury	0.05	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-27	Mercury	0.077	J+	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-28	Mercury	0.053	J+	mg/kg

The following results are qualified or rejected based on matrix spike recovery outlier:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/20/2021	CS-11230615-072021-CT-10	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	372	J	pg/g
C151797	07/19/2021	CS-11230615-071921-CT-02	Titanium	0.13	J+	mg/L
C151797	07/19/2021	CS-11230615-071921-CT-02	Zinc	0.074	J+	mg/L
C151797	07/19/2021	CS-11230615-071921-CT-05	Zinc	0.011	J+	mg/L
C151797	07/20/2021	CS-11230615-072021-CT-10	Zinc	0.030	J+	mg/L
C151797	07/20/2021	CS-11230615-072021-CT-11	Zinc	0.054	J+	mg/L
C151797	07/20/2021	CS-11230615-072021-CT-15	Zinc	0.012	J+	mg/L
C151797	07/19/2021	CS-11230615-071921-CT-05	2,4-Dinitrophenol	1.0	R	ug/g
C151797	07/19/2021	CS-11230615-071921-CT-05	3,3'-Dichlorobenzidine	0.50	UJ	ug/g
C151797	07/19/2021	CS-11230615-071921-CT-05	Pentachlorophenol	0.20	R	ug/g
C151797	07/19/2021	CS-11230615-071921-CT-05	Perylene	0.20	R	ug/g
C153218	07/21/2021	CS-11230615-072121-CT-26	2,4-Dinitrophenol	0.05	R	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-26	4,6-Dinitro-2-methylphenol	0.05	UJ	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-17	Bromomethane (Methyl bromide)	1	UJ	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-17	Chloroethane	0.34	UJ	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-17	Chloromethane (Methyl chloride)	0.17	UJ	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-17	Vinyl chloride	0.14	UJ	mg/kg

The following results have been qualified by the laboratory as tentatively identified compounds:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/20/2021	CS-11230615-072021-CT-12	Benzo(b)pyridine (Quinoline)	0.13	J-	mg/kg
C151797	07/20/2021	CS-11230615-072021-CT-14	2,6-Dichlorophenol	0.0063	J	mg/kg
C151797	07/20/2021	CS-11230615-072021-CT-16	2,6-Dichlorophenol	0.013	J	mg/kg
C151797	07/19/2021	CS-11230615-071921-CT-08	3/4-Chlorophenol	0.0080	J-	mg/kg
C151797	07/20/2021	CS-11230615-072021-CT-10	3/4-Chlorophenol	0.0081	J-	mg/kg
C151797	07/20/2021	CS-11230615-072021-CT-14	3/4-Chlorophenol	0.011	J	mg/kg
C151797	07/20/2021	CS-11230615-072021-CT-16	3/4-Chlorophenol	0.016	J	mg/kg
C151797	07/19/2021	CS-11230615-071921-CT-05	Phenol	0.13	J-	mg/kg
C151797	07/20/2021	CS-11230615-072021-CT-12	1,2-Dichloroethane	0.047	J	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-20	2,4-Dimethylphenol	0.076	J-	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-20	3/4-Chlorophenol	0.039	J-	mg/kg
C153218	07/21/2021	CS-11230615-072121-CT-22	3/4-Chlorophenol	0.022	J-	mg/kg
C153218	07/22/2021	CS-11230615-072221-CT-32	1,1,2,2-Tetrachloroethane	0.069	J	mg/kg

The following results are qualified or rejected based on surrogate recovery acceptance violations:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797	07/20/2021	CS-11230615-072021-CT-15 CS-11230615-072021-CT-16	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	various	J+	pg/g
C151797, C153218	07/19/2021, 07/20/2021, 07/21/2021	CS-11230615-071921-CT-04 CS-11230615-071921-CT-05 CS-11230615-071921-CT-06 CS-11230615-072021-CT-10 CS-11230615-072021-CT-12 CS-11230615-072121-CT-19 CS-11230615-072121-CT-20 CS-11230615-072121-CT-22 CS-11230615-072121-CT-25 CS-11230615-072121-CT-28	Phenols	various	UJ/J-/R	various
C151797	07/19/2021, 07/20/2021	CS-11230615-071921-CT-04 CS-11230615-072021-CT-10 CS-11230615-072021-CT-11 CS-11230615-072021-CT-12 CS-11230615-072021-CT-14 CS-11230615-072021-CT-15	VOCs	various	UJ/J/J-/R	various

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
C151797, C153218	07/19/2021, 07/20/2021, 07/21/2021	CS-11230615-071921-CT-04	PAHs	28.2	R/UJ/J-	various
		CS-11230615-071921-CT-05				
		CS-11230615-071921-CT-06				
		CS-11230615-071921-CT-08				
		CS-11230615-072021-CT-10				
		CS-11230615-072021-CT-12				
		CS-11230615-072021-CT-13				
		CS-11230615-072021-CT-16				
		CS-11230615-072121-CT-19				
		CS-11230615-072121-CT-21				
		CS-11230615-072121-CT-23				
		CS-11230615-072221-CT-31				
		CS-11230615-072221-CT-32				
		CS-11230615-072121-CT-25				
		CS-11230615-072121-CT-28				
C153218	07/21/2021, 07/22/2021	CS-11230615-071921-CT-06	SVOCs	various	J-/R	various
		CS-11230615-071921-CT-08				
		CS-11230615-072021-CT-10				
		CS-11230615-072021-CT-11				
		CS-11230615-072021-CT-12				
		CS-11230615-072021-CT-13				
		CS-11230615-072021-CT-15				
		CS-11230615-072021-CT-16				
		CS-11230615-072121-CT-19				
		CS-11230615-072121-CT-21				
		CS-11230615-072121-CT-28				
		CS-11230615-072221-CT-32				
C151797	07/20/2021	CS-11230615-072021-CT-12	EPHs	various	UJ	various

Based on the assessment detailed in the foregoing, the data summarized are acceptable with the specific qualifications or rejections noted above.

Notes:

- UJ - The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+ - The result is an estimated quantity, but the result may be biased high.
- J- - The result is an estimated quantity, but the result may be biased low.
- R - The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- SVOCs - Semivolatile organic compounds
- PAHs - Polycyclic aromatic hydrocarbons

EPHs - Extractable petroleum hydrocarbons

VOCs - Volatile organic compounds

LEPH - Light petroleum hydrocarbons

HEPH - Heavy petroleum hydrocarbons

Regards



Airesse MacPhee
Data Management - Data Validator