Phase Two Environmental Site Assessment

Vacant Property, 1209 St. Laurent Boulevard and 1200 Lemieux Street, Ottawa, Ontario

Canderel Management Inc. & Fengate Development

January 11, 2022

→ The Power of Commitment

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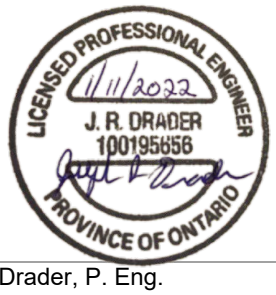
Author : 

Joseph Drader, P. Eng.

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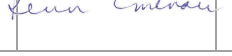
S4	02	Joseph Drader, P.Eng.	Kevin Emenau		Joseph Drader, P.Eng.		January 11, 2022

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1. Executive summary

GHD was retained by Canderel Management Inc. (Canderel) and Fengate Development Holdings LP (Fengate), collectively hereinafter referred to as the "Client", to conduct a Phase Two Environmental Site Assessment (ESA) in general accordance with Ontario Regulation 153/04 – Record of Site Condition (O. Reg. 153/04) of the vacant property and parking lot property municipally known as 1209 St. Laurent Boulevard and 1200 Lemieux Street, respectively, in Ottawa, Ontario (Site or Property). GHD previously prepared a Phase One ESA dated January 10, 2022 at the Site for Canderel and Fengate. The Phase One ESA and Phase Two ESA were undertaken for due diligence purposes, as well as in support of future local municipal planning department requirements associated with the proposed redevelopment of the Site. The Phase One ESA and Phase Two ESA may also be used to support the preparation of a Record of Site Condition (RSC) in accordance with O. Reg. 153/04, as applicable.

The Phase One ESA identified one potentially contaminating activity (PCA) on the Site, and nine PCAs on properties observed off-Site in the Phase One Study Area. The one on-Site PCA (Site Fill Quality; #30 – Importation of Fill Material of Unknown Quality) and one off-Site PCA (adjacent Dry Cleaner Land Use to the north formerly located at 1181 and 1187 St. Laurent Boulevard; #37 – Operation of Dry Cleaning Equipment) were considered to represent areas of potential environmental concern (APEC) for the Site. The remaining off-Site PCAs identified as part of the Phase One ESA were not considered to represent APECs for the site based on distances and/or down- or cross-gradient orientations to the Site and are not expected to have impacted the Property.

The Phase Two ESA was recommended based on the APECs identified in the Phase One ESA, in order to assess the soil and groundwater quality at the Site. The Phase Two ESA field activities were completed in July and September/October 2021, and included the advancement of ten test pits, advancement of seven boreholes into the overburden and bedrock stratigraphy, installation of seven overburden or bedrock monitoring wells, soil field screening and groundwater monitoring, and the collection and laboratory analysis of soil and groundwater samples for testing of contaminants of potential concern (CPCs) based upon visual and olfactory observations and combustible vapour screening. CPCs included metals and inorganic compounds, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), and general chemistry parameters.

A summary of the preliminary/supplementary analytical results of the soil and groundwater quality are presented below:

Soil Quality | Based on a review of the soil analytical results, all analyzed parameters had concentrations below the O. Reg. 153/04 Table 3 Standards with the exception of select metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, vanadium, and zinc) identified in fill and native soil materials at various locations across the Site (likely associated with APEC #1 (fill quality), or naturally occurring for the region (not related to any previous Site uses)), and an isolated occurrence of benzene at MW1-21 (fill material) which may be associated with APEC #1 (fill quality). Select general chemistry parameters (conductivity and SAR) below the Site parking lot may be associated with salt application to parking lot or nearby roads. No associated VOC impacts were noted for APEC #2 (adjacent former dry cleaners).

Groundwater Quality | Based on a review of the July 2021 groundwater analytical results, all analyzed parameters had concentrations below the O. Reg. 153/04 Table 3 Standards with the exception of PHC F2 and F3 impacts associated with groundwater within the bedrock aquifer. Supplementary September 2021 groundwater analytical results at all groundwater monitoring locations at the Site, confirmed all analyzed PHC and BTEX concentrations parameters had concentrations either non-detect or below O. Reg. 153/04 Table 3 Standards. The previous PHC detections above Table 3 Standards could have been associated with potential sediment build up in the sample vials that interfered with obtaining accurate PHC concentrations. No associated impacts were noted for APEC #1 (fill quality) and APEC #2 (adjacent former dry cleaners).

There was no evidence of measurable non-aqueous phase liquids (NAPLs) during the drilling or groundwater sampling activities.

To meet the regulatory requirements outlined in O. Reg. 153/04 in support of an RSC, confirmatory soil sampling as part of remediation activities (as part of future redevelopment) should be conducted to confirm on-Site soil impacts have been removed from the Site.

2. Introduction

GHD was retained by Canderel Management Inc. (Canderel) and Fengate Development Holdings LP (Fengate), collectively hereinafter referred to as the "Client", to conduct a Phase Two Environmental Site Assessment (ESA) of the vacant property and parking lot property municipally known as 1209 St. Laurent Boulevard and 1200 Lemieux Street, respectively, in Ottawa, Ontario (Site or Property). A Site Location Map is presented on Figure 1 and a Site Plan is presented on Figure 2.

The Phase Two ESA was undertaken for due diligence purposes, as well as in support of future local municipal planning department requirements associated with the proposed redevelopment of the Site. The Phase Two ESA may also be used to support the preparation of a Record of Site Condition (RSC) in accordance with O. Reg. 153/04 - RSC, as applicable.

The objective of the Phase Two ESA was to undertake a preliminary investigation of the general soil and groundwater quality on Site and in the Areas of Potential Environmental Concern (APECs) that were identified to be associated with the Site based on the findings of the 2021 Phase One ESA completed by GHD.

2.1 Site Description

The Site is irregular in shape, approximately 0.43 hectares 9 (ha) in size, and is comprised of the following contingent properties located in the City of Ottawa, Ontario

– Vacant property municipally known as 1209 St. Laurent Boulevard. This parcel is located on the western portion of the Site, to the east of St. Laurent Boulevard and south of Lemieux Street. The parcel is approximately 0.29 ha in size, irregular in shape, and is identified with property identification number (PIN) 042640116.
– Surface level parking lot property municipally known as 1200 Lemieux Street. This parcel is located on the eastern portion of the Site, to the west and south of Lemieux Street. The parcel is approximately 0.14 ha in size, irregular in shape, and is identified with PIN 042640771.

The Site is legally described as Part of Lot 4 and 14, Registered Plan 23, City of Ottawa. The approximate centre of the Site has Latitude and Longitude coordinates of 45° 25' 20" N, 75° 38' 7" W (450,300 m E / 5,030,052 m N, zone 18T, NAD 87). The current municipal zoning for the Site is currently indicated as Transit Oriented Development Zone (TD3 Subzone).

Based on a review of the historical records for the Site, the Site was historically utilized for agricultural and rural residential use, followed by the operation of an overpass access road to the adjacent St. Laurent Mall.

2.2 Property Ownership

The Site is currently owned by 12401304 Canada Inc. (14 Third Street East in Cornwall, Ontario K6H 2C7).

Contact information for the Client representative(s) are listed below:

Canderel Management Inc.
Mr. Ryan Blatt, Vice-President, Project & Development Services (Main Contact)
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Email | rblatt@canderel.com

Fengate Development Holdings LP
TD North Tower
77 King Street West, Suite 3410
Toronto, Ontario M5K 1H1

2.3 Current and Proposed Future Uses

The Site is currently vacant with a coverage of overgrown vegetation, exposed soil, and gravel on the western portion of the Site, as well as an existing parking lot on the eastern portion of the Site.

GHD's understanding of the proposed new residential building(s) are based on discussions with the Client and the concept plan drawings provided by the Client, and includes two 30-storey buildings (Tower A and B), a two-story structure connecting Tower A and B, and two to three levels of underground parking to be constructed with the whole site footprint. The development will also include above ground access roads and landscaped areas.

2.4 Applicable Site Condition Standards

Generic site condition standards are provided in the Ontario Ministry of the Environment[1] (MOE) document entitled, "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act,*" dated April 15, 2011. The 2011 standards are referenced in O. Reg. 153/04 – Records of Site Condition, as amended by O. Reg. 511/09 (hereafter referred to as the 2011 MOE Standards).

The Standard provides site condition standards for certain chemicals, based on combinations of six different site-specific conditions, as follows:

Property use type - agricultural, residential/parkland/institutional, or industrial/commercial/community. The Property had been used in the past for residential and commercial land uses. The Property is planned to be redeveloped for residential land use. As such, the standards for residential/parkland/institutional property use were applied to the Site.

Restoration of groundwater quality - potable/non-potable. The Property, and all other properties located, in whole or in part, within 250 metres (m) of the boundaries of the property, are supplied by a municipal drinking water system. The Site is not in an area designated on the City of Ottawa official plan as an intake protection zone. The Site is not in an area designated on the City of Ottawa official plan as a well-head protection area (WHPA). As such, the standards for a non-potable groundwater condition are considered applicable to the Site.

Restoration depth - full depth and stratified depth. For comparative purposes, the full depth standards were applied to the Site.

Soil texture - coarse or medium to fine. Based on the results of the Phase Two ESA (presented herein), the predominant soil type on Site is considered to be coarse textured. As such, the standards for coarse textured soils were applied to the Site.

Shallow soil property. The Site is not considered to be a shallow soil property, due to depth to bedrock.

Within 30 m of a water body. There are no water bodies or water courses located on the Site.

[1] Ministry of the Environment (MOE) was renamed the Ministry of Environment and Climate Change (MOECC) in July 3, 2014, and as a result all references to the "Ministry of the Environment" and "MOE" refer to the MOECC.

The generic 2011 MOE Standards are not applicable if the Site is considered to be an environmentally sensitive area based on the conditions presented in Section 41 of O. Reg. 153/04, as amended. Based on GHD's review, there are no Areas of Natural Scientific Interest (ANSI) or Provincially Significant Wetlands (PSW) identified by the Ministry of Natural Resources and Forestry (MNRF) within the 250 m Study Area. There are no areas designated by the municipality in its current official plan (Bylaw 2008-250-Zoning) as 'EP' (Environmentally Protected zoning) within the Study Area. As the Site does not contain an area of natural significance as defined by O. Reg. 153/04, and properties within 250 m of the Site limits do not contain areas of natural significance, the Site is not classified as an environmentally sensitive property (O. Reg. 153/04, s41). The pH of the soils was also tested as part of the Phase Two ESA and observed to be within the range of 5-9 (average of 7.43).

Based upon the above-described assessments, the O. Reg. 153/04 Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (residential/parkland/institutional property use; coarse-grained soil texture) is considered the applicable Site comparison.

2.5 Limitations

This report has been prepared by GHD for Canderel and Fengate and may only be used and relied on by Canderel and Fengate for the purpose agreed between GHD and Client.

GHD otherwise disclaims responsibility to any person other than Client arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

3. Background Information

3.1 Physical Setting

The Site is currently vacant grass land (western parcel) or asphalt parking lot (eastern parcel) that was historically used for agricultural, residential, or for highway road use. The Site is approximately 0.43 ha in size and is located west of St. Laurent Boulevard and south/east of Lemieux Street.

The Site is located in a mixed commercial and residential area of Ottawa. The following operations and features were noted by GHD on the properties surrounding the Site:

– North | The Site is bound to the north by Lemieux Street beyond which is adjacent Honda dealership and various commercial strip mall businesses located on St. Laurent Boulevard. Additional residential buildings along Joseph Cyr Street, BMW dealership along Ogilvie Road, and commercial businesses at corner of St. Laurent Boulevard and Ogilvie Road are located beyond the adjacent properties to the north.
– West | The Site is bound to the west by St. Laurent Boulevard beyond which is the St. Laurent Shopping Centre occupied by various commercial businesses, and the St. Laurent Transit Station (bus and light rail station).
– South | The Site is bound to the south by an access ramp into the St. Laurent Shopping Centre, beyond which is the additional transit station access roads and Highway 417.

– East | The Site is bound to the east by Lemieux Street beyond which is adjacent Lone Star Texas Grill (commercial restaurant) and Holiday Inn (hotel) located on the east side of Lemieux Street. Additional hotels, office buildings, and a church are located beyond the adjacent properties to the east.

Based on the 2021 GHD Phase One ESA:

– There are no water bodies or water courses located on the Site or within the Phase One Study Area. The closest significant surface water body is the Rideau River, located approximately 2.3 kilometre (km) west of the Site.
– Based on the definition of area of natural significance provided in O. Reg. 153/04, the Site is not considered to be an area of natural significance.
– The parking lot area is relatively flat, but the remainder of the Site includes sloped banks on the southern portion of the Site associated with the St. Laurent Mall ramp road, and general sloping to the north-northwest on the northern portion of the Site. Generally, stormwater in the Phase One Study Ares is anticipated to drain to municipal catchbasins (similar to catchbasins located on the eastern parking lot of the Site), and also by infiltration (similar to western portion of the Site).
– The Property, and all other properties located, in whole or in part, within 250 m of the boundaries of the property, are supplied by a municipal drinking water system. The Site is not in an area designated on the City of Ottawa official plan as an intake protection zone. The Site is not in an area designated on the City of Ottawa official plan as a well-head protection area (WHPA).
– Three registered wells were associated with monitoring wells at the Site, installed in September 2018 and abandoned in May 2019. Records of previously installed domestic/commercial/public water supply wells on the surrounding properties were installed between 1948 and 1963; current status of these wells is unknown.
– The Site is currently not serviced with water or sanitary sewer services, and GHD did not observe any evidence of active or abandoned water supply wells or septic systems on the Site. The east parcel is serviced with a storm sewer catchbasin in the centre of the parking lot. At the time of the Phase One ESA, no information was available pertaining to the other historical utility services.

3.2 Past Investigations

The following investigations have been completed at the Site:

– *"Phase One Environmental Site Assessment – 1209 St. Laurent Blvd., Ottawa, Ontario"*, prepared by Stantec Consulting Ltd., dated December 11, 2018 (2018 Phase One Report)
– *"Phase II Environmental Site Assessment – 1209 St. Laurent Blvd., Ottawa, Ontario"*, prepared by Stantec Consulting Ltd., dated December 11, 2018 (2018 Phase II ESA Report)
– *"Phase I Environmental Site Assessment, 1200 Lemieux Street and 1209 St. Laurent Boulevard"*, prepared Pinchin Ltd., dated November 24, 2020 (2020 Phase I ESA Report)
– *"Phase One Environmental Site Assessment, 1209 St. Laurent Boulevard & 1200 Lemieux Street, Ottawa, Ontario"*, prepared by GHD, dated January 10, 2022

Based on GHD's review of the previous environmental report, the following PCAs that were considered to represent APECs to the Site were identified by GHD:

– Stantec previously identified an APEC described as "Fill was observed throughout the Site during the site reconnaissance and in historical aerial photographs" for the property at 1209 St. Laurent Boulevard due to previous residential and highway developments, and conducted a Phase II ESA in which all "measured concentrations of COPCs (contaminants of potential concern) were below applicable Ontario Table 3 standards" in soil and groundwater samples submitted for laboratory analysis. No environmental soil or groundwater testing was conducted by Pinchin for either Phase One Property parcels. Due to no soil data collected on the 1200 Lemieux Street property, as well as age of soil data collected by Stantec, GHD has identified on the Site the presence of fill of unknown quality on Site as a PCA (#30 – Importation of Fill Material of Unknown Quality) as defined in O. Reg. 153/04, and the entire Site was identified as APEC (**APEC #1**).

– Stantec previously identified an APEC described as Bonnie's Cleaners (potential operation of dry cleaning equipment) formerly located at 1181 and 1187 St. Laurent Boulevard on the adjacent strip mall property to the north, based on City of Ottawa land use inventory and being registered as a hazardous waste generator between 1988 and 1998 for halogenated solvents (company described as soap/cleaning, as well as laundries/cleaners facility). Stantec conducted a Phase II ESA in which all "measured concentrations of COPCs (contaminants of potential concern) were below applicable Ontario Table 3 standards" in soil and groundwater samples submitted for laboratory analysis. No environmental soil or groundwater testing was conducted by Pinchin for either Phase One Property parcels. Due to no soil/groundwater data collected on the 1200 Lemieux Street property, as well as age of soil/groundwater data collected by Stantec, GHD has identified the adjacent former potential dry cleaners as a PCA (#37 – Operation of Dry Cleaning Equipment) as defined in O. Reg. 153/04, and the northern portion of the Site was identified as APEC (**APEC #2**).
– Other PCAs observed by Stantec (2018) and GHD (2021), but not identified as APECs included:
    - Honda Dealership (auto repair) at 1171 St. Laurent Boulevard on the adjacent property to the north.
    - Ogilvie Motors (auto repair) at 1020 Ogilvie Road to the north of the Site.
    - Cyrville Radiators (auto repair) at 1223 Michael Street to the east of the Site.
    - Texaco Service Station (gas station) at 1163 St. Laurent Boulevard to the north of the Site.
    - Cyrville Cleaners and Shirts Laundry (potential dry cleaning) at 1094 Cyrville Road and 1157 Joseph Cyr Street to the north of the Site.
    - Sketchley Cleaning Services and/or One Stop Laundromat & Dry Cleaners (dry cleaning) at 1097/1099 Cyrville Road to the north of the Site.
    - Parker Cleaners and Dyers (potential dry cleaning) at 1200 St. Laurent Boulevard (St. Laurent Mall) to the west of the Site.
    - Light Rail Train Station at 1300 St. Laurent Boulevard and rail tracks to the southeast/south/southwest of the Site.
– Pinchin indicated that they did not identify any potential subsurface impacts at the Site, and no subsurface investigation work was recommended at the time.

4. Scope of the Investigation

The Phase Two ESA included assessments of the soil and groundwater quality on Site and was undertaken in conjunction with a geotechnical investigation, presented under separate cover. The Phase Two ESA field activities included the advancement of test pits, advancement of boreholes, installation of monitoring wells, field screening, and the collection and laboratory analysis of soil and groundwater samples as described in detail below. The data generated GHD's investigative activities has been presented herein.

4.1 Media Investigated

Based on the APECs identified at the Site, the investigation of the soil and groundwater quality on Site included the following:

Media Type	Date	Borehole/Well, Test Hole, & Test Pit	Sample Location	Analytical Parameters	APEC Info
Soil	July 2021	MW1-21 to MW7-21 TH1-21 to TH2-21	Overburden	Metals/Inorganics, PAHs, PHC F1-F4, and/or VOCs	APEC #1 (Fill Quality) – All locations APEC #2 (adjacent drycleaner) – MW1-21, MW2-21, and MW3-21
	October 2021	Test Pits at: MW1-21-A and -B MW2-21-A and -B MW5-21-A and -B P1 to P4 (parking lot)	Overburden	Metals and/or benzene, toluene, ethylbenzene, and xylene (BTEX)	Based on July 2021 soil results
Groundwater	July 2021	MW1-21, MW2-21, MW6-21 MW3-21, MW4-21, MW5-21, MW7-21	Overburden Bedrock	Metals/Inorganics, PAHs, PHC F1-F4, and/or VOCs (Monitoring only for MW4-21 & MW7-21; no sample)	APEC #1 (Fill Quality) – All locations (excluding MW4-21 and MW7-21) APEC #2 (adjacent drycleaner) – MW1-21, MW2-21, and MW3-21
	September 2021	MW1-21, MW2-21, MW6-21 MW3-21, MW4-21, MW5-21, MW7-21	Overburden Bedrock	PHC F1-F4 and benzene, toluene, ethylbenzene, and xylene (BTEX)	Based on July 2021 groundwater results

Notes:
PAHs – Polycyclic Aromatic Hydrocarbons
PHC F1-F4 – Petroleum Hydrocarbon Fractions F1 to F4
VOCs – Volatile Organic Compounds

The borehole, monitoring well, and test hole locations are shown on Figure 3.

There are no water bodies located on the Site; therefore, surface water and sediment were not sampled during the Phase Two ESA.

Soil vapour sampling was not completed as part of the Phase Two ESA.

4.2 Phase One Conceptual Site Model

The Site is located at 1209 St. Laurent Boulevard and 1200 Lemieux Street in Ottawa, Ontario (Site or Phase One Property). The Site is 0.43 ha in size and is comprised of two separate parcels of land:

– Vacant property municipally known as 1209 St. Laurent Boulevard. This parcel is located on the western portion of the Site, to the east of St. Laurent Boulevard and south of Lemieux Street. The parcel is approximately 0.29 ha in size, irregular in shape, and is identified with property identification number (PIN) 042640116.
– Surface level parking lot property municipally known as 1200 Lemieux Street. This parcel is located on the eastern portion of the Site, to the west and south of Lemieux Street. The parcel is approximately 0.14 ha in size, irregular in shape, and is identified with PIN042640771.

The Site is legally described as Part of Lot 4 and 14, Registered Plan 23, City of Ottawa, and is located in an area of Ottawa primarily developed for mixed residential and commercial land use.

The Site is currently owned by 12401304 Canada Inc., and at the time of the Site visit, the Site was vacant with a coverage of overgrown vegetation, exposed soil, and gravel as well as an existing parking lot. Based on review of historical documents, the Site was previously owned by private individuals and other commercial entities. The Site was historically utilized for agricultural and rural residential use, followed by the operation of an overpass access road to the St. Laurent Mall.

The general topography in the Phase One Study Area is sloping down to the west, towards the Rideau River located approximately 2.3 km from the Site limits. There are no water bodies or water courses located on the Site or within the Phase One Study Area. The parking lot area at the Site is relatively flat, but the remainder of the Site includes sloped banks on the southern portion of the Site associated with the St. Laurent Mall ramp road, and general sloping to the north-northwest. Stormwater in the Phase One Study Ares is anticipated to drain to municipal catchbasins (similar to catchbasins located on the eastern parking lot of the Site), and also by infiltration (similar to western portion of the Site). Based on the 2018 Stantec Phase II ESA report, the stratigraphy of the Site generally consisted of "sand and gravel fill, topsoil, topsoil with sand fill, or topsoil with gravel, followed by layers of sand of varying thickness overlaying clay till." Bedrock was potentially encountered between 3.81 and 4.88 metres below ground surface (mbgs), and is described as Paleozoic Billings Formation (black shale with some brown shale). Groundwater was previously encountered in 2018 at 1.81 to 3.22 mbgs. Based on the information reviewed and the definition of area of natural significance provided in O. Reg. 153/04, the Site is not considered an area of natural significance.

GHD did not observe any evidence of active or abandoned water supply wells or septic systems on the Site. The east parcel is serviced with a storm sewer catchbasin in the centre of the parking lot. At the time of the Phase One ESA, no information was available pertaining to the historical utility services. Based on review of aerial photographs and the Site reconnaissance, the Phase One Property previously contained residential structures and an overpass road that would have used fill material as part of construction and/or demolition activities. Fill material would have also been used for the reconstruction of the overpass road to the south of the Site, as witnessed by the slide slopes on the southern portion of the Site.

Based on the results of the Phase One ESA, including the Site inspection, limited information provided by Site representatives and regulatory agencies, documents reviewed, and the review of Site history, the following APECs were identified to be associated with the Site.

1. **Site Fill Quality |** Based on review of aerial photographs and the Site reconnaissance, the Phase One Property previously contained residential structures and an overpass road that would have used fill material as part of construction and/or demolition activities. Fill material would have also been used for the reconstruction of the overpass road to the south of the Site, as witnessed by the slide slopes on the southern portion of the Site. Based on the findings of previous environmental reports for the property at 1209 St. Laurent Boulevard, fill material was observed during drilling activities in which all measured concentrations were below applicable Ontario Table 3 standards in soil and groundwater samples submitted for laboratory analysis. No environmental soil or groundwater testing was available for the property at 1200 Lemieux Street. Due to no soil data collected on the 1200 Lemieux Street property, as well as age of previous soil/groundwater data, GHD has identified on the Site the presence of fill of unknown quality on Site as a PCA (#30 – Importation of Fill Material of Unknown Quality) as defined in O. Reg. 153/04, and the entire Site was identified as APEC (**APEC #1**).
2. **Adjacent Dry Cleaner Land Use |** Based on review historical documentation, Bonnie's Cleaners (potential operation of dry cleaning equipment) formerly located at 1181 and 1187 St. Laurent Boulevard on the adjacent strip mall property to the north, was registered as a hazardous waste generator between 1988 and 1998 for halogenated solvents, including use of tetrachloroethylene (PERC). Based on the findings of previous environmental reports for the property at 1209 St. Laurent Boulevard, all measured concentrations were below applicable Ontario Table 3 standards in soil and groundwater samples submitted for laboratory analysis. No environmental soil or groundwater testing was available for the property at 1200 Lemieux Street. Due to no soil/groundwater data collected on the 1200 Lemieux Street property, as well as age of soil/groundwater data, GHD has identified the adjacent former potential dry cleaners as a PCA (#37 – Operation of Dry Cleaning Equipment) as defined in O. Reg. 153/04, and the northern portion of the Site was identified as APEC (**APEC #2**).

The Phase One ESA Conceptual Site Model, including the location of PCAs and APECs, is depicted on Figure 4. Based on the results of the Phase One ESA, the contaminants of concern were identified as metals, PAHs, PHCs, and VOCs.

4.3 Deviations from the Sampling and Analysis Plan

There were no significant deviations from the sampling and analysis plan, with exception that a duplicate groundwater sample was not collected on July, 29th, 2021.

4.4 Impediments

There were no impediments encountered during the investigation.

5. Investigation Methods

5.1 General

The following investigative activities were undertaken between July 14 and July 26, 2021, as well as between September 20 and October 12, 2021, and are described in detail in the following subsections:

– Advancement of boreholes (in July 2021 only).
– Installation of groundwater monitoring wells (in July 2021 only).
– Advancement of test pits (in October 2021 only).
– Collection of field screening measurements and observations.
– Collection and laboratory analysis of soil and groundwater samples.
– Groundwater field measurements of water quality parameters.
– Collection of groundwater level measurements.
– Residue management.
– Quality assurance and quality control measures.
– Elevation surveying.

The field investigation activities were completed in accordance with MECP protocols, GHD's standard operating procedures (SOPs), and standard industry practice.

Prior to completing the investigation activities undertaken by GHD, a Site-specific Health and Safety Plan (HASP) was prepared to provide specific guidelines and established procedures for the protection of personnel performing the Site investigation activities. In addition, the appropriate public utility notifications were completed and a private utility locator was retained to assist with on-Site utility clearances. Private utility locate services were completed prior to undertaking subsurface investigative activities.

5.2 Drilling and Excavating

On July 14, 15, and 16, 2021, seven boreholes (MW1-21 to MW7-21) were advanced on Site using a track-mounted drill rig. Each of the boreholes was instrumented as a monitoring well. GHD retained Marathon Underground Constructors Corp. (Marathon), a MECP licensed driller of Greely, Ontario, to complete the drilling activities. In addition, two test holes (TH1-21 and TH2-21) were advanced using a shovel to collect soil samples below top soil materials. No excavations were conducted at the Site. The location of the boreholes, monitoring wells, and test holes are shown on Figure 3. Borehole and monitoring well installation details are provided in borehole logs presented in Appendix A. Prior to use and between each borehole, the drilling and sampling equipment was thoroughly cleaned using Alconox® soap and potable water rinse.

On October 4, 2021, ten test pits were advanced on Site using an excavator/operator provided by Drain-All Ltd. (Drain-All), under GHD supervision, in order to delineate environmental soil impacts observed after the July 2021

investigations. Four test pits were installed in the parking lot on the east side of the Property, and two test pits (A and B) were installed near each monitoring well at MW1-21, MW2-21, and MW3-21. In addition, additional hand augering was completed on October 12, 2021 at MW2-21-A and -B. The location of the test pits are shown on Figure 3. Test pit details are provided in the logs presented in Appendix A.

5.3 Soil Sampling

Soil samples were collected from nine of the investigative locations (MW1-21 to MW7-21, TH1-21, and TH2-21) completed on Site during the July 2021 field activities. Soil sample collection from each borehole was facilitated through the use of stainless steel split-spoon samplers, while soil sample collection from each test hole was facility through the use of stainless steel shovel. During the October 2021 field activities, soil samples were collected from ten additional investigative locations (P1 to P4, MW1-21-A and -B, MW2-21-A and -B, and MW5-21-A and -B). Soil samples were collected directly from the test pits, from the excavator bucket, or from hand auger spoon.

Soil samples obtained from each borehole, test hole, and test pit were qualitatively and quantitatively screened for the presence of impact. Qualitative screening was based on visual and olfactory observations, while quantitative screening was based on the presence of undifferentiated VOCs in the headspace of soil samples collected as measured in the field (refer to Section 5.4 for further screening details).

Select soil samples were submitted for laboratory analysis of one or more of the following parameters: VOCs, PHCs, PAHs, and/or metals/inorganics. Soil samples were collected in laboratory supplied glass containers which were placed in a cooler containing ice for sample preservation. Undisturbed samples for VOC analysis were placed directly in sample containers provided by the laboratory. All soil samples were collected using the required sampling techniques in accordance with O. Reg. 153/04, including the methanol field preservation method for those soil samples being submitted for analysis of PHC F1 and VOCs. Samples were submitted to the laboratory for analysis under chain-of-custody protocol.

Geological descriptions of the soil encountered during borehole and test pit installation are provided in logs presented in Appendix A, with further geological details provided in Section 6.1.

5.4 Field Screening Measurements

As discussed in Section 5.3, soil samples of the overburden were taken and placed into a sealable plastic bag for headspace screening. The headspace soil samples were screened for undifferentiated VOC vapour readings using a photo-ionization detector (PID). Prior to screening, the field screening equipment was inspected and calibrated according to the manufacturer's recommendations by GHD personnel.

The results of the field screening are presented in the borehole and test pit logs provided in Appendix A.

5.5 Groundwater: Monitoring Well Installation

Groundwater monitoring wells were installed by Marathon in all seven of the on Site boreholes as part of the July 2021 geo-environmental investigation. The locations of the monitoring wells are shown on Figure 3.

The monitoring wells at MW1-21, MW2-21 and MW6-21 were installed in the overburden stratigraphy to straddle the water table to investigate the presence of LNAPL and facilitate the collection of groundwater samples for laboratory analysis, as well as part of the geotechnical investigation. The monitoring wells installed at MW3-21, MW4-21, MW5-21, and MW7-21 were installed in the deeper bedrock to facilitate the collection of groundwater samples for laboratory analysis, as well as part of the geotechnical investigation.

The monitoring wells were constructed with a 2" (50 millimetre [mm]) diameter, Schedule 40 polyvinyl chloride (PVC) riser and No. 10 slot size well screens varying in length from 1.5 to 3 m. The overburden well screens were installed to straddle the groundwater table observed during drilling activities in the field. The bottom screened depths of the shallow bedrock wells ranged from approximately 3.0 to 4.5 mbgs). The bottom screened depths of the deeper bedrock monitoring wells ranged from approximately 10.50 to 12.0 mbgs.

A silica sand pack was placed in the annular space between the PVC screen/riser pipe and the borehole to a height of at least 0.3 m above the top of the screen. A bentonite seal was placed directly above the sand pack and extended to within 0.3 m of the ground surface. To complete the installation, an expandable J-plug or a 2" PVC cap was placed on the riser pipe to protect against debris falling and/or surface runoff infiltrating into the well and a protective aboveground steel casing (either flush-mount or stickup construction) with a concrete collar was placed around each well to cover the top of the riser pipe.

The groundwater monitoring well construction and installation details are shown on the stratigraphic and instrumentation logs provided in Appendix A and in the table below.

Well ID	Grade Elevation (mAMSL)	Well Riser Elevation (mAMSL)	Borehole Bottom Elevation (mAMSL)	Well Bottom Elevation (mAMSL)	Screen Elevation (mAMSL)	Sand Pack Elevation (mAMSL) – 0.3 m above well screen	Bentonite Seal Elevation (mAMSL)
MW1-21 (stickup; overburden)	68.04	68.98	62.12	65.04	65.04 to 66.54 (1.5 m screen)	65.04 to 66.84	66.84 to 67.74
MW2-21 (stickup; overburden)	68.76	69.78	61.96	64.36	64.36 to 65.86 (1.5 m screen)	64.36 to 66.16	66.16 to 68.46
MW3-21 (flush-mount; bedrock)	68.74	68.73	56.73	58.24	58.24 to 61.24 (3 m screen)	58.24 to 61.54	61.54 to 68.44
MW4-21 (stickup; bedrock)	68.10	69.07	56.03	57.05	57.05 to 60.05 (3 m screen)	57.05 to 60.35	60.35 to 67.80
MW5-21 (stickup; bedrock)	68.54	69.45	56.44	56.44	56.44 to 59.44 (3 m screen)	56.44 to 59.74	59.74 to 68.24
MW6-21 (flush-mount; Overburden)	69.11	69.05	62.20	65.00	65.00 to 66.50 (1.5 m screen)	65.00 to 66.80	66.80 to 68.81
MW7-21 (flush-mount; bedrock)	69.33	69.24	57.30	57.75	57.75 to 60.75 (3 m screen)	57.75 to 61.05	61.05 to 69.03
Notes: mAMSL – metres above mean sea level							

The monitoring wells were developed on July 16th and July 19th, 2021 in order to remove the standing groundwater volume in the wells. A minimum of five well volumes were removed for each well. Monitoring wells were allowed to stabilize for at least one week prior to completion of groundwater sampling activities. Additional well development was also conducted prior to the September 20, 2021 sampling event.

5.6 Groundwater Field Measurements of Water Quality Parameters

In order to ensure that samples representative of on-Site groundwater conditions was obtained, each monitoring well was purged prior to groundwater sample collection using dedicated Waterra™ valves and tubing (July 2021) or low-flow pump and tubing (September 2021). The following protocol was generally followed at each monitoring well location during well purging activities:

- Groundwater level measurements were collected prior and subsequent to well development activities using a calibrated oil/water interface probe. The depth to water was measured relative to a specific reference point in the monitoring well. Groundwater elevations are presented in Table 1.
- Where Waterra™ sampling techniques were used, a minimum of three well volumes of water were purged from the monitoring well. In the event that slow groundwater recharge conditions were encountered, the well was purged until dry and then allowed to recover prior to sample collection. Field measurements of temperature, pH, turbidity, and electrical conductivity were taken using a water quality meter after each purged well volume was removed until consistent field measurements were recorded indicating that water in the well was representative of the actual groundwater conditions.
- Where low-flow sampling techniques were used, a pumping rate of 100 millilitre per minute was used and field measures of temperature, pH, electrical conductivity, dissolved oxygen, oxidation-reduction potential (ORP), and turbidity were taken using a water quality meter until consistent field measurements were recorded indicating that the water in the well was representative of the actual groundwater conditions.
- Groundwater in the monitoring well was allowed to recover and settle prior to sample collection to reduce sediment agitation and mobilization in volatile and semi-volatile samples.

5.7 Groundwater Sampling

Groundwater samples were collected from five monitoring wells (MW1-21, MW2-21, MW3-21, MW5-21, and MW6-21) on July 26,2021. In addition, groundwater samples were collected from all seven monitoring wells on September 20, 2021. Refer to Section 5.6 for details on sampling method.

Groundwater samples were collected and placed directly into laboratory-supplied sample containers specific to the analytical parameters. Groundwater samples were submitted for laboratory analysis of one or more of the following parameters: O. Reg. 153/04 metals/inorganics, PHC F_1 to F_4, VOCs, BTEX, and/or PAHs. Groundwater samples collected for metals analysis were field filtered using a 0.45 micron filter prior to sample collection. Samples were stored in coolers chilled with ice for sample preservation and submitted to the laboratory for analysis under chain-of-custody protocol. The chain-of-custody forms document the condition and handling of the samples throughout the collection, transportation, and final analysis of the samples.

5.8 Sediment Sampling

Sediment sampling was not completed during the Phase Two ESA as sediment was not identified as a potentially contaminated media.

5.9 Analytical Testing

Soil and groundwater samples collected during GHD's investigation were submitted to ALS Global (ALS) in Ottawa, Ontario. ALS is a member of the Standards Council of Canada (SCC) and Canadian Association of Environmental Analytical Laboratories (CAEAL). Copies of the analytical laboratory reports are provided in Appendix B.

5.10 Residue Management Procedures

Soil cuttings, equipment decontamination wash water and purge/well development water for GHD's investigative activities were containerized in 205-litre drums for off-Site disposal. Soil cuttings and wash water/purge/development waters are being temporarily stored on Site.

A representative waste soil sample was collected on September 20, 2021 for TCLP analysis to characterize the soils for off-site disposal at a MECP approved waste disposal facility. The results of the TCLP analysis were compared with Schedule 4 of Ontario Regulation 347, as amended, for waste soil classification purposes. Based on review of the data, the waste soil is considered non-hazardous. A copy of the analytical laboratory report and waste removal documentation is provided in Appendix D.

5.11 Elevation Surveying

Each borehole/monitoring well/test hole was surveyed for horizontal and vertical control using Global Navigation Satellite Systems (GNSS) equipment (EOS Arrow Gold RTK GNSS receiver), with accuracy 1 centimetre (cm) accuracy.

5.12 Quality Assurance and Quality Control Measures

A Quality Assurance/Quality Control (QA/QC) program was implemented during the program to ensure quality data was generated. This program involved both field and laboratory QA/QC measures.

Samples were collected in laboratory supplied sampling containers with the appropriate preservative in accordance with O. Reg. 153/04, including the methanol field preservation method for those soil samples being submitted for analysis of PHC F_1 and VOCs.

Samples were submitted under chain-of-custody protocol to an analytical laboratory for chemical analysis. For quality assurance, the following was undertaken:

– Between collection of each soil and groundwater sample, GHD field personnel donned a new pair of disposable nitrile gloves.
– Prior to use and between each borehole location, the drilling and non-dedicated sampling equipment was thoroughly cleaned using Alconox® soap and potable water rinse.
– Stainless steel sampling equipment was used and cleaned using Alconox® soap and potable water rinse between each sample collection event.
– Wherever possible, dedicated sampling equipment (e.g., LDPE tubing, fittings, Ziploc® bags, etc.) was used to reduce the potential for cross contamination.
– The groundwater monitoring wells were equipped with a dedicated Waterra™ foot valve and polyethylene tubing for well development activities.

To validate the field analysis, QA/QC trip blanks were also submitted (generally one per laboratory submission) for soil and groundwater where analysis of volatile parameters were required QC samples were also analysed by the laboratory as required by their analytical methods. A Data Quality Assessment and Verification memorandum is presented in Appendix C.

6. Review and Evaluation

The results of the Site investigation activities are described in the following sections.

6.1 Geology

In general, soils encountered at the borehole locations consisted of a surface layer of asphalt or topsoil, overlying a fill material, overlying native sand to clayey silt, overlying glacial till deposits which is underlain by shale bedrock.

General descriptions of the subsurface conditions are summarized in the following sections. The detailed subsurface conditions encountered at the borehole locations are presented on the borehole logs attached in Appendix A.

6.1.1 Surface Material

Boreholes MW-3-21, MW-6-21 and MW-7-21 were advanced through the existing pavement structure. In general, the pavement structure within the Site consisted of asphalt overlying granular base/subbase. The composition of the granular base/subbase varied from sand and gravel to silty or gravelly sand. The asphalt structure within these

boreholes has a thickness of 40 to 50 mm and the thickness of granular base/subbase layer ranges between 1.1 to 1.5 m.

Topsoil was encountered in Boreholes MW-1-21, MW-2-21, MW-4-21 and MW-5-21 with thicknesses ranging between about 80 and 130 mm.

6.1.2 Fill

Fill material existed below the topsoil in Boreholes MW-1-21, MW-2-21, MW-4-21 and MW-5-21 and was proven to depths up to 2.29 m. The composition of fill material was variable and mainly consists of sand and gravel, gravelly sand, sandy gravel, silty sand, and silty clay. Rootlets were also encountered within the fill material.

6.1.3 Sand

The fill is underlain by a sand layer in Boreholes MW-1-21 and MW-2-21. The sand deposit extended to depths ranging from 1.5 to 2.3 m. Geotechnical laboratory testing on two samples of sand from Borehole MW-2-21 measured water contents of 2 percent and 4 percent.

6.1.4 Clayey Silt

A clayey silt deposit underlain by fill was encountered in Borehole MW-5-21 at depths ranging from 0.9 m to 2.29 m below ground surface. The water content measured on one sample of clayey silt deposit was 19 percent.

6.1.5 Glacial Till

Glacial till deposit with thickness varying from 2.28 to 3.70 m was encountered overlying bedrock in all boreholes. The composition of till material was variable consisting of clayey silt to silty clay to sandy silt to silty sand to sand and/or gravel with cobbles and boulders. The water content measured on samples of till deposits ranges from 8 percent to 17 percent.

6.1.6 Bedrock

All boreholes were advanced into bedrock using HQ diamond coring method to confirm the presence, type, and quality of bedrock. Bedrock was encountered within Boreholes MW-1-21 to MW-7-21 at depths ranging from 4.11 m to 7.44 m (Elevations 64.8 m to 62.1 m). Boreholes were terminated within bedrock at depths ranging between 5.9 and 12.10 m below existing site grade. Based on retrieved rock core samples, the bedrock at the Site consists of the black shale of Billings formation with thinly bedded interlaminations of limestone.

Poor quality bedrock, with Rock Quality Designation (RQD) values below 60 percent was encountered near the bedrock surface to depths varying between 4.5 m and 7.5 m (Elevations 64.2 to 60.4 m) within all boreholes. Following this zone and at all borehole locations excluding Borehole MW-3-21, RQD values ranged from 64 to 100 percent, indicating a fair to excellent quality bedrock. Bedrock at MW-3-21 was noted to be fair to excellent quality to depth of 10.5 m, overlying poor quality (RQD of 45 percent) bedrock below the depth of 10.5 m.

6.2 Groundwater Elevations and Flow Direction

Groundwater level measurements were collected from the on-Site monitoring wells using a calibrated electronic oil/water interface probe (i.e., Solinst) or a Solinst water level tape. The depth to water was measured relative to a specific reference point in the monitoring well (i.e., the top of the monitoring well riser pipe). Based on the survey information of the top of riser pipe elevation, the groundwater elevation was calculated by subtracting the water level measurement from the reference point elevation. Groundwater level measurements and elevations collected on July 29, 2021 and September 20, 2021 are provided in Table 1, with groundwater elevations, contours, and flow direction depicted on Figures 5 and 6, respectively.

Based on the water level measurements recorded on July 29, 2021 and September 20, 2021, the direction of groundwater flow across the Site in the overburden was determined to be approximately towards the north-northwest (Stantec 2018 flow direction was to the north-northeast). The groundwater flow across the Site in the bedrock recorded on July 29, 2021 appeared to be in a southern and eastern direction with a high point near MW5-21, whereas the bedrock flow direction recorded on September 20, 2021 appeared to be in a southwestern direction.

It should be noted that the groundwater table is subject to seasonal fluctuations and in response to precipitation and snowmelt events. Also, it would be expected that water may be perched within the fill materials or the very poor bedrock, especially during and following periods of precipitation and in the spring and fall or other wet seasonal periods.

There was no evidence of measurable NAPL during the drilling or groundwater sampling activities.

6.3 Groundwater Hydraulic Gradients

The hydraulic gradient was calculated by dividing the difference in hydraulic head by the lateral distance between monitoring locations. Based on the recorded groundwater elevations in Table 1, the July 2021 horizontal hydraulic gradient in the overburden is approximately 0.015 metres/metres (m/m) (average; range of 0.013 to 0.017 m/m), whereas the September 2021 horizontal hydraulic gradient in overburden is approximately 0.010 m/m (average; range of 0.009 and 0.011 m/m).

6.4 Fine-Medium Soil Texture

One soil sample was collected at the Site from borehole MW1-21 and submitted for grain size analysis. Under Section 42 of O. Reg. 153/04, soil is considered medium and fine textured if it contains 50 percent or more by mass particles that are smaller than 75 microns in mean diameter. Based on review of the grain size analysis, the soils are considered to be coarse textured (only 23 percent passing through 75 micron sieve.

6.5 Soil: Field Screening

During the investigation, field screening of collected soil samples was undertaken for organic vapours using a MiniRAE photo-ionization detector (PID). Any visual or olfactory evidence of potential impacts was also documented. The results of the soil field screening and corresponding sample depth intervals are provided on the stratigraphic and instrumentation logs provided in Appendix A.

During the drilling and groundwater sampling activities, there was no field evidence of impact identified nor evidence of light or dense non-aqueous phase liquids on the Site.

6.6 Soil Quality

Soil samples were selected for laboratory analysis from MW1-21 through MW7-21, TH1-21, and TH2-21 as summarizes below. Laboratory analytical reports are provided in Appendix B. All soil analytical results are presented on Table 2. A summary of the maximum detected soil concentrations is presented in Table 3.

Borehole ID	Sample Location	Sample Depth (mbgs)	Parameters Analyzed	Parameters Above MECP Table 3 Standards
MW1-21 (Vacant Property)	SS-2A (fill)	0.76 to 0.91	PHC, VOC	Benzene
	SS-2B (fill/native)	0.91 to 1.37	Metals	Arsenic, Barium, Vanadium
MW2-21 (Vacant Property)	SS-2 (fill/native)	0.76 to 1.37	PHC, VOC	N/A
	SS-4 (native)	2.29 to 2.90	Metals	Arsenic, Copper, Lead, Molybdenum, Selenium, Zinc

Borehole ID	Sample Location	Sample Depth (mbgs)	Parameters Analyzed	Parameters Above MECP Table 3 Standards
MW3-21 (Parking Lot)	SS-2A (fill)	0.76 to 1.38	Metals, PHC, VOC	Boron (hot water extractable), Conductivity, Sodium Absorption Ratio (SAR)
MW4-21 (Vacant Property)	SS-1 (fill)	0.10 to 0.61	Metals, PHC, VOC	N/A
MW5-21 (Vacant Property)	SS-1B (fill)	0.41 to 0.61	PAH	N/A
	SS-2B (fill/native)	0.89 to 1.37	Metals	Arsenic, Beryllium, Selenium
MW6-21 (Parking Lot)	SS-2 (fill)	0.76 to 1.37	PAH	N/A
	SS-4 (native)	2.29 to 2.90	Metals, PHC, BTEX	Conductivity
MW7-21 (Parking Lot)	SS-4 (native)	2.29 to 2.90	Metals, PHC, VOC	SAR
TH1-21 (South Sloped Wall)	-- (fill)	0.31 to 0.61	Metals, PHC, PAH, BTEX	Antimony, Arsenic, Cobalt, Copper, Vanadium
TH2-21 (South Sloped Wall)	-- (fill)	0.31 to 0.61	Metals, PHC, PAH, VOC	Antimony, Arsenic, Cadmium, Chromium, Copper, Lead, Molybdenum, Nickel, Vanadium, Zinc

The metal impacts to soil were identified in fill material, as well as some native material, and are considered to be associated with APEC #1 (Fill Quality), or potentially naturally occurring. An isolated occurrence of benzene was observed in the northwest corner of the Site (at MW1-21), but not likely associated with identified APECs. The SAR and conductivity impacts may be associated with salt application to Site parking lot or nearby roads. No associated VOC impacts were noted for APEC #2 (adjacent former dry cleaners).

Based on the above July 2021 results, additional soil samples were collected in October 2021 for laboratory analysis from test pits in the parking lot fill material (P1 to P4) and from test pits near MW1-21 (A and B), MW2-21 (A and B), and MW5-21 (A and B), as summarized below. Laboratory analytical reports are provided in Appendix B. All soil analytical results are presented on Table 2.

Borehole ID	Sample Location	Sample Depth (mbgs)	Parameters Analyzed	Parameters Above MECP Table 3 Standards
Parking Lot Test Pits	P1	1.25 to 1.50	Metals	Barium
	P2	1.25 to 1.50	Metals	Barium
	P3	1.25 to 1.50	Metals	N/A
	P4	1.25 to 1.50	Metals	N/A
MW1-21 Test Pit A	MW-1-21-A 1 of 2 Top	0.05	BTEX	N/A
	MW-1-21-A 2 of 2 Top (duplicate)	0.05	BTEX	N/A
	MW-1-21-A Fill 1 of 2	1.25 to 1.50	BTEX	N/A
MW1-21 Test Pit B	MW-1-21-B Top	0.05	BTEX	N/A
	MW-1-21-B Fill	1.25 to 1.50	BTEX	N/A
MW2-21 Test Pit A	MW-2-21-A Native	2.90 to 3.00	Metals	N/A
MW2-21 Test Pit B	MW-2-21-B Native	2.90 to 3.00	Metals	N/A

Borehole ID	Sample Location	Sample Depth (mbgs)	Parameters Analyzed	Parameters Above MECP Table 3 Standards
MW5-21 Test Pit A	MW-5-21-A Top	0.05	Metals	N/A
	MW-5-21-A Fill	1.25 to 1.50	Metals	N/A
MW5-21 Test Pit B	MW-5-21-B Top	0.05	Metals	N/A
	MW-5-21-B Fill	1.25 to 1.50	Metals	N/A
	MW-5-21-B-D Fill (duplicate)	1.25 to 1.50	Metals	N/A

All October 2021 soil sample results were below MECP Table 3 Standards, with the exception of barium detected above MECP Table 3 Standards in test pits P1 and P2 (southern portion of the parking lot).

Based on review of the July and October 2021 analytical data:

– Previously detected benzene soil impact at MW1-21 in fill material appears to be an isolated occurrence based on additional horizontal and vertical delineation samples being non-detect for BTEX.
– Detections of metals in the fill material at the Site were observed both above and below MECP Table 3 Standards; however, have generally consistent concentrations across the Site with variability likely due to sample locations (material consistency), sample volume size, analytical laboratory testing methods, etc. Fill material at the Site is considered to be associated with APEC #1 (Fill Quality), or potentially naturally occurring.
– Previously detected select metals in the native material at the Site appear to be isolated and only have limited concentrations above MECP Table 3 Standards, and are likely naturally occurring for the region (not related to any previous Site uses).

6.7 Groundwater Quality

Groundwater samples were collected for laboratory analysis from MW1-21, MW2-21, MW3-21, MW5-21, and MW6-21 as summarized below. Laboratory analytical reports are provided in Appendix B. All groundwater analytical results are presented on Table 4. A summary of the maximum detected groundwater concentrations is presented in Table 5.

Borehole ID	Screen Elevation (mAMSL)	Parameters Analyzed	Parameters Above MECP Table 3 Standards
MW1-21 (overburden; vacant property)	65.04 to 66.54 (1.5 m screen)	Metals, PHC,	N/A
MW2-21 (overburden; vacant property)	64.36 to 65.86 (1.5 m screen)	Metals, PHC, VOC	N/A
MW3-21 (bedrock; parking lot)	58.24 to 61.24 (3 m screen)	Metals, PHC, VOC	PHC F2 and F3
MW5-21 (bedrock; vacant property)	56.44 to 59.44 (3 m screen)	Metals, PHC, PAH, VOC	PHC F2
MW6-21 (overburden; parking lot)	65.00 to 66.50 (1.5 m screen)	Metals, PHC, PAH, BTEX	N/A

PHC F2 and/or F3 concentrations were reportedly above MECP Table 3 Standards in bedrock monitoring wells MW3-21 (northeast corner of Site parking lot) and MW5-21 (center of the vacant property), where as all PHC concentrations in the overburden wells were below MECP Table 3 Standards. No associated VOC impacts were noted for APEC #2 (adjacent former dry cleaners).

Based on the above July 2021 results, it was recommended that all monitoring wells, including bedrock wells MW4-21 and MW7-21 which were not previously sampled (due to no apparent APEC at these locations), were resampled to confirm these groundwater analytical results and/or to determine source and extent of PHC impact in bedrock

groundwater. Additional groundwater samples were collected in September 2021 for laboratory analysis (BTEX and PHCs) from all seven monitoring wells (MW1-21 to MW7-21). Laboratory analytical reports are provided in Appendix B, with groundwater analytical results compared to MECP Table 3 Standards are presented on Table 2. All September 2021 were either non-detect or were below MECP Table 3 Standards. The previous PHC detections above MECP Table 3 Standards could have been associated with potential sediment build up in the sample vials that interfered with obtaining accurate PHC concentrations.

6.8 Sediment Quality

Sediment associated with water bodies was not identified as Potentially Contaminated Media on Site; therefore, sediment was not sampled during the Phase Two ESA.

6.9 Phase Two Conceptual Site Model

Introduction

The Site is irregular in shape, approximately 0.43 ha in size, and is comprised of the following contingent properties located in the City of Ottawa, Ontario:

– Vacant property municipally known as 1209 St. Laurent Boulevard. This parcel is located on the western portion of the Site, to the east of St. Laurent Boulevard and south of Lemieux Street. The parcel is approximately 0.29 ha in size, irregular in shape, and is identified with property identification number (PIN) 042640116.
– Surface level parking lot property municipally known as 1200 Lemieux Street. This parcel is located on the eastern portion of the Site, to the west and south of Lemieux Street. The parcel is approximately 0.14 ha in size, irregular in shape, and is identified with PIN 042640771.

The Site is legally described as Part of Lot 4 and 14, Registered Plan 23, City of Ottawa. The approximate centre of the Site has Latitude and Longitude coordinates of 45° 25' 20" N, 75° 38' 7" W (450,300 m E / 5,030,052 m N, zone 18T, NAD 87). The current municipal zoning for the Site is currently indicated as Transit Oriented Development Zone (TD3 Subzone).

Based on a review of the historical records for the Site, the Site was historically utilized for agricultural and rural residential use, followed by the operation of an overpass access road to the adjacent St. Laurent Mall.

GHD's understanding of the proposed new residential building(s) are based on discussions with the Client and the concept plan drawings provided by the Client, and includes two 30-storey buildings (Tower A and B), a two-story structure connecting Tower A and B, and two to three levels of underground parking to be constructed with the whole site footprint. The development will also include above ground access roads and landscaped areas.

The Phase Two ESA was undertaken for due diligence purposes, as well as in support of future local municipal planning department requirements associated with the proposed redevelopment of the Site. The Phase Two ESA may also be used to support the preparation of a RSC in accordance with O. Reg. 153/04 – RSC, as applicable.

The objective of the Phase Two ESA was to undertake a preliminary investigation of the general soil and groundwater quality on Site and in the APECs that were identified to be associated with the Site based on the findings of the 2021 Phase One ESA completed by GHD.

Based on the results of the Phase One ESA, the following APECs were identified:

– APEC #1 – Site Fill Quality
– APEC #2 – Adjacent Former Dry Cleaner Land Use

The initial Phase Two ESA activities (July 2021) and supplementary Phase Two ESA activities (September/October 2021) included the advancement of boreholes, installation of monitoring wells, advancement of test pits, field screening, and the collection and laboratory analysis of soil and groundwater samples. The soil and groundwater analytical results were assessed to the MECP Table 3 Full Depth Generic Site Condition Standards in a Non-Potable

Ground Water Condition for Residential/Parkland/Institutional Property use with coarse textured soils (Table 3 Standards)[2].

Potential Contaminant Distribution and Transport Pathways

GHD did not observe any evidence of active or abandoned water supply wells or septic systems on the Site. The east parcel is serviced with a storm sewer catchbasin in the centre of the parking lot. At the time of the Phase One ESA, no information was available pertaining to the historical utility services.

Based on the historical information reviewed, subsurface structures and utilities that may affect contaminant distribution and transport on Site included the following (which date back to the early development of the Site): utility corridors, abandoned utility conduits, and the presence of several former building foundations.

Physical Setting

Geology | In general, soils encountered at the borehole locations consisted of a surface layer of asphalt or topsoil, overlying a fill material, overlying native sand to clayey silt, overlying glacial till deposits which is underlain by shale bedrock. Fill material existed below the topsoil in Boreholes MW-1-21, MW-2-21, MW-4-21 and MW-5-21 and was proven to depths up to 2.29 m. Bedrock was encountered within Boreholes MW-1-21 to MW-7-21 at depths ranging from 4.11 m to 7.44 m (Elevations 64.8 m to 62.1 m). Based on retrieved rock core samples, the bedrock at the Site consists of the black shale of Billings formation with thinly bedded interlaminations of limestone.

Hydrogeology | Based on the water level measurements recorded on July 29, 2021 and September 20, 2021, the direction of groundwater flow across the Site in the overburden was determined to be approximately towards the north-northwest (Stantec 2018 flow direction was to the north-northeast). The groundwater flow across the Site in the bedrock recorded on July 29, 2021 appeared to be in a southern and eastern direction with a high point near MW5-21, whereas the bedrock flow direction recorded on September 20, 2021 appeared to be in a southwestern direction.

It should be noted that the groundwater table is subject to seasonal fluctuations and in response to precipitation and snowmelt events. Also, it would be expected that water may be perched within the fill materials or the very poor bedrock, especially during and following periods of precipitation and in the spring and fall or other wet seasonal periods.

The general topography in the Phase Two Study Area is sloping down to the west, towards the Rideau River located approximately 2.3 km from the Site limits. There are no water bodies or water courses located on the Site or within the Phase Two Study Area. The parking lot area at the Site is relatively flat, but the remainder of the Site includes sloped banks on the southern portion of the Site associated with the St. Laurent Mall ramp road, and general sloping to the north-northwest.

Applicable Site Condition Standards

The soil and groundwater analytical results were assessed to the 2011 MOE Table 3 standards for residential/parkland/institutional property use for a non-potable groundwater for coarse textured soils.

Nature and Extent of Impact

The preliminary/supplementary investigations of the soil and groundwater quality included the advancement of boreholes, the instrumentation of the boreholes as groundwater monitoring wells, and advancement of test pits. The investigative locations are shown on Figure 3. A summary of the analytical results is presented below.

Soil Quality | Based on a review of the soil analytical results, all analyzed parameters had concentrations below the MECP Table 3 standards with the exception of select metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, vanadium, and zinc) identified in fill and native soil

[2] Ontario Ministry of the Environment, *"Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act",* dated April 15, 2011.

materials at various locations across the Site (likely associated with APEC #1 [fill quality], or naturally occurring for the region [not related to any previous Site uses]), and an isolated occurrence of benzene at MW1-21 (fill material) which may be associated with APEC #1 (fill quality). Select general chemistry parameters (conductivity and SAR) below the Site parking lot may be associated with salt application to parking lot or nearby roads. No associated VOC impacts were noted for APEC #2 (adjacent former dry cleaners).

Groundwater Quality | Based on a review of the July 2021 groundwater analytical results, all analyzed parameters had concentrations below the MECP Table 3 Standards with the exception of PHC F2 and F3 impacts associated with groundwater within the bedrock aquifer. Supplementary September 2021 groundwater analytical results at all groundwater monitoring locations at the Site, confirmed all analyzed PHC and BTEX concentrations parameters had concentrations either non-detect or below MECP Table 3 Standards. The previous PHC detections above MECP Table 3 Standards could have been associated with potential sediment build up in the sample vials that interfered with obtaining accurate PHC concentrations. No associated impacts were noted for APEC #1 (fill quality) and APEC #2 (adjacent former dry cleaners).

Potential Migration Pathways

As described in the Phase One ESA, two primary APECs were identified at the Site. The Phase Two ESA results indicate that the impacts to soil quality are likely related to APEC #1 (Fill Quality), or are naturally occurring, and no associated impacts were noted associated with APEC #2 (adjacent former dry cleaners) in soil or groundwater. No preferential migration pathways were identified to be associated with the contaminants identified (select metals).

Climatic and Meteorological Conditions

The effect of climatic or meteorological conditions (such as the fluctuation of the groundwater table) on the distribution and migration of the contaminants on Site is not considered to be significant.

Vapour Intrusion

Based on the Phase Two ESA, the soil impacts at the Site include metals, general chemistry parameters, and isolated occurrence of benzene. The metals impacts and general chemistry parameters are not considered to pose a potential risk to receptors. As part of the future development of the Site, the benzene impact in soil is intended to be removed, therefore vapour intrusion associated with this volatile compound won't necessarily be a future concern for vapour intrusion.

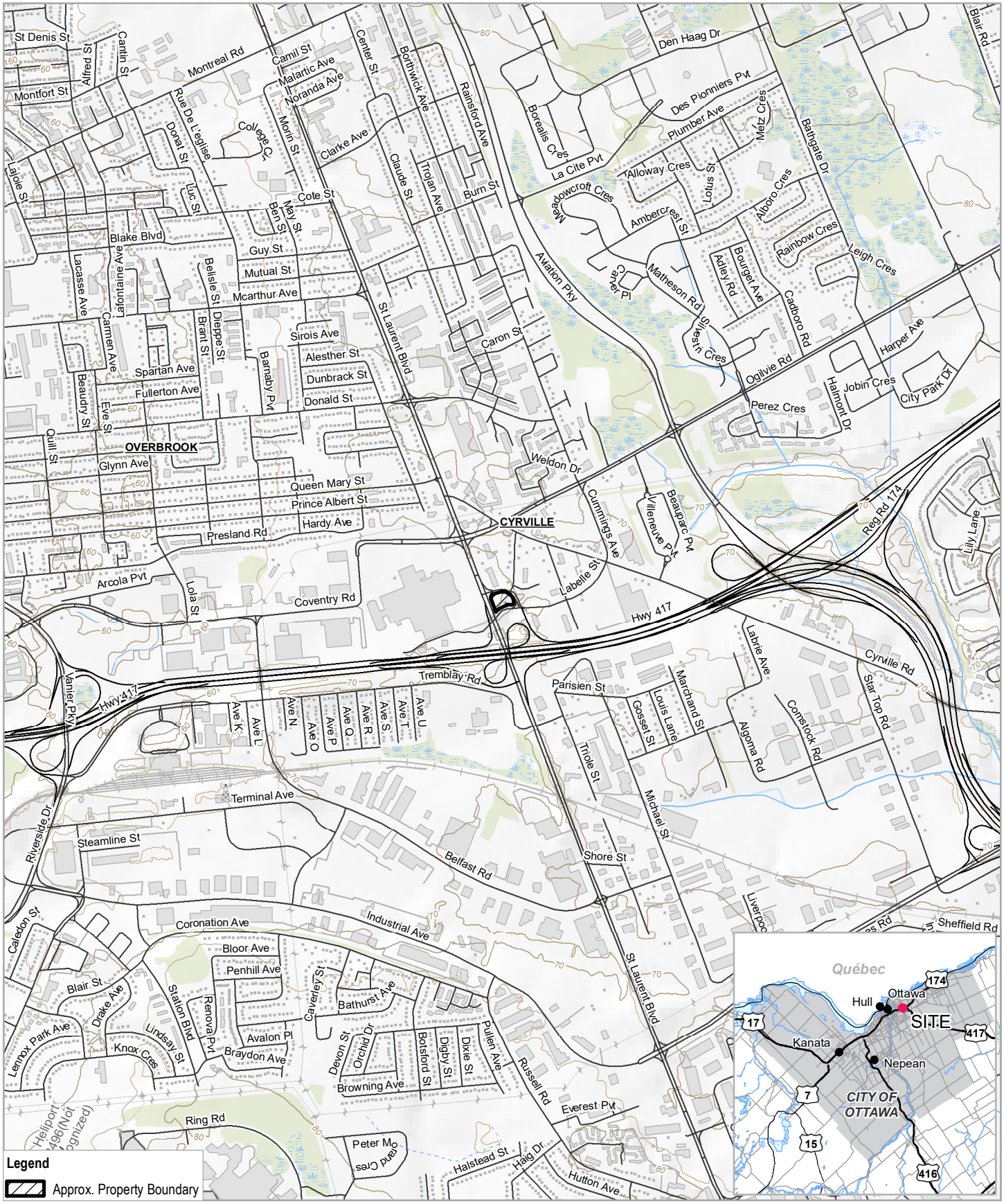
7. Conclusions

The objective of the Phase Two ESA activities were to undertake investigations of the general soil and groundwater quality on Site and in the APECs that were identified to be associated with the Site. The Phase Two ESAs included the advancement of boreholes, installation of monitoring wells, advancement of test pits, field screening, and the collection and laboratory analysis of soil and groundwater samples. Based on the findings of the Phase Two ESA, the following conclusions are provided:

All analyzed soil parameters had concentrations below the MECP Table 3 standards with the exception of select metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, vanadium, and zinc) identified in fill and native soil materials at various locations across the Site (likely associated with APEC #1 (fill quality), or naturally occurring for the region (not related to any previous Site uses)), and an isolated occurrence of benzene at MW1-21 (fill material) which may be associated with APEC #1 (fill quality). Select general chemistry parameters (conductivity and SAR) below the Site parking lot may be associated with salt application to parking lot or nearby roads. No associated VOC impacts were noted for APEC #2 (adjacent former dry cleaners).

All analyzed groundwater parameters in July 2021 had concentrations below the MECP Table 3 Standards with the exception of PHC F2 and F3 impacts associated with groundwater within the bedrock aquifer. Supplementary September 2021 groundwater analytical results at all groundwater monitoring locations at the Site, confirmed all analyzed PHC and BTEX concentrations parameters had concentrations either non-detect or below MECP Table 3 Standards. The previous PHC detections above MECP Table 3 Standards could have been associated with potential sediment build up in the sample vials that interfered with obtaining accurate PHC concentrations. No associated impacts were noted for APEC #1 (fill quality) and APEC #2 (adjacent former dry cleaners).

To meet the regulatory requirements outlined in O. Reg. 153/04 in support of an RSC, confirmatory soil sampling as part of remediation activities (as part of future redevelopment) should be conducted to confirm on-Site soil impacts have been removed from the Site.



Paper Size ANSI A

0 140 280 420 560

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

N

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CANDEREL
1209 ST. LAURENT BOULEVARD &
1200 LEMIEUX STREET, OTTAWA, ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

Project No. **11230721**
Revision No. **-**
Date **Aug 12, 2021**

SITE LOCATION MAP

FIGURE 1

Paper Size ANSI B

0 5.5 11 16.5 22

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

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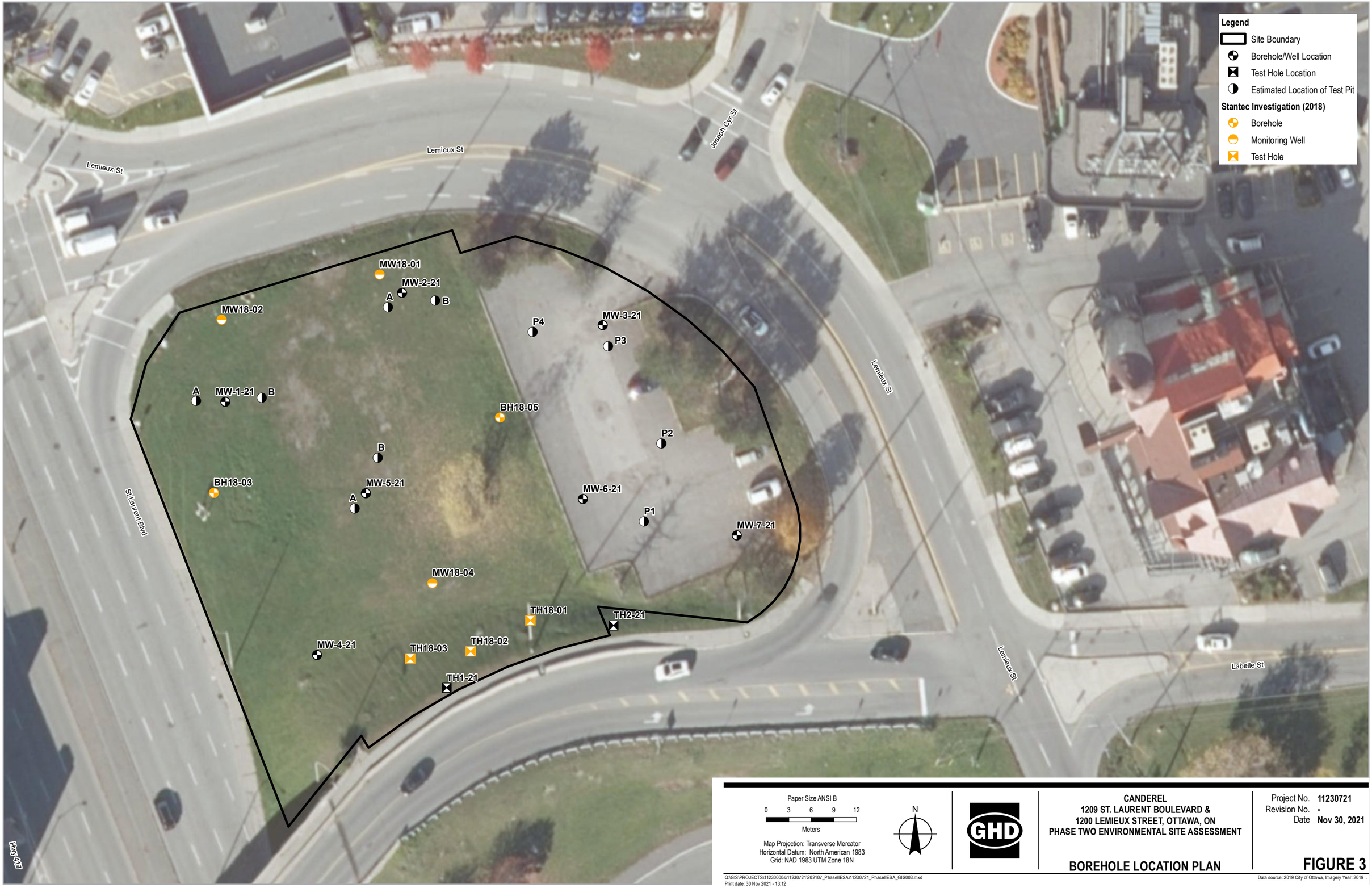
CANDEREL
1209 ST. LAURENT BOULEVARD &
1200 LEMIEUX STREET, OTTAWA, ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

SITE PLAN

Project No. **11230721**
Revision No. **-**
Date **Aug 12, 2021**

FIGURE 2

Data source: 2019 City of Ottawa, Imagery Year: 2019 .



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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

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CANDEREL
1209 ST. LAURENT BOULEVARD &
1200 LEMIEUX STREET, OTTAWA, ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

BOREHOLE LOCATION PLAN

Project No. **11230721**
Revision No. **-**
Date **Nov 30, 2021**

FIGURE 3

Q:\GIS\PROJECTS\11230000s\11230721\202107_PhaseIIESA\11230721_PhaseIIESA_GIS003.mxd
Print date: 30 Nov 2021 - 13:12

Data source: 2019 City of Ottawa, Imagery Year: 2019

Legend

- Site Boundary
- Phase One Study Area (250 m Radius)
- 1. Site
- 2. Bonnie's Cleaners
- 3. Honda Dealership
- 4. Ogilvie Motors
- 5. Cyrville Radiator
- 6. Texaco Service Station
- 7. Cyrville Cleaners and Shirts Laundry
- 8. Sketchley Cleaning and One Stop Laundromat and Dry Cleaners
- 9. Parker Cleaners and Dyers
- 10. Light Rail Station and associated rail track

Land Use

- Commercial
- Institutional
- Residential

Map Reference	Civic Address	PCA Description	PCA Item #
Potentially Contaminating Activities with the potential to contribute to Areas of Potential Environmental Concern			
1	Site-1209 St.Laurent Blvd. & 1200 Lemieux St.	Unknown fill quality (residential & overpass construction/demolition) - APEC #1	PCA Item 30
2	Adjacent-1181 & 1187 St.Laurent Blvd.	Bonnie's Cleaners (former dry cleaning) - APEC #2	PCA Item 37
Other Potentially Contaminating Activities			
3	Adjacent-1171 St.Laurent Blvd.	Honda Dealership (auto repair)	PCA Item 27
4	1020 Ogilvie Rd.	Ogilvie Motors (auto repair)	PCA Item 27
5	1223 Michael St.	Cyrville Radiator (former auto repair)	PCA Item 27
6	1163 St. Laurent Blvd.	Texaco Service Station (former gas station)	PCA Item 28
7	1094 & 1157 Joseph Cyr St.	Cyrville Cleaners and Shirts Laundry (former dry cleaning)	PCA Item 37
8	1097 & 1099 Cyrville Rd.	Sketchley Cleaning & One Stop Laundromat & Dry Cleaners (former dry cleaning)	PCA Item 37
9	Adjacent-1200 St. Laurent Blvd. (mall shop)	Parker Cleaners & Dyers (dry cleaning)	PCA Item 37
10	1300 St. Lau4rent Blvd.	Light Rail Station and associated rail track	PCA Item 46

Paper Size ANSI B

0 20 40 60 80

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

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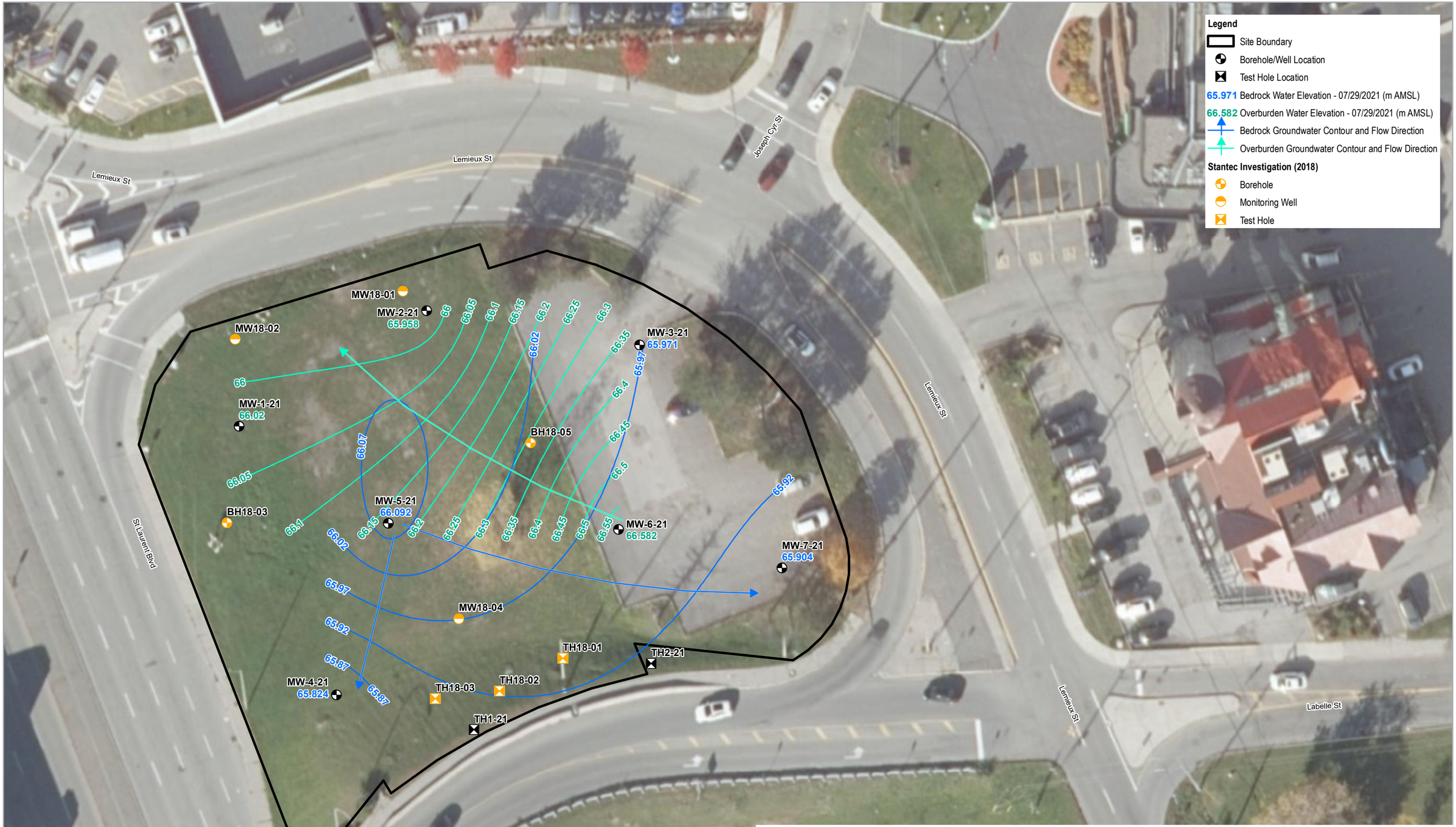
CANDEREL
1209 ST. LAURENT BOULEVARD &
1200 LEMIEUX STREET, OTTAWA, ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

PHASE ONE CONCEPTUAL SITE MODEL

Project No. **11230721**
Revision No. **-**
Date **Aug 12, 2021**

FIGURE 4

Data source: 2019 City of Ottawa, Imagery Year: 2019 ..



Paper Size ANSI B

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

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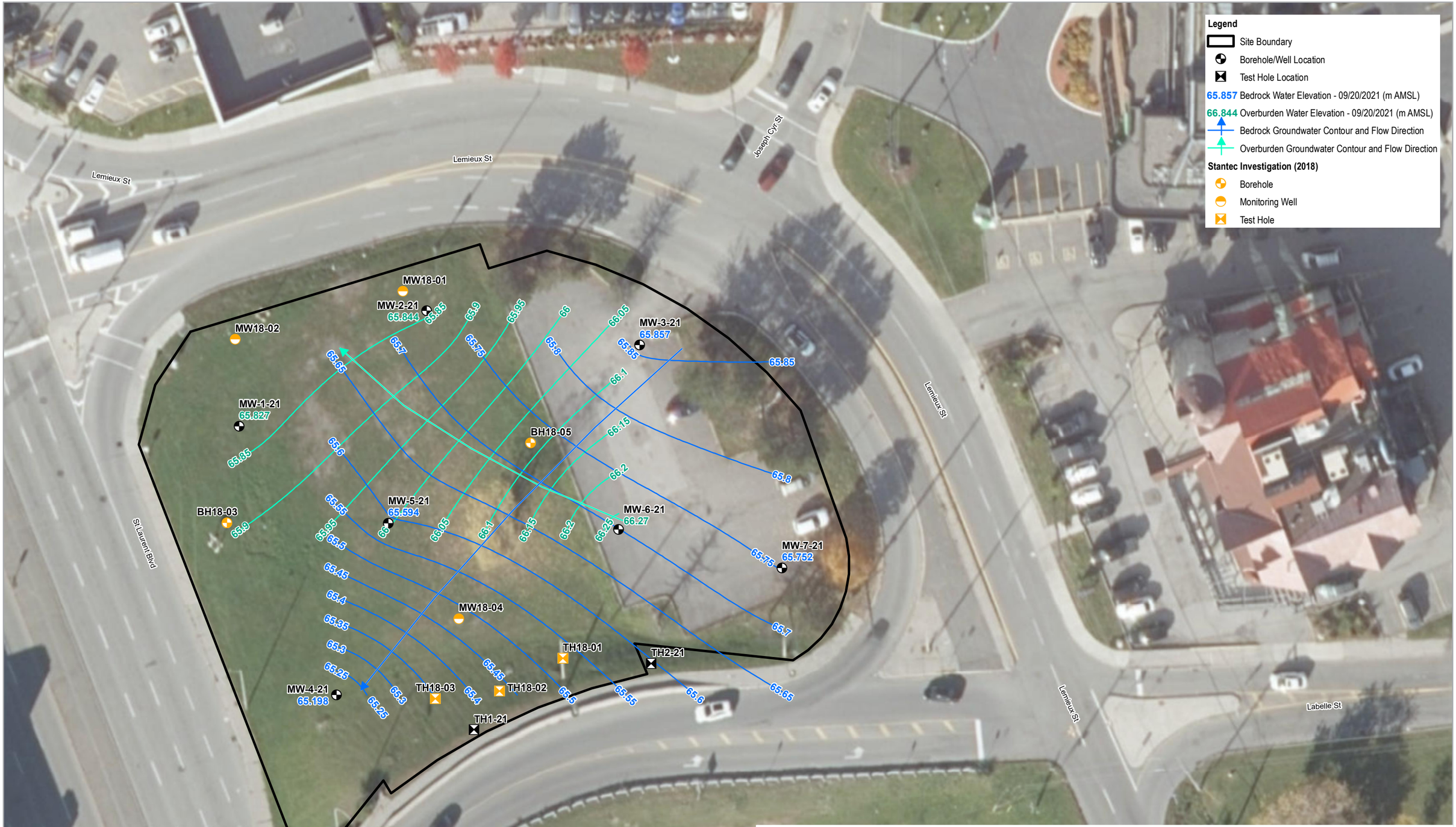
CANDEREL
1209 ST. LAURENT BOULEVARD &
1200 LEMIEUX STREET, OTTAWA, ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

Project No. 11230721
Revision No. -
Date Aug 12, 2021

FIGURE 5

Data source: 2019 City of Ottawa, Imagery Year: 2019



Paper Size ANSI B

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

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CANDEREL
1209 ST. LAURENT BOULEVARD &
1200 LEMIEUX STREET, OTTAWA, ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

Project No. **11230721**
Revision No. **-**
Date **Jan 10, 2022**

FIGURE 6

Q:\GIS\PROJECTS\11230000s\11230721\202201_REP002\11230721_REP002_GIS001.mxd
Print date: 10 Jan 2022 - 13:47

Data source: 2019 City of Ottawa, Imagery Year: 2019

Table 1

Groundwater Elevations
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard 1200 Lemieux Street
Ottawa, Ontario

Well Identification	Grade Elevation (mAMSL)	Well Riser Elevation (mAMSL)	Well Bottom Depth (mBGS)	Well Bottom Elevation (mAMSL)	Static Water Level July 29, 2021 (mBTOR)	Static Water Elevation July 29, 2021 (mAMSL)	Thickness of LNAPL July 29, 2021 (m)	Thickness of DNAPL July 29, 2021 (m)	Static Water Level September 20, 2021 (mBTOR)	Static Water Elevation September 20, 2021 (mAMSL)	Thickness of LNAPL September 20, 2021 (m)	Thickness of DNAPL September 20, 2021 (m)
Overburden												
MW1-21	68.042	68.980	3.00	65.04	2.960	66.020	0.00	NA	3.153	65.827	0.00	NA
MW2-21	68.760	69.778	4.40	64.36	3.820	65.958	0.00	NA	3.934	65.844	0.00	NA
MW6-21	69.105	69.052	6.91	62.20	2.470	66.582	0.00	NA	2.782	66.270	0.00	NA
Bedrock												
MW3-21	68.741	68.729	10.50	58.24	2.758	65.971	NA	0.00	2.872	65.857	NA	0.00
MW4-21	68.102	69.074	11.05	57.05	3.250	65.824	NA	0.00	3.876	65.198	NA	0.00
MW5-21	68.536	69.452	12.50	56.04	3.360	66.092	NA	0.00	3.858	65.594	NA	0.00
MW7-21	69.325	69.244	12.03	57.30	3.340	65.904	NA	0.00	3.492	65.752	NA	0.00

Notes:
mAMSL - metres above mean sea level
mBGS - metres below ground surface
mBTOR - metres below top of riser
NA - not applicable

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW1-21	MW1-21	MW1-21 Test Pit A	MW1-21 Test Pit A	MW1-21 Test Pit A
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	MW1-21-SS-2A	MW1-21-SS-2B	MW-1-21-A 1 of 2 Top	MW-1-21-A Top 2 of 2	MW-1-21-A Fill 1 of 2
			Sample Date:	07/14/21	07/14/21	10/04/2021	10/04/2021	10/04/2021
			Sample Depth:	0.76-0.91	0.91-1.37	0.05	0.05	1.25-1.5
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**				**Duplicate**	
Metals								
Antimony	ug/g	1.0	7.5	--	4.1			
Arsenic	ug/g	1.0	18	--	**73.3**			
Barium	ug/g	1.0	390	--	**439**			
Beryllium	ug/g	0.50	4	--	0.61			
Boron	ug/g	5.0	120	--	28.1			
Boron (hot water extractable)	ug/g	0.10	1.5	--	ND(0.10)			
Cadmium	ug/g	0.50	1.2	--	ND(0.50)			
Chromium	ug/g	1.0	160	--	92.8			
Chromium VI (hexavalent)	ug/g	0.20	8	--	ND(0.20) J			
Cobalt	ug/g	1.0	22	--	6.1			
Copper	ug/g	1.0	140	--	55.1			
Lead	ug/g	1.0	120	--	12.3			
Mercury	ug/g	0.0050	0.27	--	ND(0.0050)			
Molybdenum	ug/g	1.0	6.9	--	2.0			
Nickel	ug/g	1.0	100	--	15.7			
Selenium	ug/g	1.0	2.4	--	ND(1.0)			
Silver	ug/g	0.20	20	--	ND(0.20) J			
Thallium	ug/g	0.50	1	--	ND(0.50)			
Uranium	ug/g	1.0	23	--	ND(1.0)			
Vanadium	ug/g	1.0	86	--	**233**			
Zinc	ug/g	5.0	340	--	35.6			
General Chemistry								
Acid volatile sulfide	mg/kg	0.20		--	--			
Chloride	ug/g	5.0		--	--			
Conductivity	mS/cm	0.0040	0.7	--	0.100 J			
Cyanide, weak acid dissociable	ug/g	0.050	0.051	--	ND(0.050) J			
Oxidation reduction potential (ORP)	millivolts	-1000		--	--			
pH, lab	s.u.	0.10		--	7.89 J			
Resistivity	ohm/cm	1.0		--	--			
Sulfate	ug/g	20		--	--			
Calcium (available)	mg/L	0.50		--	12.2			
Magnesium (available)	mg/L	0.50		--	0.95			
Sodium (available)	mg/L	0.50		--	2.99			
Sodium adsorption ratio (SAR)	none	0.10	5	--	0.22			
Petroleum Hydrocarbon (PHC F1-F4)								
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25	ND(5.0) J	--			
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0		ND(5.0) J	--			
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10	ND(10) J	--			
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10		--	--			
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300	ND(50) J	--			
Petroleum hydrocarbons F3 minus PAH	ug/g	50		--	--			
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800	ND(50) J	--			
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72		ND(72) J	--			
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene	ug/g	0.030		--	--			
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92	--	--			
2-Methylnaphthalene	ug/g	0.030		--	--			
Acenaphthene	ug/g	0.050	14	--	--			
Acenaphthylene	ug/g	0.050	0.093	--	--			
Anthracene	ug/g	0.050	0.16	--	--			

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	**MW1-21**	**MW1-21**	**MW1-21 Test Pit A**	**MW1-21 Test Pit A**	**MW1-21 Test Pit A**
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	**MW1-21-SS-2A**	**MW1-21-SS-2B**	**MW-1-21-A 1 of 2 Top**	**MW-1-21-A Top 2 of 2**	**MW-1-21-A Fill 1 of 2**
			Sample Date:	**07/14/21**	**07/14/21**	**10/04/2021**	**10/04/2021**	**10/04/2021**
			Sample Depth:	**0.76-0.91**	**0.91-1.37**	**0.05**	**0.05**	**1.25-1.5**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**				**Duplicate**	
Benzo(a)anthracene	ug/g	0.050	0.5	--	--			
Benzo(a)pyrene	ug/g	0.050	0.57	--	--			
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050		--	--			
Benzo(g,h,i)perylene	ug/g	0.050	6.6	--	--			
Benzo(k)fluoranthene	ug/g	0.050	5.7	--	--			
PAHs (continue)								
Chrysene	ug/g	0.050	7	--	--			
Dibenz(a,h)anthracene	ug/g	0.050	0.57	--	--			
Fluoranthene	ug/g	0.050	0.69	--	--			
Fluorene	ug/g	0.050	6.8	--	--			
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89	--	--			
Naphthalene	ug/g	0.013	0.59	--	--			
Phenanthrene	ug/g	0.046	6.2	--	--			
Pyrene	ug/g	0.050	70	--	--			
Volatile Organic Compounds (VOCs)								
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05	ND(0.050) J	--			
1,1,1-Trichloroethane	ug/g	0.050	0.11	ND(0.050) J	--			
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05	ND(0.050) J	--			
1,1,2-Trichloroethane	ug/g	0.050	0.05	ND(0.050) J	--			
1,1-Dichloroethane	ug/g	0.050	0.14	ND(0.050) J	--			
1,1-Dichloroethene	ug/g	0.050	0.05	ND(0.050) J	--			
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05	ND(0.050) J	--			
1,2-Dichlorobenzene	ug/g	0.050	3.4	ND(0.050) J	--			
1,2-Dichloroethane	ug/g	0.050	0.05	ND(0.050) J	--			
1,2-Dichloropropane	ug/g	0.050	0.05	ND(0.050) J	--			
1,3-Dichlorobenzene	ug/g	0.050	4.8	ND(0.050) J	--			
1,4-Dichlorobenzene	ug/g	0.050	0.05	ND(0.050) J	--			
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14	ND(0.50) J	--			
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38	ND(0.50) J	--			
Acetone	ug/g	0.50	1.8	ND(0.50) J	--			
Benzene	ug/g	0.0068	0.02	**0.0478 J**	--	<0.0068	<0.0068	<0.0068
Bromodichloromethane	ug/g	0.050	5.8	ND(0.050) J	--			
Bromoform	ug/g	0.050	2.5	ND(0.050) J	--			
Bromomethane (Methyl bromide)	ug/g	0.050	0.05	ND(0.050) J	--			
Carbon tetrachloride	ug/g	0.050	0.05	ND(0.050) J	--			
Chlorobenzene	ug/g	0.050	0.28	ND(0.050) J	--			
Chloroform (Trichloromethane)	ug/g	0.050	0.08	ND(0.050) J	--			
cis-1,2-Dichloroethene	ug/g	0.050	0.05	ND(0.050) J	--			
cis-1,3-Dichloropropene	ug/g	0.030		ND(0.030) J	--			
Dibromochloromethane	ug/g	0.050	5.5	ND(0.050) J	--			
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8	ND(0.050) J	--			
Ethylbenzene	ug/g	0.018	1.9	ND(0.018) J	--	<0.018	<0.018	<0.018
Hexane	ug/g	0.050	2.5	ND(0.050) J	--			
m&p-Xylenes	ug/g	0.030		0.092 J	--			
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05	ND(0.050) J	--			
Methylene chloride	ug/g	0.050	0.06	ND(0.050) J	--			
o-Xylene	ug/g	0.020		0.045 J	--			
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250		--	--			
Styrene	ug/g	0.050	0.5	ND(0.050) J	--			
Tetrachloroethene	ug/g	0.050	0.05	ND(0.050) J	--			
Toluene	ug/g	0.080	0.99	0.131 J	--	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	ug/g	0.050	0.05	ND(0.050) J	--			
trans-1,3-Dichloropropene	ug/g	0.030		ND(0.030) J	--			
Trichloroethene	ug/g	0.010	0.05	ND(0.010) J	--			
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46	ND(0.050) J	--			
Vinyl chloride	ug/g	0.020	0.02	ND(0.020) J	--			
Xylenes (total)	ug/g	0.050	0.9	0.137 J	--	<0.050	<0.050	<0.050
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05	ND(0.042) J	--			
*** Notes to Follow Table								

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW1-21 Test Pit B	MW1-21 Test Pit B	MW2-21	MW2-21	MW2-21 Test Pit A
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	MW-1-21-B Top	MW-1-21-B Fill	MW2-21-SS-2	MW2-21-SS-4	MW-2-21-A-Native
			Sample Date:	10/04/2021	10/04/2021	07/14/21	07/14/21	10/12/2021
			Sample Depth:	0.05	1.25-1.5	0.76-1.37	2.29-2.90	2.9-3.0
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**					
Metals								
Antimony	ug/g	1.0	7.5			--	3.4	<0.10
Arsenic	ug/g	1.0	18			--	**37.7**	2.96
Barium	ug/g	1.0	390			--	222	130
Beryllium	ug/g	0.50	4			--	3.03	0.55
Boron	ug/g	5.0	120			--	70.7	<5.0
Boron (hot water extractable)	ug/g	0.10	1.5			--	0.13	
Cadmium	ug/g	0.50	1.2			--	1.08	0.102
Chromium	ug/g	1.0	160			--	158	58.7
Chromium VI (hexavalent)	ug/g	0.20	8			--	ND(0.20) J	
Cobalt	ug/g	1.0	22			--	9.6	12.9
Copper	ug/g	1.0	140			--	**151**	28.4
Lead	ug/g	1.0	120			--	**177**	7.35
Mercury	ug/g	0.0050	0.27			--	0.0243	
Molybdenum	ug/g	1.0	6.9			--	**7.9**	1.12
Nickel	ug/g	1.0	100			--	42.9	32.5
Selenium	ug/g	1.0	2.4			--	**2.5**	0.39
Silver	ug/g	0.20	20			--	0.26 J-	<0.10
Thallium	ug/g	0.50	1			--	ND(0.50)	0.156
Uranium	ug/g	1.0	23			--	6.6	1.50
Vanadium	ug/g	1.0	86			--	46.8	53.9
Zinc	ug/g	5.0	340			--	**802**	52.2
General Chemistry								
Acid volatile sulfide	mg/kg	0.20				--	--	
Chloride	ug/g	5.0				--	--	
Conductivity	mS/cm	0.0040	0.7			--	0.377 J	
Cyanide, weak acid dissociable	ug/g	0.050	0.051			--	ND(0.050) J	
Oxidation reduction potential (ORP)	millivolts	-1000				--	--	
pH, lab	s.u.	0.10				--	7.38 J	
Resistivity	ohm/cm	1.0				--	--	
Sulfate	ug/g	20				--	--	
Calcium (available)	mg/L	0.50				--	39.3	
Magnesium (available)	mg/L	0.50				--	3.66	
Sodium (available)	mg/L	0.50				--	15.6	
Sodium adsorption ratio (SAR)	none	0.10	5			--	0.64	
Petroleum Hydrocarbon (PHC F1-F4)								
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25			ND(5.0) J	--	
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0				ND(5.0) J	--	
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10			ND(10) J	--	
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10				--	--	
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300			ND(50) J	--	
Petroleum hydrocarbons F3 minus PAH	ug/g	50				--	--	
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800			ND(50) J	--	
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72				ND(72) J	--	
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene	ug/g	0.030				--	--	
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92			--	--	
2-Methylnaphthalene	ug/g	0.030				--	--	
Acenaphthene	ug/g	0.050	14			--	--	
Acenaphthylene	ug/g	0.050	0.093			--	--	
Anthracene	ug/g	0.050	0.16			--	--	

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW1-21 Test Pit B	MW1-21 Test Pit B	MW2-21	MW2-21	MW2-21 Test Pit A
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	MW-1-21-B Top	MW-1-21-B Fill	MW2-21-SS-2	MW2-21-SS-4	MW-2-21-A-Native
			Sample Date:	10/04/2021	10/04/2021	07/14/21	07/14/21	10/12/2021
			Sample Depth:	0.05	1.25-1.5	0.76-1.37	2.29-2.90	2.9-3.0
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**					
Benzo(a)anthracene	ug/g	0.050	0.5			--	--	
Benzo(a)pyrene	ug/g	0.050	0.57			--	--	
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050				--	--	
Benzo(g,h,i)perylene	ug/g	0.050	6.6			--	--	
Benzo(k)fluoranthene	ug/g	0.050	5.7			--	--	
PAHs (continue)								
Chrysene	ug/g	0.050	7			--	--	
Dibenz(a,h)anthracene	ug/g	0.050	0.57			--	--	
Fluoranthene	ug/g	0.050	0.69			--	--	
Fluorene	ug/g	0.050	6.8			--	--	
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89			--	--	
Naphthalene	ug/g	0.013	0.59			--	--	
Phenanthrene	ug/g	0.046	6.2			--	--	
Pyrene	ug/g	0.050	70			--	--	
Volatile Organic Compounds (VOCs)								
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05			ND(0.050) J	--	
1,1,1-Trichloroethane	ug/g	0.050	0.11			ND(0.050) J	--	
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05			ND(0.050) J	--	
1,1,2-Trichloroethane	ug/g	0.050	0.05			ND(0.050) J	--	
1,1-Dichloroethane	ug/g	0.050	0.14			ND(0.050) J	--	
1,1-Dichloroethene	ug/g	0.050	0.05			ND(0.050) J	--	
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05			ND(0.050) J	--	
1,2-Dichlorobenzene	ug/g	0.050	3.4			ND(0.050) J	--	
1,2-Dichloroethane	ug/g	0.050	0.05			ND(0.050) J	--	
1,2-Dichloropropane	ug/g	0.050	0.05			ND(0.050) J	--	
1,3-Dichlorobenzene	ug/g	0.050	4.8			ND(0.050) J	--	
1,4-Dichlorobenzene	ug/g	0.050	0.05			ND(0.050) J	--	
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14			ND(0.50) J	--	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38			ND(0.50) J	--	
Acetone	ug/g	0.50	1.8			ND(0.50) J	--	
Benzene	ug/g	0.0068	0.02	<0.0068	<0.0068	ND(0.0068) J	--	
Bromodichloromethane	ug/g	0.050	5.8			ND(0.050) J	--	
Bromoform	ug/g	0.050	2.5			ND(0.050) J	--	
Bromomethane (Methyl bromide)	ug/g	0.050	0.05			ND(0.050) J	--	
Carbon tetrachloride	ug/g	0.050	0.05			ND(0.050) J	--	
Chlorobenzene	ug/g	0.050	0.28			ND(0.050) J	--	
Chloroform (Trichloromethane)	ug/g	0.050	0.08			ND(0.050) J	--	
cis-1,2-Dichloroethene	ug/g	0.050	0.05			ND(0.050) J	--	
cis-1,3-Dichloropropene	ug/g	0.030				ND(0.030) J	--	
Dibromochloromethane	ug/g	0.050	5.5			ND(0.050) J	--	
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8			ND(0.050) J	--	
Ethylbenzene	ug/g	0.018	1.9	<0.018	<0.018	ND(0.018) J	--	
Hexane	ug/g	0.050	2.5			ND(0.050) J	--	
m&p-Xylenes	ug/g	0.030				ND(0.030) J	--	
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05			ND(0.050) J	--	
Methylene chloride	ug/g	0.050	0.06			ND(0.050) J	--	
o-Xylene	ug/g	0.020				ND(0.020) J	--	
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250				--	--	
Styrene	ug/g	0.050	0.5			ND(0.050) J	--	
Tetrachloroethene	ug/g	0.050	0.05			ND(0.050) J	--	
Toluene	ug/g	0.080	0.99	<0.080	<0.080	ND(0.080) J	--	
trans-1,2-Dichloroethene	ug/g	0.050	0.05			ND(0.050) J	--	
trans-1,3-Dichloropropene	ug/g	0.030				ND(0.030) J	--	
Trichloroethene	ug/g	0.010	0.05			ND(0.010) J	--	
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46			ND(0.050) J	--	
Vinyl chloride	ug/g	0.020	0.02			ND(0.020) J	--	
Xylenes (total)	ug/g	0.050	0.9	<0.050	<0.050	ND(0.050) J	--	
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05			ND(0.042) J	--	
*** Notes to Follow Table								

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW2-21 Test Pit B	MW3-21	Parking Lot Test Pit (P1)	Parking Lot Test Pit (P2)	Parking Lot Test Pit (P3)
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	MW-2-21-B-Native	MW3-21-SS-2A	P1	P2	P3
			Sample Date:	10/12/2021	07/16/21	10/04/2021	10/04/2021	10/04/2021
			Sample Depth:	2.9-3.0	0.76-1.37	1.25-1.5	1.25-1.5	1.25-1.5
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**					
Metals								
Antimony	ug/g	1.0	7.5	<0.10	ND(1.0)	0.14	<0.10	0.20
Arsenic	ug/g	1.0	18	3.18	9.5	2.78	2.29	2.96
Barium	ug/g	1.0	390	113	108	**523**	**426**	294
Beryllium	ug/g	0.50	4	0.47	ND(0.50)	0.35	0.33	0.42
Boron	ug/g	5.0	120	<5.0	7.6	13.1	14.3	10.8
Boron (hot water extractable)	ug/g	0.10	1.5		**1.54**	0.22	0.26	0.24
Cadmium	ug/g	0.50	1.2	0.098	ND(0.50)	0.039	0.025	0.131
Chromium	ug/g	1.0	160	53.6	25.7	57.5	17.1	23.2
Chromium VI (hexavalent)	ug/g	0.20	8		ND(0.20)			
Cobalt	ug/g	1.0	22	14.2	6.2	4.02	3.95	6.44
Copper	ug/g	1.0	140	24.4	16.9	7.04	6.11	75.1
Lead	ug/g	1.0	120	6.35	63.3	14.4	7.34	26.1
Mercury	ug/g	0.0050	0.27		0.212			
Molybdenum	ug/g	1.0	6.9	1.52	ND(1.0)	0.80	0.73	0.52
Nickel	ug/g	1.0	100	31.4	14.7	13.0	11.1	15.2
Selenium	ug/g	1.0	2.4	0.37	ND(1.0)	<0.20	<0.20	<0.20
Silver	ug/g	0.20	20	<0.10	ND(0.20)	<0.10	<0.10	<0.10
Thallium	ug/g	0.50	1	0.149	ND(0.50)	0.800	0.176	0.212
Uranium	ug/g	1.0	23	1.67	ND(1.0)	0.768	0.708	0.609
Vanadium	ug/g	1.0	86	53.3	30.5	8.68	7.54	25.9
Zinc	ug/g	5.0	340	42.8	80.8	15.1	13.4	74.4
General Chemistry								
Acid volatile sulfide	mg/kg	0.20			--			
Chloride	ug/g	5.0			--			
Conductivity	mS/cm	0.0040	0.7		**2.94**			
Cyanide, weak acid dissociable	ug/g	0.050	0.051		ND(0.050)			
Oxidation reduction potential (ORP)	millivolts	-1000			--			
pH, lab	s.u.	0.10			7.50			
Resistivity	ohm/cm	1.0			--			
Sulfate	ug/g	20			--			
Calcium (available)	mg/L	0.50			18.7			
Magnesium (available)	mg/L	0.50			8.70			
Sodium (available)	mg/L	0.50			618			
Sodium adsorption ratio (SAR)	none	0.10	5		**29.6**			
Petroleum Hydrocarbon (PHC F1-F4)								
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25		ND(5.0)			
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0			ND(5.0)			
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10		ND(10)			
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10			--			
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300		106			
Petroleum hydrocarbons F3 minus PAH	ug/g	50			--			
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800		160			
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72			266			
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene	ug/g	0.030			--			
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92		--			
2-Methylnaphthalene	ug/g	0.030			--			
Acenaphthene	ug/g	0.050	14		--			
Acenaphthylene	ug/g	0.050	0.093		--			
Anthracene	ug/g	0.050	0.16		--			

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
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			Sample Location:	**MW2-21 Test Pit B**	**MW3-21**	**Parking Lot Test Pit (P1)**	**Parking Lot Test Pit (P2)**	**Parking Lot Test Pit (P3)**
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	**MW-2-21-B-Native**	**MW3-21-SS-2A**	**P1**	**P2**	**P3**
			Sample Date:	**10/12/2021**	**07/16/21**	**10/04/2021**	**10/04/2021**	**10/04/2021**
			Sample Depth:	**2.9-3.0**	**0.76-1.37**	**1.25-1.5**	**1.25-1.5**	**1.25-1.5**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**					
Benzo(a)anthracene	ug/g	0.050	0.5		--			
Benzo(a)pyrene	ug/g	0.050	0.57		--			
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050			--			
Benzo(g,h,i)perylene	ug/g	0.050	6.6		--			
Benzo(k)fluoranthene	ug/g	0.050	5.7		--			
PAHs (continue)								
Chrysene	ug/g	0.050	7		--			
Dibenz(a,h)anthracene	ug/g	0.050	0.57		--			
Fluoranthene	ug/g	0.050	0.69		--			
Fluorene	ug/g	0.050	6.8		--			
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89		--			
Naphthalene	ug/g	0.013	0.59		--			
Phenanthrene	ug/g	0.046	6.2		--			
Pyrene	ug/g	0.050	70		--			
Volatile Organic Compounds (VOCs)								
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05		ND(0.050)			
1,1,1-Trichloroethane	ug/g	0.050	0.11		ND(0.050)			
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05		ND(0.050)			
1,1,2-Trichloroethane	ug/g	0.050	0.05		ND(0.050)			
1,1-Dichloroethane	ug/g	0.050	0.14		ND(0.050)			
1,1-Dichloroethene	ug/g	0.050	0.05		ND(0.050)			
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05		ND(0.050)			
1,2-Dichlorobenzene	ug/g	0.050	3.4		ND(0.050)			
1,2-Dichloroethane	ug/g	0.050	0.05		ND(0.050)			
1,2-Dichloropropane	ug/g	0.050	0.05		ND(0.050)			
1,3-Dichlorobenzene	ug/g	0.050	4.8		ND(0.050)			
1,4-Dichlorobenzene	ug/g	0.050	0.05		ND(0.050)			
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14		ND(0.50)			
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38		ND(0.50)			
Acetone	ug/g	0.50	1.8		ND(0.50)			
Benzene	ug/g	0.0068	0.02		ND(0.0068)			
Bromodichloromethane	ug/g	0.050	5.8		ND(0.050)			
Bromoform	ug/g	0.050	2.5		ND(0.050)			
Bromomethane (Methyl bromide)	ug/g	0.050	0.05		ND(0.050)			
Carbon tetrachloride	ug/g	0.050	0.05		ND(0.050)			
Chlorobenzene	ug/g	0.050	0.28		ND(0.050)			
Chloroform (Trichloromethane)	ug/g	0.050	0.08		ND(0.050)			
cis-1,2-Dichloroethene	ug/g	0.050	0.05		ND(0.050)			
cis-1,3-Dichloropropene	ug/g	0.030			ND(0.030)			
Dibromochloromethane	ug/g	0.050	5.5		ND(0.050)			
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8		ND(0.050) J			
Ethylbenzene	ug/g	0.018	1.9		ND(0.018)			
Hexane	ug/g	0.050	2.5		ND(0.050)			
m&p-Xylenes	ug/g	0.030			ND(0.030)			
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05		ND(0.050)			
Methylene chloride	ug/g	0.050	0.06		ND(0.050)			
o-Xylene	ug/g	0.020			ND(0.020)			
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250			570			
Styrene	ug/g	0.050	0.5		ND(0.050)			
Tetrachloroethene	ug/g	0.050	0.05		ND(0.050)			
Toluene	ug/g	0.080	0.99		ND(0.080)			
trans-1,2-Dichloroethene	ug/g	0.050	0.05		ND(0.050)			
trans-1,3-Dichloropropene	ug/g	0.030			ND(0.030)			
Trichloroethene	ug/g	0.010	0.05		ND(0.010)			
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46		ND(0.050)			
Vinyl chloride	ug/g	0.020	0.02		ND(0.020)			
Xylenes (total)	ug/g	0.050	0.9		ND(0.050)			
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05		ND(0.042)			
*** Notes to Follow Table								

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
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			Sample Location:	**Parking Lot Test Pit (P4)**	**MW4-21**	**MW5-21**	**MW5-21**	**MW5-21 Test Pit A**
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	**P4**	**MW4-21-SS-1**	**MW5-21-SS-1B**	**MW5-21-SS-2B**	**MW-5-21-A Top**
			Sample Date:	**10/04/2021**	**07/15/21**	**07/14/21**	**07/14/21**	**10/04/2021**
			Sample Depth:	**1.25-1.5**	**0.10-0.61**	**0.41-0.61**	**0.89-1.37**	**0.05**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**					
Metals								
Antimony	ug/g	1.0	7.5	0.13	ND(1.0)	--	1.9	0.46
Arsenic	ug/g	1.0	18	2.03	3.9	--	**109**	3.63
Barium	ug/g	1.0	390	353	108	--	304	81.3
Beryllium	ug/g	0.50	4	0.30	ND(0.50)	--	**5.98**	0.20
Boron	ug/g	5.0	120	12.1	5.9	--	97.2	6.2
Boron (hot water extractable)	ug/g	0.10	1.5	0.21	0.17	--	0.59	
Cadmium	ug/g	0.50	1.2	0.041	ND(0.50)	--	ND(0.50)	0.129
Chromium	ug/g	1.0	160	12.4	36.7	--	17.5	16.4
Chromium VI (hexavalent)	ug/g	0.20	8		ND(0.20) J	--	0.51 J	
Cobalt	ug/g	1.0	22	3.25	8.9	--	3.1	3.46
Copper	ug/g	1.0	140	7.08	19.5	--	51.2	18.0
Lead	ug/g	1.0	120	8.49	21.8	--	3.9	15.6
Mercury	ug/g	0.0050	0.27		0.0402	--	0.0606	
Molybdenum	ug/g	1.0	6.9	0.64	1.3	--	1.6	1.81
Nickel	ug/g	1.0	100	10.4	24.9	--	8.7	9.73
Selenium	ug/g	1.0	2.4	<0.20	ND(1.0)	--	**6.9**	<0.20
Silver	ug/g	0.20	20	<0.10	ND(0.20)	--	ND(0.20) J	<0.10
Thallium	ug/g	0.50	1	0.353	ND(0.50)	--	ND(0.50)	0.104
Uranium	ug/g	1.0	23	0.538	ND(1.0)	--	12.1	0.444
Vanadium	ug/g	1.0	86	8.56	39.4	--	21.7	15.6
Zinc	ug/g	5.0	340	19.8	47.7	--	21.2	75.1
General Chemistry								
Acid volatile sulfide	mg/kg	0.20			--	--	--	
Chloride	ug/g	5.0			--	--	--	
Conductivity	mS/cm	0.0040	0.7		0.238 J	--	0.367 J	
Cyanide, weak acid dissociable	ug/g	0.050	0.051		ND(0.050) J	--	ND(0.050) J	
Oxidation reduction potential (ORP)	millivolts	-1000			--	--	--	
pH, lab	s.u.	0.10			7.35 J	--	6.95 J	
Resistivity	ohm/cm	1.0			--	--	--	
Sulfate	ug/g	20			--	--	--	
Calcium (available)	mg/L	0.50			36.4	--	53.5	
Magnesium (available)	mg/L	0.50			2.21	--	5.73	
Sodium (available)	mg/L	0.50			11.9	--	8.80	
Sodium adsorption ratio (SAR)	none	0.10	5		0.52	--	0.31	
Petroleum Hydrocarbon (PHC F1-F4)								
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25		ND(5.0) J	--	--	
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0			ND(5.0) J	--	--	
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10		ND(10) J	--	--	
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10			--	--	--	
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300		ND(50) J	--	--	
Petroleum hydrocarbons F3 minus PAH	ug/g	50			--	--	--	
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800		ND(50) J	--	--	
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72			ND(72) J	--	--	
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene	ug/g	0.030			--	ND(0.030) J	--	
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92		--	ND(0.042) J	--	
2-Methylnaphthalene	ug/g	0.030			--	ND(0.030) J	--	
Acenaphthene	ug/g	0.050	14		--	ND(0.050) J	--	
Acenaphthylene	ug/g	0.050	0.093		--	ND(0.050) J	--	
Anthracene	ug/g	0.050	0.16		--	ND(0.050) J	--	

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
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			Sample Location:	**Parking Lot Test Pit (P4)**	**MW4-21**	**MW5-21**	**MW5-21**	**MW5-21 Test Pit A**
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	**P4**	**MW4-21-SS-1**	**MW5-21-SS-1B**	**MW5-21-SS-2B**	**MW-5-21-A Top**
			Sample Date:	**10/04/2021**	**07/15/21**	**07/14/21**	**07/14/21**	**10/04/2021**
			Sample Depth:	**1.25-1.5**	**0.10-0.61**	**0.41-0.61**	**0.89-1.37**	**0.05**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**					
Benzo(a)anthracene	ug/g	0.050	0.5		--	ND(0.050) J	--	
Benzo(a)pyrene	ug/g	0.050	0.57		--	ND(0.050) J	--	
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050			--	ND(0.050) J	--	
Benzo(g,h,i)perylene	ug/g	0.050	6.6		--	ND(0.050) J	--	
Benzo(k)fluoranthene	ug/g	0.050	5.7		--	ND(0.050) J	--	
PAHs (continue)								
Chrysene	ug/g	0.050	7		--	ND(0.050) J	--	
Dibenz(a,h)anthracene	ug/g	0.050	0.57		--	ND(0.050) J	--	
Fluoranthene	ug/g	0.050	0.69		--	ND(0.050) J	--	
Fluorene	ug/g	0.050	6.8		--	ND(0.050) J	--	
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89		--	ND(0.050) J	--	
Naphthalene	ug/g	0.013	0.59		--	ND(0.013) J	--	
Phenanthrene	ug/g	0.046	6.2		--	ND(0.046) J	--	
Pyrene	ug/g	0.050	70		--	ND(0.050) J	--	
Volatile Organic Compounds (VOCs)								
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,1,1-Trichloroethane	ug/g	0.050	0.11		ND(0.050) J	--	--	
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,1,2-Trichloroethane	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,1-Dichloroethane	ug/g	0.050	0.14		ND(0.050) J	--	--	
1,1-Dichloroethene	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,2-Dichlorobenzene	ug/g	0.050	3.4		ND(0.050) J	--	--	
1,2-Dichloroethane	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,2-Dichloropropane	ug/g	0.050	0.05		ND(0.050) J	--	--	
1,3-Dichlorobenzene	ug/g	0.050	4.8		ND(0.050) J	--	--	
1,4-Dichlorobenzene	ug/g	0.050	0.05		ND(0.050) J	--	--	
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14		ND(0.50) J	--	--	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38		ND(0.50) J	--	--	
Acetone	ug/g	0.50	1.8		ND(0.50) J	--	--	
Benzene	ug/g	0.0068	0.02		ND(0.0068) J	--	--	
Bromodichloromethane	ug/g	0.050	5.8		ND(0.050) J	--	--	
Bromoform	ug/g	0.050	2.5		ND(0.050) J	--	--	
Bromomethane (Methyl bromide)	ug/g	0.050	0.05		ND(0.050) J	--	--	
Carbon tetrachloride	ug/g	0.050	0.05		ND(0.050) J	--	--	
Chlorobenzene	ug/g	0.050	0.28		ND(0.050) J	--	--	
Chloroform (Trichloromethane)	ug/g	0.050	0.08		ND(0.050) J	--	--	
cis-1,2-Dichloroethene	ug/g	0.050	0.05		ND(0.050) J	--	--	
cis-1,3-Dichloropropene	ug/g	0.030			ND(0.030) J	--	--	
Dibromochloromethane	ug/g	0.050	5.5		ND(0.050) J	--	--	
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8		ND(0.050) J	--	--	
Ethylbenzene	ug/g	0.018	1.9		ND(0.018) J	--	--	
Hexane	ug/g	0.050	2.5		ND(0.050) J	--	--	
m&p-Xylenes	ug/g	0.030			ND(0.030) J	--	--	
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05		ND(0.050) J	--	--	
Methylene chloride	ug/g	0.050	0.06		ND(0.050) J	--	--	
o-Xylene	ug/g	0.020			ND(0.020) J	--	--	
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250			--	--	--	
Styrene	ug/g	0.050	0.5		ND(0.050) J	--	--	
Tetrachloroethene	ug/g	0.050	0.05		ND(0.050) J	--	--	
Toluene	ug/g	0.080	0.99		ND(0.080) J	--	--	
trans-1,2-Dichloroethene	ug/g	0.050	0.05		ND(0.050) J	--	--	
trans-1,3-Dichloropropene	ug/g	0.030			ND(0.030) J	--	--	
Trichloroethene	ug/g	0.010	0.05		ND(0.010) J	--	--	
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46		ND(0.050) J	--	--	
Vinyl chloride	ug/g	0.020	0.02		ND(0.020) J	--	--	
Xylenes (total)	ug/g	0.050	0.9		ND(0.050) J	--	--	
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05		ND(0.042) J	--	--	
*** Notes to Follow Table								

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW5-21 Test Pit A	MW5-21 Test Pit B	MW5-21 Test Pit B	MW5-21 Test Pit B	MW6-21
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	MW-5-21-A Fill	MW-5-21-B Top	MW-5-21-B Fill	MW-5-21-B-D Fill	MW6-21-SS-2
			Sample Date:	10/04/2021	10/04/2021	10/04/2021	10/04/2021	07/16/21
			Sample Depth:	1.25-1.5	0.05	1.25-1.5	1.25-1.5	0.76-1.37
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**				**Duplicate**	
Metals								
Antimony	ug/g	1.0	7.5	0.15	0.41	0.14	0.12	--
Arsenic	ug/g	1.0	18	3.85	5.09	3.35	3.19	--
Barium	ug/g	1.0	390	102	109	94.4	85.4	--
Beryllium	ug/g	0.50	4	0.41	0.44	0.35	0.33	--
Boron	ug/g	5.0	120	<5.0	5.9	<5.0	<5.0	--
Boron (hot water extractable)	ug/g	0.10	1.5					--
Cadmium	ug/g	0.50	1.2	0.187	0.184	0.174	0.146	--
Chromium	ug/g	1.0	160	29.3	36.0	26.2	22.8	--
Chromium VI (hexavalent)	ug/g	0.20	8					--
Cobalt	ug/g	1.0	22	7.70	8.02	7.58	6.59	--
Copper	ug/g	1.0	140	17.1	21.0	17.8	15.6	--
Lead	ug/g	1.0	120	22.3	17.2	20.8	13.8	--
Mercury	ug/g	0.0050	0.27					--
Molybdenum	ug/g	1.0	6.9	1.29	1.54	1.22	1.13	--
Nickel	ug/g	1.0	100	19.3	17.1	18.5	15.5	--
Selenium	ug/g	1.0	2.4	0.24	0.22	0.24	<0.20	--
Silver	ug/g	0.20	20	<0.10	<0.10	<0.10	<0.10	--
Thallium	ug/g	0.50	1	0.171	0.132	0.160	0.154	--
Uranium	ug/g	1.0	23	0.984	0.558	0.902	0.872	--
Vanadium	ug/g	1.0	86	34.1	27.4	33.0	28.1	--
Zinc	ug/g	5.0	340	49.2	82.7	45.4	40.0	--
General Chemistry								
Acid volatile sulfide	mg/kg	0.20						--
Chloride	ug/g	5.0						--
Conductivity	mS/cm	0.0040	0.7					--
Cyanide, weak acid dissociable	ug/g	0.050	0.051					--
Oxidation reduction potential (ORP)	millivolts	-1000						--
pH, lab	s.u.	0.10						--
Resistivity	ohm/cm	1.0						--
Sulfate	ug/g	20						--
Calcium (available)	mg/L	0.50						--
Magnesium (available)	mg/L	0.50						--
Sodium (available)	mg/L	0.50						--
Sodium adsorption ratio (SAR)	none	0.10	5					--
Petroleum Hydrocarbon (PHC F1-F4)								
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25					--
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0						--
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10					--
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10						--
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300					--
Petroleum hydrocarbons F3 minus PAH	ug/g	50						--
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800					--
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72						--
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene	ug/g	0.030						ND(0.030)
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92					ND(0.042)
2-Methylnaphthalene	ug/g	0.030						ND(0.030)
Acenaphthene	ug/g	0.050	14					ND(0.050)
Acenaphthylene	ug/g	0.050	0.093					ND(0.050)
Anthracene	ug/g	0.050	0.16					ND(0.050)

Table 2

Summary of Soil Analysis
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			Sample Location:	MW5-21 Test Pit A	MW5-21 Test Pit B	MW5-21 Test Pit B	MW5-21 Test Pit B	MW6-21
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	MW-5-21-A Fill	MW-5-21-B Top	MW-5-21-B Fill	MW-5-21-B-D Fill	MW6-21-SS-2
			Sample Date:	10/04/2021	10/04/2021	10/04/2021	10/04/2021	07/16/21
			Sample Depth:	1.25-1.5	0.05	1.25-1.5	1.25-1.5	0.76-1.37
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**				**Duplicate**	
Benzo(a)anthracene	ug/g	0.050	0.5					0.076
Benzo(a)pyrene	ug/g	0.050	0.57					0.072
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050						0.100
Benzo(g,h,i)perylene	ug/g	0.050	6.6					0.053
Benzo(k)fluoranthene	ug/g	0.050	5.7					ND(0.050)
PAHs (continue)								
Chrysene	ug/g	0.050	7					0.091
Dibenz(a,h)anthracene	ug/g	0.050	0.57					ND(0.050)
Fluoranthene	ug/g	0.050	0.69					0.139
Fluorene	ug/g	0.050	6.8					ND(0.050)
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89					0.053
Naphthalene	ug/g	0.013	0.59					ND(0.013)
Phenanthrene	ug/g	0.046	6.2					0.076
Pyrene	ug/g	0.050	70					0.123
Volatile Organic Compounds (VOCs)								
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05					--
1,1,1-Trichloroethane	ug/g	0.050	0.11					--
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05					--
1,1,2-Trichloroethane	ug/g	0.050	0.05					--
1,1-Dichloroethane	ug/g	0.050	0.14					--
1,1-Dichloroethene	ug/g	0.050	0.05					--
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05					--
1,2-Dichlorobenzene	ug/g	0.050	3.4					--
1,2-Dichloroethane	ug/g	0.050	0.05					--
1,2-Dichloropropane	ug/g	0.050	0.05					--
1,3-Dichlorobenzene	ug/g	0.050	4.8					--
1,4-Dichlorobenzene	ug/g	0.050	0.05					--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14					--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38					--
Acetone	ug/g	0.50	1.8					--
Benzene	ug/g	0.0068	0.02					--
Bromodichloromethane	ug/g	0.050	5.8					--
Bromoform	ug/g	0.050	2.5					--
Bromomethane (Methyl bromide)	ug/g	0.050	0.05					--
Carbon tetrachloride	ug/g	0.050	0.05					--
Chlorobenzene	ug/g	0.050	0.28					--
Chloroform (Trichloromethane)	ug/g	0.050	0.08					--
cis-1,2-Dichloroethene	ug/g	0.050	0.05					--
cis-1,3-Dichloropropene	ug/g	0.030						--
Dibromochloromethane	ug/g	0.050	5.5					--
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8					--
Ethylbenzene	ug/g	0.018	1.9					--
Hexane	ug/g	0.050	2.5					--
m&p-Xylenes	ug/g	0.030						--
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05					--
Methylene chloride	ug/g	0.050	0.06					--
o-Xylene	ug/g	0.020						--
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250						--
Styrene	ug/g	0.050	0.5					--
Tetrachloroethene	ug/g	0.050	0.05					--
Toluene	ug/g	0.080	0.99					--
trans-1,2-Dichloroethene	ug/g	0.050	0.05					--
trans-1,3-Dichloropropene	ug/g	0.030						--
Trichloroethene	ug/g	0.010	0.05					--
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46					--
Vinyl chloride	ug/g	0.020	0.02					--
Xylenes (total)	ug/g	0.050	0.9					--
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05					--
*** Notes to Follow Table								

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
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			Sample Location:	**MW6-21**	**MW7-21**	**TH1-21**	**TH2-21**
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	**MW6-21-SS-4**	**MW7-21-SS-4**	**TH1-21-GS-1**	**TH2-21-GS-1**
			Sample Date:	**07/16/21**	**07/16/21**	**07/15/21**	**07/15/21**
			Sample Depth:	**2.29-2.90**	**2.29-2.90**	**0.31-0.61**	**0.31-0.61**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**				
Metals							
Antimony	ug/g	1.0	7.5	ND(1.0)	ND(1.0)	**17.9**	**27.9**
Arsenic	ug/g	1.0	18	6.3	4.7	**378**	**83.0**
Barium	ug/g	1.0	390	139	119	83.3	191
Beryllium	ug/g	0.50	4	0.61	ND(0.50)	ND(0.50)	1.40
Boron	ug/g	5.0	120	10.1	7.9	23.4	36.1
Boron (hot water extractable)	ug/g	0.10	1.5	0.11	ND(0.10)	0.16	0.14
Cadmium	ug/g	0.50	1.2	ND(0.50)	ND(0.50)	ND(0.50)	**4.27**
Chromium	ug/g	1.0	160	22.8	24.4	86.1	**294**
Chromium VI (hexavalent)	ug/g	0.20	8	0.30	0.31	ND(0.20) J	ND(0.20) J
Cobalt	ug/g	1.0	22	18.2	12.3	**24.8**	19.5
Copper	ug/g	1.0	140	31.8 J+	24.6	**160**	**454**
Lead	ug/g	1.0	120	11.3	8.3	23.9	**691**
Mercury	ug/g	0.0050	0.27	0.0341	0.0163	0.0591	0.0325
Molybdenum	ug/g	1.0	6.9	4.2	2.1	4.6	**14.4**
Nickel	ug/g	1.0	100	47.3	32.7	46.0	**106**
Selenium	ug/g	1.0	2.4	ND(1.0)	ND(1.0)	ND(1.0)	1.7
Silver	ug/g	0.20	20	ND(0.20)	ND(0.20) J	ND(0.20) J	0.84 J-
Thallium	ug/g	0.50	1	ND(0.50)	0.97	ND(0.50)	ND(0.50)
Uranium	ug/g	1.0	23	1.3	ND(1.0)	ND(1.0)	2.0
Vanadium	ug/g	1.0	86	33.9	40.2	**146**	**109**
Zinc	ug/g	5.0	340	54.9	46.3	111	**2010**
General Chemistry							
Acid volatile sulfide	mg/kg	0.20		--	0.25	--	--
Chloride	ug/g	5.0		--	204	--	--
Conductivity	mS/cm	0.0040	0.7	**0.744**	0.322	0.130 J	0.155 J
Cyanide, weak acid dissociable	ug/g	0.050	0.051	ND(0.050)	ND(0.050)	ND(0.050) J	ND(0.050) J
Oxidation reduction potential (ORP)	millivolts	-1000		--	268	--	--
pH, lab	s.u.	0.10		7.46	7.81	7.40 J	7.15 J
Resistivity	ohm/cm	1.0		--	3110	--	--
Sulfate	ug/g	20		--	66	--	--
Calcium (available)	mg/L	0.50		37.7	1.02	21.8	24.6
Magnesium (available)	mg/L	0.50		7.52	ND(0.50)	1.30	1.27
Sodium (available)	mg/L	0.50		87.4	62.2	4.05	7.68
Sodium adsorption ratio (SAR)	none	0.10	5	3.40	**17.0 J+**	0.23	0.41
Petroleum Hydrocarbon (PHC F1-F4)							
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25	5.3	ND(5.0)	ND(5.0) J	ND(5.0) J
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0		5.3	ND(5.0)	ND(5.0) J	ND(5.0) J
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10	ND(10)	ND(10)	ND(10) J	ND(10) J
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10		--	--	ND(10) J	ND(10) J
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300	ND(50)	ND(50)	ND(50) J	ND(50) J
Petroleum hydrocarbons F3 minus PAH	ug/g	50		--	--	ND(50) J	ND(50) J
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800	ND(50)	ND(50)	ND(50) J	ND(50) J
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72		ND(72)	ND(72)	ND(72) J	ND(72) J
Polycyclic Aromatic Hydrocarbons (PAHs)							
1-Methylnaphthalene	ug/g	0.030		--	--	ND(0.030) J	ND(0.030) J
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92	--	--	ND(0.042) J	ND(0.042) J
2-Methylnaphthalene	ug/g	0.030		--	--	ND(0.030) J	ND(0.030) J
Acenaphthene	ug/g	0.050	14	--	--	ND(0.050) J	ND(0.050) J
Acenaphthylene	ug/g	0.050	0.093	--	--	ND(0.050) J	ND(0.050) J
Anthracene	ug/g	0.050	0.16	--	--	ND(0.050) J	ND(0.050) J

Table 2

Summary of Soil Analysis
Phase Two Environmental Site Assessment
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Ottawa, Ontario

			Sample Location:	**MW6-21**	**MW7-21**	**TH1-21**	**TH2-21**
			Sample ID (S-11230721-Date-Sampler Initial-Well-Sample Depth):	**MW6-21-SS-4**	**MW7-21-SS-4**	**TH1-21-GS-1**	**TH2-21-GS-1**
			Sample Date:	**07/16/21**	**07/16/21**	**07/15/21**	**07/15/21**
			Sample Depth:	**2.29-2.90**	**2.29-2.90**	**0.31-0.61**	**0.31-0.61**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**				
Benzo(a)anthracene	ug/g	0.050	0.5	--	--	ND(0.050) J	ND(0.050) J
Benzo(a)pyrene	ug/g	0.050	0.57	--	--	ND(0.050) J	ND(0.050) J
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050		--	--	ND(0.050) J	ND(0.050) J
Benzo(g,h,i)perylene	ug/g	0.050	6.6	--	--	ND(0.050) J	ND(0.050) J
Benzo(k)fluoranthene	ug/g	0.050	5.7	--	--	ND(0.050) J	ND(0.050) J
PAHs (continue)							
Chrysene	ug/g	0.050	7	--	--	ND(0.050) J	ND(0.050) J
Dibenz(a,h)anthracene	ug/g	0.050	0.57	--	--	ND(0.050) J	ND(0.050) J
Fluoranthene	ug/g	0.050	0.69	--	--	ND(0.050) J	ND(0.050) J
Fluorene	ug/g	0.050	6.8	--	--	ND(0.050) J	ND(0.050) J
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89	--	--	ND(0.050) J	ND(0.050) J
Naphthalene	ug/g	0.013	0.59	--	--	ND(0.013) J	ND(0.013) J
Phenanthrene	ug/g	0.046	6.2	--	--	ND(0.046) J	ND(0.046) J
Pyrene	ug/g	0.050	70	--	--	ND(0.050) J	ND(0.050) J
Volatile Organic Compounds (VOCs)							
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,1,1-Trichloroethane	ug/g	0.050	0.11	--	ND(0.050)	--	ND(0.050) J
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,1,2-Trichloroethane	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,1-Dichloroethane	ug/g	0.050	0.14	--	ND(0.050)	--	ND(0.050) J
1,1-Dichloroethene	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,2-Dichlorobenzene	ug/g	0.050	3.4	--	ND(0.050)	--	ND(0.050) J
1,2-Dichloroethane	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,2-Dichloropropane	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
1,3-Dichlorobenzene	ug/g	0.050	4.8	--	ND(0.050)	--	ND(0.050) J
1,4-Dichlorobenzene	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14	--	ND(0.50)	--	ND(0.50) J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38	--	ND(0.50)	--	ND(0.50) J
Acetone	ug/g	0.50	1.8	--	ND(0.50)	--	ND(0.50) J
Benzene	ug/g	0.0068	0.02	ND(0.0068)	ND(0.0068)	ND(0.0068) J	ND(0.0068) J
Bromodichloromethane	ug/g	0.050	5.8	--	ND(0.050)	--	ND(0.050) J
Bromoform	ug/g	0.050	2.5	--	ND(0.050)	--	ND(0.050) J
Bromomethane (Methyl bromide)	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
Carbon tetrachloride	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
Chlorobenzene	ug/g	0.050	0.28	--	ND(0.050)	--	ND(0.050) J
Chloroform (Trichloromethane)	ug/g	0.050	0.08	--	ND(0.050)	--	ND(0.050) J
cis-1,2-Dichloroethene	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
cis-1,3-Dichloropropene	ug/g	0.030		--	ND(0.030)	--	ND(0.030) J
Dibromochloromethane	ug/g	0.050	5.5	--	ND(0.050)	--	ND(0.050) J
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8	--	ND(0.050) J	--	ND(0.050) J
Ethylbenzene	ug/g	0.018	1.9	ND(0.018)	ND(0.018)	ND(0.018) J	ND(0.018) J
Hexane	ug/g	0.050	2.5	--	ND(0.050)	--	ND(0.050) J
m&p-Xylenes	ug/g	0.030		ND(0.030)	ND(0.030)	ND(0.030) J	ND(0.030) J
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
Methylene chloride	ug/g	0.050	0.06	--	ND(0.050)	--	ND(0.050) J
o-Xylene	ug/g	0.020		ND(0.020)	ND(0.020)	ND(0.020) J	ND(0.020) J
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250		--	--	--	--
Styrene	ug/g	0.050	0.5	--	ND(0.050)	--	ND(0.050) J
Tetrachloroethene	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
Toluene	ug/g	0.080	0.99	ND(0.080)	ND(0.080)	ND(0.080) J	ND(0.080) J
trans-1,2-Dichloroethene	ug/g	0.050	0.05	--	ND(0.050)	--	ND(0.050) J
trans-1,3-Dichloropropene	ug/g	0.030		--	ND(0.030)	--	ND(0.030) J
Trichloroethene	ug/g	0.010	0.05	--	ND(0.010)	--	ND(0.010) J
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46	--	ND(0.050)	--	ND(0.050) J
Vinyl chloride	ug/g	0.020	0.02	--	ND(0.020)	--	ND(0.020) J
Xylenes (total)	ug/g	0.050	0.9	ND(0.050)	ND(0.050)	ND(0.050) J	ND(0.050) J
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05	--	ND(0.042)	--	ND(0.042) J
*** Notes to Follow Table							

Summary of Soil Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

Notes:

1	MECP, Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, da
BOLD	Concentration above MECP Table 3 standards for a non-potable groundwater an
ND	Concentration not detected above Method Detection Limit
N/A	Parameter not Analyzed by laboratory
nv	No value
J	J - Estimated concentration.
J-	J- - Estimated concentration, result may be biased low
J+	J+ - Estimated concentration, result may be biased high.

Table 3

Maximum Soil Parameter Concentrations
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

Parameters	Units	MDL	MECP Table 3 Standard	Maximum Soil Concentration	Sample Identification (Borehole and Location)	Sample Depth (m)
Metals						
Antimony	ug/g	1.0	7.5	27.9	TH2-21-GS-1	0.31-0.61
Arsenic	ug/g	1.0	18	378	TH1-21-GS-1	0.31-0.61
Barium	ug/g	1.0	390	523	P1	1.25-1.5
Beryllium	ug/g	0.50	4	5.98	MW5-21-SS-2B	0.89-1.37
Boron	ug/g	5.0	120	97.2	MW5-21-SS-2B	0.89-1.37
Boron (hot water extractable)	ug/g	0.10	1.5	1.54	MW3-21-SS-2A	0.76-1.37
Cadmium	ug/g	0.50	1.2	4.27	TH2-21-GS-1	0.31-0.61
Chromium	ug/g	1.0	160	294	TH2-21-GS-1	0.31-0.61
Chromium VI (hexavalent)	ug/g	0.20	8	0.51	MW5-21-SS-2B	0.89-1.37
Cobalt	ug/g	1.0	22	24.8	TH1-21-GS-1	0.31-0.61
Copper	ug/g	1.0	140	454	TH2-21-GS-1	0.31-0.61
Lead	ug/g	1.0	120	691	TH2-21-GS-1	0.31-0.61
Mercury	ug/g	0.0050	0.27	0.212	MW3-21-SS-2A	0.76-1.37
Molybdenum	ug/g	1.0	6.9	14.4	TH2-21-GS-1	0.31-0.61
Nickel	ug/g	1.0	100	106	TH2-21-GS-1	0.31-0.61
Selenium	ug/g	1.0	2.4	6.9	MW5-21-SS-2B	0.89-1.37
Silver	ug/g	0.20	20	0.84	TH2-21-GS-1	0.31-0.61
Thallium	ug/g	0.50	1	0.97	MW7-21-SS-4	2.29-2.90
Uranium	ug/g	1.0	23	12.1	MW5-21-SS-2B	0.89-1.37
Vanadium	ug/g	1.0	86	233	MW1-21-SS-2B	0.91-1.37
Zinc	ug/g	5.0	340	2010	TH2-21-GS-1	0.31-0.61
General Chemistry						
Acid volatile sulfide	mg/kg	0.20		0.25	MW7-21-SS-4	2.29-2.90
Chloride	ug/g	5.0		204	MW7-21-SS-4	2.29-2.90
Conductivity	mS/cm	0.0040	0.7	2.94	MW3-21-SS-2A	0.76-1.37
Cyanide, weak acid dissociable	ug/g	0.050	0.051	ND(0.050) J	ALL	ALL
Oxidation reduction potential (ORP)	millivolts	-1000		268	MW7-21-SS-4	2.29-2.90
pH, lab	s.u.	0.10		7.89	MW1-21-SS-2B	0.91-1.37
Resistivity	ohm/cm	1.0		3110	MW7-21-SS-4	2.29-2.90
Sulfate	ug/g	20		66	MW7-21-SS-4	2.29-2.90
Calcium (available)	mg/L	0.50		53.5	MW5-21-SS-2B	0.89-1.37
Magnesium (available)	mg/L	0.50		8.7	MW3-21-SS-2A	0.76-1.37
Sodium (available)	mg/L	0.50		618	MW3-21-SS-2A	0.76-1.37
Sodium adsorption ratio (SAR)	none	0.10	5	29.6	MW3-21-SS-2A	0.76-1.37
Petroleum Hydrocarbon (PHC F1-F4)						
Petroleum hydrocarbons F1 (C6-C10)	ug/g	5.0	25	5.3	MW6-21-SS-4	2.29-2.90
Petroleum hydrocarbons F1 minus BTEX	ug/g	5.0		5.3	MW6-21-SS-4	2.29-2.90
Petroleum hydrocarbons F2 (C10-C16)	ug/g	10	10	ND(10) J	ALL	ALL
Petroleum hydrocarbons F2 minus Naphthalene	ug/g	10		ND(10) J	ALL	ALL
Petroleum hydrocarbons F3 (C16-C34)	ug/g	50	300	106	MW3-21-SS-2A	0.76-1.37
Petroleum hydrocarbons F3 minus PAH	ug/g	50		ND(50) J	ALL	ALL
Petroleum hydrocarbons F4 (C34-C50)	ug/g	50	2800	160	MW3-21-SS-2A	0.76-1.37
Total Petroleum Hydrocarbons (C6-C50)	ug/g	72		266	MW3-21-SS-2A	0.76-1.37
Polycyclic Aromatic Hydrocarbons (PAH)						
1-Methylnaphthalene	ug/g	0.030		ND(0.030) J	ALL	ALL
1-Methylnaphthalene/2-Methylnaphthalene	ug/g	0.042	0.92	ND(0.042) J	ALL	ALL
2-Methylnaphthalene	ug/g	0.030		ND(0.030) J	ALL	ALL
Acenaphthene	ug/g	0.050	14	ND(0.050) J	ALL	ALL
Acenaphthylene	ug/g	0.050	0.093	ND(0.050) J	ALL	ALL
Anthracene	ug/g	0.050	0.16	ND(0.050) J	ALL	ALL
Benzo(a)anthracene	ug/g	0.050	0.5	0.076	MW6-21-SS-2	0.76-1.37
Benzo(a)pyrene	ug/g	0.050	0.57	0.072	MW6-21-SS-2	0.76-1.37
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/g	0.050		0.1	MW6-21-SS-2	0.76-1.37
Benzo(g,h,i)perylene	ug/g	0.050	6.6	0.053	MW6-21-SS-2	0.76-1.37
Benzo(k)fluoranthene	ug/g	0.050	5.7	ND(0.050) J	ALL	ALL
Chrysene	ug/g	0.050	7	0.091	MW6-21-SS-2	0.76-1.37
Dibenz(a,h)anthracene	ug/g	0.050	0.57	ND(0.050) J	ALL	ALL
Fluoranthene	ug/g	0.050	0.69	0.139	MW6-21-SS-2	0.76-1.37
Fluorene	ug/g	0.050	6.8	ND(0.050) J	ALL	ALL

Table 3

Maximum Soil Parameter Concentrations
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

Parameters	Units	MDL	MECP Table 3 Standard	Maximum Soil Concentration	Sample Identification (Borehole and Location)	Sample Depth (m)
Indeno(1,2,3-cd)pyrene	ug/g	0.050	0.89	0.053	MW6-21-SS-2	0.76-1.37
Naphthalene	ug/g	0.013	0.59	ND(0.013)	ALL	ALL
Phenanthrene	ug/g	0.046	6.2	0.076	MW6-21-SS-2	0.76-1.37
Pyrene	ug/g	0.050	70	0.123	MW6-21-SS-2	0.76-1.37
Volatile Organic Compounds (VOC)						
1,1,1,2-Tetrachloroethane	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,1,1-Trichloroethane	ug/g	0.050	0.11	ND(0.050) J	ALL	ALL
1,1,2,2-Tetrachloroethane	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,1,2-Trichloroethane	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,1-Dichloroethane	ug/g	0.050	0.14	ND(0.050) J	ALL	ALL
1,1-Dichloroethene	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,2-Dibromoethane (Ethylene dibromide)	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,2-Dichlorobenzene	ug/g	0.050	3.4	ND(0.050) J	ALL	ALL
1,2-Dichloroethane	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,2-Dichloropropane	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
1,3-Dichlorobenzene	ug/g	0.050	4.8	ND(0.050) J	ALL	ALL
1,4-Dichlorobenzene	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
2-Butanone (Methyl ethyl ketone) (MEK)	ug/g	0.50	14	ND(0.50) J	ALL	ALL
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/g	0.50	0.38	ND(0.50) J	ALL	ALL
Acetone	ug/g	0.50	1.8	ND(0.50) J	ALL	ALL
Benzene	ug/g	0.0068	0.02	0.0478	MW1-21-SS-2A	0.76-0.91
Bromodichloromethane	ug/g	0.050	5.8	ND(0.050) J	ALL	ALL
Bromoform	ug/g	0.050	2.5	ND(0.050) J	ALL	ALL
Bromomethane (Methyl bromide)	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
Carbon tetrachloride	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
Chlorobenzene	ug/g	0.050	0.28	ND(0.050) J	ALL	ALL
Chloroform (Trichloromethane)	ug/g	0.050	0.08	ND(0.050) J	ALL	ALL
cis-1,2-Dichloroethene	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
cis-1,3-Dichloropropene	ug/g	0.030		ND(0.030) J	ALL	ALL
Dibromochloromethane	ug/g	0.050	5.5	ND(0.050) J	ALL	ALL
Dichlorodifluoromethane (CFC-12)	ug/g	0.050	1.8	ND(0.050) J	ALL	ALL
Ethylbenzene	ug/g	0.018	1.9	ND(0.018) J	ALL	ALL
Hexane	ug/g	0.050	2.5	ND(0.050) J	ALL	ALL
m&p-Xylenes	ug/g	0.030		0.092	MW1-21-SS-2A	0.76-0.91
Methyl tert butyl ether (MTBE)	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
Methylene chloride	ug/g	0.050	0.06	ND(0.050) J	ALL	ALL
o-Xylene	ug/g	0.020		0.045	MW1-21-SS-2A	0.76-0.91
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	ug/g	250		570	MW3-21-SS-2A	0.76-1.37
Styrene	ug/g	0.050	0.5	ND(0.050) J	ALL	ALL
Tetrachloroethene	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
Toluene	ug/g	0.080	0.99	0.131	MW1-21-SS-2A	0.76-0.91
trans-1,2-Dichloroethene	ug/g	0.050	0.05	ND(0.050) J	ALL	ALL
trans-1,3-Dichloropropene	ug/g	0.030		ND(0.030) J	ALL	ALL
Trichloroethene	ug/g	0.010	0.05	ND(0.010) J	ALL	ALL
Trichlorofluoromethane (CFC-11)	ug/g	0.050	0.46	ND(0.050) J	ALL	ALL
Vinyl chloride	ug/g	0.020	0.02	ND(0.020) J	ALL	ALL
Xylenes (total)	ug/g	0.050	0.9	0.137	MW1-21-SS-2A	0.76-0.91
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/g	0.042	0.05	ND(0.042) J	ALL	ALL

Notes:

1	MECP, Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, dated April 2011
BOLD	Concentration above MECP Table 3 standards for a non-potable groundwater and shallow soil condition for residential land use and coarse-textured soils (April 2011)
ND	Concentration not detected above Method Detection Limit
N/A	Parameter not Analyzed by laboratory
nv	No value
J	J - Estimated concentration.
J-	J- - Estimated concentration, result may be biased low
J+	J+ - Estimated concentration, result may be biased high.

Table 4

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW1-21	MW1-21	MW2-21	MW2-21	MW3-21	MW3-21
			Sample ID (GW-11230721-Date-Sampler Initial-Well-Sample #):	MW1-21-003	-001	MW2-21-002	-002	MW3-21-005	-005
			Sample Date:	07/26/21	9/20/2021	07/26/21	9/20/2021	07/26/21	09/20/21
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**						
Field Readings									
Conductivity, field	mS/cm			0.87		2.13		5.69	
pH, field	s.u.			7.52		7.75		7.01	
Temperature, field	Deg C			21.47		16.98		15.83	
General Chemistry									
Chloride	mg/L	2.5	2300000	69.9		440		--	
Chloride	mg/L	5.0	2300000	--		--		2010	
Conductivity	mS/cm	0.0030		1.35		2.50		6.45	
Conductivity	umhos/cm	1.0		--		--		--	
Cyanide, weak acid dissociable	ug/L	2.0	66	ND(2.0)		ND(2.0)		ND(2.0)	
Oxidation reduction potential (ORP)	millivolts	-1000		--		--		--	
pH, lab	s.u.	0.10		7.59		7.38		7.42	
Resistivity	ohm/cm	1.0		--		--		--	
Sulfate	mg/L	1.5		--		--		--	
Sulfide	mg/L	0.18		--		--		--	
Metals									
Antimony (dissolved)	ug/L	1.0	20000	ND(1.0)		ND(1.0)		3.2	
Arsenic (dissolved)	ug/L	1.0	1900	ND(1.0)		ND(1.0)		2.7	
Barium (dissolved)	ug/L	1.0	29000	87.6		253		2150	
Beryllium (dissolved)	ug/L	1.0	67	ND(1.0)		ND(1.0)		ND(1.0)	
Boron (dissolved)	ug/L	100	45000	ND(100)		270		1640	
Cadmium (dissolved)	ug/L	0.050	2.7	ND(0.050)		ND(0.050)		0.093	
Chromium (dissolved)	ug/L	5.0	810	ND(5.0)		ND(5.0)		ND(5.0)	
Chromium VI (hexavalent)	ug/L	0.50	140	ND(0.50)		ND(0.50)		ND(0.50)	
Cobalt (dissolved)	ug/L	1.0	66	2.5		1.7		1.5	
Copper (dissolved)	ug/L	2.0	87	2.5		ND(2.0)		ND(2.0)	
Lead (dissolved)	ug/L	0.50	25	0.64		ND(0.50)		1.73	
Mercury (dissolved)	ug/L	0.0050	0.29	--		--		--	
Molybdenum (dissolved)	ug/L	0.50	9200	10.8		20.0		7.07	
Nickel (dissolved)	ug/L	5.0	490	9.7		ND(5.0)		7.5	
Selenium (dissolved)	ug/L	0.50	63	ND(0.50)		ND(0.50)		ND(0.50)	
Silver (dissolved)	ug/L	0.50	1.5	ND(0.50)		ND(0.50)		ND(0.50)	
Sodium (dissolved)	ug/L	500	2300000	142000		245000		--	
Sodium (dissolved)	ug/L	5000	2300000	--		--		1510000	
Thallium (dissolved)	ug/L	0.10	510	0.12		ND(0.10)		0.11	
Uranium (dissolved)	ug/L	0.10	420	6.52		2.85		1.19	
Vanadium (dissolved)	ug/L	5.0	250	ND(5.0)		ND(5.0)		ND(5.0)	
Zinc (dissolved)	ug/L	10	1100	ND(10)		ND(10)		ND(10)	
Petroluem Hydrocarbons (PHC F1-F4)									
Petroleum hydrocarbons F1 (C6-C10)	ug/L	25	750	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)
Petroleum hydrocarbons F1 minus BTEX	ug/L	25	750	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)
Petroleum hydrocarbons F2 (C10-C16)	ug/L	100	150	150	ND(100)	ND(100)	ND(100)	**500**	ND(100)
Petroleum hydrocarbons F2 minus Naphthalene	ug/L	100	150	--	--	--	--	--	--
Petroleum hydrocarbons F3 (C16-C34)	ug/L	250	500	ND(250)	ND(250)	ND(250)	ND(250)	**960**	ND(250)
Petroleum hydrocarbons F3 minus PAH	ug/L	250	500	--	--	--	--	--	--
Petroleum hydrocarbons F4 (C34-C50)	ug/L	250	500	ND(250)	ND(250)	ND(250)	ND(250)	410	ND(250)
Total Petroleum Hydrocarbons (C6-C50)	ug/L	370		ND(370)	ND(370)	ND(370)	ND(370)	1870	ND(370)

Table 4

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW1-21	MW1-21	MW2-21	MW2-21	MW3-21	MW3-21
			Sample ID (GW-11230721-Date-Sampler Initial-Well-Sample #):	MW1-21-003	-001	MW2-21-002	-002	MW3-21-005	-005
			Sample Date:	07/26/21	9/20/2021	07/26/21	9/20/2021	07/26/21	09/20/21
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**						
Polycyclic Aromatic Hydrocarbons (PAH)									
1-Methylnaphthalene	ug/L	0.020	1800	--		--		--	
1-Methylnaphthalene/2-Methylnaphthalene	ug/L	0.028		--		--		--	
2-Methylnaphthalene	ug/L	0.020	1800	--		--		--	
Acenaphthene	ug/L	0.020	600	--		--		--	
Acenaphthylene	ug/L	0.020	1.8	--		--		--	
Anthracene	ug/L	0.024	2.4	--		--		--	
Anthracene	ug/L	0.16	2.4	--		--		--	
Benzo(a)anthracene	ug/L	0.020	4.7	--		--		--	
Benzo(a)pyrene	ug/L	0.010	0.81	--		--		--	
Benzo(a)pyrene	ug/L	0.015	0.81	--		--		--	
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	0.020	0.75	--		--		--	
Benzo(g,h,i)perylene	ug/L	0.020	0.2	--		--		--	
Benzo(k)fluoranthene	ug/L	0.020	0.4	--		--		--	
PAH (continue)									
Chrysene	ug/L	0.020	1	--		--		--	
Dibenz(a,h)anthracene	ug/L	0.020	0.52	--		--		--	
Fluoranthene	ug/L	0.020	130	--		--		--	
Fluorene	ug/L	0.020	400	--		--		--	
Indeno(1,2,3-cd)pyrene	ug/L	0.020	0.2	--		--		--	
Naphthalene	ug/L	0.050	1400	--		--		--	
Phenanthrene	ug/L	0.020	580	--		--		--	
Pyrene	ug/L	0.020	68	--		--		--	
Volatile Organic Compounds (VOC)									
1,1,1,2-Tetrachloroethane	ug/L	0.50	3.3	ND(0.50)		ND(0.50)		ND(0.50)	
1,1,1-Trichloroethane	ug/L	0.50	640	ND(0.50)		ND(0.50)		ND(0.50)	
1,1,2,2-Tetrachloroethane	ug/L	0.50	3.2	ND(0.50)		ND(0.50)		ND(0.50)	
1,1,2-Trichloroethane	ug/L	0.50	4.7	ND(0.50)		ND(0.50)		ND(0.50)	
1,1-Dichloroethane	ug/L	0.50	320	ND(0.50)		ND(0.50)		ND(0.50)	
1,1-Dichloroethene	ug/L	0.50	1.6	ND(0.50)		ND(0.50)		ND(0.50)	
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.20	0.25	ND(0.20)		ND(0.20)		ND(0.20)	
1,2-Dichlorobenzene	ug/L	0.50	4600	ND(0.50)		ND(0.50)		ND(0.50)	
1,2-Dichloroethane	ug/L	0.50	1.6	ND(0.50)		ND(0.50)		ND(0.50)	
1,2-Dichloropropane	ug/L	0.50	16	ND(0.50)		ND(0.50)		ND(0.50)	
1,3-Dichlorobenzene	ug/L	0.50	9600	ND(0.50)		ND(0.50)		ND(0.50)	
1,4-Dichlorobenzene	ug/L	0.50	8	ND(0.50)		ND(0.50)		ND(0.50)	
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	20	470000	ND(20)		ND(20)		ND(20)	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	20	140000	ND(20)		ND(20)		ND(20)	
Acetone	ug/L	30	130000	ND(30)		ND(30)		ND(30)	
Benzene	ug/L	0.50	44	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Bromodichloromethane	ug/L	2.0	85000	ND(2.0)		ND(2.0)		ND(2.0)	
Bromoform	ug/L	5.0	380	ND(5.0)		ND(5.0)		ND(5.0)	
Bromomethane (Methyl bromide)	ug/L	0.50	5.6	ND(0.50)		ND(0.50)		ND(0.50)	
Carbon tetrachloride	ug/L	0.20	0.79	ND(0.20)		ND(0.20)		ND(0.20)	
Chlorobenzene	ug/L	0.50	630	ND(0.50)		ND(0.50)		ND(0.50)	
Chloroform (Trichloromethane)	ug/L	1.0	2.4	ND(1.0)		1.8		1.5	
Chromatogram to baseline at nC50	none	0		ND(0)		ND(0)		ND(0)	

Table 4

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW1-21	MW1-21	MW2-21	MW2-21	MW3-21	MW3-21
			Sample ID (GW-11230721-Date-Sampler Initial-Well-Sample #):	MW1-21-003	-001	MW2-21-002	-002	MW3-21-005	-005
			Sample Date:	07/26/21	9/20/2021	07/26/21	9/20/2021	07/26/21	09/20/21
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**						
cis-1,2-Dichloroethene	ug/L	0.50	1.6	ND(0.50)		ND(0.50)		ND(0.50)	
cis-1,3-Dichloropropene	ug/L	0.30		ND(0.30)		ND(0.30)		--	
cis-1,3-Dichloropropene	ug/L	3.0		--		--		--	
cis-1,3-Dichloropropene	ug/L	4.1		--		--		ND(4.1)	
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	0.50	5.2	ND(0.50)		ND(0.50)		--	
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	3.0	5.2	--		--		--	
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	4.1	5.2	--		--		ND(4.1)	
Dibromochloromethane	ug/L	2.0	82000	ND(2.0)		ND(2.0)		ND(2.0)	
Dichlorodifluoromethane (CFC-12)	ug/L	2.0	4400	ND(2.0)		ND(2.0)		ND(2.0)	
Ethylbenzene	ug/L	0.50	2300	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Hexane	ug/L	0.50	51	ND(0.50)		--		ND(0.50)	
m&p-Xylenes	ug/L	0.40		ND(0.40)		0.50		ND(0.40)	
Methyl tert butyl ether (MTBE)	ug/L	2.0	190	ND(2.0)		ND(2.0)		ND(2.0)	
Methylene chloride	ug/L	5.0	610	ND(5.0)		ND(5.0)		ND(5.0)	
o-Xylene	ug/L	0.30		ND(0.30)		ND(0.30)		ND(0.30)	
Styrene	ug/L	0.50	1300	ND(0.50)		ND(0.50)		ND(0.50)	
Tetrachloroethene	ug/L	0.50	1.6	ND(0.50)		ND(0.50)		ND(0.50)	
Toluene	ug/L	0.50	18000	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
trans-1,2-Dichloroethene	ug/L	0.50	1.6	ND(0.50)		ND(0.50)		ND(0.50)	
trans-1,3-Dichloropropene	ug/L	0.30		ND(0.30)		ND(0.30)		ND(0.30)	
Trichloroethene	ug/L	0.50	1.6	ND(0.50)		ND(0.50)		ND(0.50)	
Trichlorofluoromethane (CFC-11)	ug/L	5.0	2500	ND(5.0)		ND(5.0)		ND(5.0)	
Vinyl chloride	ug/L	0.50	0.5	ND(0.50)		ND(0.50)		ND(0.50)	
Xylenes (total)	ug/L	0.50	4200	ND(0.50)	ND(0.50)	0.50	ND(0.50)	ND(0.50)	ND(0.50)

Table 4

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

				Sample Location:	**MW4-21**	**MW5-21**	**MW5-21**	**MW6-21**	**MW6-21**	**MW7-21**
				Sample ID (GW-11230721-Date-Sampler Initial-Well-Sample #):	**-004**	**MW5-21-001**	**-003**	**MW6-21-004**	**-008**	**-006/-007 (dup)**
				Sample Date:	**09/20/21**	**07/26/21**	**9/20/21**	**07/26/21**	**9/20/21**	**9/20/21**
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**							
Field Readings										
Conductivity, field	mS/cm					1.99		4.95		
pH, field	s.u.					7.81		7.22		
Temperature, field	Deg C					14.52		17.54		
General Chemistry										
Chloride	mg/L	2.5	2300000			399		--		
Chloride	mg/L	5.0	2300000			--		1390		
Conductivity	mS/cm	0.0030				--		5.40		
Conductivity	umhos/cm	1.0				2200		--		
Cyanide, weak acid dissociable	ug/L	2.0	66			ND(2.0)		ND(2.0)		
Oxidation reduction potential (ORP)	millivolts	-1000				353		--		
pH, lab	s.u.	0.10				8.05		7.03		
Resistivity	ohm/cm	1.0				455		--		
Sulfate	mg/L	1.5				97.0		--		
Sulfide	mg/L	0.18				ND(0.18)		--		
Metals										
Antimony (dissolved)	ug/L	1.0	20000			1.8		ND(1.0)		
Arsenic (dissolved)	ug/L	1.0	1900			1.9		ND(1.0)		
Barium (dissolved)	ug/L	1.0	29000			1210		147		
Beryllium (dissolved)	ug/L	1.0	67			ND(1.0)		ND(1.0)		
Boron (dissolved)	ug/L	100	45000			470		320		
Cadmium (dissolved)	ug/L	0.050	2.7			ND(0.050)		0.063		
Chromium (dissolved)	ug/L	5.0	810			ND(5.0)		ND(5.0)		
Chromium VI (hexavalent)	ug/L	0.50	140			ND(0.50)		ND(0.50)		
Cobalt (dissolved)	ug/L	1.0	66			ND(1.0)		2.8		
Copper (dissolved)	ug/L	2.0	87			ND(2.0)		ND(2.0)		
Lead (dissolved)	ug/L	0.50	25			ND(0.50)		0.82		
Mercury (dissolved)	ug/L	0.0050	0.29			ND(0.0050)		ND(0.0050)		
Molybdenum (dissolved)	ug/L	0.50	9200			6.74		3.61		
Nickel (dissolved)	ug/L	5.0	490			ND(5.0)		6.8		
Selenium (dissolved)	ug/L	0.50	63			ND(0.50)		ND(0.50)		
Silver (dissolved)	ug/L	0.50	1.5			ND(0.50)		ND(0.50)		
Sodium (dissolved)	ug/L	500	2300000			333000		403000		
Sodium (dissolved)	ug/L	5000	2300000			--		--		
Thallium (dissolved)	ug/L	0.10	510			ND(0.10)		ND(0.10)		
Uranium (dissolved)	ug/L	0.10	420			0.39		1.13		
Vanadium (dissolved)	ug/L	5.0	250			ND(5.0)		ND(5.0)		
Zinc (dissolved)	ug/L	10	1100			ND(10)		ND(10)		
Petroluem Hydrocarbons (PHC F1-F4)										
Petroleum hydrocarbons F1 (C6-C10)	ug/L	25	750		27	ND(25)	ND(25)	ND(25)	ND(25)	ND(25) / ND(25)
Petroleum hydrocarbons F1 minus BTEX	ug/L	25	750		ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25) / ND(25)
Petroleum hydrocarbons F2 (C10-C16)	ug/L	100	150		ND(100)	**240**	ND(100)	ND(100)	ND(100)	ND(100) / ND(100)
Petroleum hydrocarbons F2 minus Naphthalene	ug/L	100	150		--	**240**	--	ND(100)	--	--
Petroleum hydrocarbons F3 (C16-C34)	ug/L	250	500		ND(250)	270	ND(250)	ND(250)	ND(250)	ND(250) / ND(250)
Petroleum hydrocarbons F3 minus PAH	ug/L	250	500		--	270	--	ND(250)	--	--
Petroleum hydrocarbons F4 (C34-C50)	ug/L	250	500		ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250) / ND(250)
Total Petroleum Hydrocarbons (C6-C50)	ug/L	370			ND(370)	520	ND(370)	ND(370)	ND(370)	ND(370) / ND(370)

Table 4

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW4-21	MW5-21	MW5-21	MW6-21	MW6-21	MW7-21
			Sample ID (GW-11230721-Date-Sampler Initial-Well-Sample #):	-004	MW5-21-001	-003	MW6-21-004	-008	-006/-007 (dup)
			Sample Date:	09/20/21	07/26/21	9/20/21	07/26/21	9/20/21	9/20/21
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**						
Polycyclic Aromatic Hydrocarbons (PAH)									
1-Methylnaphthalene	ug/L	0.020	1800		0.044		ND(0.020)		
1-Methylnaphthalene/2-Methylnaphthalene	ug/L	0.028			0.084		ND(0.028)		
2-Methylnaphthalene	ug/L	0.020	1800		0.040		ND(0.020)		
Acenaphthene	ug/L	0.020	600		ND(0.020)		ND(0.020)		
Acenaphthylene	ug/L	0.020	1.8		ND(0.020)		ND(0.020)		
Anthracene	ug/L	0.024	2.4		--		ND(0.024)		
Anthracene	ug/L	0.16	2.4		ND(0.16)		--		
Benzo(a)anthracene	ug/L	0.020	4.7		0.031		ND(0.020)		
Benzo(a)pyrene	ug/L	0.010	0.81		--		0.013		
Benzo(a)pyrene	ug/L	0.015	0.81		ND(0.015)		--		
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	0.020	0.75		ND(0.020)		ND(0.020)		
Benzo(g,h,i)perylene	ug/L	0.020	0.2		ND(0.020)		ND(0.020)		
Benzo(k)fluoranthene	ug/L	0.020	0.4		ND(0.020)		ND(0.020)		
PAH (continue)									
Chrysene	ug/L	0.020	1		0.027		ND(0.020)		
Dibenz(a,h)anthracene	ug/L	0.020	0.52		ND(0.020)		ND(0.020)		
Fluoranthene	ug/L	0.020	130		ND(0.020)		0.034		
Fluorene	ug/L	0.020	400		0.210		0.024		
Indeno(1,2,3-cd)pyrene	ug/L	0.020	0.2		ND(0.020)		ND(0.020)		
Naphthalene	ug/L	0.050	1400		ND(0.050)		ND(0.050)		
Phenanthrene	ug/L	0.020	580		0.365		0.073		
Pyrene	ug/L	0.020	68		0.025		0.035		
Volatile Organic Compounds (VOC)									
1,1,1,2-Tetrachloroethane	ug/L	0.50	3.3		ND(0.50)		--		
1,1,1-Trichloroethane	ug/L	0.50	640		ND(0.50)		--		
1,1,2,2-Tetrachloroethane	ug/L	0.50	3.2		ND(0.50)		--		
1,1,2-Trichloroethane	ug/L	0.50	4.7		ND(0.50)		--		
1,1-Dichloroethane	ug/L	0.50	320		ND(0.50)		--		
1,1-Dichloroethene	ug/L	0.50	1.6		ND(0.50)		--		
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.20	0.25		ND(0.20)		--		
1,2-Dichlorobenzene	ug/L	0.50	4600		ND(0.50)		--		
1,2-Dichloroethane	ug/L	0.50	1.6		ND(0.50)		--		
1,2-Dichloropropane	ug/L	0.50	16		ND(0.50)		--		
1,3-Dichlorobenzene	ug/L	0.50	9600		ND(0.50)		--		
1,4-Dichlorobenzene	ug/L	0.50	8		ND(0.50)		--		
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	20	470000		ND(20)		--		
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	20	140000		ND(20)		--		
Acetone	ug/L	30	130000		ND(30)		--		
Benzene	ug/L	0.50	44	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50) / ND(0.50)
Bromodichloromethane	ug/L	2.0	85000		ND(2.0)		--		
Bromoform	ug/L	5.0	380		ND(5.0)		--		
Bromomethane (Methyl bromide)	ug/L	0.50	5.6		ND(0.50)		--		
Carbon tetrachloride	ug/L	0.20	0.79		ND(0.20)		--		
Chlorobenzene	ug/L	0.50	630		ND(0.50)		--		
Chloroform (Trichloromethane)	ug/L	1.0	2.4		ND(1.0)		--		
Chromatogram to baseline at nC50	none	0			ND(0)		ND(0)		

Table 4

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

			Sample Location:	MW4-21	MW5-21	MW5-21	MW6-21	MW6-21	MW7-21
			Sample ID (GW-11230721-Date-Sampler Initial-Well-Sample #):	-004	MW5-21-001	-003	MW6-21-004	-008	-006/-007 (dup)
			Sample Date:	09/20/21	07/26/21	9/20/21	07/26/21	9/20/21	9/20/21
Parameters	**Units**	**MDL**	**MECP Table 3 Standard**						
cis-1,2-Dichloroethene	ug/L	0.50	1.6		ND(0.50)		--		
cis-1,3-Dichloropropene	ug/L	0.30			--		--		
cis-1,3-Dichloropropene	ug/L	3.0			ND(3.0)		--		
cis-1,3-Dichloropropene	ug/L	4.1			--		--		
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	0.50	5.2		--		--		
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	3.0	5.2		ND(3.0)		--		
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	4.1	5.2		--		--		
Dibromochloromethane	ug/L	2.0	82000		ND(2.0)		--		
Dichlorodifluoromethane (CFC-12)	ug/L	2.0	4400		ND(2.0)		--		
Ethylbenzene	ug/L	0.50	2300	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50) / ND(0.50)
Hexane	ug/L	0.50	51		ND(0.50)		--		
m&p-Xylenes	ug/L	0.40			ND(0.40)		ND(0.40)		
Methyl tert butyl ether (MTBE)	ug/L	2.0	190		ND(2.0)		--		
Methylene chloride	ug/L	5.0	610		ND(5.0)		--		
o-Xylene	ug/L	0.30			ND(0.30)		ND(0.30)		
Styrene	ug/L	0.50	1300		ND(0.50)		--		
Tetrachloroethene	ug/L	0.50	1.6		ND(0.50)		--		
Toluene	ug/L	0.50	18000	2.33	0.75	0.54	ND(0.50)	ND(0.50)	ND(0.50) / ND(0.50)
trans-1,2-Dichloroethene	ug/L	0.50	1.6		ND(0.50)		--		
trans-1,3-Dichloropropene	ug/L	0.30			ND(0.30)		--		
Trichloroethene	ug/L	0.50	1.6		ND(0.50)		--		
Trichlorofluoromethane (CFC-11)	ug/L	5.0	2500		ND(5.0)		--		
Vinyl chloride	ug/L	0.50	0.5		ND(0.50)		--		
Xylenes (total)	ug/L	0.50	4200	1.72	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50) / ND(0.50)

Summary of Groundwater Analysis
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

Notes

1	MECP, Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, dated April 2011
BOLD	Concentration above 2011 MOE Table 3 standards for a non-potable groundwater and shallow soil condition for residential land use and coarse-textured soils (April 2011)
ND	Concentration not detected above Method Detection Limit
N/A	Parameter not Analyzed by laboratory
nv	No value

Table 5

Maximum Groundwater Parameter Concentrations
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

Parameters	Units	MDL	MECP Table 3 Standards	Maximum GW Concentration	Sample Identification (Location and #)
Field Readings					
Conductivity, field	mS/cm			5.69	MW3-21-005
pH, field	s.u.			7.81	MW5-21-001
Temperature, field	Deg C			21.47	MW1-21-003
Volume purged	L			97.5	MW5-21-001
General Chemistry					
Chloride	mg/L	2.5	2300000	440	MW2-21-002
Chloride	mg/L	5.0	2300000	2010	MW3-21-005
Conductivity	mS/cm	0.0030		6.45	MW3-21-005
Conductivity	umhos/cm	1.0		2200	MW5-21-001
Cyanide, weak acid dissociable	ug/L	2.0	66	ND(2.0)	ALL
Oxidation reduction potential (ORP)	millivolts	-1000		353	MW5-21-001
pH, lab	s.u.	0.10		8.05	MW5-21-001
Resistivity	ohm/cm	1.0		455	MW5-21-001
Sulfate	mg/L	1.5		97	MW5-21-001
Sulfide	mg/L	0.18		ND(0.18)	ALL
Metals					
Antimony (dissolved)	ug/L	1.0	20000	3.2	MW3-21-005
Arsenic (dissolved)	ug/L	1.0	1900	2.7	MW3-21-005
Barium (dissolved)	ug/L	1.0	29000	2150	MW3-21-005
Beryllium (dissolved)	ug/L	1.0	67	ND(1.0)	ALL
Boron (dissolved)	ug/L	100	45000	1640	MW3-21-005
Cadmium (dissolved)	ug/L	0.050	2.7	0.093	MW3-21-005
Chromium (dissolved)	ug/L	5.0	810	ND(5.0)	ALL
Chromium VI (hexavalent)	ug/L	0.50	140	ND(0.50)	ALL
Cobalt (dissolved)	ug/L	1.0	66	2.8	MW6-21-004
Copper (dissolved)	ug/L	2.0	87	2.5	MW1-21-003
Lead (dissolved)	ug/L	0.50	25	1.73	MW3-21-005
Mercury (dissolved)	ug/L	0.0050	0.29	0.0025	MW5-21-001
Molybdenum (dissolved)	ug/L	0.50	9200	20	MW2-21-002
Nickel (dissolved)	ug/L	5.0	490	9.7	MW1-21-003
Selenium (dissolved)	ug/L	0.50	63	ND(0.50)	ALL
Silver (dissolved)	ug/L	0.50	1.5	ND(0.50)	ALL
Sodium (dissolved)	ug/L	500	2300000	403000	MW6-21-004
Sodium (dissolved)	ug/L	5000	2300000	1510000	MW3-21-005
Thallium (dissolved)	ug/L	0.10	510	0.12	MW1-21-003
Uranium (dissolved)	ug/L	0.10	420	6.52	MW1-21-003
Vanadium (dissolved)	ug/L	5.0	250	ND(5.0)	ALL
Zinc (dissolved)	ug/L	10	1100	ND(10)	ALL
Petroleum Hydrocarbons (PHC F1-F4)					
Petroleum hydrocarbons F1 (C6-C10)	ug/L	25	750	ND(25)	ALL
Petroleum hydrocarbons F1 minus BTEX	ug/L	25	750	ND(25)	ALL
Petroleum hydrocarbons F2 (C10-C16)	ug/L	100	150	500	MW3-21-005
Petroleum hydrocarbons F2 minus Naphthalene	ug/L	100	150	240	MW5-21-001
Petroleum hydrocarbons F3 (C16-C34)	ug/L	250	500	960	MW3-21-005
Petroleum hydrocarbons F3 minus PAH	ug/L	250	500	270	MW5-21-001
Petroleum hydrocarbons F4 (C34-C50)	ug/L	250	500	410	MW3-21-005
Total Petroleum Hydrocarbons (C6-C50)	ug/L	370		1870	MW3-21-005
Polycyclic Aromatic Hydrocarbons (PAH)					
1-Methylnaphthalene	ug/L	0.020	1800	0.044	MW5-21-001
1-Methylnaphthalene/2-Methylnaphthalene	ug/L	0.028		0.084	MW5-21-001
2-Methylnaphthalene	ug/L	0.020	1800	0.04	MW5-21-001
Acenaphthene	ug/L	0.020	600	ND(0.020)	ALL
Acenaphthylene	ug/L	0.020	1.8	ND(0.020)	ALL
Anthracene	ug/L	0.024	2.4	ND(0.024)	ALL
Anthracene	ug/L	0.16	2.4	ND(0.16)	ALL
Benzo(a)anthracene	ug/L	0.020	4.7	0.031	MW5-21-001
Benzo(a)pyrene	ug/L	0.010	0.81	0.013	MW6-21-004
Benzo(a)pyrene	ug/L	0.015	0.81	ND(0.015)	ALL
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	0.020	0.75	ND(0.020)	ALL
Benzo(g,h,i)perylene	ug/L	0.020	0.2	ND(0.020)	ALL
Benzo(k)fluoranthene	ug/L	0.020	0.4	ND(0.020)	ALL
Chrysene	ug/L	0.020	1	0.027	MW5-21-001
Dibenz(a,h)anthracene	ug/L	0.020	0.52	ND(0.020)	ALL
Fluoranthene	ug/L	0.020	130	0.034	MW6-21-004
Fluorene	ug/L	0.020	400	0.21	MW5-21-001

Table 5

Maximum Groundwater Parameter Concentrations
Phase Two Environmental Site Assessment
1209 St. Laurent Boulevard and 1200 Lemieux Street
Ottawa, Ontario

Parameters	Units	MDL	MECP Table 3 Standards	Maximum GW Concentration	Sample Identification (Location and #)
Indeno(1,2,3-cd)pyrene	ug/L	0.020	0.2	ND(0.020)	ALL
Naphthalene	ug/L	0.050	1400	ND(0.050)	ALL
Phenanthrene	ug/L	0.020	580	0.365	MW5-21-001
Pyrene	ug/L	0.020	68	0.035	MW6-21-004
Volatile Organic Compounds (VOC)					
1,1,1,2-Tetrachloroethane	ug/L	0.50	3.3	ND(0.50)	ALL
1,1,1-Trichloroethane	ug/L	0.50	640	ND(0.50)	ALL
1,1,2,2-Tetrachloroethane	ug/L	0.50	3.2	ND(0.50)	ALL
1,1,2-Trichloroethane	ug/L	0.50	4.7	ND(0.50)	ALL
1,1-Dichloroethane	ug/L	0.50	320	ND(0.50)	ALL
1,1-Dichloroethene	ug/L	0.50	1.6	ND(0.50)	ALL
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.20	0.25	ND(0.20)	ALL
1,2-Dichlorobenzene	ug/L	0.50	4600	ND(0.50)	ALL
1,2-Dichloroethane	ug/L	0.50	1.6	ND(0.50)	ALL
1,2-Dichloropropane	ug/L	0.50	16	ND(0.50)	ALL
1,3-Dichlorobenzene	ug/L	0.50	9600	ND(0.50)	ALL
1,4-Dichlorobenzene	ug/L	0.50	8	ND(0.50)	ALL
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	20	470000	ND(20)	ALL
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	20	140000	ND(20)	ALL
Acetone	ug/L	30	130000	ND(30)	ALL
Benzene	ug/L	0.50	44	ND(0.50)	ALL
Bromodichloromethane	ug/L	2.0	85000	ND(2.0)	ALL
Bromoform	ug/L	5.0	380	ND(5.0)	ALL
Bromomethane (Methyl bromide)	ug/L	0.50	5.6	ND(0.50)	ALL
Carbon tetrachloride	ug/L	0.20	0.79	ND(0.20)	ALL
Chlorobenzene	ug/L	0.50	630	ND(0.50)	ALL
Chloroform (Trichloromethane)	ug/L	1.0	2.4	1.8	MW2-21-002
Chromatogram to baseline at nC50	none	0		ND(0)	ALL
cis-1,2-Dichloroethene	ug/L	0.50	1.6	ND(0.50)	ALL
cis-1,3-Dichloropropene	ug/L	0.30		ND(0.30)	ALL
cis-1,3-Dichloropropene	ug/L	3.0		ND(3.0)	ALL
cis-1,3-Dichloropropene	ug/L	4.1		ND(4.1)	ALL
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	0.50	5.2	ND(0.50)	ALL
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	3.0	5.2	ND(3.0)	ALL
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	ug/L	4.1	5.2	ND(4.1)	ALL
Dibromochloromethane	ug/L	2.0	82000	ND(2.0)	ALL
Dichlorodifluoromethane (CFC-12)	ug/L	2.0	4400	ND(2.0)	ALL
Ethylbenzene	ug/L	0.50	2300	ND(0.50)	ALL
Hexane	ug/L	0.50	51	ND(0.50)	ALL
m&p-Xylenes	ug/L	0.40		0.5	MW2-21-002
Methyl tert butyl ether (MTBE)	ug/L	2.0	190	ND(2.0)	ALL
Methylene chloride	ug/L	5.0	610	ND(5.0)	ALL
o-Xylene	ug/L	0.30		ND(0.30)	ALL
Styrene	ug/L	0.50	1300	ND(0.50)	ALL
Tetrachloroethene	ug/L	0.50	1.6	ND(0.50)	ALL
Toluene	ug/L	0.50	18000	0.75	MW5-21-001
trans-1,2-Dichloroethene	ug/L	0.50	1.6	ND(0.50)	ALL
trans-1,3-Dichloropropene	ug/L	0.30		ND(0.30)	ALL
Trichloroethene	ug/L	0.50	1.6	ND(0.50)	ALL
Trichlorofluoromethane (CFC-11)	ug/L	5.0	2500	ND(5.0)	ALL
Vinyl chloride	ug/L	0.50	0.5	ND(0.50)	ALL
Xylenes (total)	ug/L	0.50	4200	0.5	MW2-21-002

Notes

1	MECP, Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, dated April 2011
BOLD	Concentration above MECP Table 3 standards for a non-potable groundwater and shallow soil condition for residential land use and coarse-textured soils (April 2011)
ND	Concentration not detected above Method Detection Limit
N/A	Parameter not Analyzed by laboratory
nv	No value

Appendices

Appendix A

Borehole Logs

BOREHOLE REPORT

Borehole No. MW-1-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450263.5
Y : 5030050.1
Z : 68.04

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.022

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-14
Date (finish) : 2021-07-14

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	68.04		Ground surface							
0.08	67.97		TOPSOIL		SS-1A			0.4		
0.18	67.86		FILL, Sandy GRAVEL, grey, moist, compact		SS-1B	75	GSA	0.5	2-13 14-21	27
			FILL, Silty SAND, some gravel, brown, moist, compact		SS-2A		CA	0.1		
0.91	67.13		SAND, trace silt, brown, moist, compact		SS-2B	54	CA	0	10-10 11-9	21
1.52	66.52		Clayey silty SAND (TILL), some gravel, dark brown, moist to wet, compact		SS-3	58		0.2	3-7-15-11	22
2.26	65.78		contains cobbles and boulders		SS-4	63		0.2	8-11-9-8	20
					SS-5	33		0.2	8-10-5-3	15
					SS-6	0			11 50/11cm	R
4.27	63.77		SHALE with limestone interbeds, slightly weathered to fresh, black with grey bands, fair quality							
			4.75 m, vertical fracture		RC-1	94	UCS = 16.6 MPa			*51*
			5.44 m, becoming good quality		RC-2	100				*87*
5.92	62.12		End of borehole							

TESTS RESULTS: ○ Water content (%) △ C_u (Field, kPa); W_P W_L Atterberg limits (%) □ C_u (Lab, kPa); ● "N" Standard penetration test value; ▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90

Water level

Bentonite

Sand

2.022 m

Screen

See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-2-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450287.0
Y : 5030064.5
Z : 68.76

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.802

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-14
Date (finish) : 2021-07-14

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water content (%) △ C_u (Field, kPa); Atterberg limits (%) □ C_u (Lab, kPa); "N" Standard penetration test value; "N_C" Dynamic penetration test value; 10 20 30 40 50 60 70 80 90
0.00	68.76		Ground surface								
0.13	68.63		TOPSOIL								
			FILL, SAND and GRAVEL, trace silt, brown, moist, compact contains rootlets		SS-1	79		0.1	6-6-16-43	22	
0.76	68.00		SAND, trace silt, brown, moist		SS-2	91	w CA	0	7-12 11-10	23	
1.0					SS-3	71	w	0	4-6-6-6	12	
2.0											
2.29	66.47		Silty SAND (TILL), some gravel and clay, moist to wet, dark grey, loose to compact		SS-4	54	CA	0	3-5-8-7	13	
3.0					SS-5	91	GSA W_L-W_P w	0	3-4-5-9	9	
4.0					SS-6	79		0	2-8-14-37	22	
4.57	64.19		SHALE with limestone interbeds, highly weathered to fresh, black with grey bands, fair quality								
5.0					RC-1	98				*51*	
			5.44 m, clay seam 5.56 m, vertical fracture								
6.0			6.20 m, vertical fracture		RC-2	100	UCS = 15.4 MPa			*44*	
6.80	61.96		End of borehole								
7.0											

Bentonite
Sand
Screen
2.802 m
Water level

See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-3-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450313.6
Y : 5030060.2
Z : 68.74

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.77

Location plan :

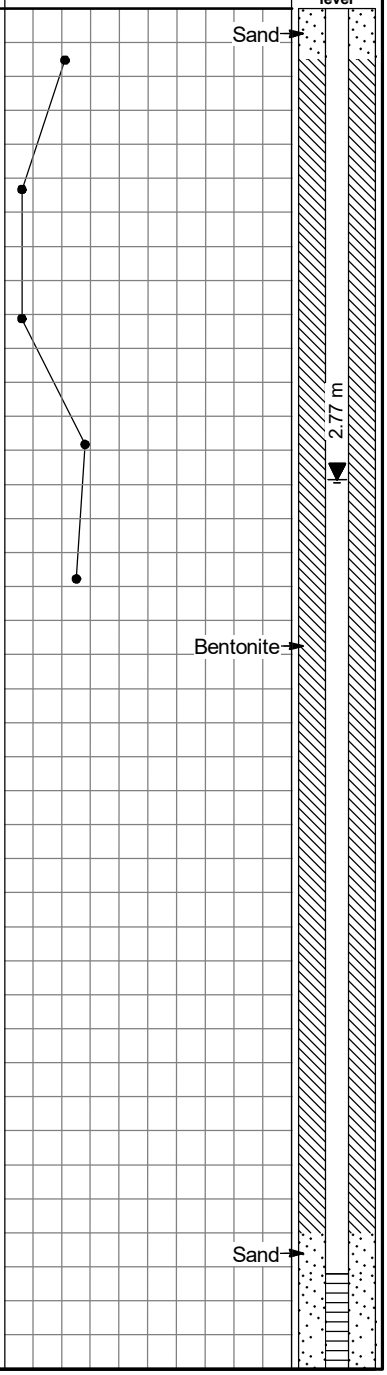
Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-16
Date (finish) : 2021-07-16

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	68.74		Ground surface							
0.04	68.70		ASPHALT FILL, SAND and GRAVEL, trace silt, grey, compact, moist		SS-1	41		7.7	15-15-6-9	21
0.86	67.88		FILL, Sandy SILT to silty SAND, grey, moist to wet, loose		SS-2A	75	CA	7.2	3-3-3-5	6
					SS-2B			6.3		
1.52	67.22		Clayey silt to silty CLAY (TILL), some gravel and sand, greenish-grey to brown, stiff		SS-3	38	GSA	0.5	1-3-3-6	6
2.29	66.45		Silty SAND (TILL), some gravel and clay, brown, compact to very dense Contains cobbles and boulders		SS-4	100		1.8	4-10 18-15	28
					SS-5	92		17.6	9-8-17-20	25
			Spoon refusal		SS-6	0			50	R
4.11	64.63		SHALE with limestone interbeds, highly weathered to fresh, dark grey thinly bedded, very poor quality 4.30 m, vertical fracture 4.50 m, becoming fair quality		RC-1	77				*0*
					RC-2	100				*71*
			6.00 m, becoming excellent to good quality		RC-3	100				*98*



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-3-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450313.6
Y : 5030060.2
Z : 68.74

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.77

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-16
Date (finish) : 2021-07-16

SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water level
8.00	60.74		Ground surface								
					RC-4	100	UCS = 13.5 MPa			88	
					RC-5	100				98	
					RC-6	77				45	
12.01	56.73		End of borehole								

○ Water content (%) △ C_u (Field, kPa)
W_P W_L Atterberg limits (%) □ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90

Screen

9.0
10.0
11.0
12.0
13.0
14.0
15.0

See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-4-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450275.7
Y : 5030016.5
Z : 68.10

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.278

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-15
Date (finish) : 2021-07-15

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

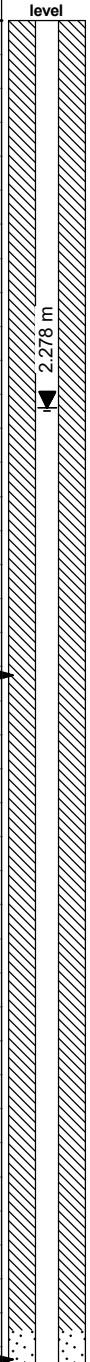
TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	68.10		Ground surface							
0.10	68.00		TOPSOIL							
			FILL, Gravelly SAND, some silt, brown, dry, compact		SS-1	58	CA	0	1-4-9-24	13
1.0					SS-2	0			10-8-7-18	15
1.52	66.58		FILL, Silty CLAY, some sand, trace gravel, brown, moist, stiff		SS-3	92	w	0.1	12-12 13-24	25
2.0										
2.29	65.81		Clayey silty SAND (TILL), some gravel, dark brown, moist, compact		SS-4	79		0.1	7-7-6-8	13
3.0										
3.20	64.90		Silty SAND (TILL), trace gravel and clay, grey, wet, dense		SS-5	75	GSA	0.1	11-13 23-30	36
4.0					SS-6	42	w	0.1	18-50/13cm	R
5.0					SS-7	0			50/13cm	R
5.99	62.11		Highly weathered, fractured SHALE							
6.0										
7.0										
7.44	60.66		SHALE with limestone interbeds, weathered to fresh, dark grey to black bands, fair quality 7.77 m, clay seam		RC-1	100				*0*

TESTS RESULTS: ○ Water content (%) △ C_u (Field, kPa); W_P W_L Atterberg limits (%) □ C_u (Lab, kPa); ● "N" Standard penetration test value; ▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90

Water level



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-4-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450275.7
Y : 5030016.5
Z : 68.10

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.278

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-15
Date (finish) : 2021-07-15

SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water content (%) △ C_u (Field, kPa); Atterberg limits (%) □ C_u (Lab, kPa); "N" Standard penetration test value; "N_C" Dynamic penetration test value; 10 20 30 40 50 60 70 80 90
8.00	60.10		Ground surface								
					RC-2	100				78	
9.0											
					RC-3	100				64	
10.0											
			10.49 m, becoming good to excellent quality								
11.0											
					RC-4	100	UCS = 17.7 MPa			90	
12.0											
12.07	56.03		End of borehole								
13.0											
14.0											
15.0											

Water level

Screen

BOREHOLE REPORT

Borehole No. MW-5-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450282.2
Y : 5030037.9
Z : 68.54

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.444

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-15
Date (finish) : 2021-07-15

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	68.54		Ground surface							
			TOPSOIL							
0.13	68.41		FILL, SAND and GRAVEL, trace silt, grey, moist		SS-1A	96		0	5-21	35
0.41	68.13		FILL, Silty SAND, trace gravel, brown, moist		SS-1B		CA	0	14-11	
					SS-2A		w	0		
0.89	67.65		Clayey SILT, trace sand and gavel, dark grey, moist, firm		SS-2B	75	CA	0	4-3-5-4	8
			1.52 m, becoming very stiff and wet		SS-3	79	W_L-W_P w	0	3-9-12-7	21
2.29	66.25		Silty CLAY (TILL), some sand and gravel, brown to grey, moist, stiff to very stiff Contains cobbles and boulders		SS-4	96		0	5-5-5-6	10
					SS-5	100	w	0	4-13 22-6	35
					SS-6A			0		
3.99	64.55		Silty SAND (TILL), some gravel, dark grey, wet, dense Contains cobbles and boulders		SS-6B	92	w	0	7-10 22-15	32
					SS-7	54		0	--	
5.18	63.36		SHALE with limestone interbeds, weathered to fresh, dark grey thinly bedded, very poor quality		RC-1	74				0
			6.07 m, clay seam							
			6.80 m, vertical fracture		RC-2	100				47

○ Water content (%) △ C_u (Field, kPa)
Atterberg limits (%) □ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90

Water level

2.444 m

Bentonite

See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-5-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450282.2
Y : 5030037.9
Z : 68.54

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.444

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-15
Date (finish) : 2021-07-15

SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water content (%) △ C_u (Field, kPa); Atterberg limits (%) □ C_u (Lab, kPa); "N" Standard penetration test value; "N_C" Dynamic penetration test value; 10 20 30 40 50 60 70 80 90
8.00	60.54		Ground surface								
					RC-3	100				75	
9.0											
					RC-4	100	UCS = 16.7 MPa			48	
10.0			9.85 m, clay seam								
11.0					RC-5	100				76	
12.0											
12.14	56.40		End of borehole								
13.0											
14.0											
15.0											

Sand

Screen

Water level

See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-6-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450311.0
Y : 5030037.1
Z : 69.11

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 2.523

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-16
Date (finish) : 2021-07-16

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

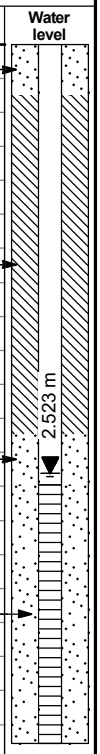
SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	69.11		Ground surface							
0.05	69.06		ASPHALT							
			FILL, SAND and GRAVEL, grey, dry, dense		SS-1	20		3	4-16 22-29	38
1.0					SS-2	29	CA	10.3	2-3-4-4	7
1.52	67.59		Silty CLAY (TILL), trace gravel, brown, moist, stiff		SS-3	71	W_L-W_P w	3.4	4-4-8-10	12
1.83	67.28		SAND and GRAVEL (TILL), grey, moist to wet, compact							
2.0					SS-4	92	CA	8.7	33-21-7-6	28
3.0										
3.05	66.06		Clayey silty SAND (TILL), grey, moist to wet, compact		SS-5	83	w	4.8	5-5-8-3	13
3.81	65.30		SAND and GRAVEL (TILL), grey, wet, dense to very dense		SS-6	33		5.9	21 50/13cm	R
4.0										
4.95	64.16		SHALE with limestone interbeds, thinly bedded, highly weathered to fresh, black with grey bands, fair quality		RC-1	100	UCS = 15.5 MPa			*51*
5.0										
6.0			6.17 m, becoming excellent quality		RC-2	97				*97*
6.91	62.20		End of borehole							
7.0										

TESTS RESULTS: ○ Water content (%) △ C_u (Field, kPa); Atterberg limits (%) □ C_u (Lab, kPa); ● "N" Standard penetration test value; ▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-7-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450331.5
Y : 5030032.3
Z : 69.33

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 3.421

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-16
Date (finish) : 2021-07-16

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

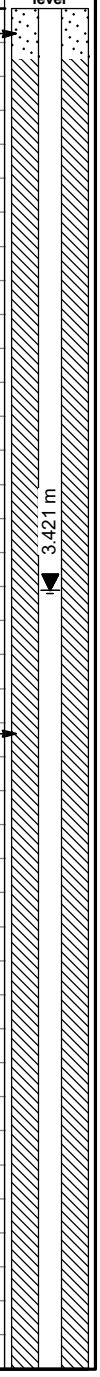
TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	69.33		Ground surface							
0.05	69.28		ASPHALT							
			FILL, Gravelly SAND, trace silt, grey, dry, compact		SS-1	33		3	3-10 11-10	21
1.0					SS-2	0			4-2-2-6	4
1.52	67.81		Clayey silty SAND (TILL), trace gravel, brown, moist, firm		SS-3	95		0.9	2-2-3-5	5
2.0										
2.29	67.04		Sandy SILT (TILL), some clay, trace gravel, grey, wet, stiff		SS-4	92	CA	2.7	5-6-9-8	15
3.0					SS-5	50	GSA W_L-W_P w	1.3	3-2-1-8	3
4.0					SS-6	0			8-8 50/10cm	R
4.06	65.27		SAND and GRAVEL (TILL), some clay, grey, wet, saturated							
4.57	64.76		SHALE with limestone interbeds, thinly bedded, moderately weathered to fresh, black with grey bands, poor quality		RC-1	100				*42*
5.0										
6.0			6.10 m, becoming fair quality		RC-2	100				*70*
7.0										

TESTS RESULTS: ○ Water content (%) △ C_u (Field, kPa); Atterberg limits (%) □ C_u (Lab, kPa); ● "N" Standard penetration test value; ▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90

Water level



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. MW-7-21

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: J. SCOTT VERIFIED BY: S. SOLEIMANI/ A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 450331.5
Y : 5030032.3
Z : 69.33

▼ - WATER LEVEL
Date : 2021-07-29
Depth (m) : 3.421

Location plan :

Borehole type : Auger 200mm
Core bit size :
Hammer type :
Energy ratio :
Date (start) : 2021-07-16
Date (finish) : 2021-07-16

SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
Remoulded
Intact
Diamond drilling
Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water level
8.00	61.33		Ground surface								
					RC-3	100				71	
											Sand
9.0											
					RC-4	100				52	
10.0											Screen
			10.5 m, becoming excellent quality								
11.0					RC-5	100				95	
12.0											
12.03	57.30		End of borehole								
13.0											
14.0											
15.0											

TESTS RESULTS: ○ Water content (%) △ C_u (Field, kPa); W_P W_L Atterberg limits (%) □ C_u (Lab, kPa); ● "N" Standard penetration test value; ▲ "N_C" Dynamic penetration test value

10 20 30 40 50 60 70 80 90

See the attached explicative note for the complete list of symbols and abbreviations

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: MW-1-21-A

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.0	0.03		Native (grass)				
				Granular Gravel				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

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REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: MW-1-21-B

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.0	0.035		Native (grass)				
				Granular Gravel				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

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REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: MW-2-21-A

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.0	0.035		Native (grass)				
				Granular Gravel				
1								
	0.5							
2								
3								
	1.0	1.00		Sand				
4								
5	1.5							
6								
	2.0	2.00		Clay (blue)				
7								
8								
	2.5							
9								
	3.0	3.00						
10								

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REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: MW-2-21-B

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.0	0.035		Native (grass)				
				Granular Gravel, trace sand				
1								
	0.5							
2								
3	0.9	0.90		Sand				
	1.0							
4								
5	1.5							
6	1.8	1.80		Clay				
	2.0							
7								
8	2.5							
9								
	3.0	3.00						
10								

File: N:\CA\OTTAWA\PROJECTS\661\11\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: MW-5-21-A

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.0	0.035		Native (grass)				
				Granular Gravel, trace clay				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

File: N:\CA\OTTAWA\PROJECTS\66\11\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: MW-5-21-B

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.0	0.03		Native (grass)				
				Granular Gravel, trace clay				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

File: N:\CA\OTTAWA\PROJECTS\661\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: P-1

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.1	0.06		Asphalt				
				Granular Gravel				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

File: N:\CA\OTTAWA\PROJECTS\661\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: P-2

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth (Feet)	Depth (Metres)	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.1	0.06		Asphalt				
				Granular Gravel				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

File: N:\CA\OTTAWA\PROJECTS\661\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: P-3

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.1	0.06		Asphalt				
				Granular Gravel, trace clay				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

File: N:\CA\OTTAWA\PROJECTS\661\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

REFERENCE No.: 11230721-A1

ENCLOSURE No.:

TEST PIT No.: P-4

ELEVATION: m

TEST PIT REPORT

CLIENT: CANDEREL

PROJECT: PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

LOCATION: 1209 ST. LAURENT BOULEVARD AND 1200 LEMIEUX STREET, OTTAWA, ONTARIO

DESCRIBED BY: DATE: 4 October 2021

CHECKED BY: DATE:

LEGEND

GSE - GRAB SAMPLE (environmental)
GS - GRAB SAMPLE (geotechnical)
Cu - SHEAR TEST
CHEM - CHEMICAL ANALYSIS
OVC - ORGANIC VAPOR CONCENTRATION
INF - INFILTRATION
▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m) BGS	Symbol	STRATIGRAPHY	Sample Type & Number	OVC ppm	Tests Type	▼ INF
	0.1	0.05		Asphalt				
				Granular Gravel				
1								
	0.5							
2								
3								
	1.0							
4								
5	1.5	1.50						
6								
	2.0							
7								
8								
	2.5							
9								
10	3.0							

File: N:\CA\OTTAWA\PROJECTS\661\11230721\DESSIN MTL\FINAL\11230721A1-LOG2.GPJ Library File: GHD_GEOTECH_V05.GLB Report: TEST PIT LOG Date: 2/12/21

Appendix B

Laboratory Certificates of Analysis

GHD Limited (Waterloo)
ATTN: Pascal Renella
455 Phillip St
Waterloo ON N2L3X2

Date Received: 16-JUL-21
Report Date: 30-IUL-21 06:02 (MT)
Version: FINAL

Client Phone: 519-884-0510

Certificate of Analysis

Lab Work Order #: L2615201

Project P.O. #: PENDING
Job Reference: 11230721-02
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-1 S-11230721-140721-JS-MW1-21-SS-2A							
Sampled By: J. SCOTT on 14-JUL-21 @ 08:50							
Matrix: SOIL							
Physical Tests							
% Moisture	11.9		0.25	%	21-JUL-21		
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	22-JUL-21	16	16
Benzene	0.0478		0.0068	ug/g	22-JUL-21	0.21	0.32
Bromodichloromethane	<0.050		0.050	ug/g	22-JUL-21	13	18
Bromoform	<0.050		0.050	ug/g	22-JUL-21	0.27	0.61
Bromomethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
Carbon tetrachloride	<0.050		0.050	ug/g	22-JUL-21	0.05	0.21
Chlorobenzene	<0.050		0.050	ug/g	22-JUL-21	2.4	2.4
Dibromochloromethane	<0.050		0.050	ug/g	22-JUL-21	9.4	13
Chloroform	<0.050		0.050	ug/g	22-JUL-21	0.05	0.47
1,2-Dibromoethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	3.4	6.8
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	4.8	9.6
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	0.083	0.2
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-JUL-21	16	16
1,1-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	3.5	17
1,2-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.05	0.064
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	3.4	55
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.084	1.3
Methylene Chloride	<0.050		0.050	ug/g	22-JUL-21	0.1	1.6
1,2-Dichloropropane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.16
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21		
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21		
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	22-JUL-21	0.05	0.18
Ethylbenzene	<0.018		0.018	ug/g	22-JUL-21	2	9.5
n-Hexane	<0.050		0.050	ug/g	22-JUL-21	2.8	46
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-JUL-21	16	70
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-JUL-21	1.7	31
MTBE	<0.050		0.050	ug/g	22-JUL-21	0.75	11
Styrene	<0.050		0.050	ug/g	22-JUL-21	0.7	34
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	0.058	0.087
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
Tetrachloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.28	4.5
Toluene	0.131		0.080	ug/g	22-JUL-21	2.3	68
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.38	6.1
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
Trichloroethylene	<0.010		0.010	ug/g	22-JUL-21	0.061	0.91
Trichlorofluoromethane	<0.050		0.050	ug/g	22-JUL-21	4	4
Vinyl chloride	<0.020		0.020	ug/g	22-JUL-21	0.02	0.032
o-Xylene	0.045		0.020	ug/g	22-JUL-21		
m+p-Xylenes	0.092		0.030	ug/g	22-JUL-21		
Xylenes (Total)	0.137		0.050	ug/g	22-JUL-21	3.1	26
Surrogate: 4-Bromofluorobenzene	88.1		50-140	%	22-JUL-21		
Surrogate: 1,4-Difluorobenzene	96.1		50-140	%	22-JUL-21		

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-1 S-11230721-140721-JS-MW1-21-SS-2A Sampled By: J. SCOTT on 14-JUL-21 @ 08:50 Matrix: SOIL							
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-JUL-21	55	55
F1-BTEX	<5.0		5.0	ug/g	22-JUL-21	55	55
F2 (C10-C16)	<10		10	ug/g	21-JUL-21	98	230
F3 (C16-C34)	<50		50	ug/g	21-JUL-21	300	1700
F4 (C34-C50)	<50		50	ug/g	21-JUL-21	2800	3300
Total Hydrocarbons (C6-C50)	<72		72	ug/g	22-JUL-21		
Chrom. to baseline at nC50	YES			No Unit	21-JUL-21		
Surrogate: 2-Bromobenzotrifluoride	86.9		60-140	%	21-JUL-21		
Surrogate: 3,4-Dichlorotoluene	77.5		60-140	%	22-JUL-21		
L2615201-2 S-11230721-140721-JS-MW1-21-SS-2B Sampled By: J. SCOTT on 14-JUL-21 @ 08:50 Matrix: SOIL						#1	#2
Physical Tests							
Conductivity	0.100		0.0040	mS/cm	27-JUL-21	0.7	1.4
% Moisture	5.90		0.25	%	21-JUL-21		
pH	7.89		0.10	pH units	23-JUL-21		
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	0.051	0.051
Saturated Paste Extractables							
SAR	0.22		0.10	SAR	27-JUL-21	5	12
Calcium (Ca)	12.2		0.50	mg/L	27-JUL-21		
Magnesium (Mg)	0.95		0.50	mg/L	27-JUL-21		
Sodium (Na)	2.99		0.50	mg/L	27-JUL-21		
Metals							
Antimony (Sb)	4.1		1.0	ug/g	27-JUL-21	7.5	40
Arsenic (As)	73.3		1.0	ug/g	27-JUL-21	*18	*18
Barium (Ba)	439		1.0	ug/g	27-JUL-21	*390	670
Beryllium (Be)	0.61		0.50	ug/g	27-JUL-21	4	8
Boron (B)	28.1		5.0	ug/g	27-JUL-21	120	120
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	27-JUL-21	1.5	2
Cadmium (Cd)	<0.50		0.50	ug/g	27-JUL-21	1.2	1.9
Chromium (Cr)	92.8		1.0	ug/g	27-JUL-21	160	160
Cobalt (Co)	6.1		1.0	ug/g	27-JUL-21	22	80
Copper (Cu)	55.1		1.0	ug/g	27-JUL-21	140	230
Lead (Pb)	12.3		1.0	ug/g	27-JUL-21	120	120
Mercury (Hg)	<0.0050		0.0050	ug/g	27-JUL-21	0.27	3.9
Molybdenum (Mo)	2.0		1.0	ug/g	27-JUL-21	6.9	40
Nickel (Ni)	15.7		1.0	ug/g	27-JUL-21	100	270
Selenium (Se)	<1.0		1.0	ug/g	27-JUL-21	2.4	5.5
Silver (Ag)	<0.20		0.20	ug/g	27-JUL-21	20	40
Thallium (Tl)	<0.50		0.50	ug/g	27-JUL-21	1	3.3
Uranium (U)	<1.0		1.0	ug/g	27-JUL-21	23	33
Vanadium (V)	233		1.0	ug/g	27-JUL-21	*86	*86
Zinc (Zn)	35.6		5.0	ug/g	27-JUL-21	340	340
Speciated Metals							

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	#2		
L2615201-2 S-11230721-140721-JS-MW1-21-SS-2B Sampled By: J. SCOTT on 14-JUL-21 @ 08:50 Matrix: SOIL									
Speciated Metals									
Chromium, Hexavalent	<0.20		0.20	ug/g	27-JUL-21	8	8		
L2615201-3 S-11230721-140721-JS-MW2-21-SS-2 Sampled By: J. SCOTT on 14-JUL-21 @ 12:45 Matrix: SOIL						#1	#2		
Physical Tests									
% Moisture	2.00		0.25	%	21-JUL-21				
Volatile Organic Compounds									
Acetone	<0.50		0.50	ug/g	22-JUL-21	16	16		
Benzene	<0.0068		0.0068	ug/g	22-JUL-21	0.21	0.32		
Bromodichloromethane	<0.050		0.050	ug/g	22-JUL-21	13	18		
Bromoform	<0.050		0.050	ug/g	22-JUL-21	0.27	0.61		
Bromomethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05		
Carbon tetrachloride	<0.050		0.050	ug/g	22-JUL-21	0.05	0.21		
Chlorobenzene	<0.050		0.050	ug/g	22-JUL-21	2.4	2.4		
Dibromochloromethane	<0.050		0.050	ug/g	22-JUL-21	9.4	13		
Chloroform	<0.050		0.050	ug/g	22-JUL-21	0.05	0.47		
1,2-Dibromoethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05		
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	3.4	6.8		
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	4.8	9.6		
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	0.083	0.2		
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-JUL-21	16	16		
1,1-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	3.5	17		
1,2-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05		
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.05	0.064		
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	3.4	55		
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.084	1.3		
Methylene Chloride	<0.050		0.050	ug/g	22-JUL-21	0.1	1.6		
1,2-Dichloropropane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.16		
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21				
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21				
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	22-JUL-21	0.05	0.18		
Ethylbenzene	<0.018		0.018	ug/g	22-JUL-21	2	9.5		
n-Hexane	<0.050		0.050	ug/g	22-JUL-21	2.8	46		
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-JUL-21	16	70		
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-JUL-21	1.7	31		
MTBE	<0.050		0.050	ug/g	22-JUL-21	0.75	11		
Styrene	<0.050		0.050	ug/g	22-JUL-21	0.7	34		
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	0.058	0.087		
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05		
Tetrachloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.28	4.5		
Toluene	<0.080		0.080	ug/g	22-JUL-21	2.3	68		
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.38	6.1		
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05		
Trichloroethylene	<0.010		0.010	ug/g	22-JUL-21	0.061	0.91		

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-3 S-11230721-140721-JS-MW2-21-SS-2 Sampled By: J. SCOTT on 14-JUL-21 @ 12:45 Matrix: SOIL							
Volatile Organic Compounds							
Trichlorofluoromethane	<0.050		0.050	ug/g	22-JUL-21	4	4
Vinyl chloride	<0.020		0.020	ug/g	22-JUL-21	0.02	0.032
o-Xylene	<0.020		0.020	ug/g	22-JUL-21		
m+p-Xylenes	<0.030		0.030	ug/g	22-JUL-21		
Xylenes (Total)	<0.050		0.050	ug/g	22-JUL-21	3.1	26
Surrogate: 4-Bromofluorobenzene	94.6		50-140	%	22-JUL-21		
Surrogate: 1,4-Difluorobenzene	101.4		50-140	%	22-JUL-21		
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-JUL-21	55	55
F1-BTEX	<5.0		5.0	ug/g	23-JUL-21	55	55
F2 (C10-C16)	<10		10	ug/g	23-JUL-21	98	230
F3 (C16-C34)	<50		50	ug/g	23-JUL-21	300	1700
F4 (C34-C50)	<50		50	ug/g	23-JUL-21	2800	3300
Total Hydrocarbons (C6-C50)	<72		72	ug/g	23-JUL-21		
Chrom. to baseline at nC50	YES			No Unit	23-JUL-21		
Surrogate: 2-Bromobenzotrifluoride	83.3		60-140	%	23-JUL-21		
Surrogate: 3,4-Dichlorotoluene	81.9		60-140	%	22-JUL-21		
L2615201-4 S-11230721-140721-JS-MW2-21-SS-4 Sampled By: J. SCOTT on 14-JUL-21 @ 13:01 Matrix: SOIL						#1	#2
Physical Tests							
Conductivity	0.377		0.0040	mS/cm	27-JUL-21	0.7	1.4
% Moisture	10.2		0.25	%	21-JUL-21		
pH	7.38		0.10	pH units	23-JUL-21		
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	0.051	0.051
Saturated Paste Extractables							
SAR	0.64		0.10	SAR	27-JUL-21	5	12
Calcium (Ca)	39.3		0.50	mg/L	27-JUL-21		
Magnesium (Mg)	3.66		0.50	mg/L	27-JUL-21		
Sodium (Na)	15.6		0.50	mg/L	27-JUL-21		
Metals							
Antimony (Sb)	3.4		1.0	ug/g	27-JUL-21	7.5	40
Arsenic (As)	37.7		1.0	ug/g	27-JUL-21	*18	*18
Barium (Ba)	222		1.0	ug/g	27-JUL-21	390	670
Beryllium (Be)	3.03		0.50	ug/g	27-JUL-21	4	8
Boron (B)	70.7		5.0	ug/g	27-JUL-21	120	120
Boron (B), Hot Water Ext.	0.13		0.10	ug/g	27-JUL-21	1.5	2
Cadmium (Cd)	1.08		0.50	ug/g	27-JUL-21	1.2	1.9
Chromium (Cr)	158		1.0	ug/g	27-JUL-21	160	160
Cobalt (Co)	9.6		1.0	ug/g	27-JUL-21	22	80
Copper (Cu)	151		1.0	ug/g	27-JUL-21	*140	230
Lead (Pb)	177		1.0	ug/g	27-JUL-21	*120	*120
Mercury (Hg)	0.0243		0.0050	ug/g	27-JUL-21	0.27	3.9
Molybdenum (Mo)	7.9		1.0	ug/g	27-JUL-21	*6.9	40

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-4 S-11230721-140721-JS-MW2-21-SS-4							
Sampled By: J. SCOTT on 14-JUL-21 @ 13:01							
Matrix: SOIL							
Metals							
Nickel (Ni)	42.9		1.0	ug/g	27-JUL-21	100	270
Selenium (Se)	2.5		1.0	ug/g	27-JUL-21	*2.4	5.5
Silver (Ag)	0.26		0.20	ug/g	27-JUL-21	20	40
Thallium (Tl)	<0.50		0.50	ug/g	27-JUL-21	1	3.3
Uranium (U)	6.6		1.0	ug/g	27-JUL-21	23	33
Vanadium (V)	46.8		1.0	ug/g	27-JUL-21	86	86
Zinc (Zn)	802		5.0	ug/g	27-JUL-21	*340	*340
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	27-JUL-21	8	8
L2615201-5 S-11230721-140721-JS-MW5-21-SS-1B							
Sampled By: J. SCOTT on 14-JUL-21 @ 16:54							
Matrix: SOIL							
Physical Tests							
% Moisture	9.02		0.25	%	21-JUL-21		
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	23-JUL-21	7.9	96
Acenaphthylene	<0.050		0.050	ug/g	23-JUL-21	0.15	0.15
Anthracene	<0.050		0.050	ug/g	23-JUL-21	0.67	0.67
Benzo(a)anthracene	<0.050		0.050	ug/g	23-JUL-21	0.5	0.96
Benzo(a)pyrene	<0.050		0.050	ug/g	23-JUL-21	0.3	0.3
Benzo(b&j)fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.78	0.96
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	23-JUL-21	6.6	9.6
Benzo(k)fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.78	0.96
Chrysene	<0.050		0.050	ug/g	23-JUL-21	7	9.6
Dibenz(a,h)anthracene	<0.050		0.050	ug/g	23-JUL-21	0.1	0.1
Fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.69	9.6
Fluorene	<0.050		0.050	ug/g	23-JUL-21	62	62
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	23-JUL-21	0.38	0.76
1+2-Methylnaphthalenes	<0.042		0.042	ug/g	23-JUL-21	0.99	76
1-Methylnaphthalene	<0.030		0.030	ug/g	23-JUL-21	0.99	76
2-Methylnaphthalene	<0.030		0.030	ug/g	23-JUL-21	0.99	76
Naphthalene	<0.013		0.013	ug/g	23-JUL-21	0.6	9.6
Phenanthrene	<0.046		0.046	ug/g	23-JUL-21	6.2	12
Pyrene	<0.050		0.050	ug/g	23-JUL-21	78	96
Surrogate: 2-Fluorobiphenyl	89.4		50-140	%	23-JUL-21		
Surrogate: d14-Terphenyl	91.8		50-140	%	23-JUL-21		
L2615201-6 S-11230721-140721-JS-MW5-21-SS-2B							
Sampled By: J. SCOTT on 14-JUL-21 @ 17:05							
Matrix: SOIL							
Physical Tests							
Conductivity	0.367		0.0040	mS/cm	27-JUL-21	0.7	1.4
% Moisture	18.1		0.25	%	21-JUL-21		
pH	6.95		0.10	pH units	23-JUL-21		

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-6 S-11230721-140721-JS-MW5-21-SS-2B							
Sampled By: J. SCOTT on 14-JUL-21 @ 17:05							
Matrix: SOIL							
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	0.051	0.051
Saturated Paste Extractables							
SAR	0.31		0.10	SAR	27-JUL-21	5	12
Calcium (Ca)	53.5		0.50	mg/L	27-JUL-21		
Magnesium (Mg)	5.73		0.50	mg/L	27-JUL-21		
Sodium (Na)	8.80		0.50	mg/L	27-JUL-21		
Metals							
Antimony (Sb)	1.9		1.0	ug/g	27-JUL-21	7.5	40
Arsenic (As)	109		1.0	ug/g	27-JUL-21	*18	*18
Barium (Ba)	304		1.0	ug/g	27-JUL-21	390	670
Beryllium (Be)	5.98		0.50	ug/g	27-JUL-21	*4	8
Boron (B)	97.2		5.0	ug/g	27-JUL-21	120	120
Boron (B), Hot Water Ext.	0.59		0.10	ug/g	27-JUL-21	1.5	2
Cadmium (Cd)	<0.50		0.50	ug/g	27-JUL-21	1.2	1.9
Chromium (Cr)	17.5		1.0	ug/g	27-JUL-21	160	160
Cobalt (Co)	3.1		1.0	ug/g	27-JUL-21	22	80
Copper (Cu)	51.2		1.0	ug/g	27-JUL-21	140	230
Lead (Pb)	3.9		1.0	ug/g	27-JUL-21	120	120
Mercury (Hg)	0.0606		0.0050	ug/g	27-JUL-21	0.27	3.9
Molybdenum (Mo)	1.6		1.0	ug/g	27-JUL-21	6.9	40
Nickel (Ni)	8.7		1.0	ug/g	27-JUL-21	100	270
Selenium (Se)	6.9		1.0	ug/g	27-JUL-21	*2.4	*5.5
Silver (Ag)	<0.20		0.20	ug/g	27-JUL-21	20	40
Thallium (Tl)	<0.50		0.50	ug/g	27-JUL-21	1	3.3
Uranium (U)	12.1		1.0	ug/g	27-JUL-21	23	33
Vanadium (V)	21.7		1.0	ug/g	27-JUL-21	86	86
Zinc (Zn)	21.2		5.0	ug/g	27-JUL-21	340	340
Speciated Metals							
Chromium, Hexavalent	0.51		0.20	ug/g	27-JUL-21	8	8
L2615201-7 S-11230721-150721-JS-TH1-21-GS-1							
Sampled By: J. SCOTT on 15-JUL-21 @ 09:30							
Matrix: SOIL							
Physical Tests							
Conductivity	0.130		0.0040	mS/cm	27-JUL-21	0.7	1.4
% Moisture	4.93		0.25	%	21-JUL-21		
pH	7.40		0.10	pH units	23-JUL-21		
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	0.051	0.051
Saturated Paste Extractables							
SAR	0.23		0.10	SAR	27-JUL-21	5	12
Calcium (Ca)	21.8		0.50	mg/L	27-JUL-21		
Magnesium (Mg)	1.30		0.50	mg/L	27-JUL-21		
Sodium (Na)	4.05		0.50	mg/L	27-JUL-21		
Metals							

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse) **#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)**

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-7 S-11230721-150721-JS-TH1-21-GS-1							
Sampled By: J. SCOTT on 15-JUL-21 @ 09:30							
Matrix: SOIL							
Metals							
Antimony (Sb)	17.9		1.0	ug/g	27-JUL-21	*7.5	40
Arsenic (As)	378		1.0	ug/g	27-JUL-21	*18	*18
Barium (Ba)	83.3		1.0	ug/g	27-JUL-21	390	670
Beryllium (Be)	<0.50		0.50	ug/g	27-JUL-21	4	8
Boron (B)	23.4		5.0	ug/g	27-JUL-21	120	120
Boron (B), Hot Water Ext.	0.16		0.10	ug/g	27-JUL-21	1.5	2
Cadmium (Cd)	<0.50		0.50	ug/g	27-JUL-21	1.2	1.9
Chromium (Cr)	86.1		1.0	ug/g	27-JUL-21	160	160
Cobalt (Co)	24.8		1.0	ug/g	27-JUL-21	*22	80
Copper (Cu)	160		1.0	ug/g	27-JUL-21	*140	230
Lead (Pb)	23.9		1.0	ug/g	27-JUL-21	120	120
Mercury (Hg)	0.0591		0.0050	ug/g	27-JUL-21	0.27	3.9
Molybdenum (Mo)	4.6		1.0	ug/g	27-JUL-21	6.9	40
Nickel (Ni)	46.0		1.0	ug/g	27-JUL-21	100	270
Selenium (Se)	<1.0		1.0	ug/g	27-JUL-21	2.4	5.5
Silver (Ag)	<0.20		0.20	ug/g	27-JUL-21	20	40
Thallium (Tl)	<0.50		0.50	ug/g	27-JUL-21	1	3.3
Uranium (U)	<1.0		1.0	ug/g	27-JUL-21	23	33
Vanadium (V)	146		1.0	ug/g	27-JUL-21	*86	*86
Zinc (Zn)	111		5.0	ug/g	27-JUL-21	340	340
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	27-JUL-21	8	8
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	22-JUL-21	0.21	0.32
Ethylbenzene	<0.018		0.018	ug/g	22-JUL-21	2	9.5
Toluene	<0.080		0.080	ug/g	22-JUL-21	2.3	68
o-Xylene	<0.020		0.020	ug/g	22-JUL-21		
m+p-Xylenes	<0.030		0.030	ug/g	22-JUL-21		
Xylenes (Total)	<0.050		0.050	ug/g	22-JUL-21	3.1	26
Surrogate: 4-Bromofluorobenzene	113.5		50-140	%	22-JUL-21		
Surrogate: 1,4-Difluorobenzene	105.7		50-140	%	22-JUL-21		
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-JUL-21	55	55
F1-BTEX	<5.0		5.0	ug/g	23-JUL-21	55	55
F2 (C10-C16)	<10		10	ug/g	23-JUL-21	98	230
F2-Naphth	<10		10	ug/g	23-JUL-21		
F3 (C16-C34)	<50		50	ug/g	23-JUL-21	300	1700
F3-PAH	<50		50	ug/g	23-JUL-21		
F4 (C34-C50)	<50		50	ug/g	23-JUL-21	2800	3300
Total Hydrocarbons (C6-C50)	<72		72	ug/g	23-JUL-21		
Chrom. to baseline at nC50	YES			No Unit	23-JUL-21		
Surrogate: 2-Bromobenzotrifluoride	85.1		60-140	%	23-JUL-21		
Surrogate: 3,4-Dichlorotoluene	94.4		60-140	%	22-JUL-21		
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	23-JUL-21	7.9	96
Acenaphthylene	<0.050		0.050	ug/g	23-JUL-21	0.15	0.15

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse) **#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)**

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-7 S-11230721-150721-JS-TH1-21-GS-1							
Sampled By: J. SCOTT on 15-JUL-21 @ 09:30							
Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Anthracene	<0.050		0.050	ug/g	23-JUL-21	0.67	0.67
Benzo(a)anthracene	<0.050		0.050	ug/g	23-JUL-21	0.5	0.96
Benzo(a)pyrene	<0.050		0.050	ug/g	23-JUL-21	0.3	0.3
Benzo(b&j)fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.78	0.96
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	23-JUL-21	6.6	9.6
Benzo(k)fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.78	0.96
Chrysene	<0.050		0.050	ug/g	23-JUL-21	7	9.6
Dibenz(a,h)anthracene	<0.050		0.050	ug/g	23-JUL-21	0.1	0.1
Fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.69	9.6
Fluorene	<0.050		0.050	ug/g	23-JUL-21	62	62
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	23-JUL-21	0.38	0.76
1+2-Methylnaphthalenes	<0.042		0.042	ug/g	23-JUL-21	0.99	76
1-Methylnaphthalene	<0.030		0.030	ug/g	23-JUL-21	0.99	76
2-Methylnaphthalene	<0.030		0.030	ug/g	23-JUL-21	0.99	76
Naphthalene	<0.013		0.013	ug/g	23-JUL-21	0.6	9.6
Phenanthrene	<0.046		0.046	ug/g	23-JUL-21	6.2	12
Pyrene	<0.050		0.050	ug/g	23-JUL-21	78	96
Surrogate: 2-Fluorobiphenyl	89.6		50-140	%	23-JUL-21		
Surrogate: d14-Terphenyl	90.4		50-140	%	23-JUL-21		
L2615201-8 S-11230721-150721-JS-TH2-21-GS-1							
Sampled By: J. SCOTT on 15-JUL-21 @ 09:30							
Matrix: SOIL							
Physical Tests							
Conductivity	0.155		0.0040	mS/cm	27-JUL-21	0.7	1.4
% Moisture	5.35		0.25	%	21-JUL-21		
pH	7.15		0.10	pH units	26-JUL-21		
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	0.051	0.051
Saturated Paste Extractables							
SAR	0.41		0.10	SAR	27-JUL-21	5	12
Calcium (Ca)	24.6		0.50	mg/L	27-JUL-21		
Magnesium (Mg)	1.27		0.50	mg/L	27-JUL-21		
Sodium (Na)	7.68		0.50	mg/L	27-JUL-21		
Metals							
Antimony (Sb)	27.9		1.0	ug/g	27-JUL-21	*7.5	40
Arsenic (As)	83.0		1.0	ug/g	27-JUL-21	*18	*18
Barium (Ba)	191		1.0	ug/g	27-JUL-21	390	670
Beryllium (Be)	1.40		0.50	ug/g	27-JUL-21	4	8
Boron (B)	36.1		5.0	ug/g	27-JUL-21	120	120
Boron (B), Hot Water Ext.	0.14		0.10	ug/g	27-JUL-21	1.5	2
Cadmium (Cd)	4.27		0.50	ug/g	27-JUL-21	*1.2	*1.9
Chromium (Cr)	294		1.0	ug/g	27-JUL-21	*160	*160
Cobalt (Co)	19.5		1.0	ug/g	27-JUL-21	22	80
Copper (Cu)	454		1.0	ug/g	27-JUL-21	*140	*230

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse) **#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)**

Sample Details Grouping	Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-8	S-11230721-150721-JS-TH2-21-GS-1							
Sampled By:	J. SCOTT on 15-JUL-21 @ 09:30							
Matrix:	SOIL							
Metals								
	Lead (Pb)	691		1.0	ug/g	27-JUL-21	*120	*120
	Mercury (Hg)	0.0325		0.0050	ug/g	27-JUL-21	0.27	3.9
	Molybdenum (Mo)	14.4		1.0	ug/g	27-JUL-21	*6.9	40
	Nickel (Ni)	106		1.0	ug/g	27-JUL-21	*100	270
	Selenium (Se)	1.7		1.0	ug/g	27-JUL-21	2.4	5.5
	Silver (Ag)	0.84		0.20	ug/g	27-JUL-21	20	40
	Thallium (Tl)	<0.50		0.50	ug/g	27-JUL-21	1	3.3
	Uranium (U)	2.0		1.0	ug/g	27-JUL-21	23	33
	Vanadium (V)	109		1.0	ug/g	27-JUL-21	*86	*86
	Zinc (Zn)	2010		5.0	ug/g	27-JUL-21	*340	*340
Speciated Metals								
	Chromium, Hexavalent	<0.20		0.20	ug/g	27-JUL-21	8	8
Volatile Organic Compounds								
	Acetone	<0.50		0.50	ug/g	22-JUL-21	16	16
	Benzene	<0.0068		0.0068	ug/g	22-JUL-21	0.21	0.32
	Bromodichloromethane	<0.050		0.050	ug/g	22-JUL-21	13	18
	Bromoform	<0.050		0.050	ug/g	22-JUL-21	0.27	0.61
	Bromomethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
	Carbon tetrachloride	<0.050		0.050	ug/g	22-JUL-21	0.05	0.21
	Chlorobenzene	<0.050		0.050	ug/g	22-JUL-21	2.4	2.4
	Dibromochloromethane	<0.050		0.050	ug/g	22-JUL-21	9.4	13
	Chloroform	<0.050		0.050	ug/g	22-JUL-21	0.05	0.47
	1,2-Dibromoethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
	1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	3.4	6.8
	1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	4.8	9.6
	1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	0.083	0.2
	Dichlorodifluoromethane	<0.050		0.050	ug/g	22-JUL-21	16	16
	1,1-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	3.5	17
	1,2-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
	1,1-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.05	0.064
	cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	3.4	55
	trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.084	1.3
	Methylene Chloride	<0.050		0.050	ug/g	22-JUL-21	0.1	1.6
	1,2-Dichloropropane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.16
	cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21		
	trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21		
	1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	26-JUL-21	0.05	0.18
	Ethylbenzene	<0.018		0.018	ug/g	22-JUL-21	2	9.5
	n-Hexane	<0.050		0.050	ug/g	22-JUL-21	2.8	46
	Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-JUL-21	16	70
	Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-JUL-21	1.7	31
	MTBE	<0.050		0.050	ug/g	22-JUL-21	0.75	11
	Styrene	<0.050		0.050	ug/g	22-JUL-21	0.7	34
	1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	0.058	0.087
	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-8 S-11230721-150721-JS-TH2-21-GS-1							
Sampled By: J. SCOTT on 15-JUL-21 @ 09:30							
Matrix: SOIL							
Volatile Organic Compounds							
Tetrachloroethylene	<0.050		0.050	ug/g	22-JUL-21	0.28	4.5
Toluene	<0.080		0.080	ug/g	22-JUL-21	2.3	68
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.38	6.1
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	0.05	0.05
Trichloroethylene	<0.010		0.010	ug/g	26-JUL-21	0.061	0.91
Trichlorofluoromethane	<0.050		0.050	ug/g	22-JUL-21	4	4
Vinyl chloride	<0.020		0.020	ug/g	22-JUL-21	0.02	0.032
o-Xylene	<0.020		0.020	ug/g	22-JUL-21		
m+p-Xylenes	<0.030		0.030	ug/g	22-JUL-21		
Xylenes (Total)	<0.050		0.050	ug/g	26-JUL-21	3.1	26
Surrogate: 4-Bromofluorobenzene	93.8		50-140	%	22-JUL-21		
Surrogate: 1,4-Difluorobenzene	100.7		50-140	%	22-JUL-21		
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-JUL-21	55	55
F1-BTEX	<5.0		5.0	ug/g	26-JUL-21	55	55
F2 (C10-C16)	<10		10	ug/g	23-JUL-21	98	230
F2-Naphth	<10		10	ug/g	26-JUL-21		
F3 (C16-C34)	<50		50	ug/g	23-JUL-21	300	1700
F3-PAH	<50		50	ug/g	26-JUL-21		
F4 (C34-C50)	<50		50	ug/g	23-JUL-21	2800	3300
Total Hydrocarbons (C6-C50)	<72		72	ug/g	26-JUL-21		
Chrom. to baseline at nC50	YES			No Unit	23-JUL-21		
Surrogate: 2-Bromobenzotrifluoride	82.9		60-140	%	23-JUL-21		
Surrogate: 3,4-Dichlorotoluene	66.1		60-140	%	22-JUL-21		
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	23-JUL-21	7.9	96
Acenaphthylene	<0.050		0.050	ug/g	23-JUL-21	0.15	0.15
Anthracene	<0.050		0.050	ug/g	23-JUL-21	0.67	0.67
Benzo(a)anthracene	<0.050		0.050	ug/g	23-JUL-21	0.5	0.96
Benzo(a)pyrene	<0.050		0.050	ug/g	23-JUL-21	0.3	0.3
Benzo(b&j)fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.78	0.96
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	23-JUL-21	6.6	9.6
Benzo(k)fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.78	0.96
Chrysene	<0.050		0.050	ug/g	23-JUL-21	7	9.6
Dibenz(a,h)anthracene	<0.050		0.050	ug/g	23-JUL-21	0.1	0.1
Fluoranthene	<0.050		0.050	ug/g	23-JUL-21	0.69	9.6
Fluorene	<0.050		0.050	ug/g	23-JUL-21	62	62
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	23-JUL-21	0.38	0.76
1+2-Methylnaphthalenes	<0.042		0.042	ug/g	23-JUL-21	0.99	76
1-Methylnaphthalene	<0.030		0.030	ug/g	23-JUL-21	0.99	76
2-Methylnaphthalene	<0.030		0.030	ug/g	23-JUL-21	0.99	76
Naphthalene	<0.013		0.013	ug/g	23-JUL-21	0.6	9.6
Phenanthrene	<0.046		0.046	ug/g	23-JUL-21	6.2	12
Pyrene	<0.050		0.050	ug/g	23-JUL-21	78	96
Surrogate: 2-Fluorobiphenyl	87.7		50-140	%	23-JUL-21		
Surrogate: d14-Terphenyl	88.9		50-140	%	23-JUL-21		

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2
L2615201-9 S-11230721-150721-JS-MW4-21-SS-1 Sampled By: J. SCOTT on 15-JUL-21 @ 13:10 Matrix: SOIL							
Physical Tests							
Conductivity	0.238		0.0040	mS/cm	28-JUL-21	0.7	1.4
% Moisture	6.66		0.25	%	21-JUL-21		
pH	7.35		0.10	pH units	22-JUL-21		
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-JUL-21	0.051	0.051
Saturated Paste Extractables							
SAR	0.52		0.10	SAR	28-JUL-21	5	12
Calcium (Ca)	36.4		0.50	mg/L	28-JUL-21		
Magnesium (Mg)	2.21		0.50	mg/L	28-JUL-21		
Sodium (Na)	11.9		0.50	mg/L	28-JUL-21		
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	29-JUL-21	7.5	40
Arsenic (As)	3.9		1.0	ug/g	29-JUL-21	18	18
Barium (Ba)	108		1.0	ug/g	29-JUL-21	390	670
Beryllium (Be)	<0.50		0.50	ug/g	29-JUL-21	4	8
Boron (B)	5.9		5.0	ug/g	29-JUL-21	120	120
Boron (B), Hot Water Ext.	0.17		0.10	ug/g	27-JUL-21	1.5	2
Cadmium (Cd)	<0.50		0.50	ug/g	29-JUL-21	1.2	1.9
Chromium (Cr)	36.7		1.0	ug/g	29-JUL-21	160	160
Cobalt (Co)	8.9		1.0	ug/g	29-JUL-21	22	80
Copper (Cu)	19.5		1.0	ug/g	29-JUL-21	140	230
Lead (Pb)	21.8		1.0	ug/g	29-JUL-21	120	120
Mercury (Hg)	0.0402		0.0050	ug/g	27-JUL-21	0.27	3.9
Molybdenum (Mo)	1.3		1.0	ug/g	29-JUL-21	6.9	40
Nickel (Ni)	24.9		1.0	ug/g	29-JUL-21	100	270
Selenium (Se)	<1.0		1.0	ug/g	29-JUL-21	2.4	5.5
Silver (Ag)	<0.20		0.20	ug/g	29-JUL-21	20	40
Thallium (Tl)	<0.50		0.50	ug/g	29-JUL-21	1	3.3
Uranium (U)	<1.0		1.0	ug/g	29-JUL-21	23	33
Vanadium (V)	39.4		1.0	ug/g	29-JUL-21	86	86
Zinc (Zn)	47.7		5.0	ug/g	29-JUL-21	340	340
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	23-JUL-21	8	8
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	20-JUL-21	16	16
Benzene	<0.0068		0.0068	ug/g	20-JUL-21	0.21	0.32
Bromodichloromethane	<0.050		0.050	ug/g	20-JUL-21	13	18
Bromoform	<0.050		0.050	ug/g	20-JUL-21	0.27	0.61
Bromomethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05
Carbon tetrachloride	<0.050		0.050	ug/g	20-JUL-21	0.05	0.21
Chlorobenzene	<0.050		0.050	ug/g	20-JUL-21	2.4	2.4
Dibromochloromethane	<0.050		0.050	ug/g	20-JUL-21	9.4	13
Chloroform	<0.050		0.050	ug/g	20-JUL-21	0.05	0.47
1,2-Dibromoethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05
1,2-Dichlorobenzene	<0.050		0.050	ug/g	20-JUL-21	3.4	6.8

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2		
L2615201-9 S-11230721-150721-JS-MW4-21-SS-1									
Sampled By: J. SCOTT on 15-JUL-21 @ 13:10									
Matrix: SOIL									
Volatile Organic Compounds									
1,3-Dichlorobenzene	<0.050		0.050	ug/g	20-JUL-21	4.8	9.6		
1,4-Dichlorobenzene	<0.050		0.050	ug/g	20-JUL-21	0.083	0.2		
Dichlorodifluoromethane	<0.050		0.050	ug/g	20-JUL-21	16	16		
1,1-Dichloroethane	<0.050		0.050	ug/g	20-JUL-21	3.5	17		
1,2-Dichloroethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
1,1-Dichloroethylene	<0.050		0.050	ug/g	20-JUL-21	0.05	0.064		
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	20-JUL-21	3.4	55		
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	20-JUL-21	0.084	1.3		
Methylene Chloride	<0.050		0.050	ug/g	20-JUL-21	0.1	1.6		
1,2-Dichloropropane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.16		
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	20-JUL-21				
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	20-JUL-21				
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	21-JUL-21	0.05	0.18		
Ethylbenzene	<0.018		0.018	ug/g	20-JUL-21	2	9.5		
n-Hexane	<0.050		0.050	ug/g	20-JUL-21	2.8	46		
Methyl Ethyl Ketone	<0.50		0.50	ug/g	20-JUL-21	16	70		
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	20-JUL-21	1.7	31		
MTBE	<0.050		0.050	ug/g	20-JUL-21	0.75	11		
Styrene	<0.050		0.050	ug/g	20-JUL-21	0.7	34		
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	20-JUL-21	0.058	0.087		
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
Tetrachloroethylene	<0.050		0.050	ug/g	20-JUL-21	0.28	4.5		
Toluene	<0.080		0.080	ug/g	20-JUL-21	2.3	68		
1,1,1-Trichloroethane	<0.050		0.050	ug/g	20-JUL-21	0.38	6.1		
1,1,2-Trichloroethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
Trichloroethylene	<0.010		0.010	ug/g	20-JUL-21	0.061	0.91		
Trichlorofluoromethane	<0.050		0.050	ug/g	20-JUL-21	4	4		
Vinyl chloride	<0.020		0.020	ug/g	20-JUL-21	0.02	0.032		
o-Xylene	<0.020		0.020	ug/g	20-JUL-21				
m+p-Xylenes	<0.030		0.030	ug/g	20-JUL-21				
Xylenes (Total)	<0.050		0.050	ug/g	21-JUL-21	3.1	26		
Surrogate: 4-Bromofluorobenzene	97.6		50-140	%	20-JUL-21				
Surrogate: 1,4-Difluorobenzene	114.1		50-140	%	20-JUL-21				
Hydrocarbons									
F1 (C6-C10)	<5.0		5.0	ug/g	20-JUL-21	55	55		
F1-BTEX	<5.0		5.0	ug/g	22-JUL-21	55	55		
F2 (C10-C16)	<10		10	ug/g	22-JUL-21	98	230		
F3 (C16-C34)	<50		50	ug/g	22-JUL-21	300	1700		
F4 (C34-C50)	<50		50	ug/g	22-JUL-21	2800	3300		
Total Hydrocarbons (C6-C50)	<72		72	ug/g	22-JUL-21				
Chrom. to baseline at nC50	YES			No Unit	22-JUL-21				
Surrogate: 2-Bromobenzotrifluoride	97.2		60-140	%	22-JUL-21				
Surrogate: 3,4-Dichlorotoluene	86.8		60-140	%	20-JUL-21				

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping	Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2		
L2615201-10	TRIP BLANK									
Sampled By:	J. SCOTT on 14-JUL-21									
Matrix:	SOIL									
Physical Tests										
	% Moisture	<0.25		0.25	%	21-JUL-21				
Volatile Organic Compounds										
	Acetone	<0.50		0.50	ug/g	20-JUL-21	16	16		
	Benzene	<0.0068		0.0068	ug/g	20-JUL-21	0.21	0.32		
	Bromodichloromethane	<0.050		0.050	ug/g	20-JUL-21	13	18		
	Bromoform	<0.050		0.050	ug/g	20-JUL-21	0.27	0.61		
	Bromomethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
	Carbon tetrachloride	<0.050		0.050	ug/g	20-JUL-21	0.05	0.21		
	Chlorobenzene	<0.050		0.050	ug/g	20-JUL-21	2.4	2.4		
	Dibromochloromethane	<0.050		0.050	ug/g	20-JUL-21	9.4	13		
	Chloroform	<0.050		0.050	ug/g	20-JUL-21	0.05	0.47		
	1,2-Dibromoethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
	1,2-Dichlorobenzene	<0.050		0.050	ug/g	20-JUL-21	3.4	6.8		
	1,3-Dichlorobenzene	<0.050		0.050	ug/g	20-JUL-21	4.8	9.6		
	1,4-Dichlorobenzene	<0.050		0.050	ug/g	20-JUL-21	0.083	0.2		
	Dichlorodifluoromethane	<0.050		0.050	ug/g	20-JUL-21	16	16		
	1,1-Dichloroethane	<0.050		0.050	ug/g	20-JUL-21	3.5	17		
	1,2-Dichloroethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
	1,1-Dichloroethylene	<0.050		0.050	ug/g	20-JUL-21	0.05	0.064		
	cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	20-JUL-21	3.4	55		
	trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	20-JUL-21	0.084	1.3		
	Methylene Chloride	<0.050		0.050	ug/g	20-JUL-21	0.1	1.6		
	1,2-Dichloropropane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.16		
	cis-1,3-Dichloropropene	<0.030		0.030	ug/g	20-JUL-21				
	trans-1,3-Dichloropropene	<0.030		0.030	ug/g	20-JUL-21				
	1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	23-JUL-21	0.05	0.18		
	Ethylbenzene	<0.018		0.018	ug/g	20-JUL-21	2	9.5		
	n-Hexane	<0.050		0.050	ug/g	20-JUL-21	2.8	46		
	Methyl Ethyl Ketone	<0.50		0.50	ug/g	20-JUL-21	16	70		
	Methyl Isobutyl Ketone	<0.50		0.50	ug/g	20-JUL-21	1.7	31		
	MTBE	<0.050		0.050	ug/g	20-JUL-21	0.75	11		
	Styrene	<0.050		0.050	ug/g	20-JUL-21	0.7	34		
	1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	20-JUL-21	0.058	0.087		
	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
	Tetrachloroethylene	<0.050		0.050	ug/g	20-JUL-21	0.28	4.5		
	Toluene	<0.080		0.080	ug/g	20-JUL-21	2.3	68		
	1,1,1-Trichloroethane	<0.050		0.050	ug/g	20-JUL-21	0.38	6.1		
	1,1,2-Trichloroethane	<0.050		0.050	ug/g	20-JUL-21	0.05	0.05		
	Trichloroethylene	<0.010		0.010	ug/g	20-JUL-21	0.061	0.91		
	Trichlorofluoromethane	<0.050		0.050	ug/g	20-JUL-21	4	4		
	Vinyl chloride	<0.020		0.020	ug/g	20-JUL-21	0.02	0.032		
	o-Xylene	<0.020		0.020	ug/g	20-JUL-21				
	m+p-Xylenes	<0.030		0.030	ug/g	20-JUL-21				
	Xylenes (Total)	<0.050		0.050	ug/g	23-JUL-21	3.1	26		
	Surrogate: 4-Bromofluorobenzene	92.0		50-140	%	20-JUL-21				
	Surrogate: 1,4-Difluorobenzene	106.5		50-140	%	20-JUL-21				

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Sample Details Grouping / Analyte	Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits #1	Guideline Limits #2		
L2615201-10 TRIP BLANK Sampled By: J. SCOTT on 14-JUL-21 Matrix: SOIL									
Hydrocarbons									
F1 (C6-C10)	<5.0		5.0	ug/g	20-JUL-21	55	55		
Surrogate: 3,4-Dichlorotoluene	83.5		60-140	%	20-JUL-21				

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T3-SOIL-RPI/ICC-Coarse

#1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

#2: T3-Soil-Ind/Com/Commu. Property Use (Coarse)

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference***
B-HWS-R511-WT	Soil	Boron-HWE-O.Reg 153/04 (July 2011)	HW EXTR, EPA 6010B

A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

BTX-511-HS-WT	Soil	BTEX-O.Reg 153/04 (July 2011)	SW846 8260

BTX is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CN-WAD-R511-WT	Soil	Cyanide (WAD)-O.Reg 153/04 (July 2011)	MOE 3015/APHA 4500CN I-WAD

The sample is extracted with a strong base for 16 hours, and then filtered. The filtrate is then distilled where the cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CR-CR6-IC-WT	Soil	Hexavalent Chromium in Soil	SW846 3060A/7199

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 7199, published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

EC-WT	Soil	Conductivity (EC)	MOEE E3138

A representative subsample is tumbled with de-ionized (DI) water. The ratio of water to soil is 2:1 v/w. After tumbling the sample is then analyzed by a conductivity meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

Reference Information

F1-HS-511-WT	Soil	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Soil	F2-F4-O.Reg 153/04 (July 2011)	CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from soil with 1:1 hexane:acetone using a rotary extractor. Extracts are treated with silica gel to remove polar organic interferences. F2, F3, & F4 are analyzed by GC-FID. F4G-sg is analyzed gravimetrically.

Notes:
1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where both F4 (C34-C50) and F4G-sg are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
7. F4G-sg cannot be added to the C6 to C50 hydrocarbon results to obtain an estimate of total extractable hydrocarbons.
8. This method is validated for use.
9. Data from analysis of validation and quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram, unless otherwise indicated.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HG-200.2-CVAA-WT	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-200.2-CCMS-WT	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020B (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). For tests intended to support Ontario regulations, the <2mm fraction is ground to pass through a 0.355 mm sieve. Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

METHYLNAPS-CALC-WT	Soil	ABN-Calculated Parameters	SW846 8270
MOISTURE-WT	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
PAH-511-WT	Soil	PAH-O.Reg 153/04 (July 2011)	SW846 3510/8270

A representative sub-sample of soil is fortified with deuterium-labelled surrogates and a mechanical shaking techniqueis used to extract the sample with a mixture of methanol and toluene. The extracts are concentrated and analyzed by GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PH-WT	Soil	pH	MOEE E3137A

A minimum 10g portion of the sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil and then analyzed using a pH meter and electrode.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

Reference Information

SAR-R511-WT	Soil	SAR-O.Reg 153/04 (July 2011)	SW846 6010C

A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

VOC-1,3-DCP-CALC-WT	Soil	Regulation 153 VOCs	SW8260B/SW8270C
VOC-511-HS-WT	Soil	VOC-O.Reg 153/04 (July 2011)	SW846 8260 (511)

Soil and sediment samples are extracted in methanol and analyzed by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

XYLENES-SUM-CALC-WT	Soil	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

*** ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA		

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guideline limits are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	**Soil**							
Batch R5530016								
WG3584146-4 DUP		**L2618688-2**						
Boron (B), Hot Water Ext.		0.22	0.20		ug/g	8.5	30	27-JUL-21
WG3584146-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			108.6		%		70-130	27-JUL-21
WG3584146-3 LCS								
Boron (B), Hot Water Ext.			101.0		%		70-130	27-JUL-21
WG3584146-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	27-JUL-21
Batch R5530223								
WG3584176-4 DUP		**L2615093-2**						
Boron (B), Hot Water Ext.		<0.10	<0.10	RPD-NA	ug/g	N/A	30	27-JUL-21
WG3584176-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			112.8		%		70-130	27-JUL-21
WG3584176-3 LCS								
Boron (B), Hot Water Ext.			98.1		%		70-130	27-JUL-21
WG3584176-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	27-JUL-21
BTX-511-HS-WT	**Soil**							
Batch R5527098								
WG3580109-4 DUP		**WG3580109-3**						
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	22-JUL-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	22-JUL-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-JUL-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	22-JUL-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	22-JUL-21
WG3580109-2 LCS								
Benzene			106.2		%		70-130	22-JUL-21
Ethylbenzene			92.9		%		70-130	22-JUL-21
m+p-Xylenes			93.8		%		70-130	22-JUL-21
o-Xylene			94.2		%		70-130	22-JUL-21
Toluene			97.7		%		70-130	22-JUL-21
WG3580109-1 MB								
Benzene			<0.0068		ug/g		0.0068	22-JUL-21
Ethylbenzene			<0.018		ug/g		0.018	22-JUL-21
m+p-Xylenes			<0.030		ug/g		0.03	22-JUL-21
o-Xylene			<0.020		ug/g		0.02	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Soil**							
Batch R5527098								
WG3580109-1 MB								
Toluene			<0.080		ug/g		0.08	22-JUL-21
Surrogate: 1,4-Difluorobenzene			110.3		%		50-140	22-JUL-21
Surrogate: 4-Bromofluorobenzene			118.3		%		50-140	22-JUL-21
WG3580109-5 MS		**WG3580109-3**						
Benzene			103.1		%		60-140	22-JUL-21
Ethylbenzene			87.9		%		60-140	22-JUL-21
m+p-Xylenes			91.1		%		60-140	22-JUL-21
o-Xylene			89.2		%		60-140	22-JUL-21
Toluene			95.9		%		60-140	22-JUL-21
CN-WAD-R511-WT	**Soil**							
Batch R5527584								
WG3579806-3 DUP		**L2615201-7**						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	22-JUL-21
WG3579806-2 LCS								
Cyanide, Weak Acid Diss			80.6		%		80-120	22-JUL-21
WG3579806-1 MB								
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	22-JUL-21
WG3579806-4 MS		**L2615201-7**						
Cyanide, Weak Acid Diss			86.2		%		70-130	22-JUL-21
Batch R5528318								
WG3581076-3 DUP		**L2615652-3**						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	23-JUL-21
WG3581076-2 LCS								
Cyanide, Weak Acid Diss			82.4		%		80-120	23-JUL-21
WG3581076-1 MB								
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	23-JUL-21
WG3581076-4 MS		**L2615652-3**						
Cyanide, Weak Acid Diss			91.8		%		70-130	23-JUL-21
CR-CR6-IC-WT	**Soil**							
Batch R5528019								
WG3580722-4 CRM		**WT-SQC012**						
Chromium, Hexavalent			86.3		%		70-130	23-JUL-21
WG3580722-3 DUP		**L2615356-3**						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	23-JUL-21
WG3580722-2 LCS								
Chromium, Hexavalent			101.0		%		80-120	23-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT	**Soil**							
Batch R5528019								
WG3580722-1 MB								
Chromium, Hexavalent			<0.20		ug/g		0.2	23-JUL-21
Batch R5530948								
WG3582822-4 CRM		**WT-SQC012**						
Chromium, Hexavalent			83.0		%		70-130	27-JUL-21
WG3582822-3 DUP		**L2615201-2**						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	27-JUL-21
WG3582822-2 LCS								
Chromium, Hexavalent			93.4		%		80-120	27-JUL-21
WG3582822-1 MB								
Chromium, Hexavalent			<0.20		ug/g		0.2	27-JUL-21
EC-WT	**Soil**							
Batch R5530279								
WG3584169-4 DUP		**WG3584169-3**						
Conductivity		0.100	0.0971		mS/cm	3.3	20	27-JUL-21
WG3584169-2 IRM		**WT SAR4**						
Conductivity			101.0		%		70-130	27-JUL-21
WG3584835-1 LCS								
Conductivity			94.8		%		90-110	27-JUL-21
WG3584169-1 MB								
Conductivity			<0.0040		mS/cm		0.004	27-JUL-21
Batch R5530912								
WG3584913-4 DUP		**WG3584913-3**						
Conductivity		0.636	0.628		mS/cm	1.3	20	28-JUL-21
WG3584913-2 IRM		**WT SAR4**						
Conductivity			102.6		%		70-130	28-JUL-21
WG3585442-1 LCS								
Conductivity			101.2		%		90-110	28-JUL-21
WG3584913-1 MB								
Conductivity			<0.0040		mS/cm		0.004	28-JUL-21
F1-HS-511-WT	**Soil**							
Batch R5525470								
WG3578334-4 DUP		**WG3578334-3**						
F1 (C6-C10)		9.3	8.3		ug/g	12	30	20-JUL-21
WG3578334-2 LCS								
F1 (C6-C10)			109.8		%		80-120	20-JUL-21
WG3578334-1 MB								

Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Soil**							
Batch R5525470								
WG3578334-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	20-JUL-21
Surrogate: 3,4-Dichlorotoluene			98.1		%		60-140	20-JUL-21
WG3578334-5 MS		**WG3578334-3**						
F1 (C6-C10)			122.5		%		60-140	20-JUL-21
Batch R5527046								
WG3580081-4 DUP		**WG3580081-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	22-JUL-21
WG3580081-2 LCS								
F1 (C6-C10)			96.1		%		80-120	22-JUL-21
WG3580081-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	22-JUL-21
Surrogate: 3,4-Dichlorotoluene			93.8		%		60-140	22-JUL-21
WG3580081-5 MS		**WG3580081-3**						
F1 (C6-C10)			97.2		%		60-140	22-JUL-21
Batch R5527098								
WG3580109-4 DUP		**WG3580109-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	22-JUL-21
WG3580109-2 LCS								
F1 (C6-C10)			93.4		%		80-120	22-JUL-21
WG3580109-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	22-JUL-21
Surrogate: 3,4-Dichlorotoluene			92.0		%		60-140	22-JUL-21
WG3580109-5 MS		**WG3580109-3**						
F1 (C6-C10)			94.1		%		60-140	22-JUL-21
F2-F4-511-WT	**Soil**							
Batch R5526744								
WG3580054-7 DUP		**WG3580054-9**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	21-JUL-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	21-JUL-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	21-JUL-21
WG3580054-6 LCS								
F2 (C10-C16)			86.6		%		80-120	21-JUL-21
F3 (C16-C34)			83.2		%		80-120	21-JUL-21
F4 (C34-C50)			75.9	LCS-L	%		80-120	21-JUL-21
WG3580054-5 MB								
F2 (C10-C16)			<10		ug/g		10	21-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R5526744								
WG3580054-5 MB								
F3 (C16-C34)			<50		ug/g		50	21-JUL-21
F4 (C34-C50)			<50		ug/g		50	21-JUL-21
Surrogate: 2-Bromobenzotrifluoride			81.4		%		60-140	21-JUL-21
WG3580054-8 MS		**WG3580054-9**						
F2 (C10-C16)			85.8		%		60-140	21-JUL-21
F3 (C16-C34)			86.9		%		60-140	21-JUL-21
F4 (C34-C50)			99.5		%		60-140	21-JUL-21
Batch R5527385								
WG3580045-3 DUP		**WG3580045-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	22-JUL-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-21
WG3580045-2 LCS								
F2 (C10-C16)			84.3		%		80-120	22-JUL-21
F3 (C16-C34)			86.3		%		80-120	22-JUL-21
F4 (C34-C50)			91.9		%		80-120	22-JUL-21
WG3580045-1 MB								
F2 (C10-C16)			<10		ug/g		10	22-JUL-21
F3 (C16-C34)			<50		ug/g		50	22-JUL-21
F4 (C34-C50)			<50		ug/g		50	22-JUL-21
Surrogate: 2-Bromobenzotrifluoride			88.7		%		60-140	22-JUL-21
WG3580045-4 MS		**WG3580045-5**						
F2 (C10-C16)			92.2		%		60-140	22-JUL-21
F3 (C16-C34)			96.3		%		60-140	22-JUL-21
F4 (C34-C50)			95.7		%		60-140	22-JUL-21
HG-200.2-CVAA-WT	**Soil**							
Batch R5529682								
WG3584161-2 CRM		**WT-SS-2**						
Mercury (Hg)			94.2		%		70-130	27-JUL-21
WG3584161-6 DUP		**WG3584161-5**						
Mercury (Hg)		0.0249	0.0228		ug/g	8.8	40	27-JUL-21
WG3584161-3 LCS								
Mercury (Hg)			99.0		%		80-120	27-JUL-21
WG3584161-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	27-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-WT	**Soil**							
Batch R5529772								
WG3583868-2 CRM		**WT-SS-2**						
Mercury (Hg)			85.6		%		70-130	27-JUL-21
WG3583868-6 DUP		**WG3583868-5**						
Mercury (Hg)		0.0122	0.0120		ug/g	1.8	40	27-JUL-21
WG3583868-3 LCS								
Mercury (Hg)			100.5		%		80-120	27-JUL-21
WG3583868-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	27-JUL-21
MET-200.2-CCMS-WT	**Soil**							
Batch R5531763								
WG3584161-2 CRM		**WT-SS-2**						
Antimony (Sb)			114.6		%		70-130	27-JUL-21
Arsenic (As)			109.8		%		70-130	27-JUL-21
Barium (Ba)			115.9		%		70-130	27-JUL-21
Beryllium (Be)			115.7		%		70-130	27-JUL-21
Boron (B)			10.2		mg/kg		3.5-13.5	27-JUL-21
Cadmium (Cd)			111.7		%		70-130	27-JUL-21
Chromium (Cr)			120.3		%		70-130	27-JUL-21
Cobalt (Co)			116.8		%		70-130	27-JUL-21
Copper (Cu)			112.6		%		70-130	27-JUL-21
Lead (Pb)			110.0		%		70-130	27-JUL-21
Molybdenum (Mo)			111.8		%		70-130	27-JUL-21
Nickel (Ni)			116.2		%		70-130	27-JUL-21
Selenium (Se)			0.17		mg/kg		0-0.34	27-JUL-21
Silver (Ag)			94.6		%		70-130	27-JUL-21
Thallium (Tl)			0.083		mg/kg		0.029-0.129	27-JUL-21
Uranium (U)			110.4		%		70-130	27-JUL-21
Vanadium (V)			119.1		%		70-130	27-JUL-21
Zinc (Zn)			111.4		%		70-130	27-JUL-21
WG3584161-6 DUP		**WG3584161-5**						
Antimony (Sb)		<0.10	<0.10	RPD-NA	ug/g	N/A	30	27-JUL-21
Arsenic (As)		2.07	1.72		ug/g	18	30	27-JUL-21
Barium (Ba)		58.7	54.9		ug/g	6.7	40	27-JUL-21
Beryllium (Be)		0.39	0.31		ug/g	20	30	27-JUL-21
Boron (B)		9.5	8.7		ug/g	8.7	30	27-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5531763								
WG3584161-6 DUP		**WG3584161-5**						
Cadmium (Cd)		0.084	0.067		ug/g	22	30	27-JUL-21
Chromium (Cr)		17.0	15.0		ug/g	12	30	27-JUL-21
Cobalt (Co)		4.68	4.18		ug/g	11	30	27-JUL-21
Copper (Cu)		8.60	7.53		ug/g	13	30	27-JUL-21
Lead (Pb)		6.08	5.44		ug/g	11	40	27-JUL-21
Molybdenum (Mo)		0.20	0.22		ug/g	11	40	27-JUL-21
Nickel (Ni)		10.5	9.42		ug/g	11	30	27-JUL-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	27-JUL-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	27-JUL-21
Thallium (Tl)		0.101	0.092		ug/g	9.3	30	27-JUL-21
Uranium (U)		0.598	0.540		ug/g	10	30	27-JUL-21
Vanadium (V)		26.6	23.8		ug/g	11	30	27-JUL-21
Zinc (Zn)		29.2	25.5		ug/g	14	30	27-JUL-21
WG3584161-4 LCS								
Antimony (Sb)			105.7		%		80-120	27-JUL-21
Arsenic (As)			105.9		%		80-120	27-JUL-21
Barium (Ba)			102.3		%		80-120	27-JUL-21
Beryllium (Be)			99.3		%		80-120	27-JUL-21
Boron (B)			93.6		%		80-120	27-JUL-21
Cadmium (Cd)			103.1		%		80-120	27-JUL-21
Chromium (Cr)			105.6		%		80-120	27-JUL-21
Cobalt (Co)			106.9		%		80-120	27-JUL-21
Copper (Cu)			103.2		%		80-120	27-JUL-21
Lead (Pb)			98.9		%		80-120	27-JUL-21
Molybdenum (Mo)			99.6		%		80-120	27-JUL-21
Nickel (Ni)			105.3		%		80-120	27-JUL-21
Selenium (Se)			103.0		%		80-120	27-JUL-21
Silver (Ag)			69.6	RRQC	%		80-120	27-JUL-21
Thallium (Tl)			103.1		%		80-120	27-JUL-21
Uranium (U)			97.6		%		80-120	27-JUL-21
Vanadium (V)			107.7		%		80-120	27-JUL-21
Zinc (Zn)			99.7		%		80-120	27-JUL-21

COMMENTS: RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.

WG3584161-1 MB

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5531763								
WG3584161-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	27-JUL-21
Arsenic (As)			<0.10		mg/kg		0.1	27-JUL-21
Barium (Ba)			<0.50		mg/kg		0.5	27-JUL-21
Beryllium (Be)			<0.10		mg/kg		0.1	27-JUL-21
Boron (B)			<5.0		mg/kg		5	27-JUL-21
Cadmium (Cd)			<0.020		mg/kg		0.02	27-JUL-21
Chromium (Cr)			<0.50		mg/kg		0.5	27-JUL-21
Cobalt (Co)			<0.10		mg/kg		0.1	27-JUL-21
Copper (Cu)			<0.50		mg/kg		0.5	27-JUL-21
Lead (Pb)			<0.50		mg/kg		0.5	27-JUL-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	27-JUL-21
Nickel (Ni)			<0.50		mg/kg		0.5	27-JUL-21
Selenium (Se)			<0.20		mg/kg		0.2	27-JUL-21
Silver (Ag)			<0.10		mg/kg		0.1	27-JUL-21
Thallium (Tl)			<0.050		mg/kg		0.05	27-JUL-21
Uranium (U)			<0.050		mg/kg		0.05	27-JUL-21
Vanadium (V)			<0.20		mg/kg		0.2	27-JUL-21
Zinc (Zn)			<2.0		mg/kg		2	27-JUL-21
Batch R5533477								
WG3586103-2 CRM		**WT-SS-2**						
Antimony (Sb)			95.0		%		70-130	29-JUL-21
Arsenic (As)			109.5		%		70-130	29-JUL-21
Barium (Ba)			98.8		%		70-130	29-JUL-21
Beryllium (Be)			108.4		%		70-130	29-JUL-21
Boron (B)			9.2		mg/kg		3.5-13.5	29-JUL-21
Cadmium (Cd)			104.1		%		70-130	29-JUL-21
Chromium (Cr)			108.8		%		70-130	29-JUL-21
Cobalt (Co)			105.5		%		70-130	29-JUL-21
Copper (Cu)			104.9		%		70-130	29-JUL-21
Lead (Pb)			98.8		%		70-130	29-JUL-21
Molybdenum (Mo)			100.0		%		70-130	29-JUL-21
Nickel (Ni)			103.6		%		70-130	29-JUL-21
Selenium (Se)			0.11		mg/kg		0-0.34	29-JUL-21
Silver (Ag)			76.2		%		70-130	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5533477								
WG3586103-2 CRM		**WT-SS-2**						
Thallium (Tl)			0.069		mg/kg		0.029-0.129	29-JUL-21
Uranium (U)			91.3		%		70-130	29-JUL-21
Vanadium (V)			108.2		%		70-130	29-JUL-21
Zinc (Zn)			97.6		%		70-130	29-JUL-21
WG3586103-4 DUP		**L2615040-11**						
Antimony (Sb)		<1.0	<1.0	RPD-NA	ug/g	N/A	30	29-JUL-21
Arsenic (As)		3.7	4.3		ug/g	16	30	29-JUL-21
Barium (Ba)		41.2	49.2		ug/g	18	40	29-JUL-21
Beryllium (Be)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	29-JUL-21
Boron (B)		7.4	8.7		ug/g	17	30	29-JUL-21
Cadmium (Cd)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	29-JUL-21
Chromium (Cr)		15.6	18.4		ug/g	16	30	29-JUL-21
Cobalt (Co)		5.7	6.6		ug/g	15	30	29-JUL-21
Copper (Cu)		16.6	18.9		ug/g	13	30	29-JUL-21
Lead (Pb)		12.0	13.4		ug/g	12	40	29-JUL-21
Molybdenum (Mo)		<1.0	<1.0	RPD-NA	ug/g	N/A	40	29-JUL-21
Nickel (Ni)		12.2	13.8		ug/g	13	30	29-JUL-21
Selenium (Se)		<1.0	<1.0	RPD-NA	ug/g	N/A	30	29-JUL-21
Silver (Ag)		<0.20	<0.20	RPD-NA	ug/g	N/A	40	29-JUL-21
Thallium (Tl)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	29-JUL-21
Uranium (U)		<1.0	<1.0	RPD-NA	ug/g	N/A	30	29-JUL-21
Vanadium (V)		31.3	36.2		ug/g	15	30	29-JUL-21
Zinc (Zn)		67.5	76.9		ug/g	13	30	29-JUL-21
WG3586103-3 LCS								
Antimony (Sb)			102.3		%		80-120	29-JUL-21
Arsenic (As)			102.1		%		80-120	29-JUL-21
Barium (Ba)			101.2		%		80-120	29-JUL-21
Beryllium (Be)			90.6		%		80-120	29-JUL-21
Boron (B)			86.9		%		80-120	29-JUL-21
Cadmium (Cd)			99.5		%		80-120	29-JUL-21
Chromium (Cr)			98.6		%		80-120	29-JUL-21
Cobalt (Co)			100.2		%		80-120	29-JUL-21
Copper (Cu)			99.8		%		80-120	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5533477								
WG3586103-3 LCS								
Lead (Pb)			97.6		%		80-120	29-JUL-21
Molybdenum (Mo)			101.3		%		80-120	29-JUL-21
Nickel (Ni)			98.2		%		80-120	29-JUL-21
Selenium (Se)			100.0		%		80-120	29-JUL-21
Silver (Ag)			98.9		%		80-120	29-JUL-21
Thallium (Tl)			95.2		%		80-120	29-JUL-21
Uranium (U)			90.2		%		80-120	29-JUL-21
Vanadium (V)			101.7		%		80-120	29-JUL-21
Zinc (Zn)			96.1		%		80-120	29-JUL-21
WG3586103-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	29-JUL-21
Arsenic (As)			<0.10		mg/kg		0.1	29-JUL-21
Barium (Ba)			<0.50		mg/kg		0.5	29-JUL-21
Beryllium (Be)			<0.10		mg/kg		0.1	29-JUL-21
Boron (B)			<5.0		mg/kg		5	29-JUL-21
Cadmium (Cd)			<0.020		mg/kg		0.02	29-JUL-21
Chromium (Cr)			<0.50		mg/kg		0.5	29-JUL-21
Cobalt (Co)			<0.10		mg/kg		0.1	29-JUL-21
Copper (Cu)			<0.50		mg/kg		0.5	29-JUL-21
Lead (Pb)			<0.50		mg/kg		0.5	29-JUL-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	29-JUL-21
Nickel (Ni)			<0.50		mg/kg		0.5	29-JUL-21
Selenium (Se)			<0.20		mg/kg		0.2	29-JUL-21
Silver (Ag)			<0.10		mg/kg		0.1	29-JUL-21
Thallium (Tl)			<0.050		mg/kg		0.05	29-JUL-21
Uranium (U)			<0.050		mg/kg		0.05	29-JUL-21
Vanadium (V)			<0.20		mg/kg		0.2	29-JUL-21
Zinc (Zn)			<2.0		mg/kg		2	29-JUL-21
MOISTURE-WT	**Soil**							
Batch R5526137								
WG3579761-15 DUP		**L2614756-3**						
% Moisture		21.1	21.3		%	1.2	20	21-JUL-21
WG3579761-14 LCS								
% Moisture			100.4		%		90-110	21-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	**Soil**							
Batch R5526137								
WG3579761-13 MB								
% Moisture			<0.25		%		0.25	21-JUL-21
Batch R5526138								
WG3579564-3 DUP		**L2615093-1**						
% Moisture		9.44	9.59		%	1.6	20	21-JUL-21
WG3579564-2 LCS								
% Moisture			101.8		%		90-110	21-JUL-21
WG3579564-1 MB								
% Moisture			<0.25		%		0.25	21-JUL-21
Batch R5526204								
WG3580042-3 DUP		**L2609073-1**						
% Moisture		2.81	2.79		%	0.8	20	21-JUL-21
WG3580042-2 LCS								
% Moisture			101.2		%		90-110	21-JUL-21
WG3580042-1 MB								
% Moisture			<0.25		%		0.25	21-JUL-21
PAH-511-WT	**Soil**							
Batch R5528113								
WG3580344-3 DUP		**WG3580344-5**						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	23-JUL-21
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	23-JUL-21
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(b&j)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	23-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5528113								
WG3580344-3 DUP		**WG3580344-5**						
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	23-JUL-21
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
WG3580344-2 LCS								
1-Methylnaphthalene			96.9		%		50-140	23-JUL-21
2-Methylnaphthalene			94.0		%		50-140	23-JUL-21
Acenaphthene			92.4		%		50-140	23-JUL-21
Acenaphthylene			91.5		%		50-140	23-JUL-21
Anthracene			84.6		%		50-140	23-JUL-21
Benzo(a)anthracene			97.2		%		50-140	23-JUL-21
Benzo(a)pyrene			82.4		%		50-140	23-JUL-21
Benzo(b&j)fluoranthene			89.1		%		50-140	23-JUL-21
Benzo(g,h,i)perylene			94.1		%		50-140	23-JUL-21
Benzo(k)fluoranthene			90.4		%		50-140	23-JUL-21
Chrysene			97.1		%		50-140	23-JUL-21
Dibenz(a,h)anthracene			95.2		%		50-140	23-JUL-21
Fluoranthene			92.4		%		50-140	23-JUL-21
Fluorene			93.4		%		50-140	23-JUL-21
Indeno(1,2,3-cd)pyrene			97.8		%		50-140	23-JUL-21
Naphthalene			90.7		%		50-140	23-JUL-21
Phenanthrene			93.3		%		50-140	23-JUL-21
Pyrene			91.8		%		50-140	23-JUL-21
WG3580344-1 MB								
1-Methylnaphthalene			<0.030		ug/g		0.03	23-JUL-21
2-Methylnaphthalene			<0.030		ug/g		0.03	23-JUL-21
Acenaphthene			<0.050		ug/g		0.05	23-JUL-21
Acenaphthylene			<0.050		ug/g		0.05	23-JUL-21
Anthracene			<0.050		ug/g		0.05	23-JUL-21
Benzo(a)anthracene			<0.050		ug/g		0.05	23-JUL-21
Benzo(a)pyrene			<0.050		ug/g		0.05	23-JUL-21
Benzo(b&j)fluoranthene			<0.050		ug/g		0.05	23-JUL-21
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	23-JUL-21
Benzo(k)fluoranthene			<0.050		ug/g		0.05	23-JUL-21
Chrysene			<0.050		ug/g		0.05	23-JUL-21
Dibenz(a,h)anthracene			<0.050		ug/g		0.05	23-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5528113								
WG3580344-1 MB								
Fluoranthene			<0.050		ug/g		0.05	23-JUL-21
Fluorene			<0.050		ug/g		0.05	23-JUL-21
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	23-JUL-21
Naphthalene			<0.013		ug/g		0.013	23-JUL-21
Phenanthrene			<0.046		ug/g		0.046	23-JUL-21
Pyrene			<0.050		ug/g		0.05	23-JUL-21
Surrogate: 2-Fluorobiphenyl			85.8		%		50-140	23-JUL-21
Surrogate: d14-Terphenyl			86.7		%		50-140	23-JUL-21
WG3580344-4 MS		**WG3580344-5**						
1-Methylnaphthalene			99.5		%		50-140	23-JUL-21
2-Methylnaphthalene			96.5		%		50-140	23-JUL-21
Acenaphthene			94.2		%		50-140	23-JUL-21
Acenaphthylene			91.3		%		50-140	23-JUL-21
Anthracene			85.7		%		50-140	23-JUL-21
Benzo(a)anthracene			97.9		%		50-140	23-JUL-21
Benzo(a)pyrene			83.3		%		50-140	23-JUL-21
Benzo(b&j)fluoranthene			92.3		%		50-140	23-JUL-21
Benzo(g,h,i)perylene			93.9		%		50-140	23-JUL-21
Benzo(k)fluoranthene			92.3		%		50-140	23-JUL-21
Chrysene			100.8		%		50-140	23-JUL-21
Dibenz(a,h)anthracene			94.8		%		50-140	23-JUL-21
Fluoranthene			93.5		%		50-140	23-JUL-21
Fluorene			94.5		%		50-140	23-JUL-21
Indeno(1,2,3-cd)pyrene			97.2		%		50-140	23-JUL-21
Naphthalene			93.4		%		50-140	23-JUL-21
Phenanthrene			96.6		%		50-140	23-JUL-21
Pyrene			92.7		%		50-140	23-JUL-21
PH-WT	**Soil**							
Batch R5527496								
WG3580085-1 DUP		**L2615203-32**						
pH		7.98	7.99	J	pH units	0.01	0.3	22-JUL-21
WG3581448-1 LCS								
pH			6.95		pH units		6.9-7.1	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-WT	**Soil**							
Batch R5528997								
WG3580632-2 DUP		**L2615201-7**						
pH		7.40	7.44	J	pH units	0.04	0.3	23-JUL-21
WG3583403-1 LCS								
pH			6.99		pH units		6.9-7.1	23-JUL-21
Batch R5529383								
WG3580570-3 DUP		**L2615583-3**						
pH		7.95	8.02	J	pH units	0.07	0.3	26-JUL-21
WG3583492-1 LCS								
pH			6.96		pH units		6.9-7.1	26-JUL-21
SAR-R511-WT	**Soil**							
Batch R5530344								
WG3584169-4 DUP		**WG3584169-3**						
Calcium (Ca)		12.2	12.1		mg/L	0.8	30	27-JUL-21
Sodium (Na)		2.99	2.95		mg/L	1.3	30	27-JUL-21
Magnesium (Mg)		0.95	0.91		mg/L	4.6	30	27-JUL-21
WG3584169-2 IRM		**WT SAR4**						
Calcium (Ca)			97.7		%		70-130	27-JUL-21
Sodium (Na)			94.0		%		70-130	27-JUL-21
Magnesium (Mg)			97.4		%		70-130	27-JUL-21
WG3584169-5 LCS								
Calcium (Ca)			106.3		%		80-120	27-JUL-21
Sodium (Na)			109.6		%		80-120	27-JUL-21
Magnesium (Mg)			105.2		%		80-120	27-JUL-21
WG3584169-1 MB								
Calcium (Ca)			<0.50		mg/L		0.5	27-JUL-21
Sodium (Na)			<0.50		mg/L		0.5	27-JUL-21
Magnesium (Mg)			<0.50		mg/L		0.5	27-JUL-21
Batch R5530829								
WG3584913-4 DUP		**WG3584913-3**						
Calcium (Ca)		9.93	10.0		mg/L	0.7	30	28-JUL-21
Sodium (Na)		120	120		mg/L	0.0	30	28-JUL-21
Magnesium (Mg)		0.88	0.84		mg/L	4.3	30	28-JUL-21
WG3584913-2 IRM		**WT SAR4**						
Calcium (Ca)			103.3		%		70-130	28-JUL-21
Sodium (Na)			90.3		%		70-130	28-JUL-21
Magnesium (Mg)			100.0		%		70-130	28-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	**Soil**							
Batch R5530829								
WG3584913-5 LCS								
Calcium (Ca)			101.7		%		80-120	28-JUL-21
Sodium (Na)			105.4		%		80-120	28-JUL-21
Magnesium (Mg)			101.0		%		80-120	28-JUL-21
WG3584913-1 MB								
Calcium (Ca)			<0.50		mg/L		0.5	28-JUL-21
Sodium (Na)			<0.50		mg/L		0.5	28-JUL-21
Magnesium (Mg)			<0.50		mg/L		0.5	28-JUL-21
VOC-511-HS-WT	**Soil**							
Batch R5525470								
WG3578334-4 DUP		**WG3578334-3**						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-JUL-21
Benzene		0.109	0.102		ug/g	6.5	40	20-JUL-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-JUL-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5525470								
WG3578334-4 DUP		**WG3578334-3**						
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Ethylbenzene		0.483	0.458		ug/g	5.3	40	20-JUL-21
n-Hexane		0.179	0.163		ug/g	9.0	40	20-JUL-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
m+p-Xylenes		1.38	1.31		ug/g	5.6	40	20-JUL-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-JUL-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-JUL-21
o-Xylene		0.371	0.351		ug/g	5.7	40	20-JUL-21
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Toluene		0.482	0.455		ug/g	5.8	40	20-JUL-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-JUL-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	20-JUL-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-JUL-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-JUL-21
WG3578334-2 LCS								
1,1,1,2-Tetrachloroethane			106.5		%		60-130	20-JUL-21
1,1,2,2-Tetrachloroethane			96.3		%		60-130	20-JUL-21
1,1,1-Trichloroethane			110.5		%		60-130	20-JUL-21
1,1,2-Trichloroethane			97.7		%		60-130	20-JUL-21
1,1-Dichloroethane			109.7		%		60-130	20-JUL-21
1,1-Dichloroethylene			106.3		%		60-130	20-JUL-21
1,2-Dibromoethane			100.8		%		70-130	20-JUL-21
1,2-Dichlorobenzene			103.7		%		70-130	20-JUL-21
1,2-Dichloroethane			103.9		%		60-130	20-JUL-21
1,2-Dichloropropane			107.1		%		70-130	20-JUL-21
1,3-Dichlorobenzene			105.1		%		70-130	20-JUL-21
1,4-Dichlorobenzene			105.5		%		70-130	20-JUL-21
Acetone			105.2		%		60-140	20-JUL-21
Benzene			106.5		%		70-130	20-JUL-21
Bromodichloromethane			115.9		%		50-140	20-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5525470								
WG3578334-2 LCS								
Bromoform			103.2		%		70-130	20-JUL-21
Bromomethane			93.6		%		50-140	20-JUL-21
Carbon tetrachloride			111.1		%		70-130	20-JUL-21
Chlorobenzene			107.2		%		70-130	20-JUL-21
Chloroform			111.5		%		70-130	20-JUL-21
cis-1,2-Dichloroethylene			110.8		%		70-130	20-JUL-21
cis-1,3-Dichloropropene			105.5		%		70-130	20-JUL-21
Dibromochloromethane			97.2		%		60-130	20-JUL-21
Dichlorodifluoromethane			66.6		%		50-140	20-JUL-21
Ethylbenzene			108.9		%		70-130	20-JUL-21
n-Hexane			102.4		%		70-130	20-JUL-21
Methylene Chloride			106.0		%		70-130	20-JUL-21
MTBE			105.1		%		70-130	20-JUL-21
m+p-Xylenes			109.8		%		70-130	20-JUL-21
Methyl Ethyl Ketone			113.4		%		60-140	20-JUL-21
Methyl Isobutyl Ketone			100.9		%		60-140	20-JUL-21
o-Xylene			116.6		%		70-130	20-JUL-21
Styrene			114.9		%		70-130	20-JUL-21
Tetrachloroethylene			110.3		%		60-130	20-JUL-21
Toluene			107.3		%		70-130	20-JUL-21
trans-1,2-Dichloroethylene			110.6		%		60-130	20-JUL-21
trans-1,3-Dichloropropene			105.7		%		70-130	20-JUL-21
Trichloroethylene			111.9		%		60-130	20-JUL-21
Trichlorofluoromethane			103.6		%		50-140	20-JUL-21
Vinyl chloride			92.6		%		60-140	20-JUL-21
WG3578334-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	20-JUL-21
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	20-JUL-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	20-JUL-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	20-JUL-21
1,1-Dichloroethane			<0.050		ug/g		0.05	20-JUL-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	20-JUL-21
1,2-Dibromoethane			<0.050		ug/g		0.05	20-JUL-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	20-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5525470								
WG3578334-1 MB								
1,2-Dichloroethane			<0.050		ug/g		0.05	20-JUL-21
1,2-Dichloropropane			<0.050		ug/g		0.05	20-JUL-21
1,3-Dichlorobenzene			<0.050		ug/g		0.05	20-JUL-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	20-JUL-21
Acetone			<0.50		ug/g		0.5	20-JUL-21
Benzene			<0.0068		ug/g		0.0068	20-JUL-21
Bromodichloromethane			<0.050		ug/g		0.05	20-JUL-21
Bromoform			<0.050		ug/g		0.05	20-JUL-21
Bromomethane			<0.050		ug/g		0.05	20-JUL-21
Carbon tetrachloride			<0.050		ug/g		0.05	20-JUL-21
Chlorobenzene			<0.050		ug/g		0.05	20-JUL-21
Chloroform			<0.050		ug/g		0.05	20-JUL-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	20-JUL-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	20-JUL-21
Dibromochloromethane			<0.050		ug/g		0.05	20-JUL-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	20-JUL-21
Ethylbenzene			<0.018		ug/g		0.018	20-JUL-21
n-Hexane			<0.050		ug/g		0.05	20-JUL-21
Methylene Chloride			<0.050		ug/g		0.05	20-JUL-21
MTBE			<0.050		ug/g		0.05	20-JUL-21
m+p-Xylenes			<0.030		ug/g		0.03	20-JUL-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	20-JUL-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	20-JUL-21
o-Xylene			<0.020		ug/g		0.02	20-JUL-21
Styrene			<0.050		ug/g		0.05	20-JUL-21
Tetrachloroethylene			<0.050		ug/g		0.05	20-JUL-21
Toluene			<0.080		ug/g		0.08	20-JUL-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	20-JUL-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	20-JUL-21
Trichloroethylene			<0.010		ug/g		0.01	20-JUL-21
Trichlorofluoromethane			<0.050		ug/g		0.05	20-JUL-21
Vinyl chloride			<0.020		ug/g		0.02	20-JUL-21
Surrogate: 1,4-Difluorobenzene			122.3		%		50-140	20-JUL-21

Quality Control Report

Workorder: L2615201 Report Date: 30-JUL-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5525470								
WG3578334-1 MB								
Surrogate: 4-Bromofluorobenzene			104.0		%		50-140	20-JUL-21
WG3578334-5 MS		**WG3578334-3**						
1,1,1,2-Tetrachloroethane			117.3		%		50-140	20-JUL-21
1,1,2,2-Tetrachloroethane			108.8		%		50-140	20-JUL-21
1,1,1-Trichloroethane			120.4		%		50-140	20-JUL-21
1,1,2-Trichloroethane			110.2		%		50-140	20-JUL-21
1,1-Dichloroethane			120.6		%		50-140	20-JUL-21
1,1-Dichloroethylene			120.6		%		50-140	20-JUL-21
1,2-Dibromoethane			113.9		%		50-140	20-JUL-21
1,2-Dichlorobenzene			113.0		%		50-140	20-JUL-21
1,2-Dichloroethane			117.0		%		50-140	20-JUL-21
1,2-Dichloropropane			118.3		%		50-140	20-JUL-21
1,3-Dichlorobenzene			113.5		%		50-140	20-JUL-21
1,4-Dichlorobenzene			114.1		%		50-140	20-JUL-21
Acetone			119.6		%		50-140	20-JUL-21
Benzene			116.5		%		50-140	20-JUL-21
Bromodichloromethane			127.5		%		50-140	20-JUL-21
Bromoform			116.6		%		50-140	20-JUL-21
Bromomethane			113.6		%		50-140	20-JUL-21
Carbon tetrachloride			120.6		%		50-140	20-JUL-21
Chlorobenzene			117.5		%		50-140	20-JUL-21
Chloroform			121.8		%		50-140	20-JUL-21
cis-1,2-Dichloroethylene			122.3		%		50-140	20-JUL-21
cis-1,3-Dichloropropene			117.7		%		50-140	20-JUL-21
Dibromochloromethane			108.9		%		50-140	20-JUL-21
Dichlorodifluoromethane			103.1		%		50-140	20-JUL-21
Ethylbenzene			116.7		%		50-140	20-JUL-21
n-Hexane			117.7		%		50-140	20-JUL-21
Methylene Chloride			115.4		%		50-140	20-JUL-21
MTBE			115.8		%		50-140	20-JUL-21
m+p-Xylenes			116.8		%		50-140	20-JUL-21
Methyl Ethyl Ketone			128.1		%		50-140	20-JUL-21
Methyl Isobutyl Ketone			115.4		%		50-140	20-JUL-21
o-Xylene			126.0		%		50-140	20-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5525470								
WG3578334-5 MS		**WG3578334-3**						
Styrene			126.8		%		50-140	20-JUL-21
Tetrachloroethylene			118.7		%		50-140	20-JUL-21
Toluene			115.4		%		50-140	20-JUL-21
trans-1,2-Dichloroethylene			122.5		%		50-140	20-JUL-21
trans-1,3-Dichloropropene			120.1		%		50-140	20-JUL-21
Trichloroethylene			121.5		%		50-140	20-JUL-21
Trichlorofluoromethane			120.6		%		50-140	20-JUL-21
Vinyl chloride			116.3		%		50-140	20-JUL-21
Batch R5527046								
WG3580081-4 DUP		**WG3580081-3**						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	22-JUL-21
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	22-JUL-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-JUL-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5527046								
WG3580081-4 DUP		**WG3580081-3**						
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	22-JUL-21
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-JUL-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	22-JUL-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	22-JUL-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	22-JUL-21
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	22-JUL-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-JUL-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	22-JUL-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-JUL-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	22-JUL-21
WG3580081-2 LCS								
1,1,1,2-Tetrachloroethane			99.4		%		60-130	22-JUL-21
1,1,2,2-Tetrachloroethane			106.8		%		60-130	22-JUL-21
1,1,1-Trichloroethane			99.8		%		60-130	22-JUL-21
1,1,2-Trichloroethane			102.0		%		60-130	22-JUL-21
1,1-Dichloroethane			101.8		%		60-130	22-JUL-21
1,1-Dichloroethylene			101.1		%		60-130	22-JUL-21
1,2-Dibromoethane			94.7		%		70-130	22-JUL-21
1,2-Dichlorobenzene			100.5		%		70-130	22-JUL-21
1,2-Dichloroethane			104.0		%		60-130	22-JUL-21
1,2-Dichloropropane			102.5		%		70-130	22-JUL-21
1,3-Dichlorobenzene			102.4		%		70-130	22-JUL-21
1,4-Dichlorobenzene			103.8		%		70-130	22-JUL-21
Acetone			109.2		%		60-140	22-JUL-21
Benzene			99.5		%		70-130	22-JUL-21
Bromodichloromethane			111.3		%		50-140	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5527046								
WG3580081-2 LCS								
Bromoform			107.3		%		70-130	22-JUL-21
Bromomethane			87.8		%		50-140	22-JUL-21
Carbon tetrachloride			98.7		%		70-130	22-JUL-21
Chlorobenzene			102.5		%		70-130	22-JUL-21
Chloroform			103.2		%		70-130	22-JUL-21
cis-1,2-Dichloroethylene			99.0		%		70-130	22-JUL-21
cis-1,3-Dichloropropene			101.5		%		70-130	22-JUL-21
Dibromochloromethane			105.1		%		60-130	22-JUL-21
Dichlorodifluoromethane			56.0		%		50-140	22-JUL-21
Ethylbenzene			101.8		%		70-130	22-JUL-21
n-Hexane			94.0		%		70-130	22-JUL-21
Methylene Chloride			100.4		%		70-130	22-JUL-21
MTBE			101.6		%		70-130	22-JUL-21
m+p-Xylenes			105.2		%		70-130	22-JUL-21
Methyl Ethyl Ketone			103.2		%		60-140	22-JUL-21
Methyl Isobutyl Ketone			94.6		%		60-140	22-JUL-21
o-Xylene			103.6		%		70-130	22-JUL-21
Styrene			100.5		%		70-130	22-JUL-21
Tetrachloroethylene			100.9		%		60-130	22-JUL-21
Toluene			100.2		%		70-130	22-JUL-21
trans-1,2-Dichloroethylene			103.4		%		60-130	22-JUL-21
trans-1,3-Dichloropropene			99.5		%		70-130	22-JUL-21
Trichloroethylene			98.8		%		60-130	22-JUL-21
Trichlorofluoromethane			88.1		%		50-140	22-JUL-21
Vinyl chloride			77.4		%		60-140	22-JUL-21
WG3580081-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	22-JUL-21
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	22-JUL-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	22-JUL-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	22-JUL-21
1,1-Dichloroethane			<0.050		ug/g		0.05	22-JUL-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	22-JUL-21
1,2-Dibromoethane			<0.050		ug/g		0.05	22-JUL-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5527046								
WG3580081-1 MB								
1,2-Dichloroethane			<0.050		ug/g		0.05	22-JUL-21
1,2-Dichloropropane			<0.050		ug/g		0.05	22-JUL-21
1,3-Dichlorobenzene			<0.050		ug/g		0.05	22-JUL-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	22-JUL-21
Acetone			<0.50		ug/g		0.5	22-JUL-21
Benzene			<0.0068		ug/g		0.0068	22-JUL-21
Bromodichloromethane			<0.050		ug/g		0.05	22-JUL-21
Bromoform			<0.050		ug/g		0.05	22-JUL-21
Bromomethane			<0.050		ug/g		0.05	22-JUL-21
Carbon tetrachloride			<0.050		ug/g		0.05	22-JUL-21
Chlorobenzene			<0.050		ug/g		0.05	22-JUL-21
Chloroform			<0.050		ug/g		0.05	22-JUL-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	22-JUL-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	22-JUL-21
Dibromochloromethane			<0.050		ug/g		0.05	22-JUL-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	22-JUL-21
Ethylbenzene			<0.018		ug/g		0.018	22-JUL-21
n-Hexane			<0.050		ug/g		0.05	22-JUL-21
Methylene Chloride			<0.050		ug/g		0.05	22-JUL-21
MTBE			<0.050		ug/g		0.05	22-JUL-21
m+p-Xylenes			<0.030		ug/g		0.03	22-JUL-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	22-JUL-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	22-JUL-21
o-Xylene			<0.020		ug/g		0.02	22-JUL-21
Styrene			<0.050		ug/g		0.05	22-JUL-21
Tetrachloroethylene			<0.050		ug/g		0.05	22-JUL-21
Toluene			<0.080		ug/g		0.08	22-JUL-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	22-JUL-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	22-JUL-21
Trichloroethylene			0.011	B	ug/g		0.01	22-JUL-21
Trichlorofluoromethane			<0.050		ug/g		0.05	22-JUL-21
Vinyl chloride			<0.020		ug/g		0.02	22-JUL-21
Surrogate: 1,4-Difluorobenzene			109.5		%		50-140	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5527046								
WG3580081-1 MB								
Surrogate: 4-Bromofluorobenzene			100.6		%		50-140	22-JUL-21
WG3580081-5 MS		**WG3580081-3**						
1,1,1,2-Tetrachloroethane			97.7		%		50-140	22-JUL-21
1,1,2,2-Tetrachloroethane			100.2		%		50-140	22-JUL-21
1,1,1-Trichloroethane			101.5		%		50-140	22-JUL-21
1,1,2-Trichloroethane			98.7		%		50-140	22-JUL-21
1,1-Dichloroethane			103.0		%		50-140	22-JUL-21
1,1-Dichloroethylene			107.4		%		50-140	22-JUL-21
1,2-Dibromoethane			90.2		%		50-140	22-JUL-21
1,2-Dichlorobenzene			96.8		%		50-140	22-JUL-21
1,2-Dichloroethane			102.3		%		50-140	22-JUL-21
1,2-Dichloropropane			101.1		%		50-140	22-JUL-21
1,3-Dichlorobenzene			100.5		%		50-140	22-JUL-21
1,4-Dichlorobenzene			101.1		%		50-140	22-JUL-21
Acetone			104.9		%		50-140	22-JUL-21
Benzene			99.7		%		50-140	22-JUL-21
Bromodichloromethane			109.9		%		50-140	22-JUL-21
Bromoform			102.8		%		50-140	22-JUL-21
Bromomethane			94.1		%		50-140	22-JUL-21
Carbon tetrachloride			102.1		%		50-140	22-JUL-21
Chlorobenzene			100.5		%		50-140	22-JUL-21
Chloroform			103.1		%		50-140	22-JUL-21
cis-1,2-Dichloroethylene			98.4		%		50-140	22-JUL-21
cis-1,3-Dichloropropene			95.0		%		50-140	22-JUL-21
Dibromochloromethane			102.4		%		50-140	22-JUL-21
Dichlorodifluoromethane			89.3		%		50-140	22-JUL-21
Ethylbenzene			100.0		%		50-140	22-JUL-21
n-Hexane			103.3		%		50-140	22-JUL-21
Methylene Chloride			100.1		%		50-140	22-JUL-21
MTBE			99.98		%		50-140	22-JUL-21
m+p-Xylenes			103.8		%		50-140	22-JUL-21
Methyl Ethyl Ketone			91.9		%		50-140	22-JUL-21
Methyl Isobutyl Ketone			86.0		%		50-140	22-JUL-21
o-Xylene			101.3		%		50-140	22-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5527046								
WG3580081-5 MS		**WG3580081-3**						
Styrene			96.9		%		50-140	22-JUL-21
Tetrachloroethylene			100.6		%		50-140	22-JUL-21
Toluene			98.6		%		50-140	22-JUL-21
trans-1,2-Dichloroethylene			104.5		%		50-140	22-JUL-21
trans-1,3-Dichloropropene			90.7		%		50-140	22-JUL-21
Trichloroethylene			97.7		%		50-140	22-JUL-21
Trichlorofluoromethane			98.5		%		50-140	22-JUL-21
Vinyl chloride			91.0		%		50-140	22-JUL-21

Quality Control Report

Workorder: L2615201 Report Date: 30-JUL-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
J	Duplicate results and limits are expressed in terms of absolute difference.
LCS-L	Lab Control Sample recovery was below ALS DQO. Reference Material and/or Matrix Spike results were acceptable. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
RRQC	Refer to report remarks for information regarding this QC result.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

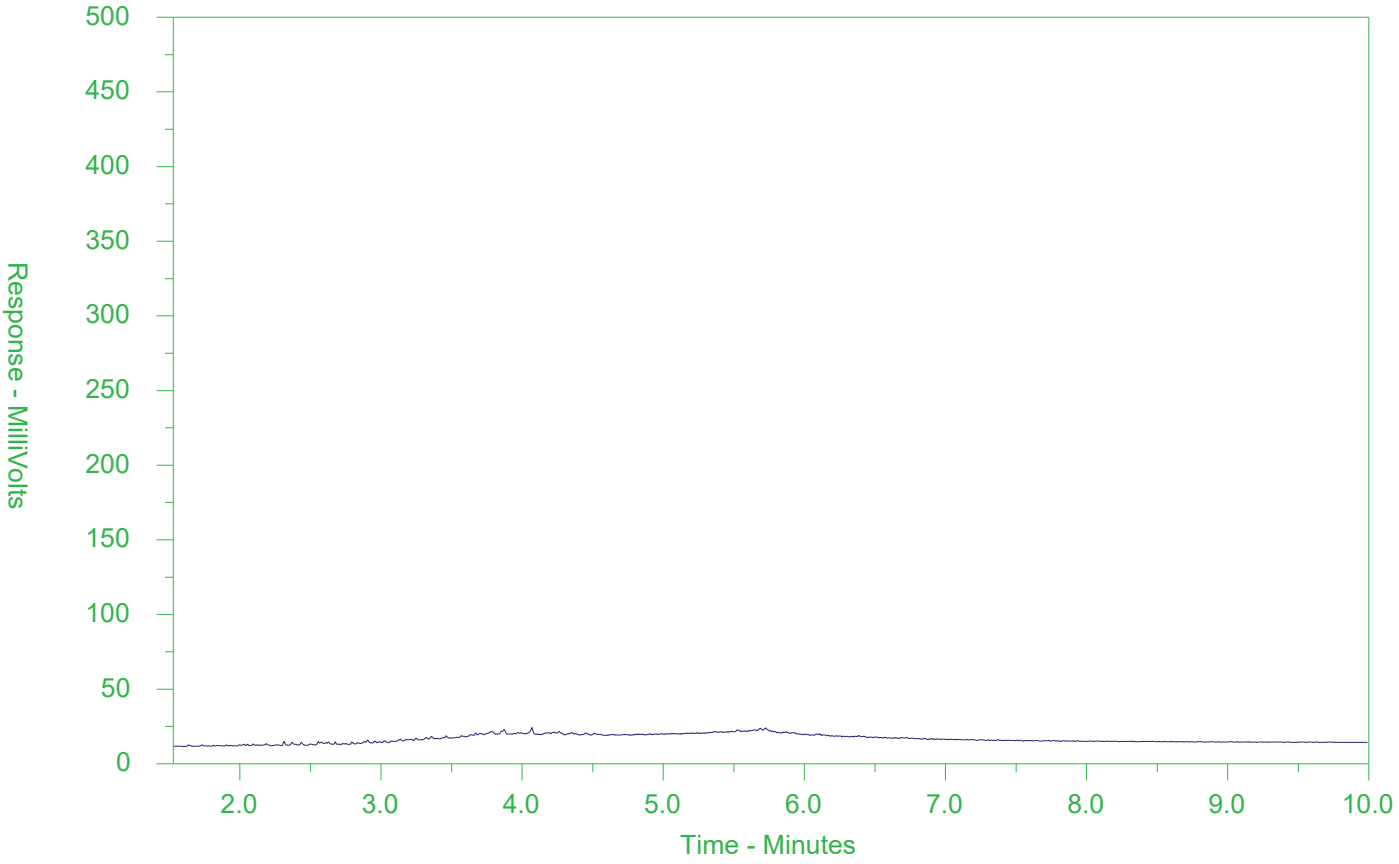
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615201-1
Client Sample ID: S-11230721-140721-JS-MW1-21-SS-2A



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

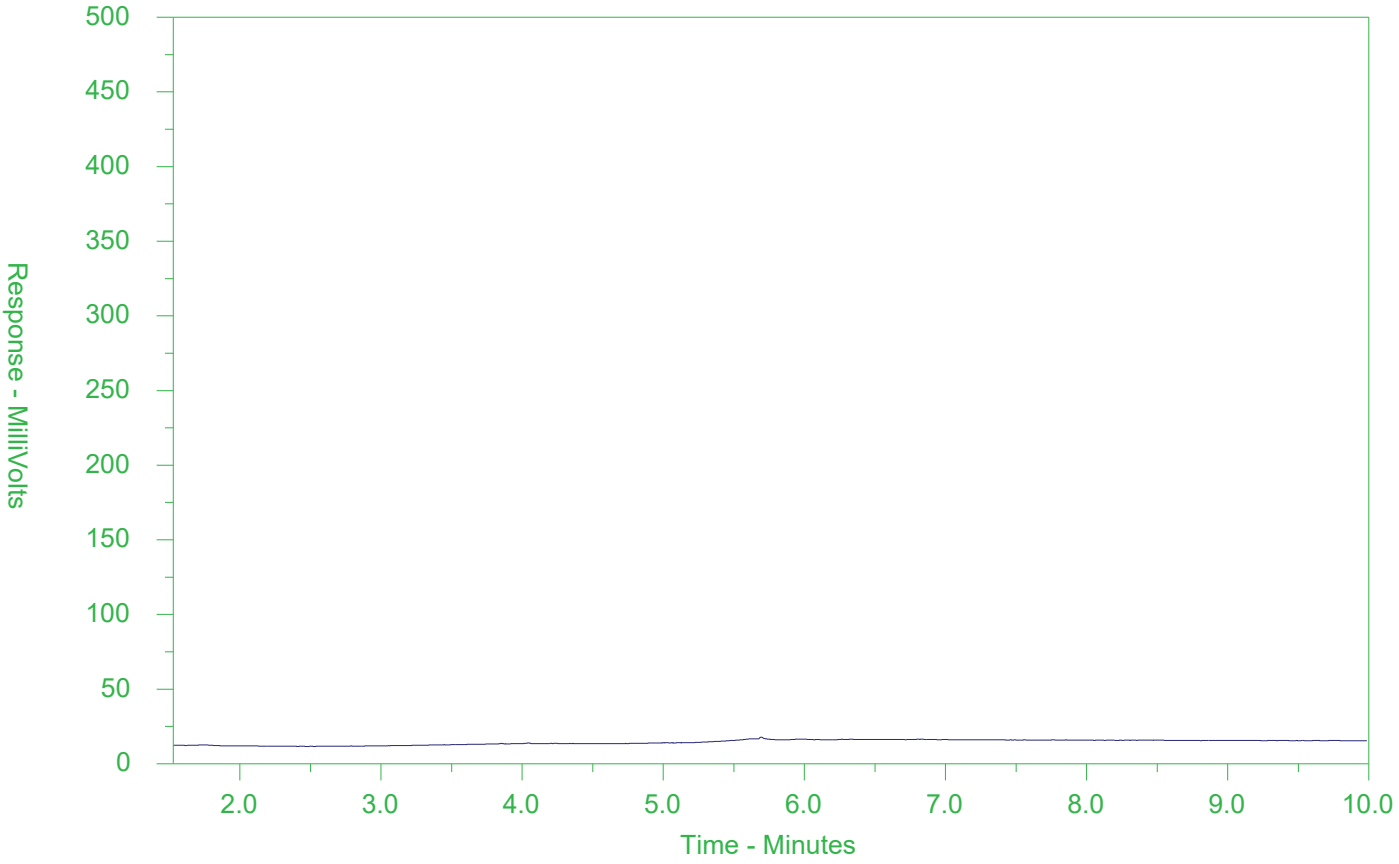
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615201-3
Client Sample ID: S-11230721-140721-JS-MW2-21-SS-2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

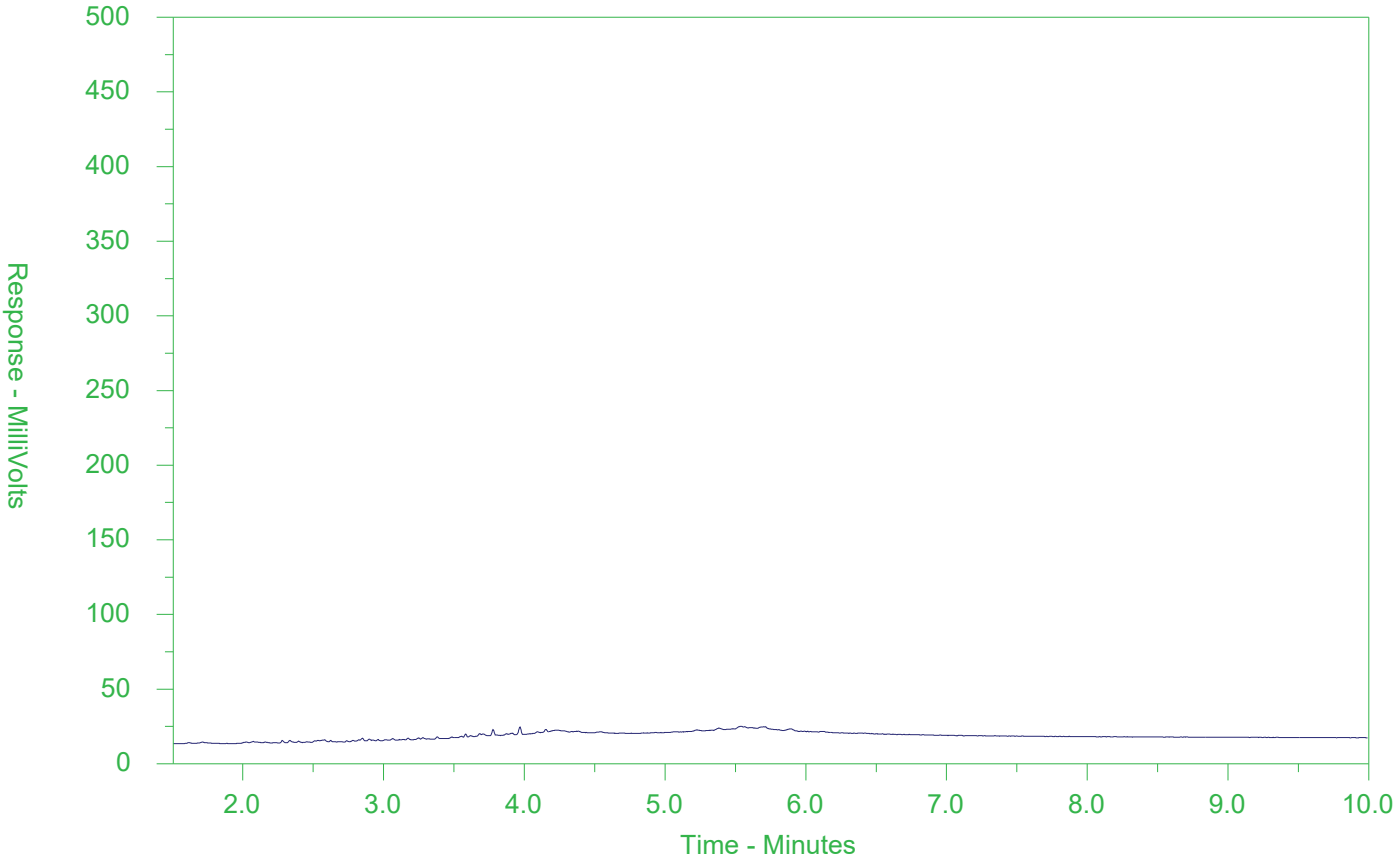
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615201-7
Client Sample ID: S-11230721-150721-JS-TH1-21-GS-1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

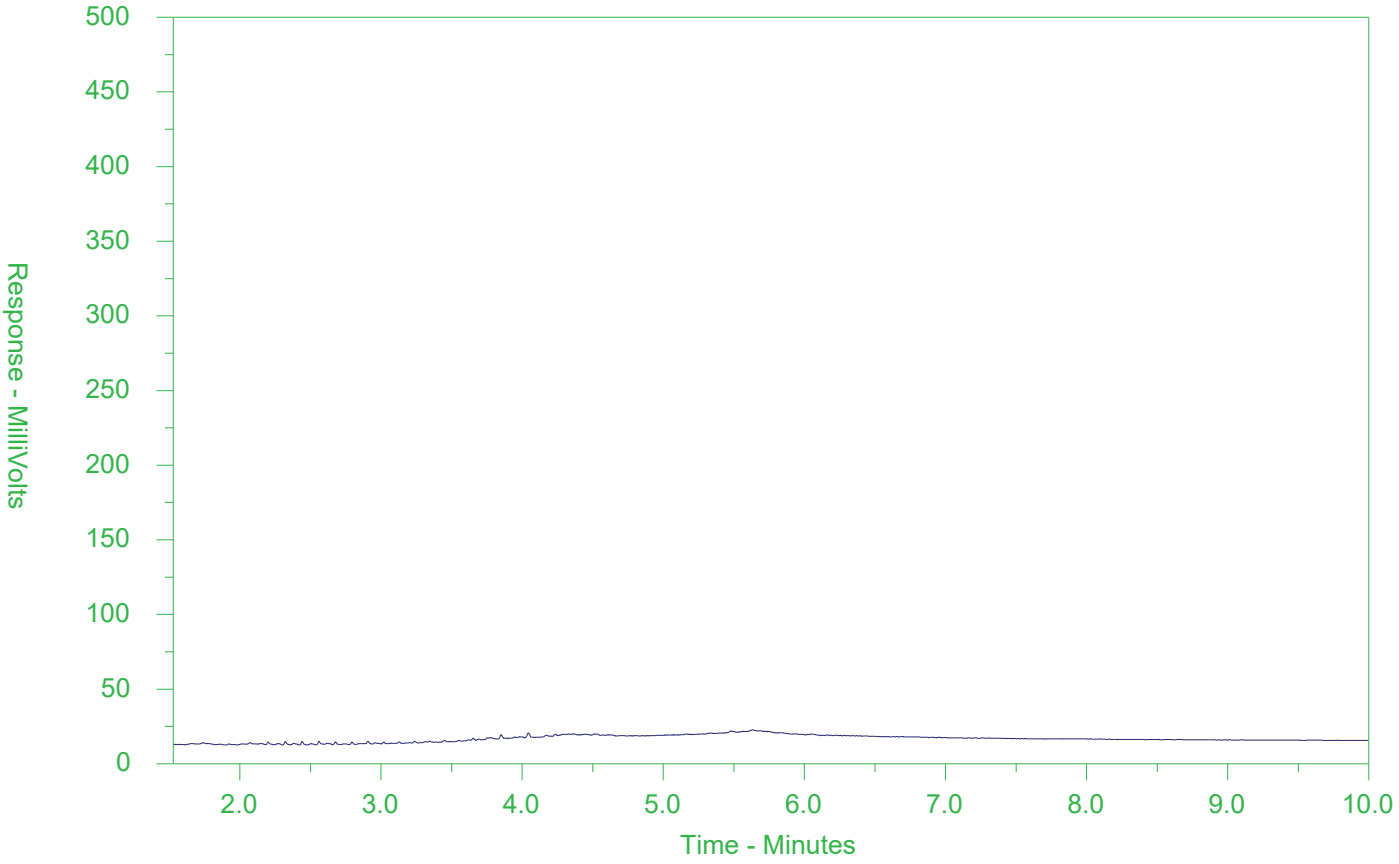
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615201-8
Client Sample ID: S-11230721-150721-JS-TH2-21-GS-1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

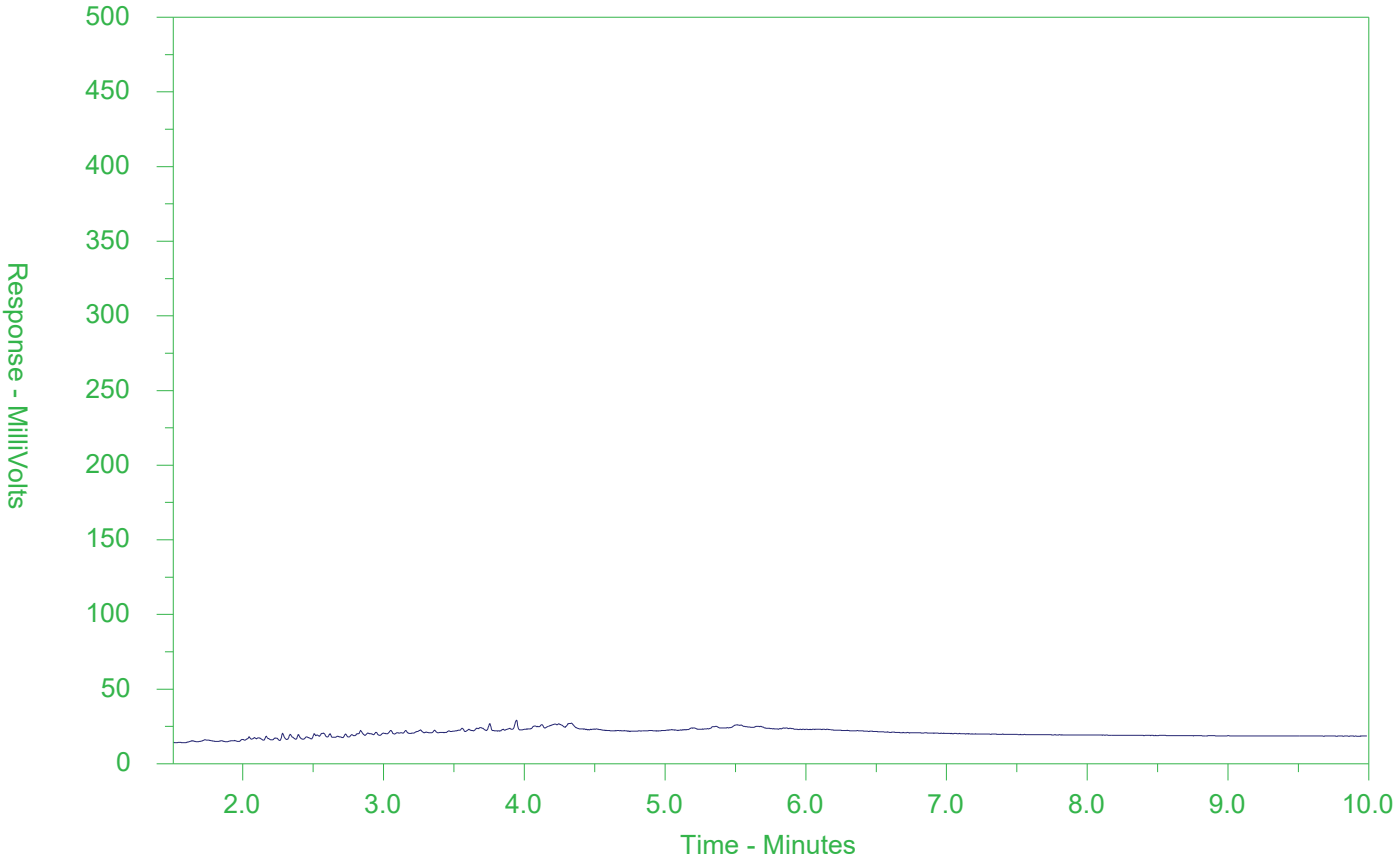
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615201-9
Client Sample ID: S-11230721-150721-JS-MW4-21-SS-1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

Chain of Custody (COC) / Analytic

ALS
www.alsglobal.com
Canada Toll Free: 1 800 66

Report To

Contact and company name below will appear on the final report

Company:	GHD Ltd. (Acct 13791)
Contact:	Pascal Renella
Phone:	519-884-0510

Company address below will appear on the final report

Street:	455 Phillip St.
City/Province:	Waterloo, ON
Postal Code:	N2L 3X2

Invoice To

- Same as Report To: ☑ YES ☐ NO
- Copy of Invoice with Report: ☐ YES ☑ NO

Company:	GHD Ltd. (Acct 13791)
Contact:	

Reports / Recipients

- Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
- Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A
- ☐ Compare Results to Criteria on Report - provide details below if box checked
- Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
- Email 1 or Fax: pascal.renella@ghd.com
- Email 2: See SSOW/PO
- Email 3:

Invoice Recipients

- Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
- Email 1 or Fax: Invoice-Canada@ghd.com
- Email 2:

Turnaround Time (TAT) Requested

- ☒ Routine [R] if received by 3pm M-F - no surcharges apply
- ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
- ☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
- ☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
- ☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
- ☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush resuests on weekends, statutory holidays and non-routine tests

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For tests that can not be performed according to the TAT requested, you will be contacted.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Account # / Quote #:	
Job #:	11230721-02
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): L2615201 AP

ALS Contact: Rick H

Sampler: J.Scott

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Metals/Inorganics	PHC/BTEX	PHC/BTEX/VOC	PAH	PCBs	[illegible]									SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	S-11230721-140721-JS-MW1-21-SS2A	14-Jul-21	08:50	SOIL	3		[illegible]	X														
	S-11230721-140721-JS-MW1-21-SS2B	14-Jul-21	08:50	Soil	1	X																
	S-11230721-140721-JS-MW2-21-SS2	14-Jul-21	12:45	Soil	3			X														
	S-11230721-140721-JS-MW2-21-SS4	14-Jul-21	13:01	Soil	1	X																
	S-11230721-140721-JS-MW5-21-SS4B	14-Jul-21	16:54	Soil	1				X													
	S-11230721-140721-JS-MW5-21-SS2B	14-Jul-21	17:05	Soil	1	X																
	S-11230721-150721-JS-TH1-21-GS1	15-Jul-21	09:30	Soil	5	X	X		X													
	S-11230721-150721-JS-TH2-21-GS-1	15-Jul-21	09:50	Soil	5	X		X	X		[illegible]											
	S-11230721-150721-JS-MW4-21-SS-1	15-Jul-21	13:10	Soil	4	X		X			[illegible]											
	Trip BLANK				2			X														

Drinking Water (DW) Samples[1] (client use)

- Are samples taken from a Regulated DW System? ☐ YES ☒ NO
- Are samples for human consumption/ use? ☐ YES ☒ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

-Insufficient sample to fill 250g jar for sample S-11230721-150721-JS-MW4-21-SS-1
Compare to MECP Table 3, coarse O.Reg. 153

SAMPLE RECEIPT DETAILS (lab use only)

- Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
- Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO
- Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A
- INITIAL COOLER TEMPERATURES °C: 3.3
- FINAL COOLER TEMPERATURES °C: 12.6

SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Dathan Ash	Date: 15-Jul-21 / Time: 15:30	Received by: [illegible]	Date: 16JUL	Time: 8:25	Received by: AP	Date: 17-July-21	Time: 10:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY   YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

GHD Limited (Waterloo)
ATTN: Pascal Renella
455 Phillip St
Waterloo ON N2L3X2

Date Received: 19-JUL-21
Report Date: 30-JUL-21 11:29 (MT)
Version: FINAL

Client Phone: 519-884-0510

Certificate of Analysis

Lab Work Order #: L2615912

Project P.O. #: 73524385
Job Reference: 11230721-02
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-1 S-11230721-1600721-DA-MW6-21-SS-2 Sampled By: DA on 16-JUL-21 @ 07:45 Matrix: SOIL							
Physical Tests							
% Moisture	6.65		0.25	%	21-JUL-21	22-JUL-21	R5526989
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Acenaphthylene	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Anthracene	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Benzo(a)anthracene	0.076		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Benzo(a)pyrene	0.072		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Benzo(b&j)fluoranthene	0.100		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Benzo(g,h,i)perylene	0.053		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Chrysene	0.091		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Dibenz(a,h)anthracene	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Fluoranthene	0.139		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Fluorene	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Indeno(1,2,3-cd)pyrene	0.053		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-JUL-21	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-JUL-21	23-JUL-21	R5528310
2-Methylnaphthalene	<0.030		0.030	ug/g	22-JUL-21	23-JUL-21	R5528310
Naphthalene	<0.013		0.013	ug/g	22-JUL-21	23-JUL-21	R5528310
Phenanthrene	0.076		0.046	ug/g	22-JUL-21	23-JUL-21	R5528310
Pyrene	0.123		0.050	ug/g	22-JUL-21	23-JUL-21	R5528310
Surrogate: 2-Fluorobiphenyl	86.4		50-140	%	22-JUL-21	23-JUL-21	R5528310
Surrogate: d14-Terphenyl	89.4		50-140	%	22-JUL-21	23-JUL-21	R5528310
L2615912-2 S-11230721-1600721-DA-MW6-21-SS-4 Sampled By: DA on 16-JUL-21 @ 08:05 Matrix: SOIL							
Physical Tests							
Conductivity	0.744		0.0040	mS/cm		28-JUL-21	R5530912
% Moisture	9.77		0.25	%	21-JUL-21	22-JUL-21	R5526989
pH	7.46		0.10	pH units		23-JUL-21	R5528236
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5529164
Saturated Paste Extractables							
SAR	3.40		0.10	SAR		28-JUL-21	R5530829
Calcium (Ca)	37.7		0.50	mg/L		28-JUL-21	R5530829
Magnesium (Mg)	7.52		0.50	mg/L		28-JUL-21	R5530829
Sodium (Na)	87.4		0.50	mg/L		28-JUL-21	R5530829
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Arsenic (As)	6.3		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Barium (Ba)	139		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Beryllium (Be)	0.61		0.50	ug/g	27-JUL-21	27-JUL-21	R5530726

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-2 S-11230721-1600721-DA-MW6-21-SS-4 Sampled By: DA on 16-JUL-21 @ 08:05 Matrix: SOIL							
Metals							
Boron (B)	10.1		5.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Boron (B), Hot Water Ext.	0.11		0.10	ug/g	27-JUL-21	28-JUL-21	R5530760
Cadmium (Cd)	<0.50		0.50	ug/g	27-JUL-21	27-JUL-21	R5530726
Chromium (Cr)	22.8		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Cobalt (Co)	18.2		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Copper (Cu)	31.8		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Lead (Pb)	11.3		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Mercury (Hg)	0.0341		0.0050	ug/g	27-JUL-21	28-JUL-21	R5530791
Molybdenum (Mo)	4.2		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Nickel (Ni)	47.3		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Selenium (Se)	<1.0		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Silver (Ag)	<0.20		0.20	ug/g	27-JUL-21	27-JUL-21	R5530726
Thallium (Tl)	<0.50		0.50	ug/g	27-JUL-21	27-JUL-21	R5530726
Uranium (U)	1.3		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Vanadium (V)	33.9		1.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Zinc (Zn)	54.9		5.0	ug/g	27-JUL-21	27-JUL-21	R5530726
Speciated Metals							
Chromium, Hexavalent	0.30		0.20	ug/g	21-JUL-21	23-JUL-21	R5528019
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	20-JUL-21	27-JUL-21	R5529953
Ethylbenzene	<0.018		0.018	ug/g	20-JUL-21	27-JUL-21	R5529953
Toluene	<0.080		0.080	ug/g	20-JUL-21	27-JUL-21	R5529953
o-Xylene	<0.020		0.020	ug/g	20-JUL-21	27-JUL-21	R5529953
m+p-Xylenes	<0.030		0.030	ug/g	20-JUL-21	27-JUL-21	R5529953
Xylenes (Total)	<0.050		0.050	ug/g		27-JUL-21	
Surrogate: 4-Bromofluorobenzene	111.8		50-140	%	20-JUL-21	27-JUL-21	R5529953
Surrogate: 1,4-Difluorobenzene	104.2		50-140	%	20-JUL-21	27-JUL-21	R5529953
Hydrocarbons							
F1 (C6-C10)	5.3		5.0	ug/g	20-JUL-21	27-JUL-21	R5529953
F1-BTEX	5.3		5.0	ug/g		27-JUL-21	
F2 (C10-C16)	<10		10	ug/g	22-JUL-21	23-JUL-21	R5527960
F3 (C16-C34)	<50		50	ug/g	22-JUL-21	23-JUL-21	R5527960
F4 (C34-C50)	<50		50	ug/g	22-JUL-21	23-JUL-21	R5527960
Total Hydrocarbons (C6-C50)	<72		72	ug/g		27-JUL-21	
Chrom. to baseline at nC50	YES				22-JUL-21	23-JUL-21	R5527960
Surrogate: 2-Bromobenzotrifluoride	81.6		60-140	%	22-JUL-21	23-JUL-21	R5527960
Surrogate: 3,4-Dichlorotoluene	108.6		60-140	%	20-JUL-21	27-JUL-21	R5529953
L2615912-3 S-11230721-1600721-DA-MW7-21-SS-4 Sampled By: DA on 16-JUL-21 @ 13:00 Matrix: SOIL							
Physical Tests							
Conductivity	0.322		0.0040	mS/cm		26-JUL-21	R5529333

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-3 S-11230721-1600721-DA-MW7-21-SS-4 Sampled By: DA on 16-JUL-21 @ 13:00 Matrix: SOIL							
Physical Tests							
% Moisture	14.8		0.25	%	22-JUL-21	23-JUL-21	R5527462
pH	7.81		0.10	pH units		23-JUL-21	R5528236
Redox Potential	268		-1000	mV		27-JUL-21	R5530245
Resistivity	3110		1.0	ohm*cm		26-JUL-21	
Leachable Anions & Nutrients							
Chloride	204		5.0	ug/g	23-JUL-21	23-JUL-21	R5529131
Anions and Nutrients							
Sulphate	66		20	ug/g	23-JUL-21	23-JUL-21	R5529131
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5529164
Inorganic Parameters							
Acid Volatile Sulphides	0.25		0.20	mg/kg	23-JUL-21	23-JUL-21	R5528163
Saturated Paste Extractables							
SAR	17.0	SAR:M	0.10	SAR		27-JUL-21	R5529966
Calcium (Ca)	1.02	FR5	0.50	mg/L		27-JUL-21	R5529966
Magnesium (Mg)	<0.50	FR5	0.50	mg/L		27-JUL-21	R5529966
Sodium (Na)	62.2	FR5	0.50	mg/L		27-JUL-21	R5529966
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Arsenic (As)	4.7		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Barium (Ba)	119		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Beryllium (Be)	<0.50		0.50	ug/g	28-JUL-21	28-JUL-21	R5530580
Boron (B)	7.9		5.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	28-JUL-21	28-JUL-21	R5530740
Cadmium (Cd)	<0.50		0.50	ug/g	28-JUL-21	28-JUL-21	R5530580
Chromium (Cr)	24.4		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Cobalt (Co)	12.3		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Copper (Cu)	24.6		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Lead (Pb)	8.3		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Mercury (Hg)	0.0163		0.0050	ug/g	28-JUL-21	28-JUL-21	R5530486
Molybdenum (Mo)	2.1		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Nickel (Ni)	32.7		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Selenium (Se)	<1.0		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Silver (Ag)	<0.20		0.20	ug/g	28-JUL-21	28-JUL-21	R5530580
Thallium (Tl)	0.97		0.50	ug/g	28-JUL-21	28-JUL-21	R5530580
Uranium (U)	<1.0		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Vanadium (V)	40.2		1.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Zinc (Zn)	46.3		5.0	ug/g	28-JUL-21	28-JUL-21	R5530580
Speciated Metals							
Chromium, Hexavalent	0.31		0.20	ug/g	21-JUL-21	23-JUL-21	R5528019
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	22-JUL-21	26-JUL-21	R5529111

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-3 S-11230721-1600721-DA-MW7-21-SS-4 Sampled By: DA on 16-JUL-21 @ 13:00 Matrix: SOIL							
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	22-JUL-21	26-JUL-21	R5529111
Bromodichloromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Bromoform	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Bromomethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Carbon tetrachloride	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Chlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Dibromochloromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Chloroform	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dibromoethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Methylene Chloride	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dichloropropane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21	26-JUL-21	R5529111
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21	26-JUL-21	R5529111
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		26-JUL-21	
Ethylbenzene	<0.018		0.018	ug/g	22-JUL-21	26-JUL-21	R5529111
n-Hexane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-JUL-21	26-JUL-21	R5529111
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-JUL-21	26-JUL-21	R5529111
MTBE	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Styrene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Tetrachloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Toluene	<0.080		0.080	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Trichloroethylene	<0.010		0.010	ug/g	22-JUL-21	26-JUL-21	R5529111
Trichlorofluoromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Vinyl chloride	<0.020		0.020	ug/g	22-JUL-21	26-JUL-21	R5529111
o-Xylene	<0.020		0.020	ug/g	22-JUL-21	26-JUL-21	R5529111
m+p-Xylenes	<0.030		0.030	ug/g	22-JUL-21	26-JUL-21	R5529111
Xylenes (Total)	<0.050		0.050	ug/g		26-JUL-21	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-3 S-11230721-1600721-DA-MW7-21-SS-4 Sampled By: DA on 16-JUL-21 @ 13:00 Matrix: SOIL							
Volatile Organic Compounds							
Surrogate: 4-Bromofluorobenzene	105.5		50-140	%	22-JUL-21	26-JUL-21	R5529111
Surrogate: 1,4-Difluorobenzene	102.5		50-140	%	22-JUL-21	26-JUL-21	R5529111
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-JUL-21	26-JUL-21	R5529111
F1-BTEX	<5.0		5.0	ug/g		26-JUL-21	
F2 (C10-C16)	<10		10	ug/g	22-JUL-21	23-JUL-21	R5527960
F3 (C16-C34)	<50		50	ug/g	22-JUL-21	23-JUL-21	R5527960
F4 (C34-C50)	<50		50	ug/g	22-JUL-21	23-JUL-21	R5527960
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-21	
Chrom. to baseline at nC50	YES				22-JUL-21	23-JUL-21	R5527960
Surrogate: 2-Bromobenzotrifluoride	78.7		60-140	%	22-JUL-21	23-JUL-21	R5527960
Surrogate: 3,4-Dichlorotoluene	78.9		60-140	%	22-JUL-21	26-JUL-21	R5529111
L2615912-4 S-11230721-1600721-DA-MW3-21-SS-2A Sampled By: DA on 16-JUL-21 @ 14:00 Matrix: SOIL							
Physical Tests							
Conductivity	2.94		0.0040	mS/cm		28-JUL-21	R5530912
% Moisture	17.8		0.25	%	22-JUL-21	23-JUL-21	R5527462
pH	7.50		0.10	pH units		23-JUL-21	R5528218
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-JUL-21	23-JUL-21	R5529164
Saturated Paste Extractables							
SAR	29.6		0.10	SAR		28-JUL-21	R5530829
Calcium (Ca)	18.7		0.50	mg/L		28-JUL-21	R5530829
Magnesium (Mg)	8.70		0.50	mg/L		28-JUL-21	R5530829
Sodium (Na)	618		0.50	mg/L		28-JUL-21	R5530829
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Arsenic (As)	9.5		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Barium (Ba)	108		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Beryllium (Be)	<0.50		0.50	ug/g	29-JUL-21	29-JUL-21	R5535156
Boron (B)	7.6		5.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Boron (B), Hot Water Ext.	1.54		0.10	ug/g	27-JUL-21	28-JUL-21	R5530760
Cadmium (Cd)	<0.50		0.50	ug/g	29-JUL-21	29-JUL-21	R5535156
Chromium (Cr)	25.7		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Cobalt (Co)	6.2		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Copper (Cu)	16.9		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Lead (Pb)	63.3		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Mercury (Hg)	0.212		0.0050	ug/g	27-JUL-21	28-JUL-21	R5530788
Molybdenum (Mo)	<1.0		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Nickel (Ni)	14.7		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Selenium (Se)	<1.0		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-4 S-11230721-1600721-DA-MW3-21-SS-2A Sampled By: DA on 16-JUL-21 @ 14:00 Matrix: SOIL							
Metals							
Silver (Ag)	<0.20		0.20	ug/g	29-JUL-21	29-JUL-21	R5535156
Thallium (Tl)	<0.50		0.50	ug/g	29-JUL-21	29-JUL-21	R5535156
Uranium (U)	<1.0		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Vanadium (V)	30.5		1.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Zinc (Zn)	80.8		5.0	ug/g	29-JUL-21	29-JUL-21	R5535156
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	25-JUL-21	27-JUL-21	R5530001
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	22-JUL-21	26-JUL-21	R5529111
Benzene	<0.0068		0.0068	ug/g	22-JUL-21	26-JUL-21	R5529111
Bromodichloromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Bromoform	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Bromomethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Carbon tetrachloride	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Chlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Dibromochloromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Chloroform	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dibromoethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Methylene Chloride	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,2-Dichloropropane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21	26-JUL-21	R5529111
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-JUL-21	26-JUL-21	R5529111
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		26-JUL-21	
Ethylbenzene	<0.018		0.018	ug/g	22-JUL-21	26-JUL-21	R5529111
n-Hexane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-JUL-21	26-JUL-21	R5529111
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-JUL-21	26-JUL-21	R5529111
MTBE	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Styrene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Tetrachloroethylene	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2615912-4 S-11230721-1600721-DA-MW3-21-SS-2A Sampled By: DA on 16-JUL-21 @ 14:00 Matrix: SOIL							
Volatile Organic Compounds							
Toluene	<0.080		0.080	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Trichloroethylene	<0.010		0.010	ug/g	22-JUL-21	26-JUL-21	R5529111
Trichlorofluoromethane	<0.050		0.050	ug/g	22-JUL-21	26-JUL-21	R5529111
Vinyl chloride	<0.020		0.020	ug/g	22-JUL-21	26-JUL-21	R5529111
o-Xylene	<0.020		0.020	ug/g	22-JUL-21	26-JUL-21	R5529111
m+p-Xylenes	<0.030		0.030	ug/g	22-JUL-21	26-JUL-21	R5529111
Xylenes (Total)	<0.050		0.050	ug/g		26-JUL-21	
Surrogate: 4-Bromofluorobenzene	94.4		50-140	%	22-JUL-21	26-JUL-21	R5529111
Surrogate: 1,4-Difluorobenzene	93.6		50-140	%	22-JUL-21	26-JUL-21	R5529111
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-JUL-21	26-JUL-21	R5529111
F1-BTEX	<5.0		5.0	ug/g		26-JUL-21	
F2 (C10-C16)	<10		10	ug/g	22-JUL-21	23-JUL-21	R5528006
F3 (C16-C34)	106		50	ug/g	22-JUL-21	23-JUL-21	R5528006
F4 (C34-C50)	160		50	ug/g	22-JUL-21	23-JUL-21	R5528006
F4G-SG (GHH-Silica)	570		250	ug/g	26-JUL-21	26-JUL-21	R5528932
Total Hydrocarbons (C6-C50)	266		72	ug/g		26-JUL-21	
Chrom. to baseline at nC50	NO				22-JUL-21	23-JUL-21	R5528006
Surrogate: 2-Bromobenzotrifluoride	74.4		60-140	%	22-JUL-21	23-JUL-21	R5528006
Surrogate: 3,4-Dichlorotoluene	68.0		60-140	%	22-JUL-21	26-JUL-21	R5529111

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Laboratory Control Sample	Dichlorodifluoromethane	LCS-ND	L2615912-3, -4
Method Blank	Copper (Cu)	MB-LOR	L2615912-2
Method Blank	Zinc (Zn)	MB-LOR	L2615912-2
Laboratory Control Sample	Silver (Ag)	RRQC	L2615912-3

Comments: RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.

Sample Parameter Qualifier key listed:

Qualifier	Description
FR5	As per applicable reference method(s), soil:water ratio for Fixed Ratio Leach was modified to 1:5 due to high soil organic content.
LCS-ND	Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
RRQC	Refer to report remarks for information regarding this QC result.
SAR:M	Reported SAR represents a maximum value. Actual SAR may be lower if both Ca and Mg were detectable.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
B-HWS-R511-WT	Soil	Boron-HWE-O.Reg 153/04 (July 2011)	HW EXTR, EPA 6010B

A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

BTX-511-HS-WT	Soil	BTEX-O.Reg 153/04 (July 2011)	SW846 8260

BTX is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CL-R511-WT	Soil	Chloride-O.Reg 153/04 (July 2011)	EPA 300.0

5 grams of dried soil is mixed with 10 grams of distilled water for a minimum of 30 minutes. The extract is filtered and analyzed by ion chromatography.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CN-WAD-R511-WT	Soil	Cyanide (WAD)-O.Reg 153/04 (July 2011)	MOE 3015/APHA 4500CN I-WAD

The sample is extracted with a strong base for 16 hours, and then filtered. The filtrate is then distilled where the cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CR-CR6-IC-WT	Soil	Hexavalent Chromium in Soil	SW846 3060A/7199

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 7199, published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

EC-WT	Soil	Conductivity (EC)	MOEE E3138

A representative subsample is tumbled with de-ionized (DI) water. The ratio of water to soil is 2:1 v/w. After tumbling the sample is then analyzed by a conductivity meter.

Reference Information

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Soil	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Soil	F2-F4-O.Reg 153/04 (July 2011)	CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from soil with 1:1 hexane:acetone using a rotary extractor. Extracts are treated with silica gel to remove polar organic interferences. F2, F3, & F4 are analyzed by GC-FID. F4G-sg is analyzed gravimetrically.

Notes:
1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where both F4 (C34-C50) and F4G-sg are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
7. F4G-sg cannot be added to the C6 to C50 hydrocarbon results to obtain an estimate of total extractable hydrocarbons.
8. This method is validated for use.
9. Data from analysis of validation and quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram, unless otherwise indicated.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F4G-ADD-511-WT	Soil	F4G SG-O.Reg 153/04 (July 2011)	MOE DECPH-E3398/CCME TIER 1

F4G, gravimetric analysis, is determined if the chromatogram does not return to baseline at or before C50. A soil sample is extracted with a solvent mix, the solvent is evaporated and the weight of the residue is determined.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HG-200.2-CVAA-WT	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental

Reference Information

Protection Act (July 1, 2011).

MET-200.2-CCMS-WT	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020B (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). For tests intended to support Ontario regulations, the <2mm fraction is ground to pass through a 0.355 mm sieve. Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

METHYLNAPS-CALC-WT	Soil	ABN-Calculated Parameters	SW846 8270
MOISTURE-WT	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
PAH-511-WT	Soil	PAH-O.Reg 153/04 (July 2011)	SW846 3510/8270

A representative sub-sample of soil is fortified with deuterium-labelled surrogates and a mechanical shaking techniqueis used to extract the sample with a mixture of methanol and toluene. The extracts are concentrated and analyzed by GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PH-WT	Soil	pH	MOEE E3137A

A minimum 10g portion of the sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil and then analyzed using a pH meter and electrode.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

REDOX-POTENTIAL-WT	Soil	Redox Potential	APHA 2580

This analysis is carried out in accordance with the procedure described in the "APHA" method 2580 "Oxidation-Reduction Potential" 2012. Samples are extracted at a fixed ratio with DI water. Results are reported as observed oxidation-reduction potential of the platinum metal-reference electrode employed, in mV.

RESISTIVITY-CALC-WT	Soil	Resistivity Calculation	APHA 2510 B

"Soil Resistivity (calculated)" is determined as the inverse of the conductivity of a 2:1 water:soil leachate (dry weight). This method is intended as a rapid approximation for Soil Resistivity. Where high accuracy results are required, direct measurement of Soil Resistivity by the Wenner Four-Electrode Method (ASTM G57) is recommended.

SAR-R511-WT	Soil	SAR-O.Reg 153/04 (July 2011)	SW846 6010C

A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

SO4-WT	Soil	Sulphate	EPA 300.0

5 grams of soil is mixed with 50 mL of distilled water for a minimum of 30 minutes. The extract is filtered and analyzed by ion chromatography.

SULPHIDE-WT	Soil	Sulphide, Acid Volatile	APHA 4500S2J

This analysis is carried out in accordance with the method described in APHA 4500 S2-J. Hydrochloric acid is added to sediment samples within a purge and trap system. The evolved hydrogen sulphide (H2S) is carried into a basic solution by inert gas. The acid volatile sulfide is then determined colourimetrically.

		Regulation 153 VOCs	SW8260B/SW8270C

Reference Information

VOC-1,3-DCP-CALC-WT	Soil		

VOC-511-HS-WT	Soil	VOC-O.Reg 153/04 (July 2011)	SW846 8260 (511)

Soil and sediment samples are extracted in methanol and analyzed by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

XYLENES-SUM-CALC-WT	Soil	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2615912 Report Date: 30-JUL-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2

Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	**Soil**							
Batch R5530740								
WG3585151-4 DUP		**L2618464-3**						
Boron (B), Hot Water Ext.		<0.10	<0.10	RPD-NA	ug/g	N/A	30	28-JUL-21
WG3585151-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			99.9		%		70-130	28-JUL-21
WG3585151-3 LCS								
Boron (B), Hot Water Ext.			97.7		%		70-130	28-JUL-21
WG3585151-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	28-JUL-21
Batch R5530760								
WG3584718-4 DUP		**L2615716-2**						
Boron (B), Hot Water Ext.		<0.10	<0.10	RPD-NA	ug/g	N/A	30	28-JUL-21
WG3584718-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			101.6		%		70-130	28-JUL-21
WG3584718-3 LCS								
Boron (B), Hot Water Ext.			102.0		%		70-130	28-JUL-21
WG3584718-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	28-JUL-21
BTX-511-HS-WT	**Soil**							
Batch R5529953								
WG3579865-4 DUP		**WG3579865-3**						
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	27-JUL-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	27-JUL-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	27-JUL-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	27-JUL-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	27-JUL-21
WG3579865-2 LCS								
Benzene			104.4		%		70-130	27-JUL-21
Ethylbenzene			103.0		%		70-130	27-JUL-21
m+p-Xylenes			98.6		%		70-130	27-JUL-21
o-Xylene			105.0		%		70-130	27-JUL-21
Toluene			103.4		%		70-130	27-JUL-21
WG3579865-1 MB								
Benzene			<0.0068		ug/g		0.0068	27-JUL-21
Ethylbenzene			<0.018		ug/g		0.018	27-JUL-21
m+p-Xylenes			<0.030		ug/g		0.03	27-JUL-21
o-Xylene			<0.020		ug/g		0.02	27-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Soil**							
Batch R5529953								
WG3579865-1 MB								
Toluene			<0.080		ug/g		0.08	27-JUL-21
Surrogate: 1,4-Difluorobenzene			119.5		%		50-140	27-JUL-21
Surrogate: 4-Bromofluorobenzene			127.4		%		50-140	27-JUL-21
WG3579865-5 MS		**WG3579865-3**						
Benzene			129.9		%		60-140	27-JUL-21
Ethylbenzene			121.6		%		60-140	27-JUL-21
m+p-Xylenes			118.4		%		60-140	27-JUL-21
o-Xylene			124.6		%		60-140	27-JUL-21
Toluene			126.2		%		60-140	27-JUL-21
CL-R511-WT	**Soil**							
Batch R5529131								
WG3582562-3 CRM		**AN-CRM-WT**						
Chloride			96.7		%		70-130	23-JUL-21
WG3582562-4 DUP		**L2615205-1**						
Chloride		21.5	22.4		ug/g	4.0	30	23-JUL-21
WG3582562-2 LCS								
Chloride			96.4		%		80-120	23-JUL-21
WG3582562-1 MB								
Chloride			<5.0		ug/g		5	23-JUL-21
CN-WAD-R511-WT	**Soil**							
Batch R5529164								
WG3581929-3 DUP		**L2615879-10**						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	23-JUL-21
WG3581929-2 LCS								
Cyanide, Weak Acid Diss			83.3		%		80-120	23-JUL-21
WG3581929-1 MB								
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	23-JUL-21
WG3581929-4 MS		**L2615879-10**						
Cyanide, Weak Acid Diss			95.0		%		70-130	23-JUL-21
CR-CR6-IC-WT	**Soil**							
Batch R5528019								
WG3581042-4 CRM		**WT-SQC012**						
Chromium, Hexavalent			89.4		%		70-130	23-JUL-21
WG3581042-3 DUP		**L2615854-7**						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	23-JUL-21
WG3581042-2 LCS								

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT	**Soil**							
Batch R5528019								
WG3581042-2 LCS								
Chromium, Hexavalent			100.1		%		80-120	23-JUL-21
WG3581042-1 MB								
Chromium, Hexavalent			<0.20		ug/g		0.2	23-JUL-21
Batch R5530001								
WG3583290-4 CRM		**WT-SQC012**						
Chromium, Hexavalent			88.9		%		70-130	27-JUL-21
WG3583290-3 DUP		**L2616025-1**						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	27-JUL-21
WG3583290-2 LCS								
Chromium, Hexavalent			91.0		%		80-120	27-JUL-21
WG3583290-1 MB								
Chromium, Hexavalent			<0.20		ug/g		0.2	27-JUL-21
EC-WT	**Soil**							
Batch R5529333								
WG3582619-9 DUP		**WG3582619-8**						
Conductivity		0.322	0.310		mS/cm	3.8	20	26-JUL-21
WG3582619-7 IRM		**WT SAR4**						
Conductivity			97.2		%		70-130	26-JUL-21
WG3583675-1 LCS								
Conductivity			96.5		%		90-110	26-JUL-21
WG3582619-6 MB								
Conductivity			<0.0040		mS/cm		0.004	26-JUL-21
Batch R5530912								
WG3584913-4 DUP		**WG3584913-3**						
Conductivity		0.636	0.628		mS/cm	1.3	20	28-JUL-21
WG3584913-2 IRM		**WT SAR4**						
Conductivity			102.6		%		70-130	28-JUL-21
WG3585442-1 LCS								
Conductivity			101.2		%		90-110	28-JUL-21
WG3584913-1 MB								
Conductivity			<0.0040		mS/cm		0.004	28-JUL-21
F1-HS-511-WT	**Soil**							
Batch R5529111								
WG3581058-4 DUP		**WG3581058-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	26-JUL-21
WG3581058-2 LCS								

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Soil**							
Batch R5529111								
WG3581058-2 LCS								
F1 (C6-C10)			99.1		%		80-120	26-JUL-21
WG3581058-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	26-JUL-21
Surrogate: 3,4-Dichlorotoluene			88.5		%		60-140	26-JUL-21
WG3581058-5 MS		**WG3581058-3**						
F1 (C6-C10)			85.8		%		60-140	26-JUL-21
Batch R5529953								
WG3579865-4 DUP		**WG3579865-3**						
F1 (C6-C10)		5.3	<5.0	RPD-NA	ug/g	N/A	30	27-JUL-21
WG3579865-2 LCS								
F1 (C6-C10)			94.5		%		80-120	27-JUL-21
WG3579865-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	27-JUL-21
Surrogate: 3,4-Dichlorotoluene			121.9		%		60-140	27-JUL-21
WG3579865-5 MS		**WG3579865-3**						
F1 (C6-C10)			91.3		%		60-140	27-JUL-21
F2-F4-511-WT	**Soil**							
Batch R5527960								
WG3581152-3 DUP		**WG3581152-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	23-JUL-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	23-JUL-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	23-JUL-21
WG3581152-2 LCS								
F2 (C10-C16)			91.9		%		80-120	23-JUL-21
F3 (C16-C34)			89.3		%		80-120	23-JUL-21
F4 (C34-C50)			92.1		%		80-120	23-JUL-21
WG3581152-1 MB								
F2 (C10-C16)			<10		ug/g		10	23-JUL-21
F3 (C16-C34)			<50		ug/g		50	23-JUL-21
F4 (C34-C50)			<50		ug/g		50	23-JUL-21
Surrogate: 2-Bromobenzotrifluoride			84.0		%		60-140	23-JUL-21
WG3581152-4 MS		**WG3581152-5**						
F2 (C10-C16)			91.8		%		60-140	23-JUL-21
F3 (C16-C34)			92.1		%		60-140	23-JUL-21
F4 (C34-C50)			99.2		%		60-140	23-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R5528006								
WG3581632-3 DUP		**WG3581632-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	23-JUL-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	23-JUL-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	23-JUL-21
WG3581632-2 LCS								
F2 (C10-C16)			87.5		%		80-120	23-JUL-21
F3 (C16-C34)			87.8		%		80-120	23-JUL-21
F4 (C34-C50)			94.3		%		80-120	23-JUL-21
WG3581632-1 MB								
F2 (C10-C16)			<10		ug/g		10	23-JUL-21
F3 (C16-C34)			<50		ug/g		50	23-JUL-21
F4 (C34-C50)			<50		ug/g		50	23-JUL-21
Surrogate: 2-Bromobenzotrifluoride			77.5		%		60-140	23-JUL-21
WG3581632-4 MS		**WG3581632-5**						
F2 (C10-C16)			80.3		%		60-140	23-JUL-21
F3 (C16-C34)			79.2		%		60-140	23-JUL-21
F4 (C34-C50)			86.5		%		60-140	23-JUL-21
F4G-ADD-511-WT	**Soil**							
Batch R5528932								
WG3583310-2 LCS								
F4G-SG (GHH-Silica)			64.3		%		60-140	26-JUL-21
WG3583310-1 MB								
F4G-SG (GHH-Silica)			<250		ug/g		250	26-JUL-21
HG-200.2-CVAA-WT	**Soil**							
Batch R5530486								
WG3585186-2 CRM		**WT-SS-2**						
Mercury (Hg)			96.5		%		70-130	28-JUL-21
WG3585186-6 DUP		**WG3585186-5**						
Mercury (Hg)		0.0163	0.0161		ug/g	0.7	40	28-JUL-21
WG3585186-3 LCS								
Mercury (Hg)			99.0		%		80-120	28-JUL-21
WG3585186-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	28-JUL-21
Batch R5530788								
WG3584467-2 CRM		**WT-SS-2**						
Mercury (Hg)			113.4		%		70-130	28-JUL-21
WG3584467-6 DUP		**WG3584467-5**						

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-WT	**Soil**							
Batch R5530788								
WG3584467-6 DUP		**WG3584467-5**						
Mercury (Hg)		0.0085	0.0075		ug/g	12	40	28-JUL-21
WG3584467-3 LCS								
Mercury (Hg)			108.0		%		80-120	28-JUL-21
WG3584467-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	28-JUL-21
Batch R5530791								
WG3584371-2 CRM		**WT-SS-2**						
Mercury (Hg)			107.7		%		70-130	28-JUL-21
WG3584371-6 DUP		**WG3584371-5**						
Mercury (Hg)		0.0213	0.0182		ug/g	16	40	28-JUL-21
WG3584371-3 LCS								
Mercury (Hg)			106.0		%		80-120	28-JUL-21
WG3584371-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	28-JUL-21
MET-200.2-CCMS-WT	**Soil**							
Batch R5530580								
WG3585186-2 CRM		**WT-SS-2**						
Antimony (Sb)			101.0		%		70-130	28-JUL-21
Arsenic (As)			108.5		%		70-130	28-JUL-21
Barium (Ba)			106.8		%		70-130	28-JUL-21
Beryllium (Be)			107.3		%		70-130	28-JUL-21
Boron (B)			9.2		mg/kg		3.5-13.5	28-JUL-21
Cadmium (Cd)			102.5		%		70-130	28-JUL-21
Chromium (Cr)			102.5		%		70-130	28-JUL-21
Cobalt (Co)			104.2		%		70-130	28-JUL-21
Copper (Cu)			106.5		%		70-130	28-JUL-21
Lead (Pb)			104.6		%		70-130	28-JUL-21
Molybdenum (Mo)			107.0		%		70-130	28-JUL-21
Nickel (Ni)			109.5		%		70-130	28-JUL-21
Selenium (Se)			0.14		mg/kg		0-0.34	28-JUL-21
Silver (Ag)			98.9		%		70-130	28-JUL-21
Thallium (Tl)			0.082		mg/kg		0.029-0.129	28-JUL-21
Uranium (U)			106.6		%		70-130	28-JUL-21
Vanadium (V)			104.6		%		70-130	28-JUL-21
Zinc (Zn)			102.0		%		70-130	28-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5530580								
WG3585186-6 DUP		**WG3585186-5**						
Antimony (Sb)		0.21	0.19		ug/g	12	30	28-JUL-21
Arsenic (As)		4.72	4.29		ug/g	9.5	30	28-JUL-21
Barium (Ba)		119	107		ug/g	10	40	28-JUL-21
Beryllium (Be)		0.48	0.43		ug/g	11	30	28-JUL-21
Boron (B)		7.9	7.5		ug/g	5.0	30	28-JUL-21
Cadmium (Cd)		0.182	0.146		ug/g	22	30	28-JUL-21
Chromium (Cr)		24.4	21.9		ug/g	11	30	28-JUL-21
Cobalt (Co)		12.3	11.0		ug/g	11	30	28-JUL-21
Copper (Cu)		24.6	21.9		ug/g	11	30	28-JUL-21
Lead (Pb)		8.25	7.49		ug/g	9.7	40	28-JUL-21
Molybdenum (Mo)		2.08	1.74		ug/g	18	40	28-JUL-21
Nickel (Ni)		32.7	29.1		ug/g	12	30	28-JUL-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	28-JUL-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	28-JUL-21
Thallium (Tl)		0.972	0.869		ug/g	11	30	28-JUL-21
Uranium (U)		0.966	0.876		ug/g	9.7	30	28-JUL-21
Vanadium (V)		40.2	36.3		ug/g	10	30	28-JUL-21
Zinc (Zn)		46.3	41.5		ug/g	11	30	28-JUL-21
WG3585186-4 LCS								
Antimony (Sb)			103.0		%		80-120	28-JUL-21
Arsenic (As)			105.2		%		80-120	28-JUL-21
Barium (Ba)			105.5		%		80-120	28-JUL-21
Beryllium (Be)			97.7		%		80-120	28-JUL-21
Boron (B)			93.5		%		80-120	28-JUL-21
Cadmium (Cd)			100.6		%		80-120	28-JUL-21
Chromium (Cr)			106.0		%		80-120	28-JUL-21
Cobalt (Co)			104.0		%		80-120	28-JUL-21
Copper (Cu)			102.8		%		80-120	28-JUL-21
Lead (Pb)			101.3		%		80-120	28-JUL-21
Molybdenum (Mo)			103.7		%		80-120	28-JUL-21
Nickel (Ni)			102.4		%		80-120	28-JUL-21
Selenium (Se)			101.1		%		80-120	28-JUL-21
Silver (Ag)			65.2	RRQC	%		80-120	28-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5530580								
WG3585186-4 LCS								
Thallium (Tl)			102.0		%		80-120	28-JUL-21
Uranium (U)			104.4		%		80-120	28-JUL-21
Vanadium (V)			106.9		%		80-120	28-JUL-21
Zinc (Zn)			101.7		%		80-120	28-JUL-21
COMMENTS: RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.								
WG3585186-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	28-JUL-21
Arsenic (As)			<0.10		mg/kg		0.1	28-JUL-21
Barium (Ba)			<0.50		mg/kg		0.5	28-JUL-21
Beryllium (Be)			<0.10		mg/kg		0.1	28-JUL-21
Boron (B)			<5.0		mg/kg		5	28-JUL-21
Cadmium (Cd)			<0.020		mg/kg		0.02	28-JUL-21
Chromium (Cr)			<0.50		mg/kg		0.5	28-JUL-21
Cobalt (Co)			<0.10		mg/kg		0.1	28-JUL-21
Copper (Cu)			<0.50		mg/kg		0.5	28-JUL-21
Lead (Pb)			<0.50		mg/kg		0.5	28-JUL-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	28-JUL-21
Nickel (Ni)			<0.50		mg/kg		0.5	28-JUL-21
Selenium (Se)			<0.20		mg/kg		0.2	28-JUL-21
Silver (Ag)			<0.10		mg/kg		0.1	28-JUL-21
Thallium (Tl)			<0.050		mg/kg		0.05	28-JUL-21
Uranium (U)			<0.050		mg/kg		0.05	28-JUL-21
Vanadium (V)			<0.20		mg/kg		0.2	28-JUL-21
Zinc (Zn)			<2.0		mg/kg		2	28-JUL-21
Batch R5530726								
WG3584371-2 CRM		**WT-SS-2**						
Antimony (Sb)			102.0		%		70-130	27-JUL-21
Arsenic (As)			103.6		%		70-130	27-JUL-21
Barium (Ba)			108.0		%		70-130	27-JUL-21
Beryllium (Be)			106.5		%		70-130	27-JUL-21
Boron (B)			9.5		mg/kg		3.5-13.5	27-JUL-21
Cadmium (Cd)			111.2		%		70-130	27-JUL-21
Chromium (Cr)			104.4		%		70-130	27-JUL-21
Cobalt (Co)			108.3		%		70-130	27-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5530726								
WG3584371-2 CRM		**WT-SS-2**						
Copper (Cu)			105.2		%		70-130	27-JUL-21
Lead (Pb)			105.0		%		70-130	27-JUL-21
Molybdenum (Mo)			112.7		%		70-130	27-JUL-21
Nickel (Ni)			107.9		%		70-130	27-JUL-21
Selenium (Se)			0.16		mg/kg		0-0.34	27-JUL-21
Silver (Ag)			97.4		%		70-130	27-JUL-21
Thallium (Tl)			0.081		mg/kg		0.029-0.129	27-JUL-21
Uranium (U)			103.1		%		70-130	27-JUL-21
Vanadium (V)			105.9		%		70-130	27-JUL-21
Zinc (Zn)			106.6		%		70-130	27-JUL-21
WG3584371-6 DUP		**WG3584371-5**						
Antimony (Sb)		0.15	0.18		ug/g	19	30	27-JUL-21
Arsenic (As)		5.58	5.20		ug/g	6.9	30	27-JUL-21
Barium (Ba)		105	95.4		ug/g	9.8	40	27-JUL-21
Beryllium (Be)		0.81	0.74		ug/g	9.1	30	27-JUL-21
Boron (B)		17.9	16.2		ug/g	10	30	27-JUL-21
Cadmium (Cd)		0.132	0.117		ug/g	12	30	27-JUL-21
Chromium (Cr)		28.2	26.7		ug/g	5.5	30	27-JUL-21
Cobalt (Co)		12.1	11.2		ug/g	8.2	30	27-JUL-21
Copper (Cu)		22.7	21.9		ug/g	3.9	30	27-JUL-21
Lead (Pb)		10.4	10.2		ug/g	2.2	40	27-JUL-21
Molybdenum (Mo)		0.49	0.50		ug/g	2.7	40	27-JUL-21
Nickel (Ni)		26.9	25.3		ug/g	5.9	30	27-JUL-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	27-JUL-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	27-JUL-21
Thallium (Tl)		0.160	0.153		ug/g	5.0	30	27-JUL-21
Uranium (U)		0.660	0.661		ug/g	0.2	30	27-JUL-21
Vanadium (V)		40.3	36.8		ug/g	9.2	30	27-JUL-21
Zinc (Zn)		60.1	57.4		ug/g	4.6	30	27-JUL-21
WG3584371-4 LCS								
Antimony (Sb)			108.0		%		80-120	27-JUL-21
Arsenic (As)			107.9		%		80-120	27-JUL-21
Barium (Ba)			102.9		%		80-120	27-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5530726								
WG3584371-4 LCS								
Beryllium (Be)			101.3		%		80-120	27-JUL-21
Boron (B)			102.4		%		80-120	27-JUL-21
Cadmium (Cd)			102.2		%		80-120	27-JUL-21
Chromium (Cr)			104.0		%		80-120	27-JUL-21
Cobalt (Co)			103.8		%		80-120	27-JUL-21
Copper (Cu)			103.2		%		80-120	27-JUL-21
Lead (Pb)			105.6		%		80-120	27-JUL-21
Molybdenum (Mo)			105.6		%		80-120	27-JUL-21
Nickel (Ni)			102.4		%		80-120	27-JUL-21
Selenium (Se)			106.5		%		80-120	27-JUL-21
Silver (Ag)			107.3		%		80-120	27-JUL-21
Thallium (Tl)			99.0		%		80-120	27-JUL-21
Uranium (U)			105.2		%		80-120	27-JUL-21
Vanadium (V)			106.0		%		80-120	27-JUL-21
Zinc (Zn)			105.8		%		80-120	27-JUL-21
WG3584371-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	27-JUL-21
Arsenic (As)			<0.10		mg/kg		0.1	27-JUL-21
Barium (Ba)			<0.50		mg/kg		0.5	27-JUL-21
Beryllium (Be)			<0.10		mg/kg		0.1	27-JUL-21
Boron (B)			<5.0		mg/kg		5	27-JUL-21
Cadmium (Cd)			<0.020		mg/kg		0.02	27-JUL-21
Chromium (Cr)			<0.50		mg/kg		0.5	27-JUL-21
Cobalt (Co)			<0.10		mg/kg		0.1	27-JUL-21
Copper (Cu)			3.55	MB-LOR	mg/kg		0.5	27-JUL-21
Lead (Pb)			<0.50		mg/kg		0.5	27-JUL-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	27-JUL-21
Nickel (Ni)			<0.50		mg/kg		0.5	27-JUL-21
Selenium (Se)			<0.20		mg/kg		0.2	27-JUL-21
Silver (Ag)			<0.10		mg/kg		0.1	27-JUL-21
Thallium (Tl)			<0.050		mg/kg		0.05	27-JUL-21
Uranium (U)			<0.050		mg/kg		0.05	27-JUL-21
Vanadium (V)			<0.20		mg/kg		0.2	27-JUL-21
Zinc (Zn)			2.2	MB-LOR	mg/kg		2	27-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5535156								
WG3585879-2 CRM		**WT-SS-2**						
Antimony (Sb)			112.0		%		70-130	29-JUL-21
Arsenic (As)			119.5		%		70-130	29-JUL-21
Barium (Ba)			121.2		%		70-130	29-JUL-21
Beryllium (Be)			112.9		%		70-130	29-JUL-21
Boron (B)			10.1		mg/kg		3.5-13.5	29-JUL-21
Cadmium (Cd)			122.4		%		70-130	29-JUL-21
Chromium (Cr)			118.1		%		70-130	29-JUL-21
Cobalt (Co)			113.2		%		70-130	29-JUL-21
Copper (Cu)			109.1		%		70-130	29-JUL-21
Lead (Pb)			109.1		%		70-130	29-JUL-21
Molybdenum (Mo)			119.3		%		70-130	29-JUL-21
Nickel (Ni)			113.2		%		70-130	29-JUL-21
Selenium (Se)			0.14		mg/kg		0-0.34	29-JUL-21
Silver (Ag)			127.9		%		70-130	29-JUL-21
Thallium (Tl)			0.080		mg/kg		0.029-0.129	29-JUL-21
Uranium (U)			105.6		%		70-130	29-JUL-21
Vanadium (V)			118.3		%		70-130	29-JUL-21
Zinc (Zn)			104.2		%		70-130	29-JUL-21
WG3585879-6 DUP		**WG3585879-5**						
Antimony (Sb)		0.11	0.11		ug/g	0.7	30	29-JUL-21
Arsenic (As)		3.79	4.07		ug/g	7.2	30	29-JUL-21
Barium (Ba)		22.0	23.5		ug/g	6.5	40	29-JUL-21
Beryllium (Be)		0.20	0.21		ug/g	5.8	30	29-JUL-21
Boron (B)		7.4	7.8		ug/g	6.0	30	29-JUL-21
Cadmium (Cd)		0.251	0.276		ug/g	9.3	30	29-JUL-21
Chromium (Cr)		16.4	12.2		ug/g	30	30	29-JUL-21
Cobalt (Co)		3.49	3.63		ug/g	3.9	30	29-JUL-21
Copper (Cu)		25.9	25.6		ug/g	1.3	30	29-JUL-21
Lead (Pb)		15.3	16.6		ug/g	7.6	40	29-JUL-21
Molybdenum (Mo)		0.35	0.35		ug/g	0.0	40	29-JUL-21
Nickel (Ni)		7.40	7.69		ug/g	3.8	30	29-JUL-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	29-JUL-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5535156								
WG3585879-6 DUP		**WG3585879-5**						
Thallium (Tl)		0.070	0.074		ug/g	5.4	30	29-JUL-21
Uranium (U)		0.495	0.477		ug/g	3.7	30	29-JUL-21
Vanadium (V)		13.6	16.3		ug/g	18	30	29-JUL-21
Zinc (Zn)		147	147		ug/g	0.1	30	29-JUL-21
WG3585879-4 LCS								
Antimony (Sb)			103.9		%		80-120	29-JUL-21
Arsenic (As)			98.7		%		80-120	29-JUL-21
Barium (Ba)			101.1		%		80-120	29-JUL-21
Beryllium (Be)			93.7		%		80-120	29-JUL-21
Boron (B)			87.9		%		80-120	29-JUL-21
Cadmium (Cd)			97.8		%		80-120	29-JUL-21
Chromium (Cr)			98.7		%		80-120	29-JUL-21
Cobalt (Co)			99.1		%		80-120	29-JUL-21
Copper (Cu)			98.1		%		80-120	29-JUL-21
Lead (Pb)			98.3		%		80-120	29-JUL-21
Molybdenum (Mo)			104.6		%		80-120	29-JUL-21
Nickel (Ni)			97.7		%		80-120	29-JUL-21
Selenium (Se)			102.3		%		80-120	29-JUL-21
Silver (Ag)			101.9		%		80-120	29-JUL-21
Thallium (Tl)			98.1		%		80-120	29-JUL-21
Uranium (U)			89.7		%		80-120	29-JUL-21
Vanadium (V)			100.9		%		80-120	29-JUL-21
Zinc (Zn)			93.7		%		80-120	29-JUL-21
WG3585879-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	29-JUL-21
Arsenic (As)			<0.10		mg/kg		0.1	29-JUL-21
Barium (Ba)			<0.50		mg/kg		0.5	29-JUL-21
Beryllium (Be)			<0.10		mg/kg		0.1	29-JUL-21
Boron (B)			<5.0		mg/kg		5	29-JUL-21
Cadmium (Cd)			<0.020		mg/kg		0.02	29-JUL-21
Chromium (Cr)			<0.50		mg/kg		0.5	29-JUL-21
Cobalt (Co)			<0.10		mg/kg		0.1	29-JUL-21
Copper (Cu)			<0.50		mg/kg		0.5	29-JUL-21
Lead (Pb)			<0.50		mg/kg		0.5	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5535156								
WG3585879-1 MB								
Molybdenum (Mo)			<0.10		mg/kg		0.1	29-JUL-21
Nickel (Ni)			<0.50		mg/kg		0.5	29-JUL-21
Selenium (Se)			<0.20		mg/kg		0.2	29-JUL-21
Silver (Ag)			<0.10		mg/kg		0.1	29-JUL-21
Thallium (Tl)			<0.050		mg/kg		0.05	29-JUL-21
Uranium (U)			<0.050		mg/kg		0.05	29-JUL-21
Vanadium (V)			<0.20		mg/kg		0.2	29-JUL-21
Zinc (Zn)			<2.0		mg/kg		2	29-JUL-21
MOISTURE-WT	**Soil**							
Batch R5526989								
WG3580851-3 DUP		**L2615924-4**						
% Moisture		34.1	35.4		%	3.8	20	22-JUL-21
WG3580851-2 LCS								
% Moisture			97.1		%		90-110	22-JUL-21
WG3580851-1 MB								
% Moisture			<0.25		%		0.25	22-JUL-21
Batch R5527462								
WG3581101-3 DUP		**L2616670-5**						
% Moisture		8.78	9.48		%	7.6	20	23-JUL-21
WG3581101-2 LCS								
% Moisture			100.5		%		90-110	23-JUL-21
WG3581101-1 MB								
% Moisture			<0.25		%		0.25	23-JUL-21
PAH-511-WT	**Soil**							
Batch R5528310								
WG3581054-3 DUP		**WG3581054-5**						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	23-JUL-21
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	23-JUL-21
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(b&j)fluoranthene		0.051	0.057		ug/g	11	40	23-JUL-21
Benzo(g,h,i)perylene		<0.050	<0.050		ug/g			

Quality Control Report

Client: GHD Limited (Waterloo)
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Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5528310								
WG3581054-3 DUP		**WG3581054-5**						
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Chrysene		<0.050	0.061	RPD-NA	ug/g	N/A	40	23-JUL-21
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Fluoranthene		<0.050	0.071	RPD-NA	ug/g	N/A	40	23-JUL-21
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-JUL-21
Naphthalene		<0.013	0.018	RPD-NA	ug/g	N/A	40	23-JUL-21
Phenanthrene		<0.046	0.051	RPD-NA	ug/g	N/A	40	23-JUL-21
Pyrene		<0.050	0.068	RPD-NA	ug/g	N/A	40	23-JUL-21
WG3581054-2 LCS								
1-Methylnaphthalene			92.9		%		50-140	23-JUL-21
2-Methylnaphthalene			90.0		%		50-140	23-JUL-21
Acenaphthene			88.4		%		50-140	23-JUL-21
Acenaphthylene			87.6		%		50-140	23-JUL-21
Anthracene			80.5		%		50-140	23-JUL-21
Benzo(a)anthracene			91.3		%		50-140	23-JUL-21
Benzo(a)pyrene			77.7		%		50-140	23-JUL-21
Benzo(b&j)fluoranthene			85.1		%		50-140	23-JUL-21
Benzo(g,h,i)perylene			84.8		%		50-140	23-JUL-21
Benzo(k)fluoranthene			84.1		%		50-140	23-JUL-21
Chrysene			93.7		%		50-140	23-JUL-21
Dibenz(a,h)anthracene			86.8		%		50-140	23-JUL-21
Fluoranthene			87.5		%		50-140	23-JUL-21
Fluorene			88.9		%		50-140	23-JUL-21
Indeno(1,2,3-cd)pyrene			88.6		%		50-140	23-JUL-21
Naphthalene			88.1		%		50-140	23-JUL-21
Phenanthrene			88.8		%		50-140	23-JUL-21
Pyrene			87.2		%		50-140	23-JUL-21
WG3581054-1 MB								
1-Methylnaphthalene			<0.030		ug/g		0.03	23-JUL-21
2-Methylnaphthalene			<0.030		ug/g		0.03	23-JUL-21
Acenaphthene			<0.050		ug/g		0.05	23-JUL-21
Acenaphthylene			<0.050		ug/g		0.05	23-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5528310								
WG3581054-1 MB								
Anthracene			<0.050		ug/g		0.05	23-JUL-21
Benzo(a)anthracene			<0.050		ug/g		0.05	23-JUL-21
Benzo(a)pyrene			<0.050		ug/g		0.05	23-JUL-21
Benzo(b&j)fluoranthene			<0.050		ug/g		0.05	23-JUL-21
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	23-JUL-21
Benzo(k)fluoranthene			<0.050		ug/g		0.05	23-JUL-21
Chrysene			<0.050		ug/g		0.05	23-JUL-21
Dibenz(a,h)anthracene			<0.050		ug/g		0.05	23-JUL-21
Fluoranthene			<0.050		ug/g		0.05	23-JUL-21
Fluorene			<0.050		ug/g		0.05	23-JUL-21
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	23-JUL-21
Naphthalene			<0.013		ug/g		0.013	23-JUL-21
Phenanthrene			<0.046		ug/g		0.046	23-JUL-21
Pyrene			<0.050		ug/g		0.05	23-JUL-21
Surrogate: 2-Fluorobiphenyl			86.8		%		50-140	23-JUL-21
Surrogate: d14-Terphenyl			87.4		%		50-140	23-JUL-21
WG3581054-4 MS		**WG3581054-5**						
1-Methylnaphthalene			92.8		%		50-140	23-JUL-21
2-Methylnaphthalene			90.9		%		50-140	23-JUL-21
Acenaphthene			88.3		%		50-140	23-JUL-21
Acenaphthylene			63.8		%		50-140	23-JUL-21
Anthracene			78.7		%		50-140	23-JUL-21
Benzo(a)anthracene			90.4		%		50-140	23-JUL-21
Benzo(a)pyrene			72.4		%		50-140	23-JUL-21
Benzo(b&j)fluoranthene			82.4		%		50-140	23-JUL-21
Benzo(g,h,i)perylene			76.7		%		50-140	23-JUL-21
Benzo(k)fluoranthene			80.6		%		50-140	23-JUL-21
Chrysene			91.0		%		50-140	23-JUL-21
Dibenz(a,h)anthracene			80.4		%		50-140	23-JUL-21
Fluoranthene			87.6		%		50-140	23-JUL-21
Fluorene			89.7		%		50-140	23-JUL-21
Indeno(1,2,3-cd)pyrene			78.7		%		50-140	23-JUL-21
Naphthalene			87.6		%		50-140	23-JUL-21
Phenanthrene			88.8		%		50-140	23-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5528310								
WG3581054-4 MS		**WG3581054-5**						
Pyrene			87.0		%		50-140	23-JUL-21
PH-WT	**Soil**							
Batch R5528218								
WG3581105-1 DUP		**L2615739-1**						
pH		7.38	7.34	J	pH units	0.04	0.3	23-JUL-21
WG3582524-1 LCS								
pH			6.97		pH units		6.9-7.1	23-JUL-21
Batch R5528236								
WG3581050-1 DUP		**L2615879-3**						
pH		7.54	7.46	J	pH units	0.08	0.3	23-JUL-21
WG3582519-1 LCS								
pH			6.98		pH units		6.9-7.1	23-JUL-21
REDOX-POTENTIAL-WT	**Soil**							
Batch R5530245								
WG3584450-1 CRM		**WT-REDOX**						
Redox Potential			98.1		%		80-120	27-JUL-21
WG3582060-1 DUP		**L2615616-1**						
Redox Potential		256	260		mV	1.6	25	27-JUL-21
SAR-R511-WT	**Soil**							
Batch R5529966								
WG3582619-9 DUP		**WG3582619-8**						
Calcium (Ca)		1.02	0.90		mg/L	13	30	27-JUL-21
Sodium (Na)		62.2	60.3		mg/L	3.1	30	27-JUL-21
Magnesium (Mg)		<0.50	<0.50	RPD-NA	mg/L	N/A	30	27-JUL-21
WG3582619-7 IRM		**WT SAR4**						
Calcium (Ca)			99.8		%		70-130	27-JUL-21
Sodium (Na)			90.6		%		70-130	27-JUL-21
Magnesium (Mg)			98.3		%		70-130	27-JUL-21
WG3582619-10 LCS								
Calcium (Ca)			106.3		%		80-120	27-JUL-21
Sodium (Na)			109.4		%		80-120	27-JUL-21
Magnesium (Mg)			105.4		%		80-120	27-JUL-21
WG3582619-6 MB								
Calcium (Ca)			<0.50		mg/L		0.5	27-JUL-21
							0.5	

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	**Soil**							
Batch R5529966								
WG3582619-6 MB								
Sodium (Na)			<0.50		mg/L		0.5	27-JUL-21
Magnesium (Mg)			<0.50		mg/L		0.5	27-JUL-21
Batch R5530829								
WG3584913-4 DUP		**WG3584913-3**						
Calcium (Ca)		9.93	10.0		mg/L	0.7	30	28-JUL-21
Sodium (Na)		120	120		mg/L	0.0	30	28-JUL-21
Magnesium (Mg)		0.88	0.84		mg/L	4.3	30	28-JUL-21
WG3584913-2 IRM		**WT SAR4**						
Calcium (Ca)			103.3		%		70-130	28-JUL-21
Sodium (Na)			90.3		%		70-130	28-JUL-21
Magnesium (Mg)			100.0		%		70-130	28-JUL-21
WG3584913-5 LCS								
Calcium (Ca)			101.7		%		80-120	28-JUL-21
Sodium (Na)			105.4		%		80-120	28-JUL-21
Magnesium (Mg)			101.0		%		80-120	28-JUL-21
WG3584913-1 MB								
Calcium (Ca)			<0.50		mg/L		0.5	28-JUL-21
Sodium (Na)			<0.50		mg/L		0.5	28-JUL-21
Magnesium (Mg)			<0.50		mg/L		0.5	28-JUL-21
SO4-WT	**Soil**							
Batch R5529131								
WG3582562-3 CRM		**AN-CRM-WT**						
Sulphate			125.9		%		60-140	23-JUL-21
WG3582562-4 DUP		**L2615205-1**						
Sulphate		22	21		ug/g	4.4	25	23-JUL-21
WG3582562-2 LCS								
Sulphate			96.2		%		70-130	23-JUL-21
WG3582562-1 MB								
Sulphate			<20		ug/g		20	23-JUL-21
SULPHIDE-WT	**Soil**							
Batch R5528163								
WG3582351-3 DUP		**L2615616-1**						
Acid Volatile Sulphides		<0.20	<0.20	RPD-NA	mg/kg	N/A	45	23-JUL-21
WG3582351-2 LCS								
Acid Volatile Sulphides			78.6		%		70-130	23-JUL-21
WG3582351-1 MB								

Quality Control Report

Client: GHD Limited (Waterloo)
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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SULPHIDE-WT	**Soil**							
Batch R5528163								
WG3582351-1 MB								
Acid Volatile Sulphides			<0.20		mg/kg		0.2	23-JUL-21
VOC-511-HS-WT	**Soil**							
Batch R5529111								
WG3581058-4 DUP		**WG3581058-3**						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	26-JUL-21
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	26-JUL-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	26-JUL-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	26-JUL-21
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21

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Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5529111								
WG3581058-4 DUP		**WG3581058-3**						
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	26-JUL-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	26-JUL-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	26-JUL-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	26-JUL-21
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	26-JUL-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	26-JUL-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	26-JUL-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-JUL-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	26-JUL-21
WG3581058-2 LCS								
1,1,1,2-Tetrachloroethane			108.8		%		60-130	26-JUL-21
1,1,2,2-Tetrachloroethane			114.4		%		60-130	26-JUL-21
1,1,1-Trichloroethane			106.7		%		60-130	26-JUL-21
1,1,2-Trichloroethane			109.8		%		60-130	26-JUL-21
1,1-Dichloroethane			102.5		%		60-130	26-JUL-21
1,1-Dichloroethylene			94.3		%		60-130	26-JUL-21
1,2-Dibromoethane			109.4		%		70-130	26-JUL-21
1,2-Dichlorobenzene			108.6		%		70-130	26-JUL-21
1,2-Dichloroethane			109.6		%		60-130	26-JUL-21
1,2-Dichloropropane			106.7		%		70-130	26-JUL-21
1,3-Dichlorobenzene			108.0		%		70-130	26-JUL-21
1,4-Dichlorobenzene			107.1		%		70-130	26-JUL-21
Acetone			122.1		%		60-140	26-JUL-21
Benzene			103.4		%		70-130	26-JUL-21
Bromodichloromethane			120.2		%		50-140	26-JUL-21
Bromoform			119.4		%		70-130	26-JUL-21
Bromomethane			94.0		%		50-140	26-JUL-21
Carbon tetrachloride			107.7		%		70-130	26-JUL-21
Chlorobenzene			108.7		%		70-130	26-JUL-21
Chloroform			108.9		%		70-130	26-JUL-21

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Client: GHD Limited (Waterloo)
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Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5529111								
WG3581058-2 LCS								
cis-1,2-Dichloroethylene			105.2		%		70-130	26-JUL-21
cis-1,3-Dichloropropene			108.3		%		70-130	26-JUL-21
Dibromochloromethane			113.5		%		60-130	26-JUL-21
Dichlorodifluoromethane			48.8	LCS-ND	%		50-140	26-JUL-21
Ethylbenzene			107.6		%		70-130	26-JUL-21
n-Hexane			91.2		%		70-130	26-JUL-21
Methylene Chloride			103.3		%		70-130	26-JUL-21
MTBE			103.8		%		70-130	26-JUL-21
m+p-Xylenes			109.4		%		70-130	26-JUL-21
Methyl Ethyl Ketone			117.2		%		60-140	26-JUL-21
Methyl Isobutyl Ketone			115.3		%		60-140	26-JUL-21
o-Xylene			106.8		%		70-130	26-JUL-21
Styrene			108.8		%		70-130	26-JUL-21
Tetrachloroethylene			107.1		%		60-130	26-JUL-21
Toluene			104.8		%		70-130	26-JUL-21
trans-1,2-Dichloroethylene			101.4		%		60-130	26-JUL-21
trans-1,3-Dichloropropene			106.2		%		70-130	26-JUL-21
Trichloroethylene			105.4		%		60-130	26-JUL-21
Trichlorofluoromethane			87.9		%		50-140	26-JUL-21
Vinyl chloride			71.8		%		60-140	26-JUL-21
WG3581058-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	26-JUL-21
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	26-JUL-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	26-JUL-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	26-JUL-21
1,1-Dichloroethane			<0.050		ug/g		0.05	26-JUL-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	26-JUL-21
1,2-Dibromoethane			<0.050		ug/g		0.05	26-JUL-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	26-JUL-21
1,2-Dichloroethane			<0.050		ug/g		0.05	26-JUL-21
1,2-Dichloropropane			<0.050		ug/g		0.05	26-JUL-21
1,3-Dichlorobenzene			<0.050		ug/g		0.05	26-JUL-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	26-JUL-21
Acetone			<0.50		ug/g		0.5	26-JUL-21

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Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5529111								
WG3581058-1 MB								
Benzene			<0.0068		ug/g		0.0068	26-JUL-21
Bromodichloromethane			<0.050		ug/g		0.05	26-JUL-21
Bromoform			<0.050		ug/g		0.05	26-JUL-21
Bromomethane			<0.050		ug/g		0.05	26-JUL-21
Carbon tetrachloride			<0.050		ug/g		0.05	26-JUL-21
Chlorobenzene			<0.050		ug/g		0.05	26-JUL-21
Chloroform			<0.050		ug/g		0.05	26-JUL-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	26-JUL-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	26-JUL-21
Dibromochloromethane			<0.050		ug/g		0.05	26-JUL-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	26-JUL-21
Ethylbenzene			<0.018		ug/g		0.018	26-JUL-21
n-Hexane			<0.050		ug/g		0.05	26-JUL-21
Methylene Chloride			<0.050		ug/g		0.05	26-JUL-21
MTBE			<0.050		ug/g		0.05	26-JUL-21
m+p-Xylenes			<0.030		ug/g		0.03	26-JUL-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	26-JUL-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	26-JUL-21
o-Xylene			<0.020		ug/g		0.02	26-JUL-21
Styrene			<0.050		ug/g		0.05	26-JUL-21
Tetrachloroethylene			<0.050		ug/g		0.05	26-JUL-21
Toluene			<0.080		ug/g		0.08	26-JUL-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	26-JUL-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	26-JUL-21
Trichloroethylene			<0.010		ug/g		0.01	26-JUL-21
Trichlorofluoromethane			<0.050		ug/g		0.05	26-JUL-21
Vinyl chloride			<0.020		ug/g		0.02	26-JUL-21
Surrogate: 1,4-Difluorobenzene			103.1		%		50-140	26-JUL-21
Surrogate: 4-Bromofluorobenzene			111.7		%		50-140	26-JUL-21
WG3581058-5 MS		**WG3581058-3**						
1,1,1,2-Tetrachloroethane			114.0		%		50-140	26-JUL-21
1,1,2,2-Tetrachloroethane			115.5		%		50-140	26-JUL-21
1,1,1-Trichloroethane			116.6		%		50-140	26-JUL-21
1,1,2-Trichloroethane			112.2		%		50-140	26-JUL-21

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Client: GHD Limited (Waterloo)
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Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5529111								
WG3581058-5 MS		**WG3581058-3**						
1,1-Dichloroethane			109.6		%		50-140	26-JUL-21
1,1-Dichloroethylene			111.4		%		50-140	26-JUL-21
1,2-Dibromoethane			111.4		%		50-140	26-JUL-21
1,2-Dichlorobenzene			112.8		%		50-140	26-JUL-21
1,2-Dichloroethane			112.9		%		50-140	26-JUL-21
1,2-Dichloropropane			111.2		%		50-140	26-JUL-21
1,3-Dichlorobenzene			113.3		%		50-140	26-JUL-21
1,4-Dichlorobenzene			112.4		%		50-140	26-JUL-21
Acetone			129.5		%		50-140	26-JUL-21
Benzene			109.8		%		50-140	26-JUL-21
Bromodichloromethane			123.5		%		50-140	26-JUL-21
Bromoform			120.5		%		50-140	26-JUL-21
Bromomethane			106.3		%		50-140	26-JUL-21
Carbon tetrachloride			118.9		%		50-140	26-JUL-21
Chlorobenzene			113.9		%		50-140	26-JUL-21
Chloroform			115.1		%		50-140	26-JUL-21
cis-1,2-Dichloroethylene			113.3		%		50-140	26-JUL-21
cis-1,3-Dichloropropene			112.0		%		50-140	26-JUL-21
Dibromochloromethane			116.5		%		50-140	26-JUL-21
Dichlorodifluoromethane			94.9		%		50-140	26-JUL-21
Ethylbenzene			114.2		%		50-140	26-JUL-21
n-Hexane			109.9		%		50-140	26-JUL-21
Methylene Chloride			110.4		%		50-140	26-JUL-21
MTBE			109.1		%		50-140	26-JUL-21
m+p-Xylenes			116.5		%		50-140	26-JUL-21
Methyl Ethyl Ketone			118.6		%		50-140	26-JUL-21
Methyl Isobutyl Ketone			117.3		%		50-140	26-JUL-21
o-Xylene			111.9		%		50-140	26-JUL-21
Styrene			113.9		%		50-140	26-JUL-21
Tetrachloroethylene			114.9		%		50-140	26-JUL-21
Toluene			112.5		%		50-140	26-JUL-21
trans-1,2-Dichloroethylene			113.7		%		50-140	26-JUL-21
trans-1,3-Dichloropropene			110.0		%		50-140	26-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5529111								
WG3581058-5 MS		**WG3581058-3**						
Trichloroethylene			113.2		%		50-140	26-JUL-21
Trichlorofluoromethane			112.8		%		50-140	26-JUL-21
Vinyl chloride			94.3		%		50-140	26-JUL-21

Quality Control Report

Workorder: L2615912 Report Date: 30-JUL-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
LCS-ND	Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
RRQC	Refer to report remarks for information regarding this QC result.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

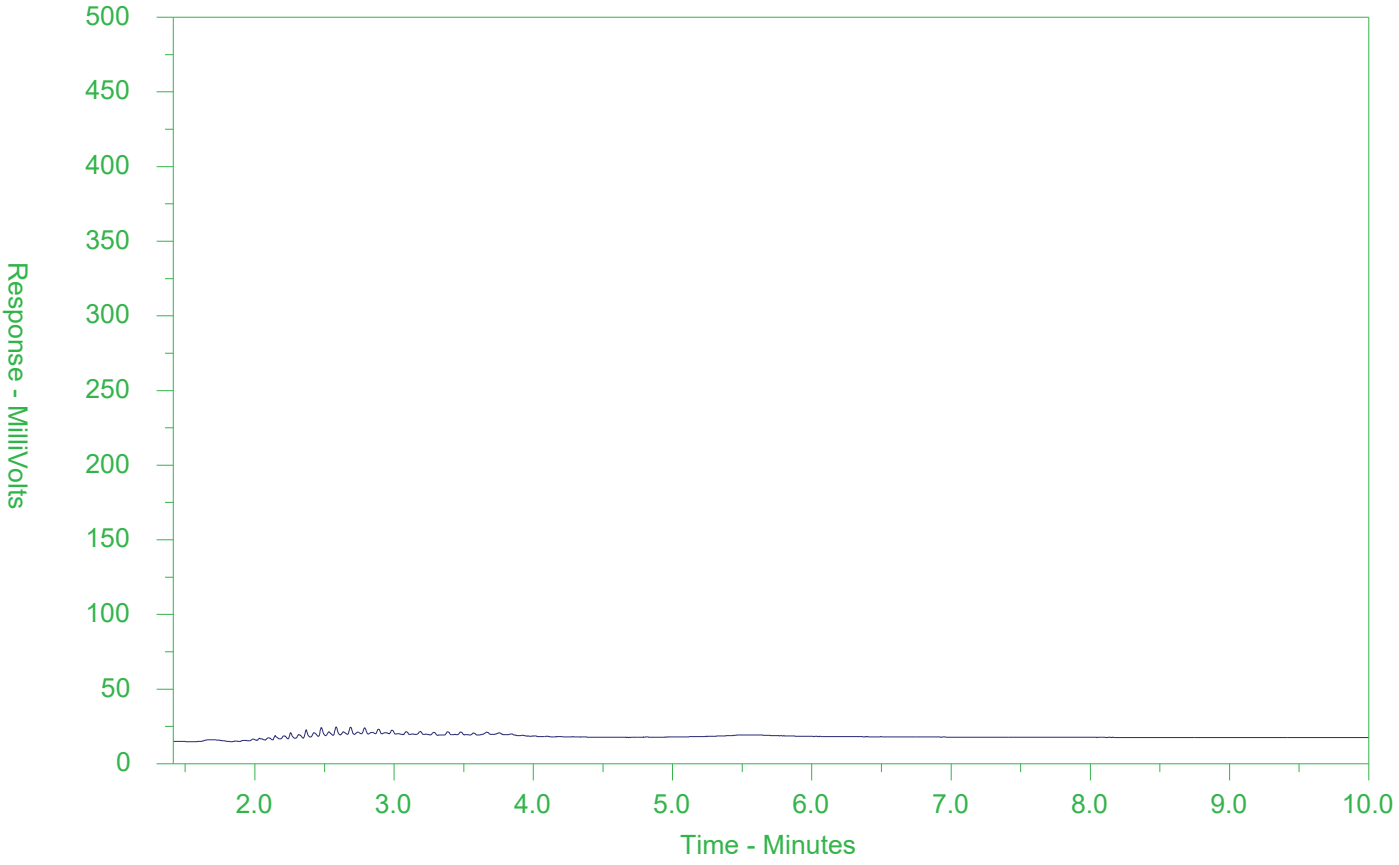
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615912-2
Client Sample ID: S-11230721-1600721-DA-MW6-21-SS-4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

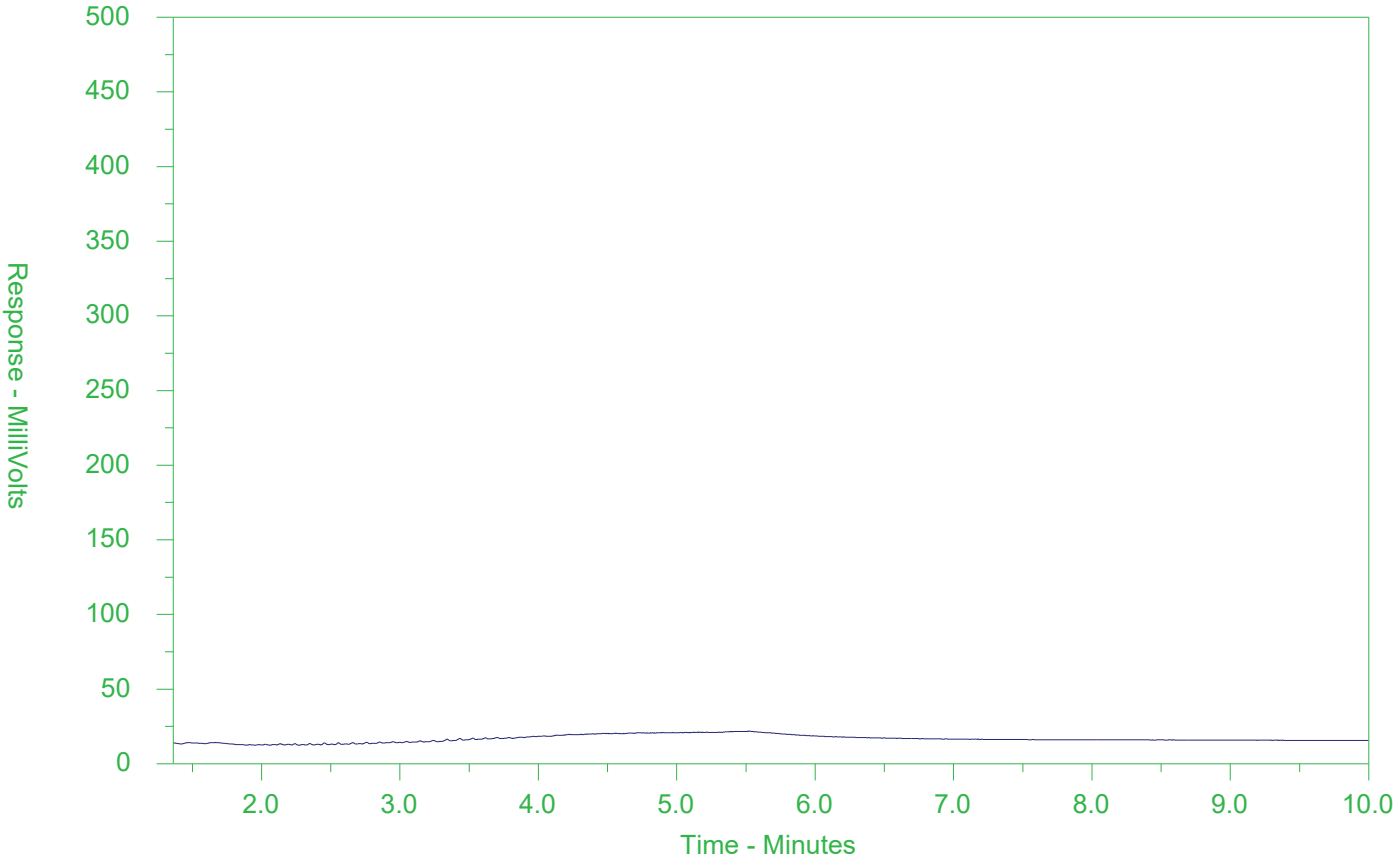
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615912-3
Client Sample ID: S-11230721-1600721-DA-MW7-21-SS-4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

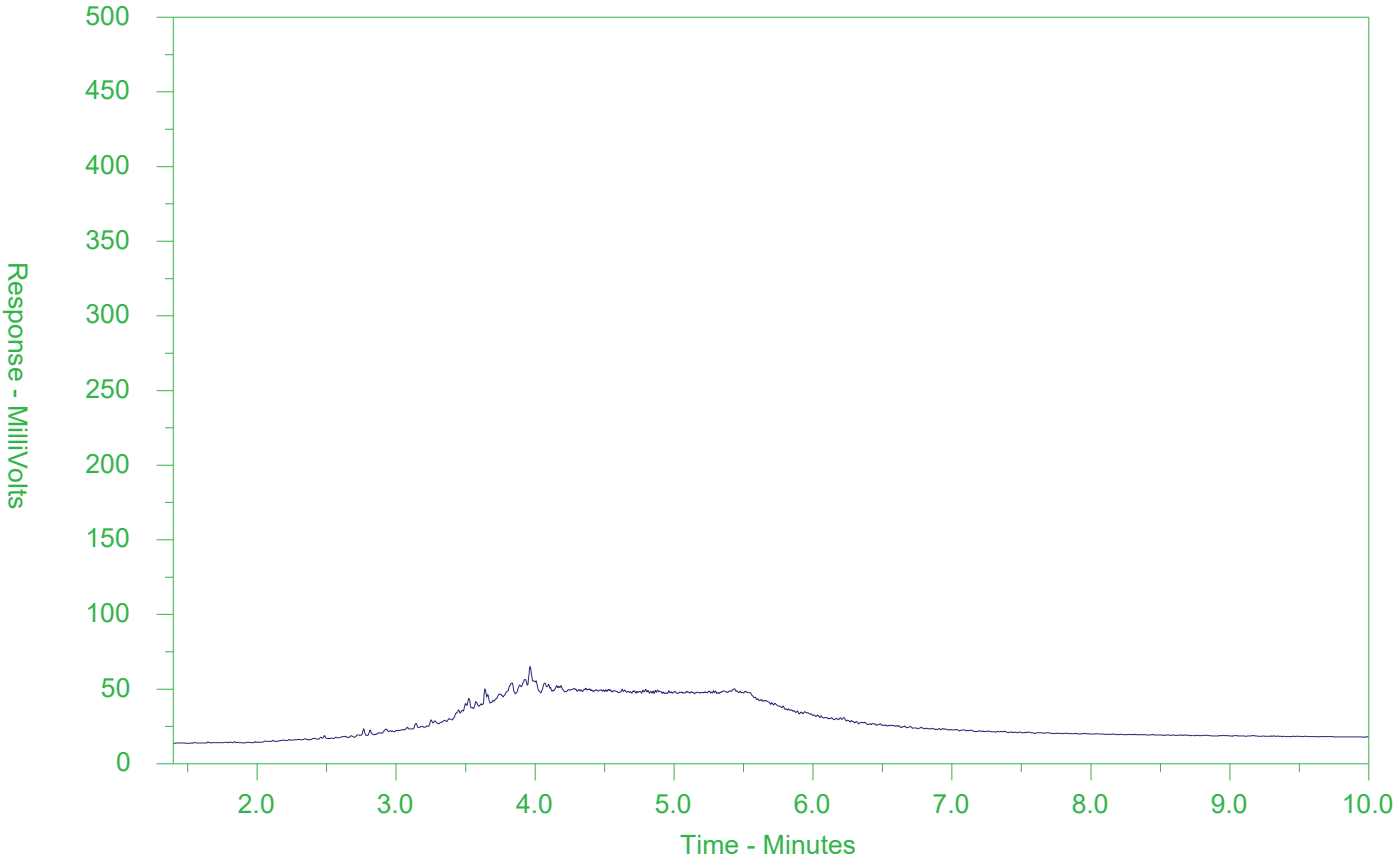
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2615912-4
Client Sample ID: S-11230721-1600721-DA-MW3-21-SS-2A



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	GHD Ltd. (Acct 13791)
Contact:	Pascal Renella
Phone:	519-884-0510
	Company address below will appear on the final report
Street:	455 Phillip St.
City/Province:	Waterloo, ON
Postal Code:	N2L 3X2
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	GHD Ltd. (Acct 13791)
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: pascal.renella@ghd.com
Email 2: See SSOW/PO
Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: Invoice-Canada@ghd.com
Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush resuests on weekends, statutory holidays and non-routine tests

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For tests that can not be performed according to the TAT requested, you will be contacted.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Account # / Quote #:	
Job #:	11230721-02
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): L2615912

ALS Contact: Rick H

Sampler: Dathan Ash

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Metals/Inorganics	PHC/BTEX	PHC/BTEX/VOC	PAH	PCBs	PHC/VOC-DA	PHC/VOC/FI	Corrosivity	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	S-11230721-160721-DA-MW6-21-SS-2	16-Jul-21	07:45	SOIL	1				X							
	S-11230721-160721-DA-MW6-21-SS-4	16-Jul-21	08:05	Soil	4	X	X					DA				
	S-11230721-160721-DA-MW7-21-SS-4	16-Jul-21	13:00	Soil	5	X		X			X	DA	X			
	S-11230721-160721-DA-MW3-21-SS-2A	16-Jul-21	14:00	Soil	4	X		X			X					
	Trip Blank	16-Jul-21	14:10	Soil	1							X				

L2615912-COFC

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☑ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
0.7	4.5

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Dathan Ash	July 16, 2021	17:50

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
	7/20/21	9:45

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

GHD Limited (Waterloo)
ATTN: Pascal Renella
455 Phillip St
Waterloo ON N2L3X2

Date Received: 26-JUL-21
Report Date: 04-AUG-21 12:44 (MT)
Version: FINAL

Client Phone: 519-884-0510

Certificate of Analysis

Lab Work Order #: L2619458

Project P.O. #: 73524385
Job Reference: 11230721-02
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-1 GW-11230721-260721-DA-MW5-21-001 Sampled By: D. ASH on 26-JUL-21 @ 10:30 Matrix: WATER							
Physical Tests							
Conductivity	2200		1.0	umhos/cm		28-JUL-21	R5531406
pH	8.05		0.10	pH units		28-JUL-21	R5531406
Redox Potential	353	PEHR	-1000	mV		04-AUG-21	R5543278
Resistivity	455		1.0	ohm*cm		29-JUL-21	
Anions and Nutrients							
Chloride (Cl)	399	DLDS	2.5	mg/L		29-JUL-21	R5534661
Sulfate (SO4)	97.0	DLDS	1.5	mg/L		29-JUL-21	R5534661
Sulphide as S	<0.18		0.18	mg/L		02-AUG-21	R5538861
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		30-JUL-21	R5535322
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					03-AUG-21	R5539796
Dissolved Metals Filtration Location	FIELD					28-JUL-21	R5531183
Antimony (Sb)-Dissolved	1.8	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Arsenic (As)-Dissolved	1.9	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Barium (Ba)-Dissolved	1210	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Beryllium (Be)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Boron (B)-Dissolved	470	DLHC	100	ug/L	28-JUL-21	29-JUL-21	R5534037
Cadmium (Cd)-Dissolved	<0.050	DLHC	0.050	ug/L	28-JUL-21	29-JUL-21	R5534037
Chromium (Cr)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Cobalt (Co)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Copper (Cu)-Dissolved	<2.0	DLHC	2.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Lead (Pb)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Mercury (Hg)-Dissolved	<0.0050		0.0050	ug/L	03-AUG-21	03-AUG-21	R5540262
Molybdenum (Mo)-Dissolved	6.74	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Nickel (Ni)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Selenium (Se)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Silver (Ag)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Sodium (Na)-Dissolved	333000	DLHC	500	ug/L	28-JUL-21	29-JUL-21	R5534037
Thallium (Tl)-Dissolved	<0.10	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Uranium (U)-Dissolved	0.39	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Vanadium (V)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Zinc (Zn)-Dissolved	<10	DLHC	10	ug/L	28-JUL-21	29-JUL-21	R5534037
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		29-JUL-21	R5535377
Volatile Organic Compounds							
Acetone	<30	OWP	30	ug/L		02-AUG-21	R5539097
Benzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Bromodichloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Bromoform	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Bromomethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Carbon tetrachloride	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-1 GW-11230721-260721-DA-MW5-21-001 Sampled By: D. ASH on 26-JUL-21 @ 10:30 Matrix: WATER							
Volatile Organic Compounds							
Chlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dibromochloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Chloroform	<1.0	OWP	1.0	ug/L		02-AUG-21	R5539097
1,2-Dibromoethane	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
1,2-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,3-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,4-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dichlorodifluoromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
1,1-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,2-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
trans-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methylene Chloride	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
1,2-Dichloropropane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,3-Dichloropropene	<3.0	DLVH	3.0	ug/L		02-AUG-21	R5539097
trans-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
1,3-Dichloropropene (cis & trans)	<3.0		3.0	ug/L		03-AUG-21	
Ethylbenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
n-Hexane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methyl Ethyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
Methyl Isobutyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
MTBE	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Styrene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Tetrachloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Toluene	0.75	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichlorofluoromethane	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Vinyl chloride	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
o-Xylene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
m+p-Xylenes	<0.40	OWP	0.40	ug/L		02-AUG-21	R5539097
Xylenes (Total)	<0.50		0.50	ug/L		03-AUG-21	
Surrogate: 4-Bromofluorobenzene	105.1		70-130	%		02-AUG-21	R5539097
Surrogate: 1,4-Difluorobenzene	102.8		70-130	%		02-AUG-21	R5539097
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		02-AUG-21	R5539097
F1-BTEX	<25		25	ug/L		03-AUG-21	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-1 GW-11230721-260721-DA-MW5-21-001 Sampled By: D. ASH on 26-JUL-21 @ 10:30 Matrix: WATER							
Hydrocarbons							
F2 (C10-C16)	240		100	ug/L	28-JUL-21	29-JUL-21	R5532156
F2-Naphth	240		100	ug/L		03-AUG-21	
F3 (C16-C34)	270		250	ug/L	28-JUL-21	29-JUL-21	R5532156
F3-PAH	270		250	ug/L		03-AUG-21	
F4 (C34-C50)	<250	OWP	250	ug/L	28-JUL-21	29-JUL-21	R5532156
Total Hydrocarbons (C6-C50)	520		370	ug/L		03-AUG-21	
Chrom. to baseline at nC50	YES				28-JUL-21	29-JUL-21	R5532156
Surrogate: 2-Bromobenzotrifluoride	85.1		60-140	%	28-JUL-21	29-JUL-21	R5532156
Surrogate: 3,4-Dichlorotoluene	62.4		60-140	%		02-AUG-21	R5539097
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Acenaphthylene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Anthracene	<0.160	DLQ	0.16	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(a)anthracene	0.031		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(a)pyrene	<0.015	DLQ	0.015	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(b&j)fluoranthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(g,h,i)perylene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(k)fluoranthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Chrysene	0.027		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Dibenz(a,h)anthracene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Fluoranthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Fluorene	0.210		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Indeno(1,2,3-cd)pyrene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
1+2-Methylnaphthalenes	0.084		0.028	ug/L		03-AUG-21	
1-Methylnaphthalene	0.044		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
2-Methylnaphthalene	0.040		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Naphthalene	<0.050		0.050	ug/L	28-JUL-21	03-AUG-21	R5539440
Phenanthrene	0.365		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Pyrene	0.025		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Surrogate: Chrysene d12	86.0		50-150	%	28-JUL-21	03-AUG-21	R5539440
Surrogate: Naphthalene d8	96.8		60-140	%	28-JUL-21	03-AUG-21	R5539440
Surrogate: Phenanthrene d10	95.8		60-140	%	28-JUL-21	03-AUG-21	R5539440
L2619458-2 GW-11230721-260721-DA-MW3-21-005 Sampled By: D. ASH on 26-JUL-21 @ 12:50 Matrix: WATER							
Physical Tests							
Conductivity	6.45		0.0030	mS/cm		28-JUL-21	R5531406
pH	7.42		0.10	pH units		28-JUL-21	R5531406
Anions and Nutrients							
Chloride (Cl)	2010	DLHC	5.0	mg/L		29-JUL-21	R5534661
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		30-JUL-21	R5535322

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-2 GW-11230721-260721-DA-MW3-21-005 Sampled By: D. ASH on 26-JUL-21 @ 12:50 Matrix: WATER							
Cyanides							
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					28-JUL-21	R5531183
Antimony (Sb)-Dissolved	3.2	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Arsenic (As)-Dissolved	2.7	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Barium (Ba)-Dissolved	2150	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Beryllium (Be)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Boron (B)-Dissolved	1640	DLHC	100	ug/L	28-JUL-21	29-JUL-21	R5534037
Cadmium (Cd)-Dissolved	0.093	DLHC	0.050	ug/L	28-JUL-21	29-JUL-21	R5534037
Chromium (Cr)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Cobalt (Co)-Dissolved	1.5	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Copper (Cu)-Dissolved	<2.0	DLHC	2.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Lead (Pb)-Dissolved	1.73	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Molybdenum (Mo)-Dissolved	7.07	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Nickel (Ni)-Dissolved	7.5	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Selenium (Se)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Silver (Ag)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Sodium (Na)-Dissolved	1510000	DLHC	5000	ug/L	28-JUL-21	31-JUL-21	R5534037
Thallium (Tl)-Dissolved	0.11	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Uranium (U)-Dissolved	1.19	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Vanadium (V)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Zinc (Zn)-Dissolved	<10	DLHC	10	ug/L	28-JUL-21	29-JUL-21	R5534037
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		29-JUL-21	R5535377
Volatile Organic Compounds							
Acetone	<30	OWP	30	ug/L		02-AUG-21	R5539097
Benzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Bromodichloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Bromoform	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Bromomethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Carbon tetrachloride	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
Chlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dibromochloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Chloroform	1.5	OWP	1.0	ug/L		02-AUG-21	R5539097
1,2-Dibromoethane	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
1,2-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,3-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,4-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dichlorodifluoromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
1,1-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,2-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-2 GW-11230721-260721-DA-MW3-21-005 Sampled By: D. ASH on 26-JUL-21 @ 12:50 Matrix: WATER							
Volatile Organic Compounds							
trans-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methylene Chloride	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
1,2-Dichloropropane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,3-Dichloropropene	<4.1	DLVH	4.1	ug/L		02-AUG-21	R5539097
trans-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
1,3-Dichloropropene (cis & trans)	<4.1		4.1	ug/L		03-AUG-21	
Ethylbenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
n-Hexane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methyl Ethyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
Methyl Isobutyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
MTBE	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Styrene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Tetrachloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Toluene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichlorofluoromethane	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Vinyl chloride	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
o-Xylene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
m+p-Xylenes	<0.40	OWP	0.40	ug/L		02-AUG-21	R5539097
Xylenes (Total)	<0.50		0.50	ug/L		03-AUG-21	
Surrogate: 4-Bromofluorobenzene	104.7		70-130	%		02-AUG-21	R5539097
Surrogate: 1,4-Difluorobenzene	102.9		70-130	%		02-AUG-21	R5539097
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		02-AUG-21	R5539097
F1-BTEX	<25		25	ug/L		03-AUG-21	
F2 (C10-C16)	500		100	ug/L	28-JUL-21	29-JUL-21	R5532156
F3 (C16-C34)	960		250	ug/L	28-JUL-21	29-JUL-21	R5532156
F4 (C34-C50)	410		250	ug/L	28-JUL-21	29-JUL-21	R5532156
Total Hydrocarbons (C6-C50)	1870		370	ug/L		03-AUG-21	
Chrom. to baseline at nC50	YES				28-JUL-21	29-JUL-21	R5532156
Surrogate: 2-Bromobenzotrifluoride	79.8		60-140	%	28-JUL-21	29-JUL-21	R5532156
Surrogate: 3,4-Dichlorotoluene	65.1		60-140	%		02-AUG-21	R5539097
L2619458-3 GW-11230721-260721-DA-MW2-21-002 Sampled By: D. ASH on 26-JUL-21 @ 10:21 Matrix: WATER							
Physical Tests							
Conductivity	2.50		0.0030	mS/cm		28-JUL-21	R5531406
pH	7.38		0.10	pH units		28-JUL-21	R5531406

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-3 GW-11230721-260721-DA-MW2-21-002 Sampled By: D. ASH on 26-JUL-21 @ 10:21 Matrix: WATER							
Physical Tests							
Anions and Nutrients							
Chloride (Cl)	440	DLHC	2.5	mg/L		29-JUL-21	R5534661
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		30-JUL-21	R5535322
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					28-JUL-21	R5531183
Antimony (Sb)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Arsenic (As)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Barium (Ba)-Dissolved	253	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Beryllium (Be)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Boron (B)-Dissolved	270	DLHC	100	ug/L	28-JUL-21	29-JUL-21	R5534037
Cadmium (Cd)-Dissolved	<0.050	DLHC	0.050	ug/L	28-JUL-21	29-JUL-21	R5534037
Chromium (Cr)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Cobalt (Co)-Dissolved	1.7	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Copper (Cu)-Dissolved	<2.0	DLHC	2.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Lead (Pb)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Molybdenum (Mo)-Dissolved	20.0	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Nickel (Ni)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Selenium (Se)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Silver (Ag)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Sodium (Na)-Dissolved	245000	DLHC	500	ug/L	28-JUL-21	29-JUL-21	R5534037
Thallium (Tl)-Dissolved	<0.10	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Uranium (U)-Dissolved	2.85	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Vanadium (V)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Zinc (Zn)-Dissolved	<10	DLHC	10	ug/L	28-JUL-21	29-JUL-21	R5534037
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		29-JUL-21	R5535377
Volatile Organic Compounds							
Acetone	<30	OWP	30	ug/L		02-AUG-21	R5539097
Benzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Bromodichloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Bromoform	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Bromomethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Carbon tetrachloride	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
Chlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dibromochloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Chloroform	1.8	OWP	1.0	ug/L		02-AUG-21	R5539097
1,2-Dibromoethane	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
1,2-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,3-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,4-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dichlorodifluoromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-3 GW-11230721-260721-DA-MW2-21-002 Sampled By: D. ASH on 26-JUL-21 @ 10:21 Matrix: WATER							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,2-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
trans-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methylene Chloride	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
1,2-Dichloropropane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
trans-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		03-AUG-21	
Ethylbenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methyl Ethyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
Methyl Isobutyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
MTBE	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Styrene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Tetrachloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Toluene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichlorofluoromethane	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Vinyl chloride	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
o-Xylene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
m+p-Xylenes	0.50	OWP	0.40	ug/L		02-AUG-21	R5539097
Xylenes (Total)	0.50		0.50	ug/L		03-AUG-21	
Surrogate: 4-Bromofluorobenzene	104.0		70-130	%		02-AUG-21	R5539097
Surrogate: 1,4-Difluorobenzene	103.2		70-130	%		02-AUG-21	R5539097
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		02-AUG-21	R5539097
F1-BTEX	<25		25	ug/L		03-AUG-21	
F2 (C10-C16)	<100		100	ug/L	28-JUL-21	29-JUL-21	R5532156
F3 (C16-C34)	<250		250	ug/L	28-JUL-21	29-JUL-21	R5532156
F4 (C34-C50)	<250		250	ug/L	28-JUL-21	29-JUL-21	R5532156
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-AUG-21	
Chrom. to baseline at nC50	YES				28-JUL-21	29-JUL-21	R5532156
Surrogate: 2-Bromobenzotrifluoride	87.4		60-140	%	28-JUL-21	29-JUL-21	R5532156
Surrogate: 3,4-Dichlorotoluene	69.2		60-140	%		02-AUG-21	R5539097
L2619458-4 GW-11230721-260721-DA-MW1-21-003 Sampled By: D. ASH on 26-JUL-21 @ 11:40 Matrix: WATER							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-4 GW-11230721-260721-DA-MW1-21-003 Sampled By: D. ASH on 26-JUL-21 @ 11:40 Matrix: WATER							
Physical Tests							
Conductivity	1.35		0.0030	mS/cm		28-JUL-21	R5531406
pH	7.59		0.10	pH units		28-JUL-21	R5531406
Anions and Nutrients							
Chloride (Cl)	69.9	DLHC	2.5	mg/L		29-JUL-21	R5534661
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		30-JUL-21	R5535322
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					28-JUL-21	R5531183
Antimony (Sb)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Arsenic (As)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Barium (Ba)-Dissolved	87.6	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Beryllium (Be)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Boron (B)-Dissolved	<100	DLHC	100	ug/L	28-JUL-21	29-JUL-21	R5534037
Cadmium (Cd)-Dissolved	<0.050	DLHC	0.050	ug/L	28-JUL-21	29-JUL-21	R5534037
Chromium (Cr)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Cobalt (Co)-Dissolved	2.5	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Copper (Cu)-Dissolved	2.5	DLHC	2.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Lead (Pb)-Dissolved	0.64	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Molybdenum (Mo)-Dissolved	10.8	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Nickel (Ni)-Dissolved	9.7	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Selenium (Se)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Silver (Ag)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Sodium (Na)-Dissolved	142000	DLHC	500	ug/L	28-JUL-21	29-JUL-21	R5534037
Thallium (Tl)-Dissolved	0.12	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Uranium (U)-Dissolved	6.52	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Vanadium (V)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Zinc (Zn)-Dissolved	<10	DLHC	10	ug/L	28-JUL-21	29-JUL-21	R5534037
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		29-JUL-21	R5535377
Volatile Organic Compounds							
Acetone	<30	OWP	30	ug/L		02-AUG-21	R5539097
Benzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Bromodichloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Bromoform	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Bromomethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Carbon tetrachloride	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
Chlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dibromochloromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Chloroform	<1.0	OWP	1.0	ug/L		02-AUG-21	R5539097
1,2-Dibromoethane	<0.20	OWP	0.20	ug/L		02-AUG-21	R5539097
1,2-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,3-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-4 GW-11230721-260721-DA-MW1-21-003 Sampled By: D. ASH on 26-JUL-21 @ 11:40 Matrix: WATER							
Volatile Organic Compounds							
1,4-Dichlorobenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Dichlorodifluoromethane	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
1,1-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,2-Dichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
trans-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methylene Chloride	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
1,2-Dichloropropane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
cis-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
trans-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		03-AUG-21	
Ethylbenzene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
n-Hexane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Methyl Ethyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
Methyl Isobutyl Ketone	<20	OWP	20	ug/L		02-AUG-21	R5539097
MTBE	<2.0	OWP	2.0	ug/L		02-AUG-21	R5539097
Styrene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Tetrachloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Toluene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,1-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
1,1,2-Trichloroethane	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichloroethylene	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
Trichlorofluoromethane	<5.0	OWP	5.0	ug/L		02-AUG-21	R5539097
Vinyl chloride	<0.50	OWP	0.50	ug/L		02-AUG-21	R5539097
o-Xylene	<0.30	OWP	0.30	ug/L		02-AUG-21	R5539097
m+p-Xylenes	<0.40	OWP	0.40	ug/L		02-AUG-21	R5539097
Xylenes (Total)	<0.50		0.50	ug/L		03-AUG-21	
Surrogate: 4-Bromofluorobenzene	105.2		70-130	%		02-AUG-21	R5539097
Surrogate: 1,4-Difluorobenzene	103.2		70-130	%		02-AUG-21	R5539097
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		02-AUG-21	R5539097
F1-BTEX	<25		25	ug/L		03-AUG-21	
F2 (C10-C16)	150		100	ug/L	28-JUL-21	29-JUL-21	R5532156
F3 (C16-C34)	<250		250	ug/L	28-JUL-21	29-JUL-21	R5532156
F4 (C34-C50)	<250		250	ug/L	28-JUL-21	29-JUL-21	R5532156
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-AUG-21	
Chrom. to baseline at nC50	YES				28-JUL-21	29-JUL-21	R5532156
Surrogate: 2-Bromobenzotrifluoride	81.6		60-140	%	28-JUL-21	29-JUL-21	R5532156

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-4 GW-11230721-260721-DA-MW1-21-003 Sampled By: D. ASH on 26-JUL-21 @ 11:40 Matrix: WATER							
Hydrocarbons							
Surrogate: 3,4-Dichlorotoluene	64.1		60-140	%		02-AUG-21	R5539097
L2619458-5 GW-11230721-260721-DA-MW6-21-004 Sampled By: D. ASH on 26-JUL-21 @ 12:10 Matrix: WATER							
Physical Tests							
Conductivity	5.40		0.0030	mS/cm		28-JUL-21	R5531406
pH	7.03		0.10	pH units		28-JUL-21	R5531406
Anions and Nutrients							
Chloride (Cl)	1390	DLHC	5.0	mg/L		29-JUL-21	R5534661
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		30-JUL-21	R5535322
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					03-AUG-21	R5539796
Dissolved Metals Filtration Location	FIELD					28-JUL-21	R5531183
Antimony (Sb)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Arsenic (As)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Barium (Ba)-Dissolved	147	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Beryllium (Be)-Dissolved	<1.0	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Boron (B)-Dissolved	320	DLHC	100	ug/L	28-JUL-21	29-JUL-21	R5534037
Cadmium (Cd)-Dissolved	0.063	DLHC	0.050	ug/L	28-JUL-21	29-JUL-21	R5534037
Chromium (Cr)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Cobalt (Co)-Dissolved	2.8	DLHC	1.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Copper (Cu)-Dissolved	<2.0	DLHC	2.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Lead (Pb)-Dissolved	0.82	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Mercury (Hg)-Dissolved	<0.0050		0.0050	ug/L	03-AUG-21	03-AUG-21	R5540262
Molybdenum (Mo)-Dissolved	3.61	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Nickel (Ni)-Dissolved	6.8	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Selenium (Se)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Silver (Ag)-Dissolved	<0.50	DLHC	0.50	ug/L	28-JUL-21	29-JUL-21	R5534037
Sodium (Na)-Dissolved	403000	DLHC	500	ug/L	28-JUL-21	29-JUL-21	R5534037
Thallium (Tl)-Dissolved	<0.10	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Uranium (U)-Dissolved	1.13	DLHC	0.10	ug/L	28-JUL-21	29-JUL-21	R5534037
Vanadium (V)-Dissolved	<5.0	DLHC	5.0	ug/L	28-JUL-21	29-JUL-21	R5534037
Zinc (Zn)-Dissolved	<10	DLHC	10	ug/L	28-JUL-21	29-JUL-21	R5534037
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		29-JUL-21	R5535377
Volatile Organic Compounds							
Benzene	<0.50	OWP	0.50	ug/L		03-AUG-21	R5540222
Ethylbenzene	<0.50	OWP	0.50	ug/L		03-AUG-21	R5540222
Toluene	<0.50	OWP	0.50	ug/L		03-AUG-21	R5540222
o-Xylene	<0.30	OWP	0.30	ug/L		03-AUG-21	R5540222
m+p-Xylenes	<0.40	OWP	0.40	ug/L		03-AUG-21	R5540222

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-5 GW-11230721-260721-DA-MW6-21-004 Sampled By: D. ASH on 26-JUL-21 @ 12:10 Matrix: WATER							
Volatile Organic Compounds							
Xylenes (Total)	<0.50		0.50	ug/L		03-AUG-21	
Surrogate: 4-Bromofluorobenzene	92.4		70-130	%		03-AUG-21	R5540222
Surrogate: 1,4-Difluorobenzene	97.2		70-130	%		03-AUG-21	R5540222
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		03-AUG-21	R5540222
F1-BTEX	<25		25	ug/L		03-AUG-21	
F2 (C10-C16)	<100		100	ug/L	28-JUL-21	29-JUL-21	R5532156
F2-Naphth	<100		100	ug/L		03-AUG-21	
F3 (C16-C34)	<250		250	ug/L	28-JUL-21	29-JUL-21	R5532156
F3-PAH	<250		250	ug/L		03-AUG-21	
F4 (C34-C50)	<250		250	ug/L	28-JUL-21	29-JUL-21	R5532156
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-AUG-21	
Chrom. to baseline at nC50	YES				28-JUL-21	29-JUL-21	R5532156
Surrogate: 2-Bromobenzotrifluoride	77.9		60-140	%	28-JUL-21	29-JUL-21	R5532156
Surrogate: 3,4-Dichlorotoluene	80.7		60-140	%		03-AUG-21	R5540222
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Acenaphthylene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Anthracene	<0.024	DLQ	0.024	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(a)anthracene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(a)pyrene	0.013		0.010	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(b&j)fluoranthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(g,h,i)perylene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Benzo(k)fluoranthene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Chrysene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Dibenz(a,h)anthracene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Fluoranthene	0.034		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Fluorene	0.024		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Indeno(1,2,3-cd)pyrene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
1+2-Methylnaphthalenes	<0.028		0.028	ug/L		03-AUG-21	
1-Methylnaphthalene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
2-Methylnaphthalene	<0.020		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Naphthalene	<0.050		0.050	ug/L	28-JUL-21	03-AUG-21	R5539440
Phenanthrene	0.073		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Pyrene	0.035		0.020	ug/L	28-JUL-21	03-AUG-21	R5539440
Surrogate: Chrysene d12	98.8		50-150	%	28-JUL-21	03-AUG-21	R5539440
Surrogate: Naphthalene d8	92.2		60-140	%	28-JUL-21	03-AUG-21	R5539440
Surrogate: Phenanthrene d10	98.0		60-140	%	28-JUL-21	03-AUG-21	R5539440
L2619458-6 TRIP BLANK Sampled By: D. ASH on 26-JUL-21 Matrix: WATER							
Volatile Organic Compounds							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-6 TRIP BLANK Sampled By: D. ASH on 26-JUL-21 Matrix: WATER							
Volatile Organic Compounds							
Acetone	<30		30	ug/L		02-AUG-21	R5539097
Benzene	<0.50		0.50	ug/L		02-AUG-21	R5539097
Bromodichloromethane	<2.0		2.0	ug/L		02-AUG-21	R5539097
Bromoform	<5.0		5.0	ug/L		02-AUG-21	R5539097
Bromomethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
Carbon tetrachloride	<0.20		0.20	ug/L		02-AUG-21	R5539097
Chlorobenzene	<0.50		0.50	ug/L		02-AUG-21	R5539097
Dibromochloromethane	<2.0		2.0	ug/L		02-AUG-21	R5539097
Chloroform	<1.0		1.0	ug/L		02-AUG-21	R5539097
1,2-Dibromoethane	<0.20		0.20	ug/L		02-AUG-21	R5539097
1,2-Dichlorobenzene	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,3-Dichlorobenzene	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,4-Dichlorobenzene	<0.50		0.50	ug/L		02-AUG-21	R5539097
Dichlorodifluoromethane	<2.0		2.0	ug/L		02-AUG-21	R5539097
1,1-Dichloroethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,2-Dichloroethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,1-Dichloroethylene	<0.50		0.50	ug/L		02-AUG-21	R5539097
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L		02-AUG-21	R5539097
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L		02-AUG-21	R5539097
Methylene Chloride	<5.0		5.0	ug/L		02-AUG-21	R5539097
1,2-Dichloropropane	<0.50		0.50	ug/L		02-AUG-21	R5539097
cis-1,3-Dichloropropene	<0.30		0.30	ug/L		02-AUG-21	R5539097
trans-1,3-Dichloropropene	<0.30		0.30	ug/L		02-AUG-21	R5539097
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		03-AUG-21	
Ethylbenzene	<0.50		0.50	ug/L		02-AUG-21	R5539097
n-Hexane	<0.50		0.50	ug/L		02-AUG-21	R5539097
Methyl Ethyl Ketone	<20		20	ug/L		02-AUG-21	R5539097
Methyl Isobutyl Ketone	<20		20	ug/L		02-AUG-21	R5539097
MTBE	<2.0		2.0	ug/L		02-AUG-21	R5539097
Styrene	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
Tetrachloroethylene	<0.50		0.50	ug/L		02-AUG-21	R5539097
Toluene	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,1,1-Trichloroethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
1,1,2-Trichloroethane	<0.50		0.50	ug/L		02-AUG-21	R5539097
Trichloroethylene	<0.50		0.50	ug/L		02-AUG-21	R5539097
Trichlorofluoromethane	<5.0		5.0	ug/L		02-AUG-21	R5539097
Vinyl chloride	<0.50		0.50	ug/L		02-AUG-21	R5539097
o-Xylene	<0.30		0.30	ug/L		02-AUG-21	R5539097
m+p-Xylenes	<0.40		0.40	ug/L		02-AUG-21	R5539097

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2619458-6 TRIP BLANK Sampled By: D. ASH on 26-JUL-21 Matrix: WATER							
Volatile Organic Compounds							
Xylenes (Total)	<0.50		0.50	ug/L		03-AUG-21	
Surrogate: 4-Bromofluorobenzene	102.9		70-130	%		02-AUG-21	R5539097
Surrogate: 1,4-Difluorobenzene	102.6		70-130	%		02-AUG-21	R5539097
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		02-AUG-21	R5539097
F1-BTEX	<25		25	ug/L		03-AUG-21	
Surrogate: 3,4-Dichlorotoluene	72.8		60-140	%		02-AUG-21	R5539097

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2619458-1, -2, -3, -4, -5
Matrix Spike	Boron (B)-Dissolved	MS-B	L2619458-1, -2, -3, -4, -5
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2619458-1, -2, -3, -4, -5
Matrix Spike	Uranium (U)-Dissolved	MS-B	L2619458-1, -2, -3, -4, -5

Sample Parameter Qualifier key listed:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
DLVH	Detection Limit raised due to interference from Volatile Hydrocarbons on VOC method. Chromatographic elution of interfering peaks in the same region as test analytes prevents a determination of whether VOC analyte is present or absent (above/below regular detection limits).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BTX-511-HS-WT	Water	BTEX by Headspace	SW846 8260 (511)

BTX is determined by analyzing by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CL-IC-N-WT	Water	Chloride by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

CN-WAD-R511-WT	Water	Cyanide (WAD)-O.Reg 153/04	APHA 4500CN I-Weak acid Dist Colorimet

Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CR-CR6-IC-R511-WT	Water	Hex Chrom-O.Reg 153/04 (July 2011)	EPA 7199

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 7199, published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution. Chromium (III) is calculated as the difference between the total chromium and the chromium (VI) results.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

EC-R511-WT	Water	Conductivity-O.Reg 153/04 (July 2011)	APHA 2510 B

Water samples can be measured directly by immersing the conductivity cell into the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

EC-SCREEN-WT	Water	Conductivity Screen (Internal Use Only)	APHA 2510

Reference Information

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

EC-WT	Water	Conductivity	APHA 2510 B

Water samples can be measured directly by immersing the conductivity cell into the sample.

F1-F4-511-CALC-WT	Water	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Water	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Water	F2-F4-O.Reg 153/04 (July 2011)	EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier 1 Method, CCME, 2001.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HG-D-UG/L-CVAA-WT	Water	Diss. Mercury in Water by CVAAS (ug/L)	EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-D-UG/L-MS-WT	Water	Diss. Metals in Water by ICPMS (ug/L)	EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

METHYLNAPS-CALC-WT	Water	PAH-Calculated Parameters	SW846 8270

PAH-511-WT	Water	PAH-O. Reg 153/04 (July 2011)	SW846 3510/8270

Aqueous samples, fortified with surrogates, are extracted using liquid/liquid extraction technique. The sample extracts are concentrated and then analyzed using GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental

Reference Information

Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PH-WT	Water	pH	APHA 4500 H-Electrode

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days

REDOX-POTENTIAL-WT	Water	Redox Potential	APHA 2580

This analysis is carried out in accordance with the procedure described in the "APHA" method 2580 "Oxidation-Reduction Potential" 2012. Results are reported as observed oxidation-reduction potential of the platinum metal-reference electrode employed, in mV.

It is recommended that this analysis be conducted in the field.

RESISTIVITY-CALC-WT	Water	Resistivity Calculation	APHA 2510 B

Resistivity are calculated based on the conductivity using APHA 2510B where Conductivity is the inverse of Resistivity.

S2-T-COL-VA	Water	Total Sulphide by Colorimetric	APHA 4500 -S E-Auto-Colorimetry

Sulfide is determined using the gas dialysis automated methlyene blue colourimetric method. Results expressed "as H2S", if reported, represent the maximum possible H2S concentration based on the total sulfide concentration in the sample.

SO4-IC-N-WT	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

VOC-1,3-DCP-CALC-WT	Water	Regulation 153 VOCs	SW8260B/SW8270C
VOC-511-HS-WT	Water	VOC by GCMS HS O.Reg 153/04 (July 2011)	SW846 8260

Liquid samples are analyzed by headspace GC/MSD.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

XYLENES-SUM-CALC-WT	Water	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2619458 Report Date: 04-AUG-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Water**							
Batch R5540222								
WG3588570-4 DUP		**WG3588570-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	03-AUG-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	03-AUG-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	03-AUG-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	03-AUG-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	03-AUG-21
WG3588570-1 LCS								
Benzene			106.9		%		70-130	03-AUG-21
Ethylbenzene			105.0		%		70-130	03-AUG-21
m+p-Xylenes			100.8		%		70-130	03-AUG-21
o-Xylene			104.2		%		70-130	03-AUG-21
Toluene			110.1		%		70-130	03-AUG-21
WG3588570-2 MB								
Benzene			<0.50		ug/L		0.5	03-AUG-21
Ethylbenzene			<0.50		ug/L		0.5	03-AUG-21
m+p-Xylenes			<0.40		ug/L		0.4	03-AUG-21
o-Xylene			<0.30		ug/L		0.3	03-AUG-21
Toluene			<0.50		ug/L		0.5	03-AUG-21
Surrogate: 1,4-Difluorobenzene			94.2		%		70-130	03-AUG-21
Surrogate: 4-Bromofluorobenzene			90.0		%		70-130	03-AUG-21
WG3588570-5 MS		**WG3588570-3**						
Benzene			99.8		%		50-140	03-AUG-21
Ethylbenzene			98.6		%		50-140	03-AUG-21
m+p-Xylenes			95.0		%		50-140	03-AUG-21
o-Xylene			98.0		%		50-140	03-AUG-21
Toluene			104.0		%		50-140	03-AUG-21
CL-IC-N-WT	**Water**							
Batch R5534661								
WG3586752-4 DUP		**L2619751-2**						
Chloride (Cl)		70.6	71.2		mg/L	0.9	20	29-JUL-21
WG3586752-2 LCS								
Chloride (Cl)			104.3		%		90-110	29-JUL-21
WG3586752-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	29-JUL-21
WG3586752-5 MS		**L2619751-2**						
Chloride (Cl)			101.7		%		75-125	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-WAD-R511-WT	**Water**							
Batch R5535322								
WG3587300-24 DUP		**WG3587300-23**						
Cyanide, Weak Acid Diss		<2.0	<2.0	RPD-NA	ug/L	N/A	20	30-JUL-21
WG3587300-22 LCS								
Cyanide, Weak Acid Diss			91.9		%		80-120	30-JUL-21
WG3587300-21 MB								
Cyanide, Weak Acid Diss			<2.0		ug/L		2	30-JUL-21
WG3587300-25 MS		**WG3587300-23**						
Cyanide, Weak Acid Diss			99.6		%		75-125	30-JUL-21
CR-CR6-IC-R511-WT	**Water**							
Batch R5535377								
WG3586871-4 DUP		**WG3586871-3**						
Chromium, Hexavalent		<0.50	<0.50	RPD-NA	ug/L	N/A	20	29-JUL-21
WG3586871-2 LCS								
Chromium, Hexavalent			97.8		%		80-120	29-JUL-21
WG3586871-1 MB								
Chromium, Hexavalent			<0.50		ug/L		0.5	29-JUL-21
WG3586871-5 MS		**WG3586871-3**						
Chromium, Hexavalent			97.5		%		70-130	29-JUL-21
EC-R511-WT	**Water**							
Batch R5531406								
WG3585686-4 DUP		**WG3585686-3**						
Conductivity		0.559	0.566		mS/cm	1.2	10	28-JUL-21
WG3585686-2 LCS								
Conductivity			99.9		%		90-110	28-JUL-21
WG3585686-1 MB								
Conductivity			<0.0030		mS/cm		0.003	28-JUL-21
EC-WT	**Water**							
Batch R5531406								
WG3585686-4 DUP		**WG3585686-3**						
Conductivity		559	566		umhos/cm	1.2	10	28-JUL-21
WG3585686-2 LCS								
Conductivity			99.9		%		90-110	28-JUL-21
WG3585686-1 MB								
Conductivity			<1.0		umhos/cm		1	28-JUL-21
F1-HS-511-WT	**Water**							

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Water**							
Batch R5539097								
WG3586956-4 DUP		**WG3586956-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	02-AUG-21
WG3586956-1 LCS								
F1 (C6-C10)			97.3		%		80-120	02-AUG-21
WG3586956-2 MB								
F1 (C6-C10)			<25		ug/L		25	02-AUG-21
Surrogate: 3,4-Dichlorotoluene			92.5		%		60-140	02-AUG-21
WG3586956-5 MS		**WG3586956-3**						
F1 (C6-C10)			85.6		%		60-140	02-AUG-21
Batch R5540222								
WG3588570-4 DUP		**WG3588570-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	03-AUG-21
WG3588570-1 LCS								
F1 (C6-C10)			104.3		%		80-120	03-AUG-21
WG3588570-2 MB								
F1 (C6-C10)			<25		ug/L		25	03-AUG-21
Surrogate: 3,4-Dichlorotoluene			109.0		%		60-140	03-AUG-21
WG3588570-5 MS		**WG3588570-3**						
F1 (C6-C10)			93.1		%		60-140	03-AUG-21
F2-F4-511-WT	**Water**							
Batch R5532156								
WG3585316-2 LCS								
F2 (C10-C16)			100.4		%		70-130	29-JUL-21
F3 (C16-C34)			94.8		%		70-130	29-JUL-21
F4 (C34-C50)			100.6		%		70-130	29-JUL-21
WG3585316-1 MB								
F2 (C10-C16)			<100		ug/L		100	29-JUL-21
F3 (C16-C34)			<250		ug/L		250	29-JUL-21
F4 (C34-C50)			<250		ug/L		250	29-JUL-21
Surrogate: 2-Bromobenzotrifluoride			86.5		%		60-140	29-JUL-21
HG-D-UG/L-CVAA-WT	**Water**							
Batch R5540262								
WG3588907-4 DUP		**WG3588907-3**						
Mercury (Hg)-Dissolved		<0.0050	<0.0050	RPD-NA	ug/L	N/A	20	03-AUG-21
WG3588907-2 LCS								
Mercury (Hg)-Dissolved			96.4		%		80-120	03-AUG-21
WG3588907-1 MB								

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-UG/L-CVAA-WT	**Water**							
Batch R5540262								
WG3588907-1 MB								
Mercury (Hg)-Dissolved			<0.0050		ug/L		0.005	03-AUG-21
WG3588907-6 MS		**WG3588907-5**						
Mercury (Hg)-Dissolved			106.0		%		70-130	03-AUG-21
MET-D-UG/L-MS-WT	**Water**							
Batch R5534037								
WG3586070-4 DUP		**WG3586070-3**						
Antimony (Sb)-Dissolved		1.8	1.9		ug/L	2.2	20	29-JUL-21
Arsenic (As)-Dissolved		1.9	1.9		ug/L	3.5	20	29-JUL-21
Barium (Ba)-Dissolved		1210	1220		ug/L	0.2	20	29-JUL-21
Beryllium (Be)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	29-JUL-21
Boron (B)-Dissolved		470	480		ug/L	1.7	20	29-JUL-21
Cadmium (Cd)-Dissolved		<0.050	<0.050	RPD-NA	ug/L	N/A	20	29-JUL-21
Chromium (Cr)-Dissolved		<5.0	<5.0	RPD-NA	ug/L	N/A	20	29-JUL-21
Cobalt (Co)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	29-JUL-21
Copper (Cu)-Dissolved		<2.0	<2.0	RPD-NA	ug/L	N/A	20	29-JUL-21
Lead (Pb)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	29-JUL-21
Molybdenum (Mo)-Dissolved		6.74	6.80		ug/L	0.8	20	29-JUL-21
Nickel (Ni)-Dissolved		<5.0	<5.0	RPD-NA	ug/L	N/A	20	29-JUL-21
Selenium (Se)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	29-JUL-21
Silver (Ag)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	29-JUL-21
Sodium (Na)-Dissolved		333000	338000		ug/L	1.4	20	29-JUL-21
Thallium (Tl)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	29-JUL-21
Uranium (U)-Dissolved		0.39	0.40		ug/L	2.2	20	29-JUL-21
Vanadium (V)-Dissolved		<5.0	<5.0	RPD-NA	ug/L	N/A	20	29-JUL-21
Zinc (Zn)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	29-JUL-21
WG3586070-2 LCS								
Antimony (Sb)-Dissolved			100.5		%		80-120	29-JUL-21
Arsenic (As)-Dissolved			101.8		%		80-120	29-JUL-21
Barium (Ba)-Dissolved			103.0		%		80-120	29-JUL-21
Beryllium (Be)-Dissolved			100.1		%		80-120	29-JUL-21
Boron (B)-Dissolved			95.7		%		80-120	29-JUL-21
Cadmium (Cd)-Dissolved			101.4		%		80-120	29-JUL-21
Chromium (Cr)-Dissolved			99.7		%		80-120	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5534037								
WG3586070-2 LCS								
Cobalt (Co)-Dissolved			101.2		%		80-120	29-JUL-21
Copper (Cu)-Dissolved			100.2		%		80-120	29-JUL-21
Lead (Pb)-Dissolved			101.8		%		80-120	29-JUL-21
Molybdenum (Mo)-Dissolved			102.2		%		80-120	29-JUL-21
Nickel (Ni)-Dissolved			99.0		%		80-120	29-JUL-21
Selenium (Se)-Dissolved			98.5		%		80-120	29-JUL-21
Silver (Ag)-Dissolved			103.2		%		80-120	29-JUL-21
Sodium (Na)-Dissolved			100.8		%		80-120	29-JUL-21
Thallium (Tl)-Dissolved			100.4		%		80-120	29-JUL-21
Uranium (U)-Dissolved			106.6		%		80-120	29-JUL-21
Vanadium (V)-Dissolved			101.6		%		80-120	29-JUL-21
Zinc (Zn)-Dissolved			107.6		%		80-120	29-JUL-21
WG3586070-1 MB								
Antimony (Sb)-Dissolved			<0.10		ug/L		0.1	29-JUL-21
Arsenic (As)-Dissolved			<0.10		ug/L		0.1	29-JUL-21
Barium (Ba)-Dissolved			<0.10		ug/L		0.1	29-JUL-21
Beryllium (Be)-Dissolved			<0.10		ug/L		0.1	29-JUL-21
Boron (B)-Dissolved			<10		ug/L		10	29-JUL-21
Cadmium (Cd)-Dissolved			<0.0050		ug/L		0.005	29-JUL-21
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	29-JUL-21
Cobalt (Co)-Dissolved			<0.10		ug/L		0.1	29-JUL-21
Copper (Cu)-Dissolved			<0.20		ug/L		0.2	29-JUL-21
Lead (Pb)-Dissolved			<0.050		ug/L		0.05	29-JUL-21
Molybdenum (Mo)-Dissolved			<0.050		ug/L		0.05	29-JUL-21
Nickel (Ni)-Dissolved			<0.50		ug/L		0.5	29-JUL-21
Selenium (Se)-Dissolved			<0.050		ug/L		0.05	29-JUL-21
Silver (Ag)-Dissolved			<0.050		ug/L		0.05	29-JUL-21
Sodium (Na)-Dissolved			<50		ug/L		50	29-JUL-21
Thallium (Tl)-Dissolved			<0.010		ug/L		0.01	29-JUL-21
Uranium (U)-Dissolved			<0.010		ug/L		0.01	29-JUL-21
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	29-JUL-21
Zinc (Zn)-Dissolved			<1.0		ug/L		1	29-JUL-21
WG3586070-5 MS		**WG3586070-3**						
Antimony (Sb)-Dissolved			91.9		%		70-130	29-JUL-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5534037								
WG3586070-5 MS		**WG3586070-3**						
Arsenic (As)-Dissolved			94.9		%		70-130	29-JUL-21
Barium (Ba)-Dissolved			N/A	MS-B	%		-	29-JUL-21
Beryllium (Be)-Dissolved			98.9		%		70-130	29-JUL-21
Boron (B)-Dissolved			N/A	MS-B	%		-	29-JUL-21
Cadmium (Cd)-Dissolved			95.1		%		70-130	29-JUL-21
Chromium (Cr)-Dissolved			95.2		%		70-130	29-JUL-21
Cobalt (Co)-Dissolved			94.1		%		70-130	29-JUL-21
Copper (Cu)-Dissolved			90.5		%		70-130	29-JUL-21
Lead (Pb)-Dissolved			91.2		%		70-130	29-JUL-21
Nickel (Ni)-Dissolved			90.4		%		70-130	29-JUL-21
Selenium (Se)-Dissolved			94.5		%		70-130	29-JUL-21
Silver (Ag)-Dissolved			83.1		%		70-130	29-JUL-21
Sodium (Na)-Dissolved			N/A	MS-B	%		-	29-JUL-21
Thallium (Tl)-Dissolved			92.1		%		70-130	29-JUL-21
Uranium (U)-Dissolved			N/A	MS-B	%		-	29-JUL-21
Vanadium (V)-Dissolved			95.6		%		70-130	29-JUL-21
Zinc (Zn)-Dissolved			93.4		%		70-130	29-JUL-21
PAH-511-WT	**Water**							
Batch R5539440								
WG3585316-2 LCS								
1-Methylnaphthalene			93.3		%		50-140	03-AUG-21
2-Methylnaphthalene			91.6		%		50-140	03-AUG-21
Acenaphthene			94.5		%		50-140	03-AUG-21
Acenaphthylene			100.7		%		50-140	03-AUG-21
Anthracene			98.6		%		50-140	03-AUG-21
Benzo(a)anthracene			120.8		%		50-140	03-AUG-21
Benzo(a)pyrene			101.5		%		50-140	03-AUG-21
Benzo(b&j)fluoranthene			96.9		%		50-140	03-AUG-21
Benzo(g,h,i)perylene			111.3		%		50-140	03-AUG-21
Benzo(k)fluoranthene			91.3		%		50-140	03-AUG-21
Chrysene			118.6		%		50-140	03-AUG-21
Dibenz(a,h)anthracene			112.8		%		50-140	03-AUG-21
Fluoranthene			109.4		%		50-140	03-AUG-21
Fluorene			104.9		%		50-140	

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Water**							
Batch R5539440								
WG3585316-2 LCS								
Fluorene			104.9		%		50-140	03-AUG-21
Indeno(1,2,3-cd)pyrene			118.1		%		50-140	03-AUG-21
Naphthalene			90.2		%		50-140	03-AUG-21
Phenanthrene			113.7		%		50-140	03-AUG-21
Pyrene			108.0		%		50-140	03-AUG-21
WG3585316-1 MB								
1-Methylnaphthalene			<0.020		ug/L		0.02	03-AUG-21
2-Methylnaphthalene			<0.020		ug/L		0.02	03-AUG-21
Acenaphthene			<0.020		ug/L		0.02	03-AUG-21
Acenaphthylene			<0.020		ug/L		0.02	03-AUG-21
Anthracene			<0.020		ug/L		0.02	03-AUG-21
Benzo(a)anthracene			<0.020		ug/L		0.02	03-AUG-21
Benzo(a)pyrene			<0.010		ug/L		0.01	03-AUG-21
Benzo(b&j)fluoranthene			<0.020		ug/L		0.02	03-AUG-21
Benzo(g,h,i)perylene			<0.020		ug/L		0.02	03-AUG-21
Benzo(k)fluoranthene			<0.020		ug/L		0.02	03-AUG-21
Chrysene			<0.020		ug/L		0.02	03-AUG-21
Dibenz(a,h)anthracene			<0.020		ug/L		0.02	03-AUG-21
Fluoranthene			<0.020		ug/L		0.02	03-AUG-21
Fluorene			<0.020		ug/L		0.02	03-AUG-21
Indeno(1,2,3-cd)pyrene			<0.020		ug/L		0.02	03-AUG-21
Naphthalene			<0.050		ug/L		0.05	03-AUG-21
Phenanthrene			<0.020		ug/L		0.02	03-AUG-21
Pyrene			<0.020		ug/L		0.02	03-AUG-21
Surrogate: Naphthalene d8			100.7		%		60-140	03-AUG-21
Surrogate: Phenanthrene d10			110.6		%		60-140	03-AUG-21
Surrogate: Chrysene d12			110.8		%		50-150	03-AUG-21
PH-WT	**Water**							
Batch R5531406								
WG3585686-4 DUP		**WG3585686-3**						
pH		8.14	7.95	J	pH units	0.19	0.2	28-JUL-21
WG3585686-2 LCS								
pH			6.99		pH units		6.9-7.1	28-JUL-21
REDOX-POTENTIAL-WT	**Water**							

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
REDOX-POTENTIAL-WT	**Water**							
Batch R5543278								
WG3589876-1 CRM		**WT-REDOX**						
Redox Potential			105.5		%		80-120	04-AUG-21
WG3589876-2 DUP		**L2619458-1**						
Redox Potential		353	348		mV	1.4	25	04-AUG-21
S2-T-COL-VA	**Water**							
Batch R5538861								
WG3588481-2 LCS								
Sulphide as S			103.5		%		75-125	02-AUG-21
WG3588481-1 MB								
Sulphide as S			<0.018		mg/L		0.018	02-AUG-21
SO4-IC-N-WT	**Water**							
Batch R5534661								
WG3586752-4 DUP		**L2619751-2**						
Sulfate (SO4)		24.5	24.8		mg/L	1.1	20	29-JUL-21
WG3586752-2 LCS								
Sulfate (SO4)			106.8		%		90-110	29-JUL-21
WG3586752-1 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	29-JUL-21
WG3586752-5 MS		**L2619751-2**						
Sulfate (SO4)			99.8		%		75-125	29-JUL-21
VOC-511-HS-WT	**Water**							
Batch R5539097								
WG3586956-4 DUP		**WG3586956-3**						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	02-AUG-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	02-AUG-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5539097								
WG3586956-4 DUP		**WG3586956-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	02-AUG-21
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	02-AUG-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	02-AUG-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	02-AUG-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	02-AUG-21
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	02-AUG-21
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	02-AUG-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	02-AUG-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	02-AUG-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	02-AUG-21
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	02-AUG-21
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	02-AUG-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	02-AUG-21
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	02-AUG-21
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	02-AUG-21
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	02-AUG-21
WG3586956-1 LCS								
1,1,1,2-Tetrachloroethane			96.1		%		70-130	02-AUG-21
1,1,2,2-Tetrachloroethane			90.4		%		70-130	02-AUG-21
1,1,1-Trichloroethane			99.6		%		70-130	02-AUG-21
1,1,2-Trichloroethane			96.1		%		70-130	02-AUG-21
1,1-Dichloroethane			97.2		%		70-130	02-AUG-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5539097								
WG3586956-1 LCS								
1,1-Dichloroethylene			98.9		%		70-130	02-AUG-21
1,2-Dibromoethane			94.4		%		70-130	02-AUG-21
1,2-Dichlorobenzene			99.2		%		70-130	02-AUG-21
1,2-Dichloroethane			93.4		%		70-130	02-AUG-21
1,2-Dichloropropane			94.2		%		70-130	02-AUG-21
1,3-Dichlorobenzene			101.0		%		70-130	02-AUG-21
1,4-Dichlorobenzene			101.6		%		70-130	02-AUG-21
Acetone			110.2		%		60-140	02-AUG-21
Benzene			95.6		%		70-130	02-AUG-21
Bromodichloromethane			104.5		%		70-130	02-AUG-21
Bromoform			101.8		%		70-130	02-AUG-21
Bromomethane			94.4		%		60-140	02-AUG-21
Carbon tetrachloride			100.2		%		70-130	02-AUG-21
Chlorobenzene			100.6		%		70-130	02-AUG-21
Chloroform			96.4		%		70-130	02-AUG-21
cis-1,2-Dichloroethylene			97.4		%		70-130	02-AUG-21
cis-1,3-Dichloropropene			90.5		%		70-130	02-AUG-21
Dibromochloromethane			100.2		%		70-130	02-AUG-21
Dichlorodifluoromethane			82.6		%		50-140	02-AUG-21
Ethylbenzene			102.8		%		70-130	02-AUG-21
n-Hexane			99.3		%		70-130	02-AUG-21
m+p-Xylenes			104.7		%		70-130	02-AUG-21
Methyl Ethyl Ketone			97.0		%		60-140	02-AUG-21
Methyl Isobutyl Ketone			94.8		%		60-140	02-AUG-21
Methylene Chloride			96.8		%		70-130	02-AUG-21
MTBE			97.3		%		70-130	02-AUG-21
o-Xylene			102.0		%		70-130	02-AUG-21
Styrene			99.4		%		70-130	02-AUG-21
Tetrachloroethylene			103.3		%		70-130	02-AUG-21
Toluene			102.8		%		70-130	02-AUG-21
trans-1,2-Dichloroethylene			99.8		%		70-130	02-AUG-21
trans-1,3-Dichloropropene			93.1		%		70-130	02-AUG-21
Trichloroethylene			93.9		%		70-130	02-AUG-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5539097								
WG3586956-1 LCS								
Trichlorofluoromethane			100.3		%		60-140	02-AUG-21
Vinyl chloride			81.7		%		60-140	02-AUG-21
WG3586956-2 MB								
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	02-AUG-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	02-AUG-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	02-AUG-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	02-AUG-21
1,1-Dichloroethane			<0.50		ug/L		0.5	02-AUG-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	02-AUG-21
1,2-Dibromoethane			<0.20		ug/L		0.2	02-AUG-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	02-AUG-21
1,2-Dichloroethane			<0.50		ug/L		0.5	02-AUG-21
1,2-Dichloropropane			<0.50		ug/L		0.5	02-AUG-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	02-AUG-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	02-AUG-21
Acetone			<30		ug/L		30	02-AUG-21
Benzene			<0.50		ug/L		0.5	02-AUG-21
Bromodichloromethane			<2.0		ug/L		2	02-AUG-21
Bromoform			<5.0		ug/L		5	02-AUG-21
Bromomethane			<0.50		ug/L		0.5	02-AUG-21
Carbon tetrachloride			<0.20		ug/L		0.2	02-AUG-21
Chlorobenzene			<0.50		ug/L		0.5	02-AUG-21
Chloroform			<1.0		ug/L		1	02-AUG-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	02-AUG-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	02-AUG-21
Dibromochloromethane			<2.0		ug/L		2	02-AUG-21
Dichlorodifluoromethane			<2.0		ug/L		2	02-AUG-21
Ethylbenzene			<0.50		ug/L		0.5	02-AUG-21
n-Hexane			<0.50		ug/L		0.5	02-AUG-21
m+p-Xylenes			<0.40		ug/L		0.4	02-AUG-21
Methyl Ethyl Ketone			<20		ug/L		20	02-AUG-21
Methyl Isobutyl Ketone			<20		ug/L		20	02-AUG-21
Methylene Chloride			<5.0		ug/L		5	02-AUG-21
MTBE			<2.0		ug/L		2	02-AUG-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5539097								
WG3586956-2 MB								
o-Xylene			<0.30		ug/L		0.3	02-AUG-21
Styrene			<0.50		ug/L		0.5	02-AUG-21
Tetrachloroethylene			<0.50		ug/L		0.5	02-AUG-21
Toluene			<0.50		ug/L		0.5	02-AUG-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	02-AUG-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	02-AUG-21
Trichloroethylene			<0.50		ug/L		0.5	02-AUG-21
Trichlorofluoromethane			<5.0		ug/L		5	02-AUG-21
Vinyl chloride			<0.50		ug/L		0.5	02-AUG-21
Surrogate: 1,4-Difluorobenzene			100.6		%		70-130	02-AUG-21
Surrogate: 4-Bromofluorobenzene			100.2		%		70-130	02-AUG-21
WG3586956-5 MS		**WG3586956-3**						
1,1,1,2-Tetrachloroethane			99.4		%		50-140	02-AUG-21
1,1,2,2-Tetrachloroethane			87.3		%		50-140	02-AUG-21
1,1,1-Trichloroethane			104.7		%		50-140	02-AUG-21
1,1,2-Trichloroethane			91.9		%		50-140	02-AUG-21
1,1-Dichloroethane			98.0		%		50-140	02-AUG-21
1,1-Dichloroethylene			98.0		%		50-140	02-AUG-21
1,2-Dibromoethane			91.5		%		50-140	02-AUG-21
1,2-Dichlorobenzene			98.5		%		50-140	02-AUG-21
1,2-Dichloroethane			96.1		%		50-140	02-AUG-21
1,2-Dichloropropane			93.5		%		50-140	02-AUG-21
1,3-Dichlorobenzene			100.1		%		50-140	02-AUG-21
1,4-Dichlorobenzene			100.8		%		50-140	02-AUG-21
Acetone			110.5		%		50-140	02-AUG-21
Benzene			97.0		%		50-140	02-AUG-21
Bromodichloromethane			107.0		%		50-140	02-AUG-21
Bromoform			111.3		%		50-140	02-AUG-21
Bromomethane			86.1		%		50-140	02-AUG-21
Carbon tetrachloride			109.5		%		50-140	02-AUG-21
Chlorobenzene			102.8		%		50-140	02-AUG-21
Chloroform			99.2		%		50-140	02-AUG-21
cis-1,2-Dichloroethylene			96.8		%		50-140	02-AUG-21
cis-1,3-Dichloropropene			91.3		%		50-140	02-AUG-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5539097								
WG3586956-5 MS		**WG3586956-3**						
Dibromochloromethane			105.3		%		50-140	02-AUG-21
Dichlorodifluoromethane			73.9		%		50-140	02-AUG-21
Ethylbenzene			102.8		%		50-140	02-AUG-21
n-Hexane			103.6		%		50-140	02-AUG-21
m+p-Xylenes			107.3		%		50-140	02-AUG-21
Methyl Ethyl Ketone			93.3		%		50-140	02-AUG-21
Methyl Isobutyl Ketone			95.5		%		50-140	02-AUG-21
Methylene Chloride			104.6		%		50-140	02-AUG-21
MTBE			97.1		%		50-140	02-AUG-21
o-Xylene			102.0		%		50-140	02-AUG-21
Styrene			99.6		%		50-140	02-AUG-21
Tetrachloroethylene			107.1		%		50-140	02-AUG-21
Toluene			101.9		%		50-140	02-AUG-21
trans-1,2-Dichloroethylene			103.6		%		50-140	02-AUG-21
trans-1,3-Dichloropropene			90.4		%		50-140	02-AUG-21
Trichloroethylene			98.8		%		50-140	02-AUG-21
Trichlorofluoromethane			105.7		%		50-140	02-AUG-21
Vinyl chloride			72.2		%		50-140	02-AUG-21

Quality Control Report

Workorder: L2619458 Report Date: 04-AUG-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2619458 Report Date: 04-AUG-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Redox Potential							
	1	26-JUL-21 10:30	04-AUG-21 00:00	0.25	205	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2619458 were received on 26-JUL-21 15:35.

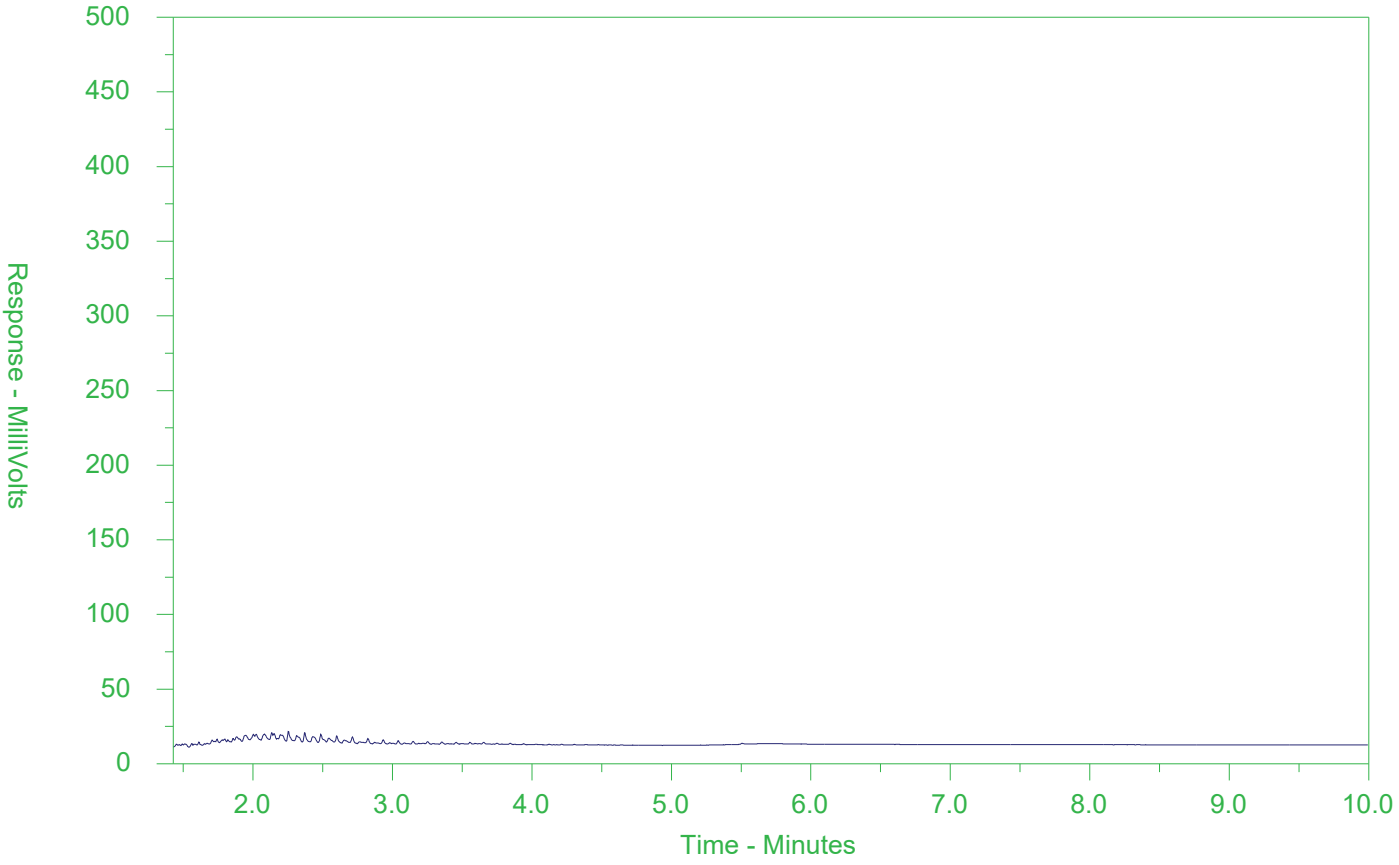
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2619458-1
Client Sample ID: GW-11230721-260721-DA-MW5-21-001



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

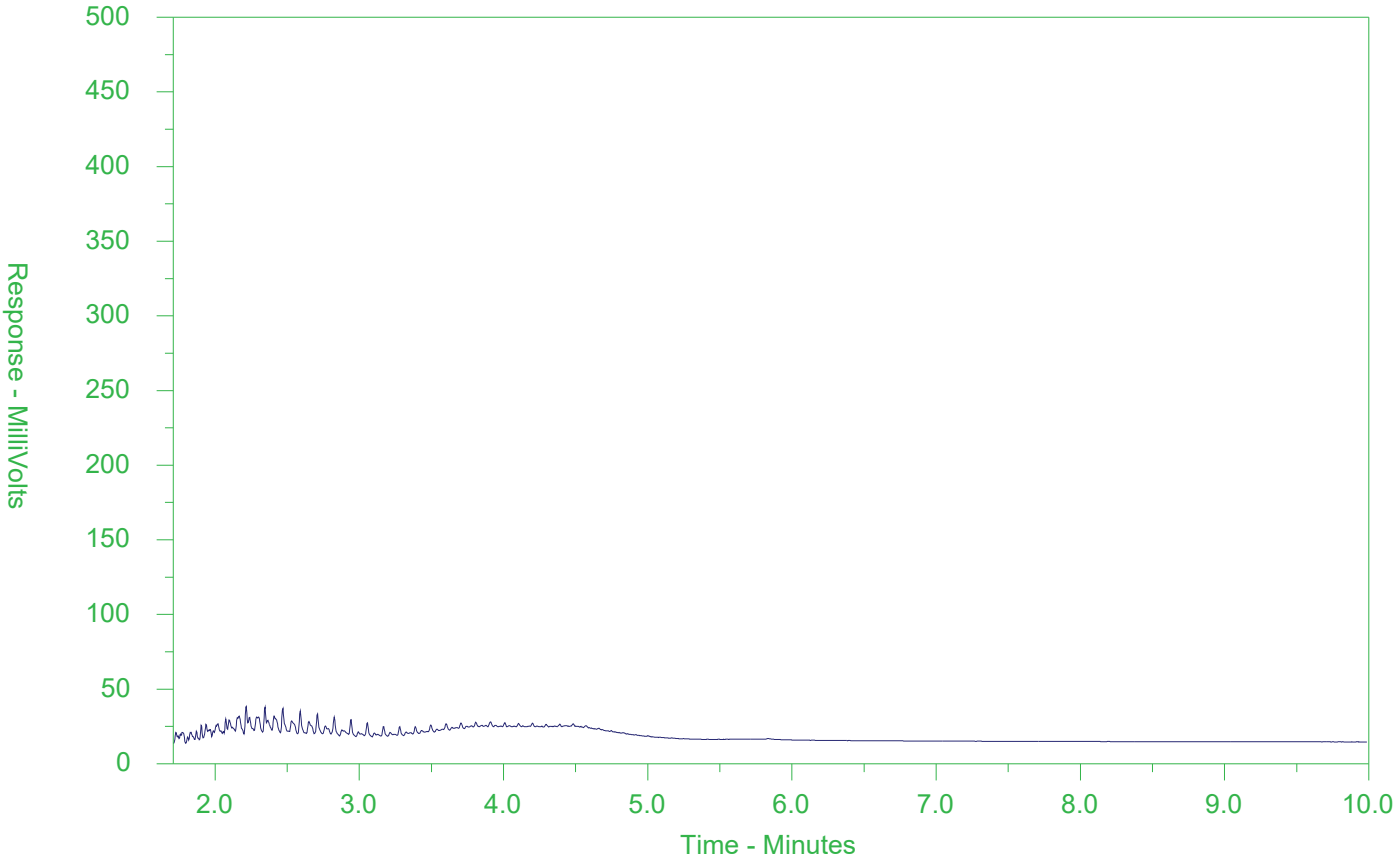
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2619458-2
Client Sample ID: GW-11230721-260721-DA-MW3-21-005



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

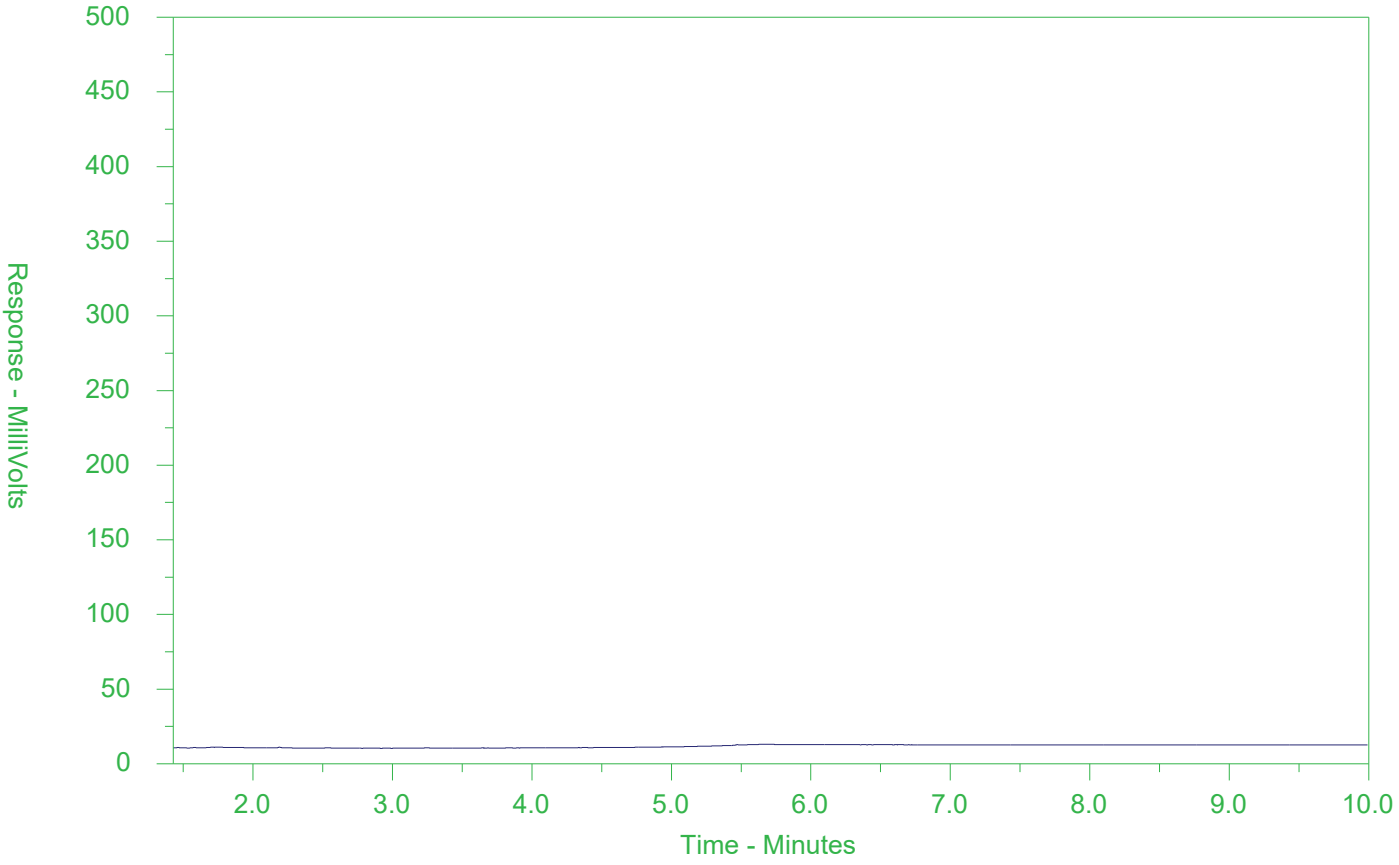
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2619458-3
Client Sample ID: GW-11230721-260721-DA-MW2-21-002



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

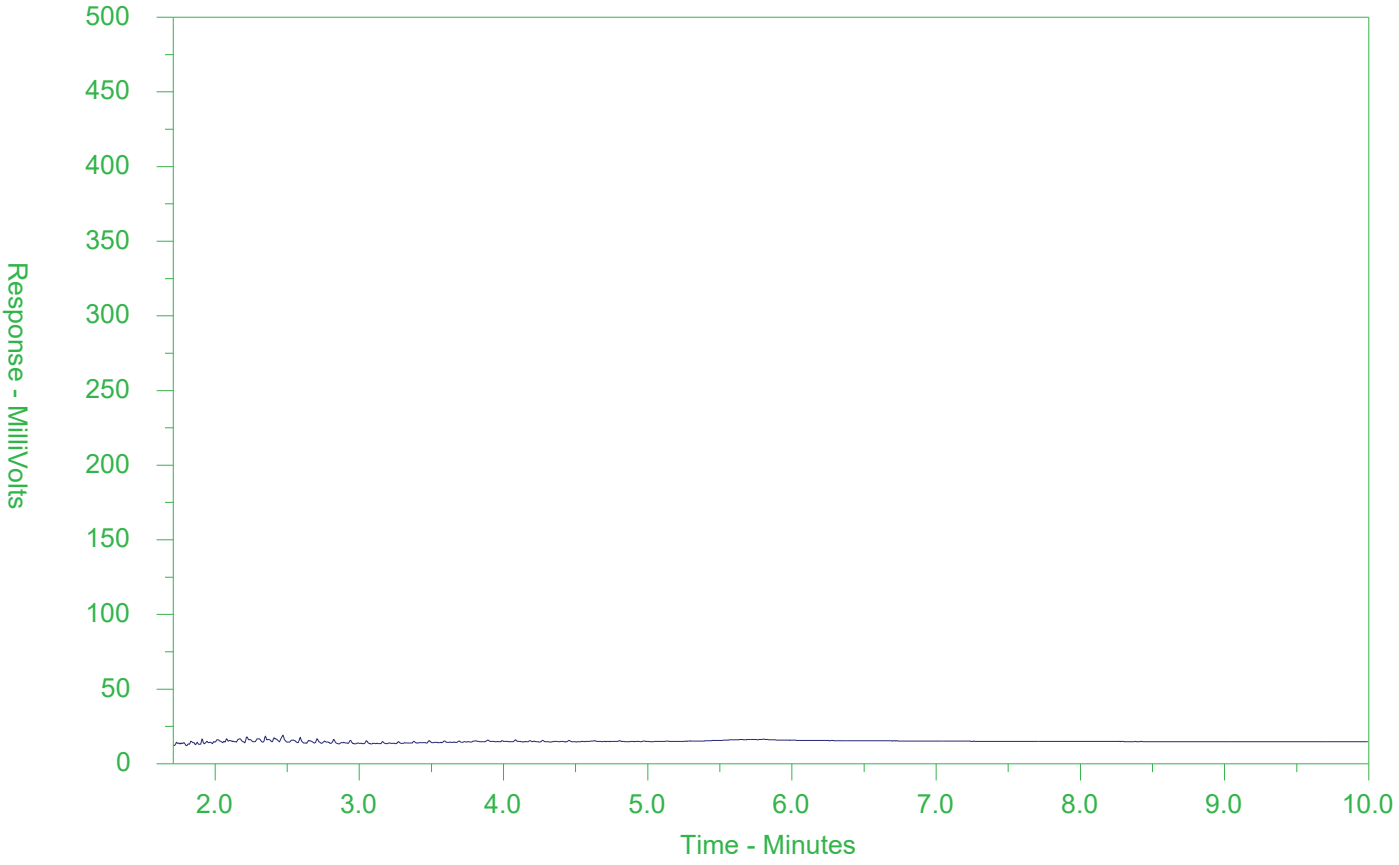
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2619458-4
Client Sample ID: GW-11230721-260721-DA-MW1-21-003



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

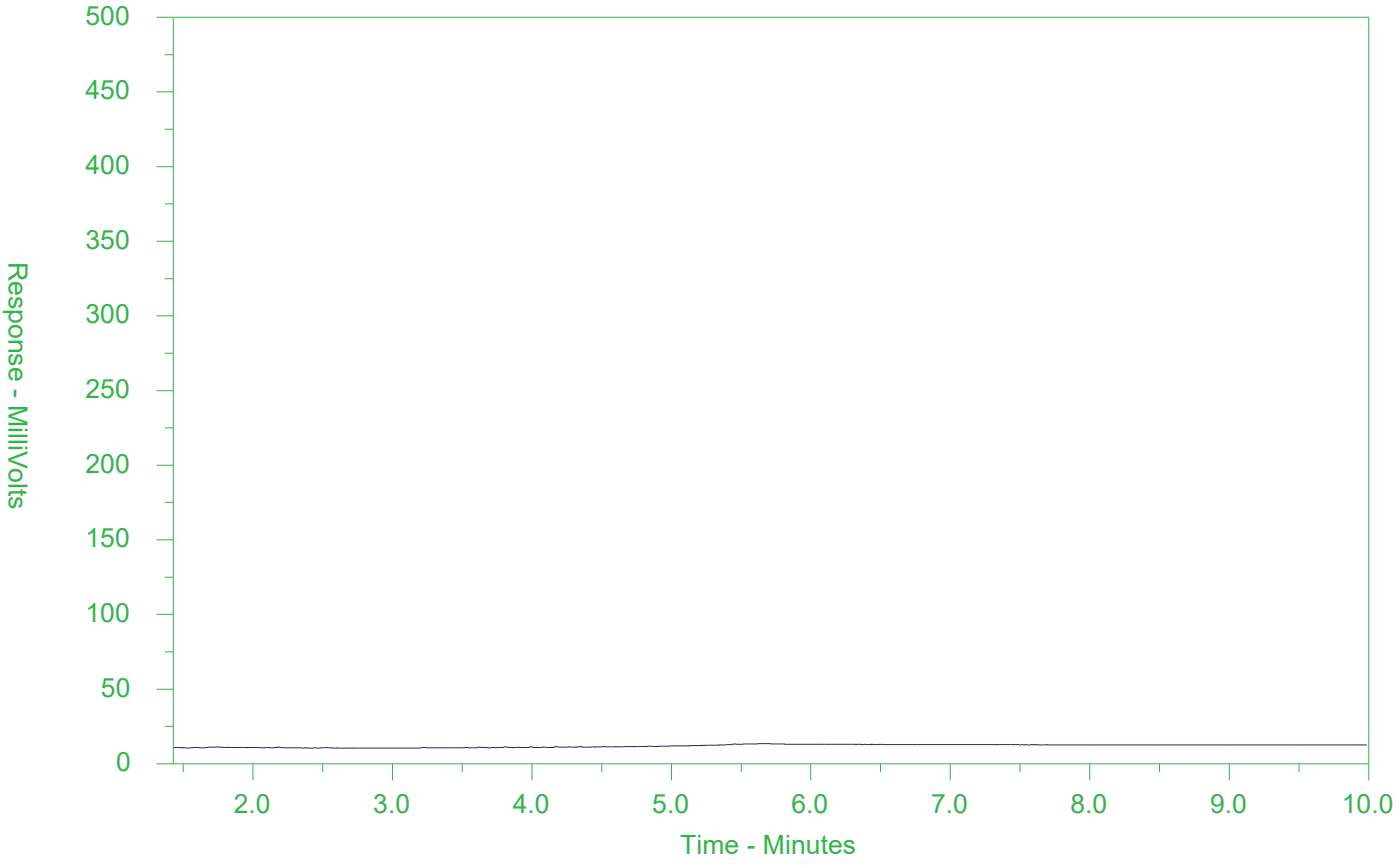
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2619458-5
Client Sample ID: GW-11230721-260721-DA-MW6-21-004



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

Chain of Custody (COC) / Analytical Request Form

L2619458-COFC

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 20 -

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	GHD Ltd. (Acct 13791)
Contact:	Pascal Renella
Phone:	519-884-0510
	Company address below will appear on the final report
Street:	455 Phillip St.
City/Province:	Waterloo, ON
Postal Code:	N2L 3X2
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	GHD Ltd. (Acct 13791)
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: pascal.renella@ghd.com

Email 2: See SSOW/PO

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: Invoice-Canada@ghd.com

Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush resuests on weekends, statutory holidays and non-routine tests

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For tests that can not be performed according to the TAT requested, you will be contacted.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Account # / Quote #:

Job #: 11230721-02

PO / AFE:

LSD:

L2619458

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#:

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (lab use only): [redacted]

ALS Contact: Rick H

Sampler: Dathon Ash

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Metals/Inorganics	PHC/BTEX/VOC	PCBs	PAH	PHC/VOC	General Chemistry	Sulphide	PHC/BTEX	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	GW-1123072I-260721-DA-MW5-21-001	26-Jul-21	10:30	WATER	13	X			X	X	X	X				
	GW-1123072I-260721-DA-MW3-21-005	26-Jul-21	12:50	water	9	X				X						
	GW-1123072I-260721-DA-MW2-21-002	26-Jul-21	10:21	water	9	X	X									
	GW-1123072I-260721-DA-MW1-21-003	26-Jul-21	11:40	water	9	X	X									
	GW-1123072I-260721-DA-MW6-21-004	26-Jul-21	12:10	water	11	X			X				X			
	Trip Blank	26-Jul-21			2											

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☒ ICE ☐ ICE PACKS ☐ FROZEN ☒ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☒ YES ☐ NO

Cooler Custody Seals Intact: ☒ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
24.1	5.8

SHIPMENT RELEASE (client use)

Released by: Dathon Ash Date: July 26, 2021 Time: 15:00

INITIAL SHIPMENT RECEPTION (lab use only)

Received by: Costa F Date: 7/26/21 Time: 15:35

FINAL SHIPMENT RECEPTION (lab use only)

Received by: Date: 7/28/21 Time: 9

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

GHD Limited (Waterloo)
ATTN: Pascal Renella
455 Phillip St
Waterloo ON N2L3X2

Date Received: 21-SEP-21
Report Date: 05-OCT-21 13:04 (MT)
Version: FINAL REV. 2

Client Phone: 519-884-0510

Certificate of Analysis

Lab Work Order #: L2642785

Project P.O. #: 73524385
Job Reference: 11230721-01
C of C Numbers:
Legal Site Desc:

Comments: ADDITIONAL 29-SEP-21 15:02

5-OCT-2021 WITH GL-004 reporting.

Rick Hawthorne
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642785-1 GW-11230721-0920-GL-001 Sampled By: CLIENT on 20-SEP-21 @ 17:00 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50		0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30		0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40		0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	99.5		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.2		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	93.7		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	85.9		60-140	%		24-SEP-21	R5597377
L2642785-2 GW-11230721-0920-GL-002 Sampled By: CLIENT on 20-SEP-21 @ 11:50 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50		0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30		0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40		0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	100.5		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.3		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	94.2		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	86.4		60-140	%		24-SEP-21	R5597377
L2642785-3 GW-11230721-0920-GL-003 Sampled By: CLIENT on 20-SEP-21 @ 15:27							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642785-3 GW-11230721-0920-GL-003 Sampled By: CLIENT on 20-SEP-21 @ 15:27 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Toluene	0.54		0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30		0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	0.42		0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	102.6		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	97.8		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	89.4		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	72.9		60-140	%		24-SEP-21	R5597377
L2642785-4 GW-11230721-0920-GL-004 Sampled By: CLIENT on 20-SEP-21 @ 17:45 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50	OWP	0.50	ug/L		30-SEP-21	R5604946
Ethylbenzene	<0.50	OWP	0.50	ug/L		30-SEP-21	R5604946
Toluene	2.33	OWP	0.50	ug/L		30-SEP-21	R5604946
o-Xylene	0.44	OWP	0.30	ug/L		30-SEP-21	R5604946
m+p-Xylenes	1.27	OWP	0.40	ug/L		30-SEP-21	R5604946
Xylenes (Total)	1.72		0.50	ug/L		30-SEP-21	
Surrogate: 4-Bromofluorobenzene	99.0		70-130	%		30-SEP-21	R5604946
Surrogate: 1,4-Difluorobenzene	92.9		70-130	%		30-SEP-21	R5604946
Hydrocarbons							
F1 (C6-C10)	27	OWP	25	ug/L		30-SEP-21	R5604946
F1-BTEX	<25		25	ug/L		05-OCT-21	
F2 (C10-C16)	<100		100	ug/L	30-SEP-21	05-OCT-21	R5602077
F3 (C16-C34)	<250		250	ug/L	30-SEP-21	05-OCT-21	R5602077
F4 (C34-C50)	<250		250	ug/L	30-SEP-21	05-OCT-21	R5602077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		05-OCT-21	
Chrom. to baseline at nC50	YES				30-SEP-21	05-OCT-21	R5602077
Surrogate: 2-Bromobenzotrifluoride	88.2		60-140	%	30-SEP-21	05-OCT-21	R5602077
Surrogate: 3,4-Dichlorotoluene	104.6		60-140	%		30-SEP-21	R5604946
L2642785-5 GW-11230721-0920-GL-005 Sampled By: CLIENT on 21-SEP-21 @ 10:45							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642785-5 GW-11230721-0920-GL-005 Sampled By: CLIENT on 21-SEP-21 @ 10:45 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30	OWP	0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40	OWP	0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	104.6		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.0		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	91.2		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	59.2	SURR-ND	60-140	%		24-SEP-21	R5597377
L2642785-6 GW-11230721-0921-GL-006 Sampled By: CLIENT on 21-SEP-21 @ 12:40 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30	OWP	0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40	OWP	0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	101.8		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.3		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	84.2		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	77.2		60-140	%		24-SEP-21	R5597377
L2642785-7 GW-11230721-0921-GL-007 Sampled By: CLIENT on 21-SEP-21 @ 12:50							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642785-7 GW-11230721-0921-GL-007 Sampled By: CLIENT on 21-SEP-21 @ 12:50 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30	OWP	0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40	OWP	0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	101.1		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.0		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	87.4		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	85.2		60-140	%		24-SEP-21	R5597377
L2642785-8 GW-11230721-0921-GL-008 Sampled By: CLIENT on 21-SEP-21 @ 13:55 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50	OWP	0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30	OWP	0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40	OWP	0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	101.8		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.8		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		27-SEP-21	
F2 (C10-C16)	<100		100	ug/L	24-SEP-21	27-SEP-21	R5601077
F3 (C16-C34)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
F4 (C34-C50)	<250		250	ug/L	24-SEP-21	27-SEP-21	R5601077
Total Hydrocarbons (C6-C50)	<370		370	ug/L		27-SEP-21	
Chrom. to baseline at nC50	YES				24-SEP-21	27-SEP-21	R5601077
Surrogate: 2-Bromobenzotrifluoride	84.0		60-140	%	24-SEP-21	27-SEP-21	R5601077
Surrogate: 3,4-Dichlorotoluene	83.9		60-140	%		24-SEP-21	R5597377
L2642785-9 TRIP BLANK Sampled By: CLIENT on 21-SEP-21							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642785-9 TRIP BLANK Sampled By: CLIENT on 21-SEP-21 Matrix: WATER							
Volatile Organic Compounds							
Benzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Ethylbenzene	<0.50		0.50	ug/L		24-SEP-21	R5597377
Toluene	<0.50		0.50	ug/L		24-SEP-21	R5597377
o-Xylene	<0.30		0.30	ug/L		24-SEP-21	R5597377
m+p-Xylenes	<0.40		0.40	ug/L		24-SEP-21	R5597377
Xylenes (Total)	<0.50		0.50	ug/L		24-SEP-21	
Surrogate: 4-Bromofluorobenzene	100.9		70-130	%		24-SEP-21	R5597377
Surrogate: 1,4-Difluorobenzene	98.1		70-130	%		24-SEP-21	R5597377
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		24-SEP-21	R5597377
F1-BTEX	<25		25	ug/L		24-SEP-21	
Surrogate: 3,4-Dichlorotoluene	102.2		60-140	%		24-SEP-21	R5597377

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.
SURR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BTX-511-HS-WT	Water	BTEX by Headspace	SW846 8260 (511)

BTX is determined by analyzing by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F1-F4-511-CALC-WT	Water	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Water	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Water	F2-F4-O.Reg 153/04 (July 2011)	EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

XYLENES-SUM-CALC-WT	Water	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Reference Information

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Water**							
Batch R5597377								
WG3623802-4 DUP		**WG3623802-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	24-SEP-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	24-SEP-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	24-SEP-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	24-SEP-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	24-SEP-21
WG3623802-1 LCS								
Benzene			99.7		%		70-130	24-SEP-21
Ethylbenzene			98.4		%		70-130	24-SEP-21
m+p-Xylenes			94.4		%		70-130	24-SEP-21
o-Xylene			96.9		%		70-130	24-SEP-21
Toluene			98.6		%		70-130	24-SEP-21
WG3623802-2 MB								
Benzene			<0.50		ug/L		0.5	24-SEP-21
Ethylbenzene			<0.50		ug/L		0.5	24-SEP-21
m+p-Xylenes			<0.40		ug/L		0.4	24-SEP-21
o-Xylene			<0.30		ug/L		0.3	24-SEP-21
Toluene			<0.50		ug/L		0.5	24-SEP-21
Surrogate: 1,4-Difluorobenzene			98.1		%		70-130	24-SEP-21
Surrogate: 4-Bromofluorobenzene			95.3		%		70-130	24-SEP-21
WG3623802-5 MS		**WG3623802-3**						
Benzene			99.9		%		50-140	24-SEP-21
Ethylbenzene			96.7		%		50-140	24-SEP-21
m+p-Xylenes			93.1		%		50-140	24-SEP-21
o-Xylene			95.6		%		50-140	24-SEP-21
Toluene			98.2		%		50-140	24-SEP-21
Batch R5604946								
WG3628082-4 DUP		**WG3628082-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	30-SEP-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	30-SEP-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	30-SEP-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	30-SEP-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	30-SEP-21
WG3628082-1 LCS								
Benzene			94.7		%		70-130	30-SEP-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Water**							
Batch R5604946								
WG3628082-1 LCS								
Ethylbenzene			86.9		%		70-130	30-SEP-21
m+p-Xylenes			89.7		%		70-130	30-SEP-21
o-Xylene			83.9		%		70-130	30-SEP-21
Toluene			93.5		%		70-130	30-SEP-21
WG3628082-2 MB								
Benzene			<0.50		ug/L		0.5	30-SEP-21
Ethylbenzene			<0.50		ug/L		0.5	30-SEP-21
m+p-Xylenes			<0.40		ug/L		0.4	30-SEP-21
o-Xylene			<0.30		ug/L		0.3	30-SEP-21
Toluene			<0.50		ug/L		0.5	30-SEP-21
Surrogate: 1,4-Difluorobenzene			92.9		%		70-130	30-SEP-21
Surrogate: 4-Bromofluorobenzene			99.5		%		70-130	30-SEP-21
WG3628082-5 MS		**WG3628082-3**						
Benzene			89.7		%		50-140	30-SEP-21
Ethylbenzene			82.0		%		50-140	30-SEP-21
m+p-Xylenes			84.6		%		50-140	30-SEP-21
o-Xylene			79.9		%		50-140	30-SEP-21
Toluene			88.6		%		50-140	30-SEP-21
F1-HS-511-WT	**Water**							
Batch R5597377								
WG3623802-4 DUP		**WG3623802-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	24-SEP-21
WG3623802-1 LCS								
F1 (C6-C10)			85.5		%		80-120	24-SEP-21
WG3623802-2 MB								
F1 (C6-C10)			<25		ug/L		25	24-SEP-21
Surrogate: 3,4-Dichlorotoluene			102.8		%		60-140	24-SEP-21
WG3623802-5 MS		**WG3623802-3**						
F1 (C6-C10)			86.2		%		60-140	24-SEP-21
Batch R5604946								
WG3628082-4 DUP		**WG3628082-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	30-SEP-21
WG3628082-1 LCS								
F1 (C6-C10)			103.7		%		80-120	30-SEP-21
WG3628082-2 MB								

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Water**							
Batch R5604946								
WG3628082-2 MB								
F1 (C6-C10)			<25		ug/L		25	30-SEP-21
Surrogate: 3,4-Dichlorotoluene			111.3		%		60-140	30-SEP-21
WG3628082-5 MS		**WG3628082-3**						
F1 (C6-C10)			93.5		%		60-140	30-SEP-21
F2-F4-511-WT	**Water**							
Batch R5601077								
WG3624185-2 LCS								
F2 (C10-C16)			98.2		%		70-130	27-SEP-21
F3 (C16-C34)			103.5		%		70-130	27-SEP-21
F4 (C34-C50)			116.6		%		70-130	27-SEP-21
WG3624185-1 MB								
F2 (C10-C16)			<100		ug/L		100	27-SEP-21
F3 (C16-C34)			<250		ug/L		250	27-SEP-21
F4 (C34-C50)			<250		ug/L		250	27-SEP-21
Surrogate: 2-Bromobenzotrifluoride			95.5		%		60-140	27-SEP-21
Batch R5602077								
WG3624188-2 LCS								
F2 (C10-C16)			105.1		%		70-130	27-SEP-21
F3 (C16-C34)			104.0		%		70-130	27-SEP-21
F4 (C34-C50)			113.2		%		70-130	27-SEP-21
WG3624188-1 MB								
F2 (C10-C16)			<100		ug/L		100	27-SEP-21
F3 (C16-C34)			<250		ug/L		250	27-SEP-21
F4 (C34-C50)			<250		ug/L		250	27-SEP-21
Surrogate: 2-Bromobenzotrifluoride			97.8		%		60-140	27-SEP-21

Quality Control Report

Workorder: L2642785 Report Date: 05-OCT-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

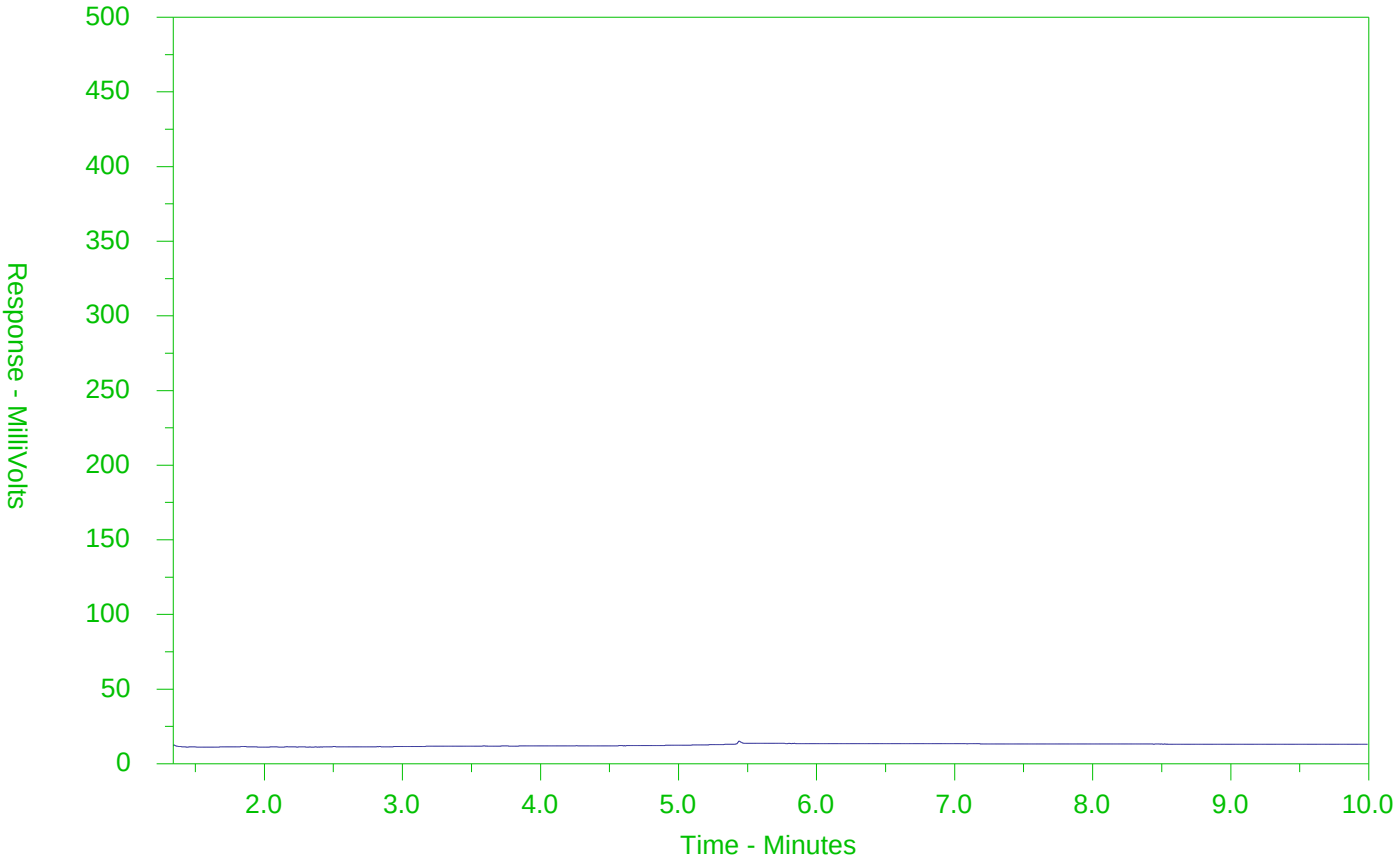
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-1
Client Sample ID: GW-11230721-0920-GL-001



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

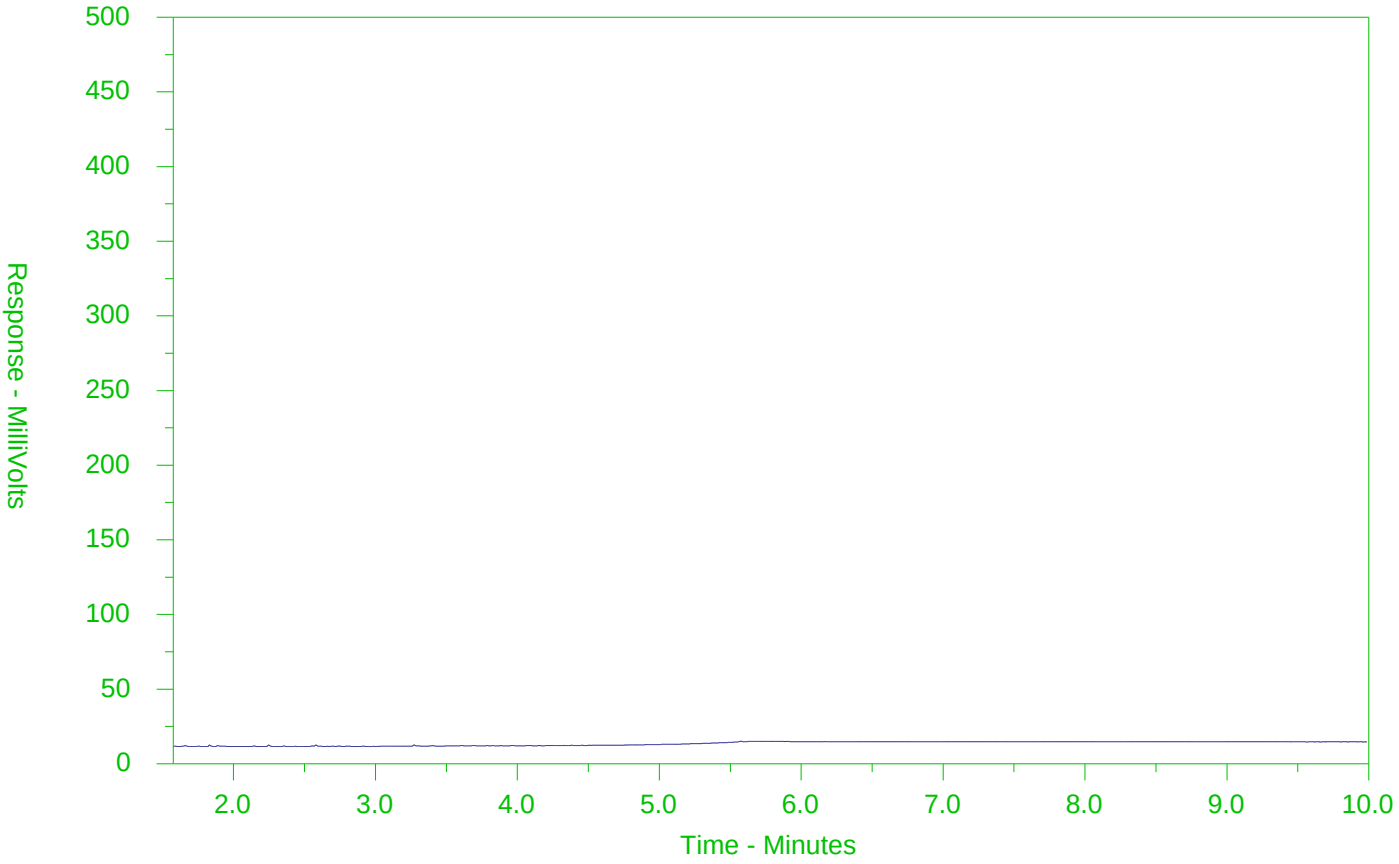
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-2
Client Sample ID: GW-11230721-0920-GL-002



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

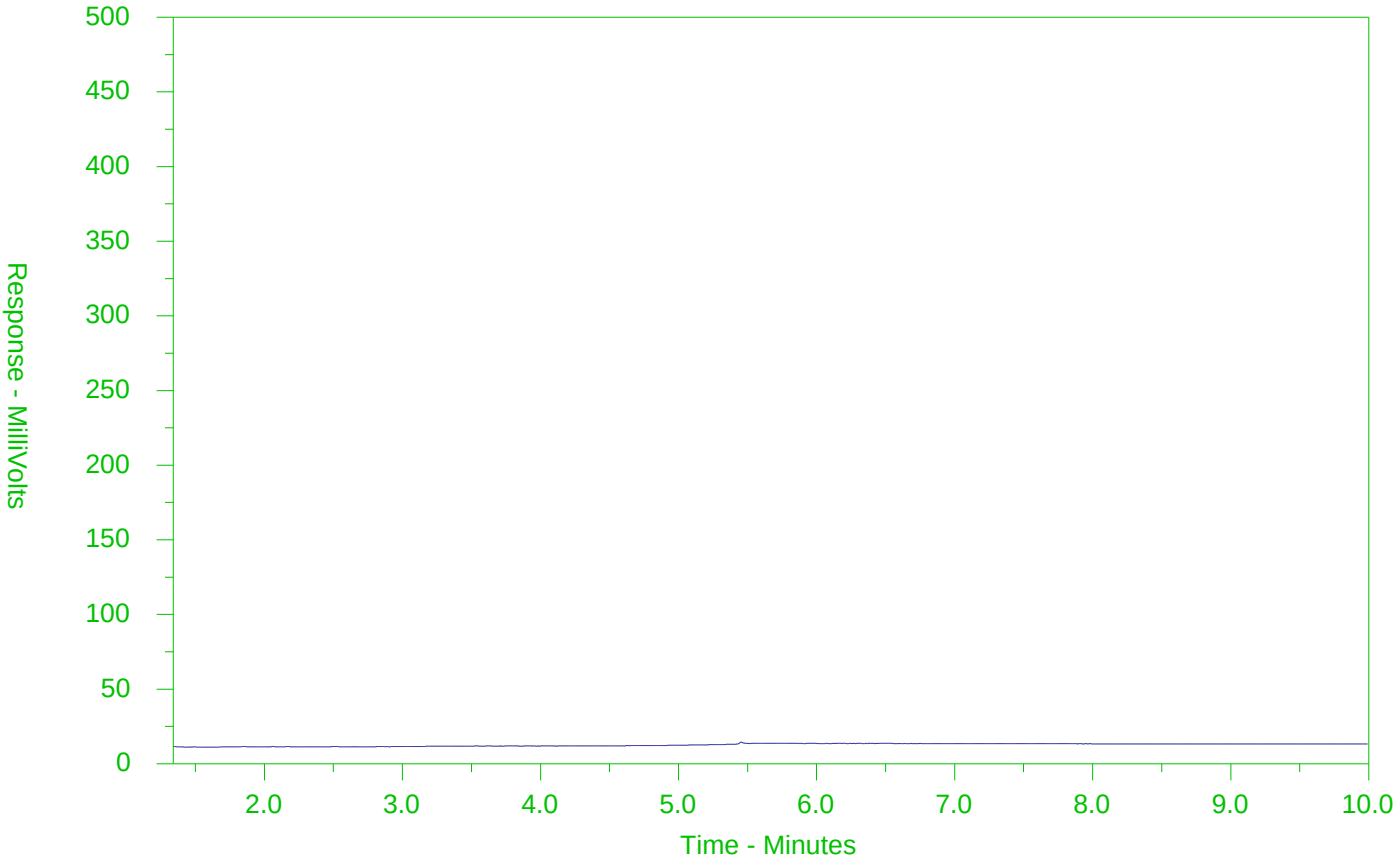
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-3
Client Sample ID: GW-11230721-0920-GL-003



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

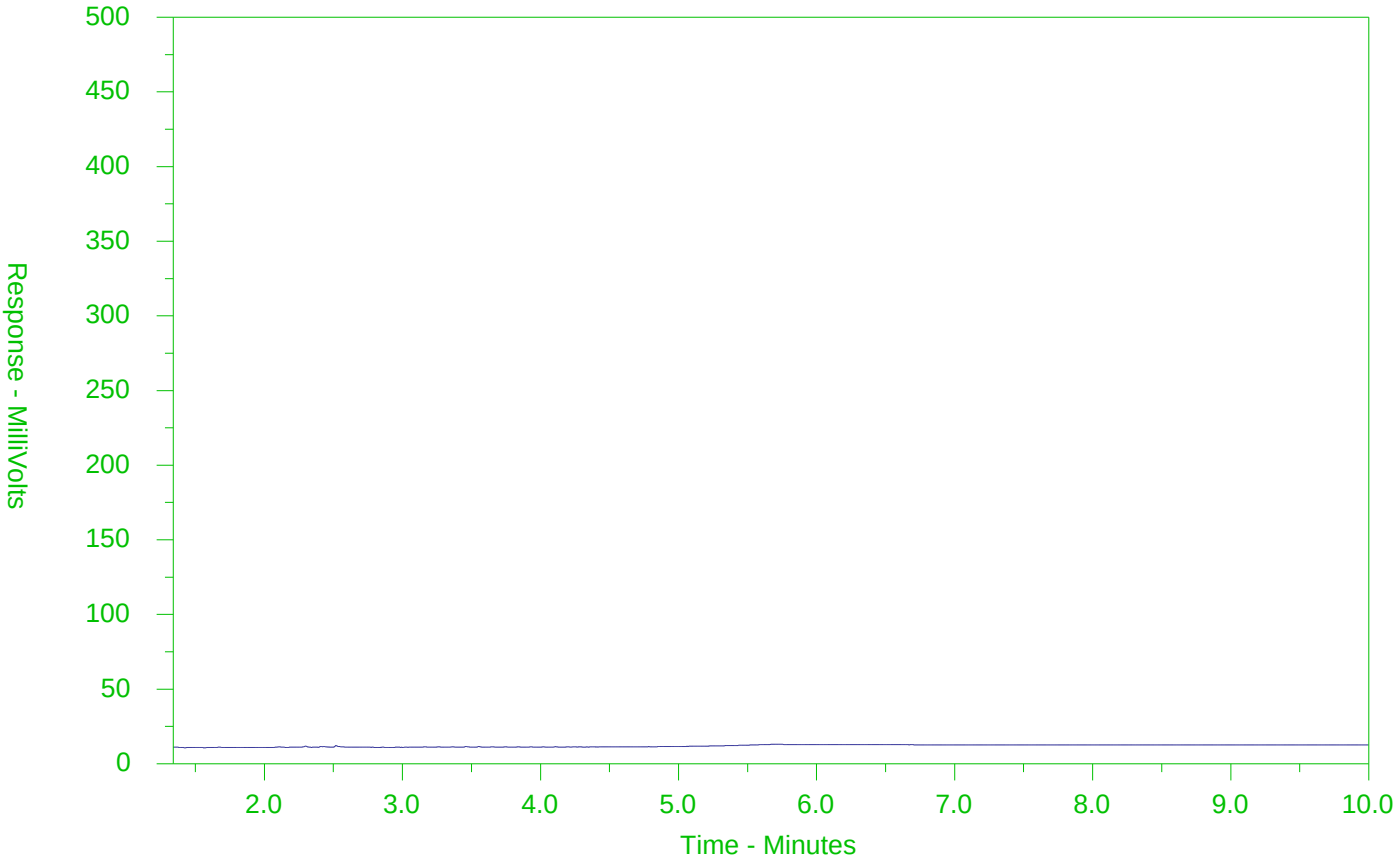
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-4
Client Sample ID: GW-11230721-0920-GL-004



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

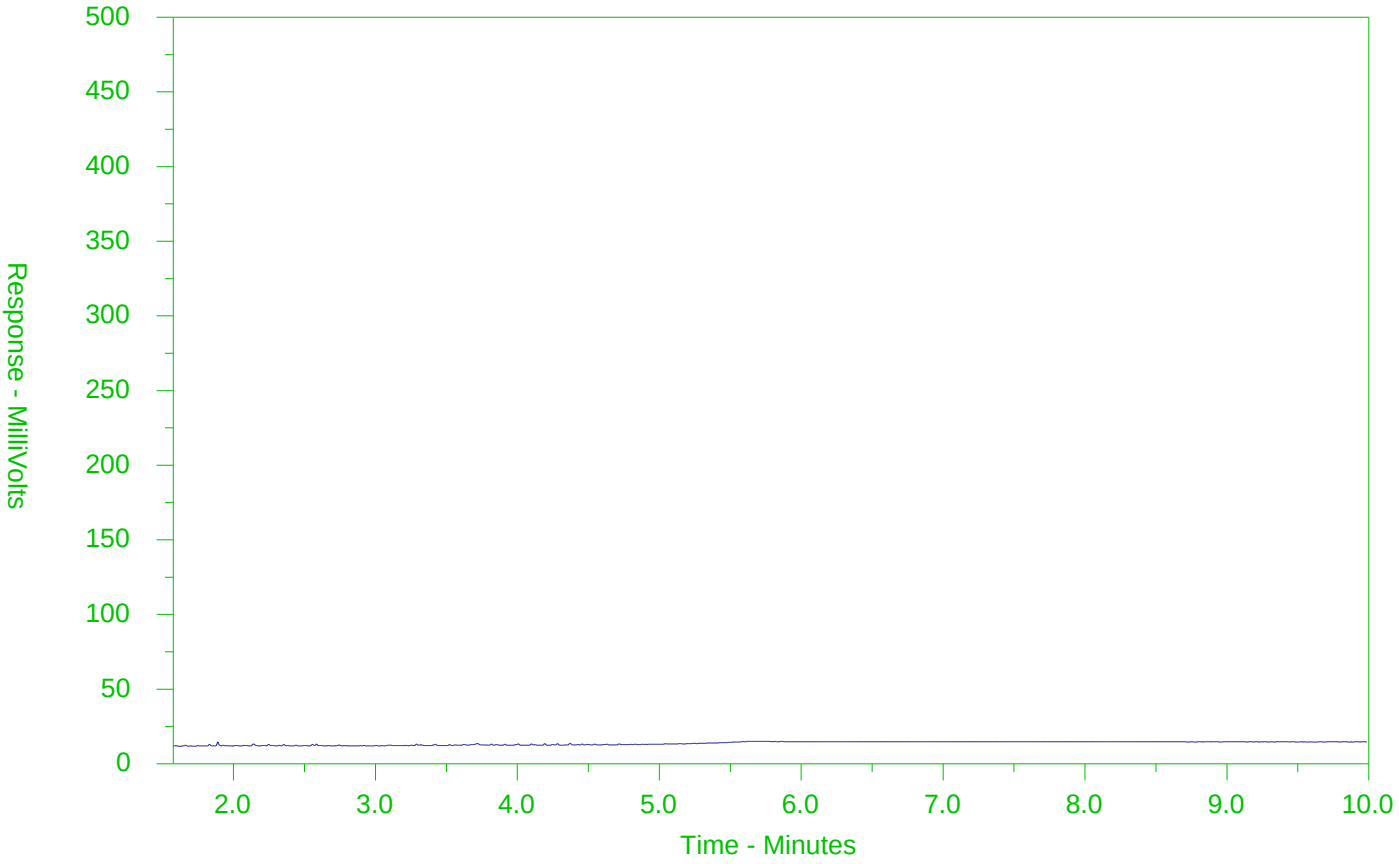
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-5
Client Sample ID: GW-11230721-0920-GL-005



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

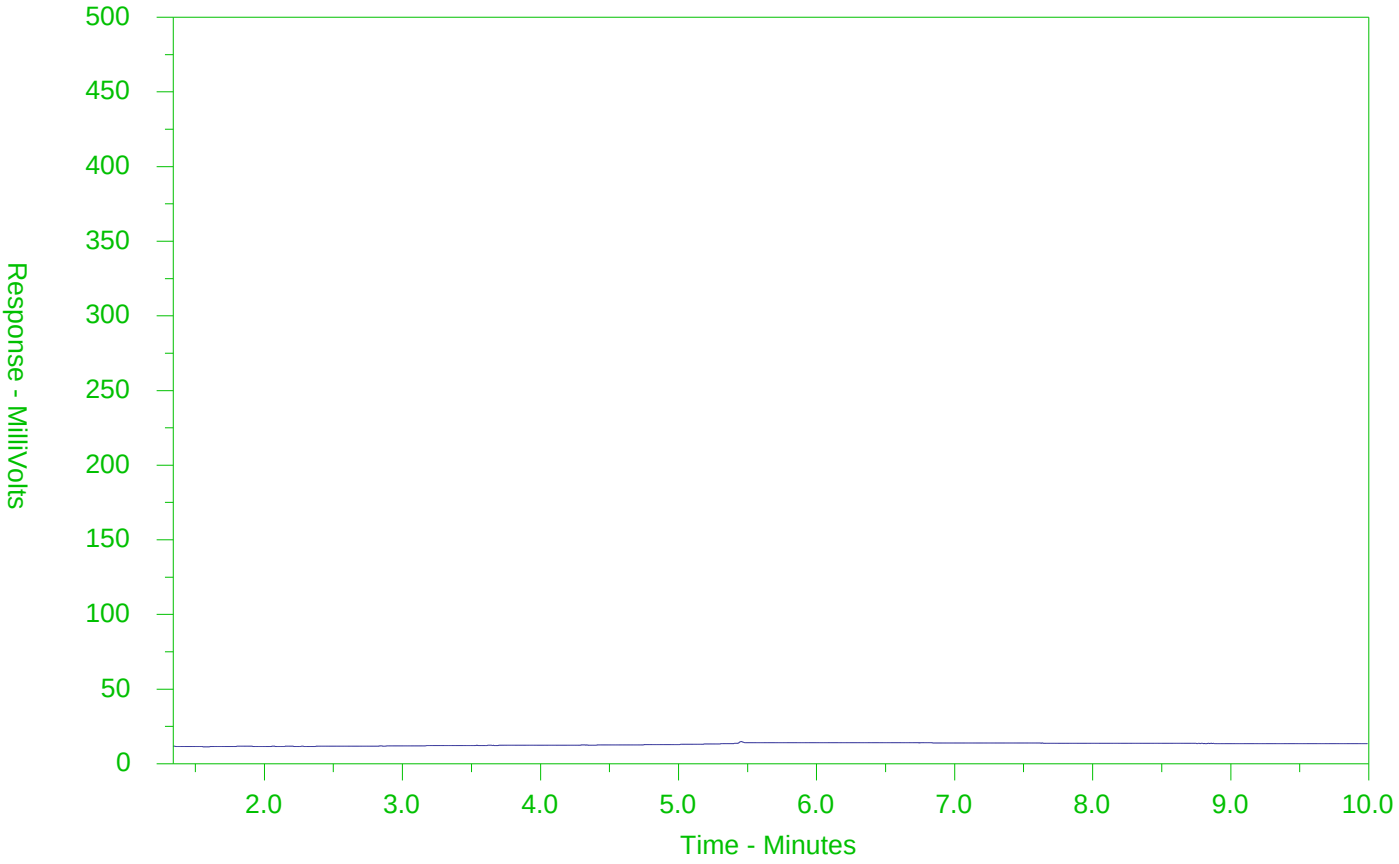
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-6
Client Sample ID: GW-11230721-0921-GL-006



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

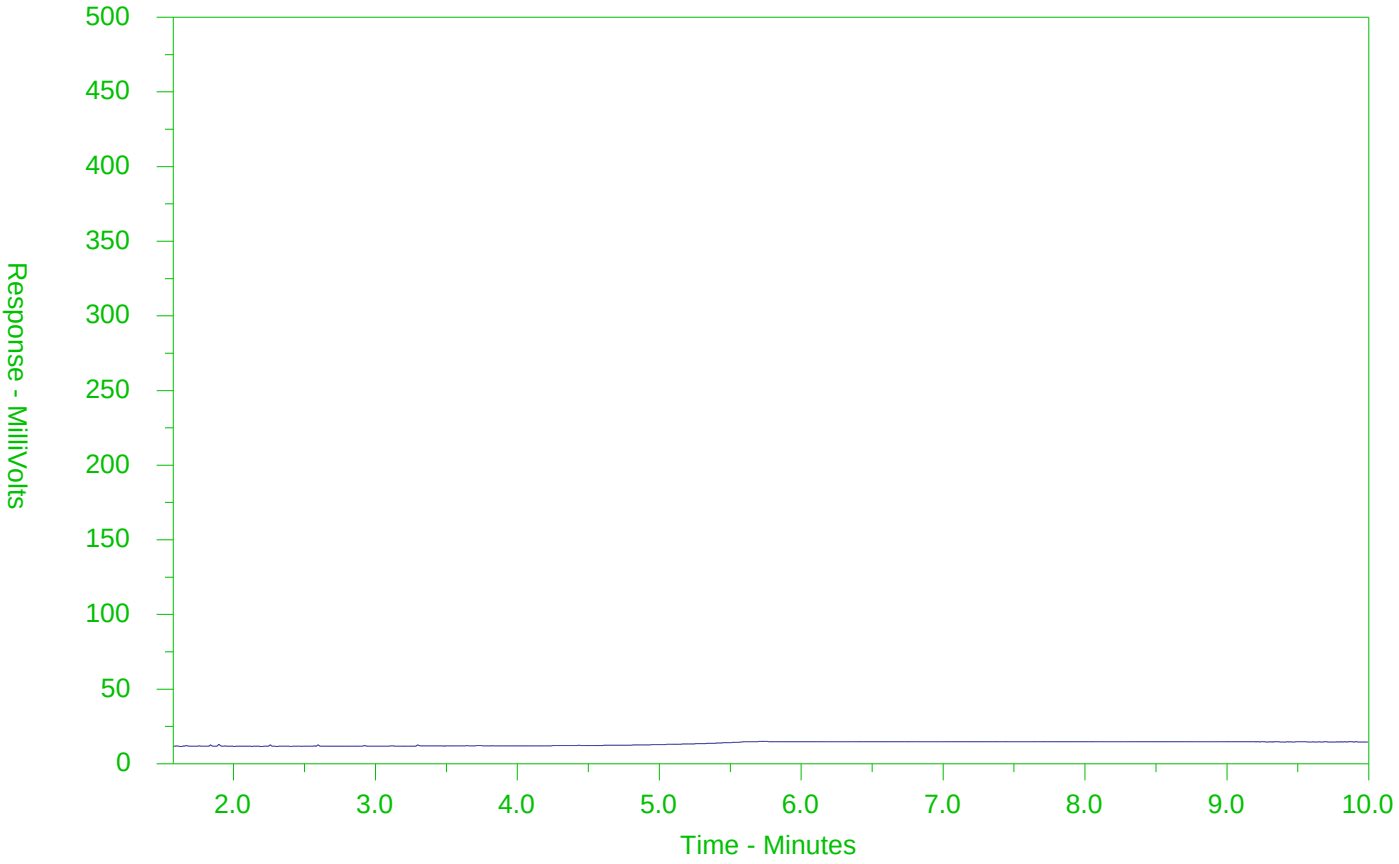
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-7
Client Sample ID: GW-11230721-0921-GL-007



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

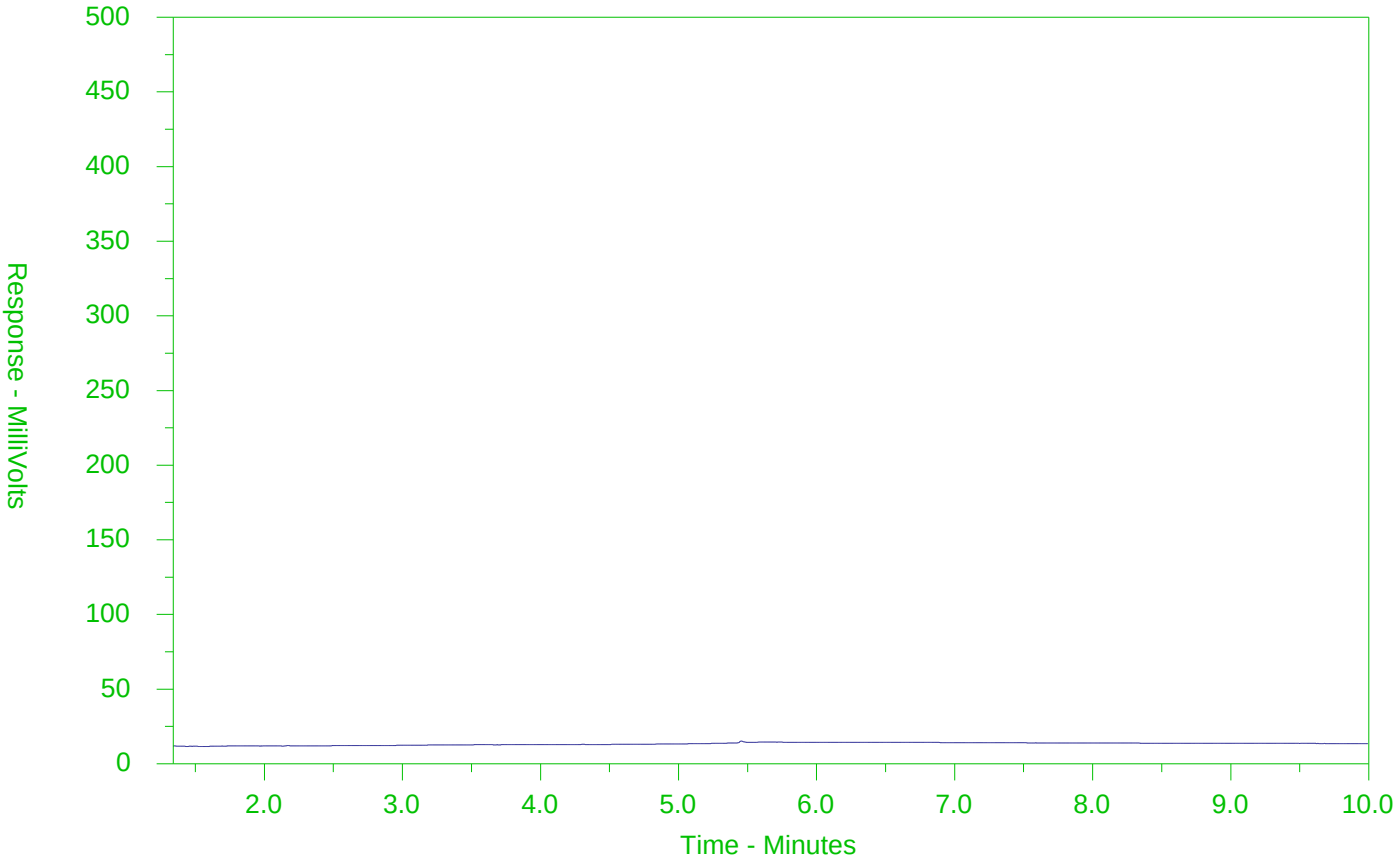
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2642785-8
Client Sample ID: GW-11230721-0921-GL-008



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CI L2642785-COFC

COC Number: 20 - 298295

Page 1 of 1

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	GHD Limited
Contact:	Pascal Renella
Phone:	1-450-902-4349
	Company address below will appear on the final report
Street:	179 Colonnade Rd
City/Province:	Ottawa ON
Postal Code:	K2E 7J4
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: pascal.renella@ghd.com

Email 2: joseph.drader@ghd.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: Pascal Renella

Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Account # / Quote #: BR329964

Job #: 1230721-05 (Ottawa SAN/STORM)

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only): L2642785

ALS Contact: Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	PHCs/BTEX (PHCs/BTEX/City of Ottawa Storm & Sanitary sewer by-law Cnr. 2003-514)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
1	GW-1230721-0920-GL-001	20-09-21	17:00	GW	4	✓			
2	GW-1230721-0920-GL-002	20-09-21	11:50	GW	4	✓			
3	GW-1230721-0930-GL-003	20-09-21	15:27	GW	29	✓			
4	GW-1230721-0920-GL-004	20-09-21	17:45	GW	4	✓	✓		
5	GW-1230721-0921-GL-005	21-09-21	10:45	GW	4	✓			
6	GW-1230721-0921-GL-006	21-09-21	12:40	GW	4	✓			
7	GW-1230721-0921-GL-007	21-09-21	12:50	GW	4	✓			
8	GW-1230721-0921-GL-008	21-09-21	13:55	GW	4	✓			
	GL								

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Place GW-1230721-0920-GL-004 ON HOLD

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☑ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
16.7			6.7		

SHIPMENT RELEASE (client use)

Released by: Genevieve Villeneuve Date: Sept. 21, 2021 Time: 3:14 pm

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: 21SEP Time: 3:24

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: 22Sep21 Time: 930

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

GHD Limited (Waterloo)
ATTN: Pascal Renella
455 Phillip St
Waterloo ON N2L3X2

Date Received: 12-OCT-21
Report Date: 19-OCT-21 12:12 (MT)
Version: FINAL REV. 2

Client Phone: 519-884-0510

Certificate of Analysis

Lab Work Order #: L2647648

Project P.O. #: 73524385
Job Reference: 11230721-01
C of C Numbers:
Legal Site Desc:

Comments: ADDITIONAL 18-OCT-21 07:06

19-OCT-2021 With HWSB

Rick Hawthorne
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-1 SOIL TRIP BLANK Sampled By: CLIENT on 04-OCT-21 Matrix: SOIL							
Physical Tests							
% Moisture	<0.25		0.25	%	07-OCT-21	08-OCT-21	R5613824
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	08-OCT-21	12-OCT-21	R5615587
Ethylbenzene	<0.018		0.018	ug/g	08-OCT-21	12-OCT-21	R5615587
Toluene	<0.080		0.080	ug/g	08-OCT-21	12-OCT-21	R5615587
o-Xylene	<0.020		0.020	ug/g	08-OCT-21	12-OCT-21	R5615587
m+p-Xylenes	<0.030		0.030	ug/g	08-OCT-21	12-OCT-21	R5615587
Xylenes (Total)	<0.050		0.050	ug/g		12-OCT-21	
Surrogate: 4-Bromofluorobenzene	106.2		50-140	%	08-OCT-21	12-OCT-21	R5615587
Surrogate: 1,4-Difluorobenzene	112.8		50-140	%	08-OCT-21	12-OCT-21	R5615587
L2647648-2 P1 Sampled By: CLIENT on 04-OCT-21 @ 08:43 Matrix: SOIL							
Metals							
Aluminum (Al)	7740		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	0.14		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	2.78		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	523		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.35		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	13.1		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B), Hot Water Ext.	0.22		0.10	ug/g	19-OCT-21	19-OCT-21	R5624424
Cadmium (Cd)	0.039		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	360000		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	57.5		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	4.02		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	7.04		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	11400		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	14.4		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	8.8		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Magnesium (Mg)	11300		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	414		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	0.80		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	13.0		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Phosphorus (P)	2580		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	2540		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	413		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	845		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	5000		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.800		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-2 P1 Sampled By: CLIENT on 04-OCT-21 @ 08:43 Matrix: SOIL							
Metals							
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	45.8		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Uranium (U)	0.768		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Vanadium (V)	8.68		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	15.1		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Zirconium (Zr)	6.8		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-3 P2 Sampled By: CLIENT on 04-OCT-21 @ 09:15 Matrix: SOIL							
Metals							
Aluminum (Al)	8060		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	2.29		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	426		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.33		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	14.3		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B), Hot Water Ext.	0.26		0.10	ug/g	19-OCT-21	19-OCT-21	R5624424
Cadmium (Cd)	0.025		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	310000		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	17.1		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	3.95		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	6.11		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	8240		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	7.34		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	10.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Magnesium (Mg)	9070		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	299		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	0.73		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	11.1		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Phosphorus (P)	1690		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	2920		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	449		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	760		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	1800		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.176		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	38.8		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-3 P2 Sampled By: CLIENT on 04-OCT-21 @ 09:15 Matrix: SOIL							
Metals							
Uranium (U)	0.708		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Vanadium (V)	7.54		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	13.4		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Zirconium (Zr)	5.1		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-4 P3 Sampled By: CLIENT on 04-OCT-21 @ 10:03 Matrix: SOIL							
Metals							
Aluminum (Al)	11600		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	0.20		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	2.96		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	294		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.42		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	10.8		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B), Hot Water Ext.	0.24		0.10	ug/g	19-OCT-21	19-OCT-21	R5624424
Cadmium (Cd)	0.131		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	132000		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	23.2		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	6.44		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	75.1		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	15300		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	26.1		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	10.5		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Magnesium (Mg)	8640		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	466		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	0.52		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	15.2		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Phosphorus (P)	1570		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	2320		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	721		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	307		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	<1000		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.212		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	399		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Uranium (U)	0.609		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Vanadium (V)	25.9		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	74.4		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-4 P3 Sampled By: CLIENT on 04-OCT-21 @ 10:03 Matrix: SOIL							
Metals							
Zirconium (Zr)	1.3		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-5 P4 Sampled By: CLIENT on 04-OCT-21 @ 10:42 Matrix: SOIL							
Metals							
Aluminum (Al)	6120		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	0.13		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	2.03		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	353		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.30		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	12.1		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B), Hot Water Ext.	0.21		0.10	ug/g	19-OCT-21	19-OCT-21	R5624424
Cadmium (Cd)	0.041		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	302000		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	12.4		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	3.25		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	7.08		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	8290		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	8.49		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	8.2		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Magnesium (Mg)	8670		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	303		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	0.64		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	10.4		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Phosphorus (P)	1520		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	2090		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	396		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	685		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	2300		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.353		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	40.3		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Uranium (U)	0.538		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Vanadium (V)	8.56		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	19.8		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Zirconium (Zr)	4.0		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-6 MW-1-21-A 1 OF 2 TOP Sampled By: CLIENT on 04-OCT-21 @ 11:15							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-6 MW-1-21-A 1 OF 2 TOP Sampled By: CLIENT on 04-OCT-21 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	15.2		0.25	%	12-OCT-21	13-OCT-21	R5616455
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	12-OCT-21	14-OCT-21	R5617204
Ethylbenzene	<0.018		0.018	ug/g	12-OCT-21	14-OCT-21	R5617204
Toluene	<0.080		0.080	ug/g	12-OCT-21	14-OCT-21	R5617204
o-Xylene	<0.020		0.020	ug/g	12-OCT-21	14-OCT-21	R5617204
m+p-Xylenes	<0.030		0.030	ug/g	12-OCT-21	14-OCT-21	R5617204
Xylenes (Total)	<0.050		0.050	ug/g		14-OCT-21	
Surrogate: 4-Bromofluorobenzene	110.3		50-140	%	12-OCT-21	14-OCT-21	R5617204
Surrogate: 1,4-Difluorobenzene	113.5		50-140	%	12-OCT-21	14-OCT-21	R5617204
L2647648-7 MW-1-21-A FILL 1 OF 2 Sampled By: CLIENT on 04-OCT-21 @ 11:22 Matrix: SOIL							
Physical Tests							
% Moisture	10.9		0.25	%	12-OCT-21	13-OCT-21	R5616455
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	13-OCT-21	16-OCT-21	R5620849
Ethylbenzene	<0.018		0.018	ug/g	13-OCT-21	16-OCT-21	R5620849
Toluene	<0.080		0.080	ug/g	13-OCT-21	16-OCT-21	R5620849
o-Xylene	<0.020		0.020	ug/g	13-OCT-21	16-OCT-21	R5620849
m+p-Xylenes	<0.030		0.030	ug/g	13-OCT-21	16-OCT-21	R5620849
Xylenes (Total)	<0.050		0.050	ug/g		16-OCT-21	
Surrogate: 4-Bromofluorobenzene	129.8		50-140	%	13-OCT-21	16-OCT-21	R5620849
Surrogate: 1,4-Difluorobenzene	131.8		50-140	%	13-OCT-21	16-OCT-21	R5620849
L2647648-8 MW-1-21-A TOP 2 OF 2 Sampled By: CLIENT on 04-OCT-21 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	15.7		0.25	%	12-OCT-21	13-OCT-21	R5616455
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	13-OCT-21	16-OCT-21	R5620849
Ethylbenzene	<0.018		0.018	ug/g	13-OCT-21	16-OCT-21	R5620849
Toluene	<0.080		0.080	ug/g	13-OCT-21	16-OCT-21	R5620849
o-Xylene	<0.020		0.020	ug/g	13-OCT-21	16-OCT-21	R5620849
m+p-Xylenes	<0.030		0.030	ug/g	13-OCT-21	16-OCT-21	R5620849
Xylenes (Total)	<0.050		0.050	ug/g		16-OCT-21	
Surrogate: 4-Bromofluorobenzene	114.2		50-140	%	13-OCT-21	16-OCT-21	R5620849
Surrogate: 1,4-Difluorobenzene	119.8		50-140	%	13-OCT-21	16-OCT-21	R5620849
L2647648-9 MW-1-21-B FILL 1/1 Sampled By: CLIENT on 04-OCT-21 @ 11:45 Matrix: SOIL							
Physical Tests							
% Moisture	7.94		0.25	%	12-OCT-21	13-OCT-21	R5616455

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-9 MW-1-21-B FILL 1/1 Sampled By: CLIENT on 04-OCT-21 @ 11:45 Matrix: SOIL							
Physical Tests							
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	13-OCT-21	16-OCT-21	R5620849
Ethylbenzene	<0.018		0.018	ug/g	13-OCT-21	16-OCT-21	R5620849
Toluene	<0.080		0.080	ug/g	13-OCT-21	16-OCT-21	R5620849
o-Xylene	<0.020		0.020	ug/g	13-OCT-21	16-OCT-21	R5620849
m+p-Xylenes	<0.030		0.030	ug/g	13-OCT-21	16-OCT-21	R5620849
Xylenes (Total)	<0.050		0.050	ug/g		16-OCT-21	
Surrogate: 4-Bromofluorobenzene	107.5		50-140	%	13-OCT-21	16-OCT-21	R5620849
Surrogate: 1,4-Difluorobenzene	112.0		50-140	%	13-OCT-21	16-OCT-21	R5620849
L2647648-10 MW-1-21-B TOP Sampled By: CLIENT on 04-OCT-21 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	10.9		0.25	%	12-OCT-21	13-OCT-21	R5616455
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	13-OCT-21	16-OCT-21	R5620849
Ethylbenzene	<0.018		0.018	ug/g	13-OCT-21	16-OCT-21	R5620849
Toluene	<0.080		0.080	ug/g	13-OCT-21	16-OCT-21	R5620849
o-Xylene	<0.020		0.020	ug/g	13-OCT-21	16-OCT-21	R5620849
m+p-Xylenes	<0.030		0.030	ug/g	13-OCT-21	16-OCT-21	R5620849
Xylenes (Total)	<0.050		0.050	ug/g		16-OCT-21	
Surrogate: 4-Bromofluorobenzene	102.8		50-140	%	13-OCT-21	16-OCT-21	R5620849
Surrogate: 1,4-Difluorobenzene	106.5		50-140	%	13-OCT-21	16-OCT-21	R5620849
L2647648-13 MW-5-21-A TOP Sampled By: CLIENT on 04-OCT-21 @ 12:00 Matrix: SOIL							
Metals							
Aluminum (Al)	3670		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	0.46		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	3.63		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	81.3		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.20		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	6.2		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Cadmium (Cd)	0.129		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	157000		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	16.4		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	3.46		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	18.0		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	9630		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	15.6		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	4.2		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-13 MW-5-21-A TOP Sampled By: CLIENT on 04-OCT-21 @ 12:00 Matrix: SOIL							
Metals							
Magnesium (Mg)	12000		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	282		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	1.81		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	9.73		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Phosphorus (P)	557		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	1000		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	117		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	237		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	1300		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.104		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	120		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	1.92		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Uranium (U)	0.444		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Vanadium (V)	15.6		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	75.1		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Zirconium (Zr)	1.0		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-14 MW-5-21-A FILL Sampled By: CLIENT on 04-OCT-21 @ 12:05 Matrix: SOIL							
Metals							
Aluminum (Al)	13100		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	0.15		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	3.85		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	102		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.41		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	<5.0		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Cadmium (Cd)	0.187		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	23500		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	29.3		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	7.70		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	17.1		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	17000		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	22.3		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	12.5		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Magnesium (Mg)	6200		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	365		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	1.29		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	19.3		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-14 MW-5-21-A FILL Sampled By: CLIENT on 04-OCT-21 @ 12:05 Matrix: SOIL							
Metals							
Phosphorus (P)	926		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	1710		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	0.24		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	215		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	53.6		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	<1000		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.171		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	672		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Uranium (U)	0.984		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Vanadium (V)	34.1		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	49.2		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Zirconium (Zr)	2.3		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-15 MW-5-21-B TOP Sampled By: CLIENT on 04-OCT-21 @ 12:25 Matrix: SOIL							
Metals							
Aluminum (Al)	11100		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Antimony (Sb)	0.41		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Arsenic (As)	5.09		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Barium (Ba)	109		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Beryllium (Be)	0.44		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617181
Boron (B)	5.9		5.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Cadmium (Cd)	0.184		0.020	ug/g	13-OCT-21	13-OCT-21	R5617181
Calcium (Ca)	58200		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Chromium (Cr)	36.0		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Cobalt (Co)	8.02		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Copper (Cu)	21.0		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Iron (Fe)	19100		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Lead (Pb)	17.2		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Lithium (Li)	10.4		2.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Magnesium (Mg)	13300		20	ug/g	13-OCT-21	13-OCT-21	R5617181
Manganese (Mn)	635		1.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Molybdenum (Mo)	1.54		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Nickel (Ni)	17.1		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Phosphorus (P)	883		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Potassium (K)	1790		100	ug/g	13-OCT-21	13-OCT-21	R5617181
Selenium (Se)	0.22		0.20	ug/g	13-OCT-21	13-OCT-21	R5617181
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-15 MW-5-21-B TOP Sampled By: CLIENT on 04-OCT-21 @ 12:25 Matrix: SOIL							
Metals							
Sodium (Na)	155		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Strontium (Sr)	103		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Sulfur (S)	1200		1000	ug/g	13-OCT-21	13-OCT-21	R5617181
Thallium (Tl)	0.132		0.050	ug/g	13-OCT-21	13-OCT-21	R5617181
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Titanium (Ti)	194		1.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Tungsten (W)	0.60		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Uranium (U)	0.558		0.050	ug/g	13-OCT-21	13-OCT-21	R5617181
Vanadium (V)	27.4		0.20	ug/g	13-OCT-21	13-OCT-21	R5617181
Zinc (Zn)	82.7		2.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Zirconium (Zr)	<1.0		1.0	ug/g	13-OCT-21	13-OCT-21	R5617181
L2647648-16 MW-5-21-B FILL Sampled By: CLIENT on 04-OCT-21 @ 12:15 Matrix: SOIL							
Metals							
Aluminum (Al)	11500		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Antimony (Sb)	0.14		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Arsenic (As)	3.35		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Barium (Ba)	94.4		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Beryllium (Be)	0.35		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617181
Boron (B)	<5.0		5.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Cadmium (Cd)	0.174		0.020	ug/g	13-OCT-21	13-OCT-21	R5617181
Calcium (Ca)	20300		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Chromium (Cr)	26.2		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Cobalt (Co)	7.58		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Copper (Cu)	17.8		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Iron (Fe)	17400		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Lead (Pb)	20.8		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Lithium (Li)	8.8		2.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Magnesium (Mg)	8720		20	ug/g	13-OCT-21	13-OCT-21	R5617181
Manganese (Mn)	356		1.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Molybdenum (Mo)	1.22		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Nickel (Ni)	18.5		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Phosphorus (P)	1050		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Potassium (K)	1600		100	ug/g	13-OCT-21	13-OCT-21	R5617181
Selenium (Se)	0.24		0.20	ug/g	13-OCT-21	13-OCT-21	R5617181
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617181
Sodium (Na)	231		50	ug/g	13-OCT-21	13-OCT-21	R5617181
Strontium (Sr)	44.3		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Sulfur (S)	<1000		1000	ug/g	13-OCT-21	13-OCT-21	R5617181
Thallium (Tl)	0.160		0.050	ug/g	13-OCT-21	13-OCT-21	R5617181

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-16 MW-5-21-B FILL Sampled By: CLIENT on 04-OCT-21 @ 12:15 Matrix: SOIL							
Metals							
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Titanium (Ti)	661		1.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617181
Uranium (U)	0.902		0.050	ug/g	13-OCT-21	13-OCT-21	R5617181
Vanadium (V)	33.0		0.20	ug/g	13-OCT-21	13-OCT-21	R5617181
Zinc (Zn)	45.4		2.0	ug/g	13-OCT-21	13-OCT-21	R5617181
Zirconium (Zr)	1.8		1.0	ug/g	13-OCT-21	13-OCT-21	R5617181
L2647648-17 MW-5-21-B-D FILL Sampled By: CLIENT on 04-OCT-21 @ 12:15 Matrix: SOIL							
Metals							
Aluminum (Al)	9840		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Antimony (Sb)	0.12		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Arsenic (As)	3.19		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Barium (Ba)	85.4		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Beryllium (Be)	0.33		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Bismuth (Bi)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Boron (B)	<5.0		5.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Cadmium (Cd)	0.146		0.020	ug/g	13-OCT-21	13-OCT-21	R5617456
Calcium (Ca)	28600		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Chromium (Cr)	22.8		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Cobalt (Co)	6.59		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Copper (Cu)	15.6		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Iron (Fe)	14300		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lead (Pb)	13.8		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Lithium (Li)	9.5		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Magnesium (Mg)	7610		20	ug/g	13-OCT-21	13-OCT-21	R5617456
Manganese (Mn)	341		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Molybdenum (Mo)	1.13		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Nickel (Ni)	15.5		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Phosphorus (P)	866		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Potassium (K)	1500		100	ug/g	13-OCT-21	13-OCT-21	R5617456
Selenium (Se)	<0.20		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Silver (Ag)	<0.10		0.10	ug/g	13-OCT-21	13-OCT-21	R5617456
Sodium (Na)	181		50	ug/g	13-OCT-21	13-OCT-21	R5617456
Strontium (Sr)	53.2		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Sulfur (S)	<1000		1000	ug/g	13-OCT-21	13-OCT-21	R5617456
Thallium (Tl)	0.154		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456
Tin (Sn)	<2.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Titanium (Ti)	572		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Tungsten (W)	<0.50		0.50	ug/g	13-OCT-21	13-OCT-21	R5617456
Uranium (U)	0.872		0.050	ug/g	13-OCT-21	13-OCT-21	R5617456

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-17 MW-5-21-B-D FILL Sampled By: CLIENT on 04-OCT-21 @ 12:15 Matrix: SOIL							
Metals							
Vanadium (V)	28.1		0.20	ug/g	13-OCT-21	13-OCT-21	R5617456
Zinc (Zn)	40.0		2.0	ug/g	13-OCT-21	13-OCT-21	R5617456
Zirconium (Zr)	2.1		1.0	ug/g	13-OCT-21	13-OCT-21	R5617456
L2647648-18 MW-2-21-A-NATIVE Sampled By: CLIENT on 12-OCT-21 @ 16:00 Matrix: SOIL							
Metals							
Aluminum (Al)	20100		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Antimony (Sb)	<0.10		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Arsenic (As)	2.96		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Barium (Ba)	130		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Beryllium (Be)	0.55		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Bismuth (Bi)	<0.20		0.20	ug/g	15-OCT-21	15-OCT-21	R5619523
Boron (B)	<5.0		5.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Cadmium (Cd)	0.102		0.020	ug/g	15-OCT-21	15-OCT-21	R5619523
Calcium (Ca)	6370		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Chromium (Cr)	58.7		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Cobalt (Co)	12.9		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Copper (Cu)	28.4		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Iron (Fe)	20300		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Lead (Pb)	7.35		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Lithium (Li)	20.3		2.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Magnesium (Mg)	8840		20	ug/g	15-OCT-21	15-OCT-21	R5619523
Manganese (Mn)	229		1.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Molybdenum (Mo)	1.12		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Nickel (Ni)	32.5		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Phosphorus (P)	998		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Potassium (K)	2920		100	ug/g	15-OCT-21	15-OCT-21	R5619523
Selenium (Se)	0.39		0.20	ug/g	15-OCT-21	15-OCT-21	R5619523
Silver (Ag)	<0.10		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Sodium (Na)	425		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Strontium (Sr)	33.6		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Sulfur (S)	<1000		1000	ug/g	15-OCT-21	15-OCT-21	R5619523
Thallium (Tl)	0.156		0.050	ug/g	15-OCT-21	15-OCT-21	R5619523
Tin (Sn)	<2.0		2.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Titanium (Ti)	1370		1.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Tungsten (W)	<0.50		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Uranium (U)	1.50		0.050	ug/g	15-OCT-21	15-OCT-21	R5619523
Vanadium (V)	53.9		0.20	ug/g	15-OCT-21	15-OCT-21	R5619523
Zinc (Zn)	52.2		2.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Zirconium (Zr)	11.7		1.0	ug/g	15-OCT-21	15-OCT-21	R5619523
MW-2-21-B-NATIVE							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2647648-19 MW-2-21-B-NATIVE Sampled By: CLIENT on 12-OCT-21 @ 15:00 Matrix: SOIL							
Metals							
Aluminum (Al)	16600		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Antimony (Sb)	<0.10		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Arsenic (As)	3.18		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Barium (Ba)	113		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Beryllium (Be)	0.47		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Bismuth (Bi)	<0.20		0.20	ug/g	15-OCT-21	15-OCT-21	R5619523
Boron (B)	<5.0		5.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Cadmium (Cd)	0.098		0.020	ug/g	15-OCT-21	15-OCT-21	R5619523
Calcium (Ca)	6050		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Chromium (Cr)	53.6		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Cobalt (Co)	14.2		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Copper (Cu)	24.4		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Iron (Fe)	19500		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Lead (Pb)	6.35		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Lithium (Li)	14.5		2.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Magnesium (Mg)	7870		20	ug/g	15-OCT-21	15-OCT-21	R5619523
Manganese (Mn)	209		1.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Molybdenum (Mo)	1.52		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Nickel (Ni)	31.4		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Phosphorus (P)	992		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Potassium (K)	2380		100	ug/g	15-OCT-21	15-OCT-21	R5619523
Selenium (Se)	0.37		0.20	ug/g	15-OCT-21	15-OCT-21	R5619523
Silver (Ag)	<0.10		0.10	ug/g	15-OCT-21	15-OCT-21	R5619523
Sodium (Na)	374		50	ug/g	15-OCT-21	15-OCT-21	R5619523
Strontium (Sr)	29.8		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Sulfur (S)	<1000		1000	ug/g	15-OCT-21	15-OCT-21	R5619523
Thallium (Tl)	0.149		0.050	ug/g	15-OCT-21	15-OCT-21	R5619523
Tin (Sn)	<2.0		2.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Titanium (Ti)	1240		1.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Tungsten (W)	<0.50		0.50	ug/g	15-OCT-21	15-OCT-21	R5619523
Uranium (U)	1.67		0.050	ug/g	15-OCT-21	15-OCT-21	R5619523
Vanadium (V)	53.3		0.20	ug/g	15-OCT-21	15-OCT-21	R5619523
Zinc (Zn)	42.8		2.0	ug/g	15-OCT-21	15-OCT-21	R5619523
Zirconium (Zr)	10.1		1.0	ug/g	15-OCT-21	15-OCT-21	R5619523

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
B-HWS-R511-WT	Soil	Boron-HWE-O.Reg 153/04 (July 2011)	HW EXTR, EPA 6010B

A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

BTX-511-HS-WT	Soil	BTEX-O.Reg 153/04 (July 2011)	SW846 8260

BTX is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

MET-200.2-CCMS-WT	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020B (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). For tests intended to support Ontario regulations, the <2mm fraction is ground to pass through a 0.355 mm sieve. Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

MOISTURE-WT	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
XYLENES-SUM-CALC-WT	Soil	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2647648 Report Date: 19-OCT-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	**Soil**							
Batch R5624424								
WG3640538-4 DUP		**L2647648-3**						
Boron (B), Hot Water Ext.		0.26	0.25		ug/g	1.1	30	19-OCT-21
WG3640538-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			126.3		%		70-130	19-OCT-21
WG3640538-3 LCS								
Boron (B), Hot Water Ext.			108.0		%		70-130	19-OCT-21
WG3640538-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	19-OCT-21
BTX-511-HS-WT	**Soil**							
Batch R5615587								
WG3633976-4 DUP		**WG3633976-3**						
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	12-OCT-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	12-OCT-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	12-OCT-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	12-OCT-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	12-OCT-21
WG3633976-2 LCS								
Benzene			111.8		%		70-130	12-OCT-21
Ethylbenzene			98.8		%		70-130	12-OCT-21
m+p-Xylenes			99.3		%		70-130	12-OCT-21
o-Xylene			99.4		%		70-130	12-OCT-21
Toluene			105.0		%		70-130	12-OCT-21
WG3633976-1 MB								
Benzene			<0.0068		ug/g		0.0068	12-OCT-21
Ethylbenzene			<0.018		ug/g		0.018	12-OCT-21
m+p-Xylenes			<0.030		ug/g		0.03	12-OCT-21
o-Xylene			<0.020		ug/g		0.02	12-OCT-21
Toluene			<0.080		ug/g		0.08	12-OCT-21
Surrogate: 1,4-Difluorobenzene			114.6		%		50-140	12-OCT-21
Surrogate: 4-Bromofluorobenzene			109.7		%		50-140	12-OCT-21
WG3633976-5 MS		**WG3633976-3**						
Benzene			116.5		%		60-140	12-OCT-21
Ethylbenzene			102.6		%		60-140	12-OCT-21
m+p-Xylenes			103.9		%		60-140	12-OCT-21
o-Xylene			103.0		%		60-140	12-OCT-21
Toluene			109.0		%		60-140	12-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Soil**							
Batch R5617204								
WG3636034-4 DUP		**WG3636034-3**						
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	14-OCT-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	14-OCT-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	14-OCT-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	14-OCT-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	14-OCT-21
WG3636034-2 LCS								
Benzene			111.6		%		70-130	14-OCT-21
Ethylbenzene			94.4		%		70-130	14-OCT-21
m+p-Xylenes			98.8		%		70-130	14-OCT-21
o-Xylene			95.8		%		70-130	14-OCT-21
Toluene			102.5		%		70-130	14-OCT-21
WG3636034-1 MB								
Benzene			<0.0068		ug/g		0.0068	14-OCT-21
Ethylbenzene			<0.018		ug/g		0.018	14-OCT-21
m+p-Xylenes			<0.030		ug/g		0.03	14-OCT-21
o-Xylene			<0.020		ug/g		0.02	14-OCT-21
Toluene			<0.080		ug/g		0.08	14-OCT-21
Surrogate: 1,4-Difluorobenzene			115.0		%		50-140	14-OCT-21
Surrogate: 4-Bromofluorobenzene			108.7		%		50-140	14-OCT-21
WG3636034-5 MS		**WG3636034-3**						
Benzene			114.0		%		60-140	14-OCT-21
Ethylbenzene			95.7		%		60-140	14-OCT-21
m+p-Xylenes			98.5		%		60-140	14-OCT-21
o-Xylene			97.0		%		60-140	14-OCT-21
Toluene			104.8		%		60-140	14-OCT-21
Batch R5620849								
WG3636311-4 DUP		**WG3636311-3**						
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	16-OCT-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	16-OCT-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	16-OCT-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	16-OCT-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	16-OCT-21
WG3636311-2 LCS								
Benzene			115.1		%		70-130	16-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Soil**							
Batch R5620849								
WG3636311-2 LCS								
Ethylbenzene			100.2		%		70-130	16-OCT-21
m+p-Xylenes			100.9		%		70-130	16-OCT-21
o-Xylene			101.1		%		70-130	16-OCT-21
Toluene			108.1		%		70-130	16-OCT-21
WG3636311-1 MB								
Benzene			<0.0068		ug/g		0.0068	16-OCT-21
Ethylbenzene			<0.018		ug/g		0.018	16-OCT-21
m+p-Xylenes			<0.030		ug/g		0.03	16-OCT-21
o-Xylene			<0.020		ug/g		0.02	16-OCT-21
Toluene			<0.080		ug/g		0.08	16-OCT-21
Surrogate: 1,4-Difluorobenzene			113.0		%		50-140	16-OCT-21
Surrogate: 4-Bromofluorobenzene			110.9		%		50-140	16-OCT-21
WG3636311-5 MS		**WG3636311-3**						
Benzene			110.6		%		60-140	16-OCT-21
Ethylbenzene			97.9		%		60-140	16-OCT-21
m+p-Xylenes			99.8		%		60-140	16-OCT-21
o-Xylene			99.0		%		60-140	16-OCT-21
Toluene			107.0		%		60-140	16-OCT-21
MET-200.2-CCMS-WT	**Soil**							
Batch R5617181								
WG3636284-2 CRM		**WT-SS-2**						
Aluminum (Al)			123.8		%		70-130	13-OCT-21
Antimony (Sb)			115.9		%		70-130	13-OCT-21
Arsenic (As)			117.3		%		70-130	13-OCT-21
Barium (Ba)			125.2		%		70-130	13-OCT-21
Beryllium (Be)			107.8		%		70-130	13-OCT-21
Bismuth (Bi)			0.19		mg/kg		0-0.34	13-OCT-21
Boron (B)			9.1		mg/kg		3.5-13.5	13-OCT-21
Cadmium (Cd)			119.0		%		70-130	13-OCT-21
Calcium (Ca)			111.3		%		70-130	13-OCT-21
Chromium (Cr)			117.8		%		70-130	13-OCT-21
Cobalt (Co)			115.5		%		70-130	13-OCT-21
Copper (Cu)			117.4		%		70-130	13-OCT-21
Iron (Fe)			117.5		%		70-130	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617181								
WG3636284-2 CRM		**WT-SS-2**						
Lead (Pb)			106.3		%		70-130	13-OCT-21
Lithium (Li)			96.8		%		70-130	13-OCT-21
Magnesium (Mg)			125.5		%		70-130	13-OCT-21
Manganese (Mn)			124.4		%		70-130	13-OCT-21
Molybdenum (Mo)			114.1		%		70-130	13-OCT-21
Nickel (Ni)			115.8		%		70-130	13-OCT-21
Phosphorus (P)			123.6		%		70-130	13-OCT-21
Potassium (K)			115.9		%		70-130	13-OCT-21
Selenium (Se)			0.15		mg/kg		0-0.34	13-OCT-21
Silver (Ag)			112.7		%		70-130	13-OCT-21
Sodium (Na)			117.5		%		70-130	13-OCT-21
Strontium (Sr)			111.8		%		70-130	13-OCT-21
Thallium (Tl)			0.080		mg/kg		0.029-0.129	13-OCT-21
Tin (Sn)			106.6		%		70-130	13-OCT-21
Titanium (Ti)			116.0		%		70-130	13-OCT-21
Uranium (U)			117.2		%		70-130	13-OCT-21
Vanadium (V)			117.5		%		70-130	13-OCT-21
Zinc (Zn)			110.0		%		70-130	13-OCT-21
Zirconium (Zr)			113.8		%		70-130	13-OCT-21
WG3636284-6 DUP		**WG3636284-5**						
Aluminum (Al)		12900	14300		ug/g	9.6	40	13-OCT-21
Antimony (Sb)		0.80	0.85		ug/g	5.8	30	13-OCT-21
Arsenic (As)		5.14	5.90		ug/g	14	30	13-OCT-21
Barium (Ba)		202	227		ug/g	12	40	13-OCT-21
Beryllium (Be)		0.50	0.56		ug/g	12	30	13-OCT-21
Bismuth (Bi)		0.25	0.28		ug/g	13	30	13-OCT-21
Boron (B)		8.4	8.5		ug/g	0.6	30	13-OCT-21
Cadmium (Cd)		0.569	0.613		ug/g	7.4	30	13-OCT-21
Calcium (Ca)		61300	63800		ug/g	4.0	30	13-OCT-21
Chromium (Cr)		1500	1450		ug/g	3.9	30	13-OCT-21
Cobalt (Co)		10.4	11.6		ug/g	11	30	13-OCT-21
Copper (Cu)		32.8	36.5		ug/g	11	30	13-OCT-21
Iron (Fe)		21500	23600		ug/g	9.4	30	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617181								
WG3636284-6 DUP		**WG3636284-5**						
Lead (Pb)		104	117		ug/g	11	40	13-OCT-21
Lithium (Li)		9.4	9.8		ug/g	3.5	30	13-OCT-21
Magnesium (Mg)		13500	15000		ug/g	10	30	13-OCT-21
Manganese (Mn)		761	842		ug/g	10	30	13-OCT-21
Molybdenum (Mo)		0.87	0.90		ug/g	4.2	40	13-OCT-21
Nickel (Ni)		19.3	21.2		ug/g	9.4	30	13-OCT-21
Phosphorus (P)		1330	1430		ug/g	7.2	30	13-OCT-21
Potassium (K)		2760	3130		ug/g	12	40	13-OCT-21
Selenium (Se)		0.70	0.79		ug/g	12	30	13-OCT-21
Silver (Ag)		0.30	0.40		ug/g	27	40	13-OCT-21
Sodium (Na)		455	503		ug/g	10	40	13-OCT-21
Strontium (Sr)		353	377		ug/g	6.8	40	13-OCT-21
Sulfur (S)		5900	6400		ug/g	8.7	30	13-OCT-21
Thallium (Tl)		0.221	0.255		ug/g	14	30	13-OCT-21
Tin (Sn)		5.2	6.8		ug/g	26	40	13-OCT-21
Titanium (Ti)		740	779		ug/g	5.1	40	13-OCT-21
Tungsten (W)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	13-OCT-21
Uranium (U)		0.563	0.633		ug/g	12	30	13-OCT-21
Vanadium (V)		33.4	36.9		ug/g	9.9	30	13-OCT-21
Zinc (Zn)		143	158		ug/g	9.9	30	13-OCT-21
Zirconium (Zr)		3.7	4.1		ug/g	9.2	30	13-OCT-21
WG3636284-4 LCS								
Aluminum (Al)			100.5		%		80-120	13-OCT-21
Antimony (Sb)			99.4		%		80-120	13-OCT-21
Arsenic (As)			101.5		%		80-120	13-OCT-21
Barium (Ba)			101.1		%		80-120	13-OCT-21
Beryllium (Be)			92.4		%		80-120	13-OCT-21
Bismuth (Bi)			92.9		%		80-120	13-OCT-21
Boron (B)			88.1		%		80-120	13-OCT-21
Cadmium (Cd)			95.4		%		80-120	13-OCT-21
Calcium (Ca)			96.0		%		80-120	13-OCT-21
Chromium (Cr)			99.0		%		80-120	13-OCT-21
Cobalt (Co)			99.2		%		80-120	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617181								
WG3636284-4 LCS								
Copper (Cu)			96.8		%		80-120	13-OCT-21
Iron (Fe)			99.0		%		80-120	13-OCT-21
Lead (Pb)			96.1		%		80-120	13-OCT-21
Lithium (Li)			81.7		%		80-120	13-OCT-21
Magnesium (Mg)			108.4		%		80-120	13-OCT-21
Manganese (Mn)			99.0		%		80-120	13-OCT-21
Molybdenum (Mo)			96.9		%		80-120	13-OCT-21
Nickel (Ni)			96.4		%		80-120	13-OCT-21
Phosphorus (P)			108.4		%		80-120	13-OCT-21
Potassium (K)			103.7		%		80-120	13-OCT-21
Selenium (Se)			98.2		%		80-120	13-OCT-21
Silver (Ag)			86.5		%		80-120	13-OCT-21
Sodium (Na)			103.6		%		80-120	13-OCT-21
Strontium (Sr)			103.5		%		80-120	13-OCT-21
Sulfur (S)			96.4		%		80-120	13-OCT-21
Thallium (Tl)			94.5		%		80-120	13-OCT-21
Tin (Sn)			96.5		%		80-120	13-OCT-21
Titanium (Ti)			100.3		%		80-120	13-OCT-21
Tungsten (W)			90.8		%		80-120	13-OCT-21
Uranium (U)			91.5		%		80-120	13-OCT-21
Vanadium (V)			101.7		%		80-120	13-OCT-21
Zinc (Zn)			92.9		%		80-120	13-OCT-21
Zirconium (Zr)			93.9		%		80-120	13-OCT-21
WG3636284-1 MB								
Aluminum (Al)			<50		mg/kg		50	13-OCT-21
Antimony (Sb)			<0.10		mg/kg		0.1	13-OCT-21
Arsenic (As)			<0.10		mg/kg		0.1	13-OCT-21
Barium (Ba)			<0.50		mg/kg		0.5	13-OCT-21
Beryllium (Be)			<0.10		mg/kg		0.1	13-OCT-21
Bismuth (Bi)			<0.20		mg/kg		0.2	13-OCT-21
Boron (B)			<5.0		mg/kg		5	13-OCT-21
Cadmium (Cd)			<0.020		mg/kg		0.02	13-OCT-21
Calcium (Ca)			<50		mg/kg		50	13-OCT-21
Chromium (Cr)			<0.50		mg/kg		0.5	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617181								
WG3636284-1 MB								
Cobalt (Co)			<0.10		mg/kg		0.1	13-OCT-21
Copper (Cu)			<0.50		mg/kg		0.5	13-OCT-21
Iron (Fe)			<50		mg/kg		50	13-OCT-21
Lead (Pb)			<0.50		mg/kg		0.5	13-OCT-21
Lithium (Li)			<2.0		mg/kg		2	13-OCT-21
Magnesium (Mg)			<20		mg/kg		20	13-OCT-21
Manganese (Mn)			<1.0		mg/kg		1	13-OCT-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	13-OCT-21
Nickel (Ni)			<0.50		mg/kg		0.5	13-OCT-21
Phosphorus (P)			<50		mg/kg		50	13-OCT-21
Potassium (K)			<100		mg/kg		100	13-OCT-21
Selenium (Se)			<0.20		mg/kg		0.2	13-OCT-21
Silver (Ag)			<0.10		mg/kg		0.1	13-OCT-21
Sodium (Na)			<50		mg/kg		50	13-OCT-21
Strontium (Sr)			<0.50		mg/kg		0.5	13-OCT-21
Sulfur (S)			<1000		mg/kg		1000	13-OCT-21
Thallium (Tl)			<0.050		mg/kg		0.05	13-OCT-21
Tin (Sn)			<2.0		mg/kg		2	13-OCT-21
Titanium (Ti)			<1.0		mg/kg		1	13-OCT-21
Tungsten (W)			<0.50		mg/kg		0.5	13-OCT-21
Uranium (U)			<0.050		mg/kg		0.05	13-OCT-21
Vanadium (V)			<0.20		mg/kg		0.2	13-OCT-21
Zinc (Zn)			<2.0		mg/kg		2	13-OCT-21
Zirconium (Zr)			<1.0		mg/kg		1	13-OCT-21
Batch R5617456								
WG3636643-2 CRM		**WT-SS-2**						
Aluminum (Al)			116.9		%		70-130	13-OCT-21
Antimony (Sb)			97.9		%		70-130	13-OCT-21
Arsenic (As)			113.3		%		70-130	13-OCT-21
Barium (Ba)			111.9		%		70-130	13-OCT-21
Beryllium (Be)			106.4		%		70-130	13-OCT-21
Bismuth (Bi)			0.13		mg/kg		0-0.34	13-OCT-21
Boron (B)			9.2		mg/kg		3.5-13.5	13-OCT-21
Cadmium (Cd)			97.8		%		70-130	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617456								
WG3636643-2 CRM		**WT-SS-2**						
Calcium (Ca)			109.3		%		70-130	13-OCT-21
Chromium (Cr)			105.5		%		70-130	13-OCT-21
Cobalt (Co)			100.3		%		70-130	13-OCT-21
Copper (Cu)			98.5		%		70-130	13-OCT-21
Iron (Fe)			104.3		%		70-130	13-OCT-21
Lead (Pb)			107.1		%		70-130	13-OCT-21
Lithium (Li)			96.8		%		70-130	13-OCT-21
Magnesium (Mg)			108.4		%		70-130	13-OCT-21
Manganese (Mn)			113.6		%		70-130	13-OCT-21
Molybdenum (Mo)			104.8		%		70-130	13-OCT-21
Nickel (Ni)			101.2		%		70-130	13-OCT-21
Phosphorus (P)			102.6		%		70-130	13-OCT-21
Potassium (K)			109.0		%		70-130	13-OCT-21
Selenium (Se)			0.12		mg/kg		0-0.34	13-OCT-21
Silver (Ag)			82.4		%		70-130	13-OCT-21
Sodium (Na)			104.0		%		70-130	13-OCT-21
Strontium (Sr)			108.2		%		70-130	13-OCT-21
Thallium (Tl)			0.076		mg/kg		0.029-0.129	13-OCT-21
Tin (Sn)			97.3		%		70-130	13-OCT-21
Titanium (Ti)			101.6		%		70-130	13-OCT-21
Uranium (U)			102.0		%		70-130	13-OCT-21
Vanadium (V)			105.2		%		70-130	13-OCT-21
Zinc (Zn)			99.1		%		70-130	13-OCT-21
Zirconium (Zr)			108.3		%		70-130	13-OCT-21
WG3636643-6 DUP		**WG3636643-5**						
Aluminum (Al)		24100	23800		ug/g	1.1	40	13-OCT-21
Antimony (Sb)		<0.10	<0.10	RPD-NA	ug/g	N/A	30	13-OCT-21
Arsenic (As)		1.64	1.65		ug/g	0.5	30	13-OCT-21
Barium (Ba)		70.8	70.0		ug/g	1.1	40	13-OCT-21
Beryllium (Be)		0.57	0.55		ug/g	3.0	30	13-OCT-21
Bismuth (Bi)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	13-OCT-21
Boron (B)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	13-OCT-21
Cadmium (Cd)		0.222	0.220		ug/g	1.0	30	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617456								
WG3636643-6 DUP		**WG3636643-5**						
Calcium (Ca)		3060	3110		ug/g	1.9	30	13-OCT-21
Chromium (Cr)		34.4	32.8		ug/g	4.5	30	13-OCT-21
Cobalt (Co)		7.11	7.08		ug/g	0.4	30	13-OCT-21
Copper (Cu)		9.30	9.11		ug/g	2.0	30	13-OCT-21
Iron (Fe)		21500	20800		ug/g	3.1	30	13-OCT-21
Lead (Pb)		5.81	5.86		ug/g	0.9	40	13-OCT-21
Lithium (Li)		13.4	13.1		ug/g	1.8	30	13-OCT-21
Magnesium (Mg)		4440	4350		ug/g	2.0	30	13-OCT-21
Manganese (Mn)		404	390		ug/g	3.7	30	13-OCT-21
Molybdenum (Mo)		0.56	0.56		ug/g	1.7	40	13-OCT-21
Nickel (Ni)		15.7	15.6		ug/g	1.2	30	13-OCT-21
Phosphorus (P)		458	455		ug/g	0.6	30	13-OCT-21
Potassium (K)		1140	1090		ug/g	4.3	40	13-OCT-21
Selenium (Se)		0.51	0.50		ug/g	2.3	30	13-OCT-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	13-OCT-21
Sodium (Na)		286	295		ug/g	3.1	40	13-OCT-21
Strontium (Sr)		16.5	17.8		ug/g	7.3	40	13-OCT-21
Sulfur (S)		<1000	<1000	RPD-NA	ug/g	N/A	30	13-OCT-21
Thallium (Tl)		0.110	0.106		ug/g	4.3	30	13-OCT-21
Tin (Sn)		<2.0	<2.0	RPD-NA	ug/g	N/A	40	13-OCT-21
Titanium (Ti)		1080	1100		ug/g	1.7	40	13-OCT-21
Tungsten (W)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	13-OCT-21
Uranium (U)		0.562	0.568		ug/g	1.1	30	13-OCT-21
Vanadium (V)		41.3	41.2		ug/g	0.4	30	13-OCT-21
Zinc (Zn)		74.1	72.9		ug/g	1.6	30	13-OCT-21
Zirconium (Zr)		1.9	1.7		ug/g	7.1	30	13-OCT-21
WG3636643-4 LCS								
Aluminum (Al)			102.3		%		80-120	13-OCT-21
Antimony (Sb)			100.4		%		80-120	13-OCT-21
Arsenic (As)			98.4		%		80-120	13-OCT-21
Barium (Ba)			96.5		%		80-120	13-OCT-21
Beryllium (Be)			92.4		%		80-120	13-OCT-21
Bismuth (Bi)			92.3		%		80-120	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617456								
WG3636643-4 LCS								
Boron (B)			95.2		%		80-120	13-OCT-21
Cadmium (Cd)			92.3		%		80-120	13-OCT-21
Calcium (Ca)			98.7		%		80-120	13-OCT-21
Chromium (Cr)			94.3		%		80-120	13-OCT-21
Cobalt (Co)			93.6		%		80-120	13-OCT-21
Copper (Cu)			89.5		%		80-120	13-OCT-21
Iron (Fe)			93.1		%		80-120	13-OCT-21
Lead (Pb)			95.1		%		80-120	13-OCT-21
Lithium (Li)			93.8		%		80-120	13-OCT-21
Magnesium (Mg)			100.4		%		80-120	13-OCT-21
Manganese (Mn)			97.5		%		80-120	13-OCT-21
Molybdenum (Mo)			100.4		%		80-120	13-OCT-21
Nickel (Ni)			90.7		%		80-120	13-OCT-21
Phosphorus (P)			99.2		%		80-120	13-OCT-21
Potassium (K)			104.9		%		80-120	13-OCT-21
Selenium (Se)			90.2		%		80-120	13-OCT-21
Silver (Ag)			85.1		%		80-120	13-OCT-21
Sodium (Na)			94.0		%		80-120	13-OCT-21
Strontium (Sr)			101.7		%		80-120	13-OCT-21
Sulfur (S)			91.9		%		80-120	13-OCT-21
Thallium (Tl)			98.4		%		80-120	13-OCT-21
Tin (Sn)			96.5		%		80-120	13-OCT-21
Titanium (Ti)			95.0		%		80-120	13-OCT-21
Tungsten (W)			92.3		%		80-120	13-OCT-21
Uranium (U)			89.3		%		80-120	13-OCT-21
Vanadium (V)			97.2		%		80-120	13-OCT-21
Zinc (Zn)			90.1		%		80-120	13-OCT-21
Zirconium (Zr)			98.5		%		80-120	13-OCT-21
WG3636643-1 MB								
Aluminum (Al)			<50		mg/kg		50	13-OCT-21
Antimony (Sb)			<0.10		mg/kg		0.1	13-OCT-21
Arsenic (As)			<0.10		mg/kg		0.1	13-OCT-21
Barium (Ba)			<0.50		mg/kg		0.5	13-OCT-21
Beryllium (Be)			<0.10		mg/kg		0.1	13-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5617456								
WG3636643-1 MB								
Bismuth (Bi)			<0.20		mg/kg		0.2	13-OCT-21
Boron (B)			<5.0		mg/kg		5	13-OCT-21
Cadmium (Cd)			<0.020		mg/kg		0.02	13-OCT-21
Calcium (Ca)			<50		mg/kg		50	13-OCT-21
Chromium (Cr)			<0.50		mg/kg		0.5	13-OCT-21
Cobalt (Co)			<0.10		mg/kg		0.1	13-OCT-21
Copper (Cu)			<0.50		mg/kg		0.5	13-OCT-21
Iron (Fe)			<50		mg/kg		50	13-OCT-21
Lead (Pb)			<0.50		mg/kg		0.5	13-OCT-21
Lithium (Li)			<2.0		mg/kg		2	13-OCT-21
Magnesium (Mg)			<20		mg/kg		20	13-OCT-21
Manganese (Mn)			<1.0		mg/kg		1	13-OCT-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	13-OCT-21
Nickel (Ni)			<0.50		mg/kg		0.5	13-OCT-21
Phosphorus (P)			<50		mg/kg		50	13-OCT-21
Potassium (K)			<100		mg/kg		100	13-OCT-21
Selenium (Se)			<0.20		mg/kg		0.2	13-OCT-21
Silver (Ag)			<0.10		mg/kg		0.1	13-OCT-21
Sodium (Na)			<50		mg/kg		50	13-OCT-21
Strontium (Sr)			<0.50		mg/kg		0.5	13-OCT-21
Sulfur (S)			<1000		mg/kg		1000	13-OCT-21
Thallium (Tl)			<0.050		mg/kg		0.05	13-OCT-21
Tin (Sn)			<2.0		mg/kg		2	13-OCT-21
Titanium (Ti)			<1.0		mg/kg		1	13-OCT-21
Tungsten (W)			<0.50		mg/kg		0.5	13-OCT-21
Uranium (U)			<0.050		mg/kg		0.05	13-OCT-21
Vanadium (V)			<0.20		mg/kg		0.2	13-OCT-21
Zinc (Zn)			<2.0		mg/kg		2	13-OCT-21
Zirconium (Zr)			<1.0		mg/kg		1	13-OCT-21
Batch R5619523								
WG3638134-2 CRM		**WT-SS-2**						
Aluminum (Al)			112.2		%		70-130	15-OCT-21
Antimony (Sb)			100.3		%		70-130	15-OCT-21
Arsenic (As)			110.7		%		70-130	15-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5619523								
WG3638134-2 CRM		**WT-SS-2**						
Barium (Ba)			111.4		%		70-130	15-OCT-21
Beryllium (Be)			99.6		%		70-130	15-OCT-21
Bismuth (Bi)			0.15		mg/kg		0-0.34	15-OCT-21
Boron (B)			8.3		mg/kg		3.5-13.5	15-OCT-21
Cadmium (Cd)			106.7		%		70-130	15-OCT-21
Calcium (Ca)			109.8		%		70-130	15-OCT-21
Chromium (Cr)			104.4		%		70-130	15-OCT-21
Cobalt (Co)			106.2		%		70-130	15-OCT-21
Copper (Cu)			109.9		%		70-130	15-OCT-21
Iron (Fe)			108.0		%		70-130	15-OCT-21
Lead (Pb)			108.2		%		70-130	15-OCT-21
Lithium (Li)			92.0		%		70-130	15-OCT-21
Magnesium (Mg)			108.9		%		70-130	15-OCT-21
Manganese (Mn)			114.2		%		70-130	15-OCT-21
Molybdenum (Mo)			103.1		%		70-130	15-OCT-21
Nickel (Ni)			106.8		%		70-130	15-OCT-21
Phosphorus (P)			104.1		%		70-130	15-OCT-21
Potassium (K)			106.7		%		70-130	15-OCT-21
Selenium (Se)			0.13		mg/kg		0-0.34	15-OCT-21
Silver (Ag)			87.0		%		70-130	15-OCT-21
Sodium (Na)			104.4		%		70-130	15-OCT-21
Strontium (Sr)			104.3		%		70-130	15-OCT-21
Thallium (Tl)			0.077		mg/kg		0.029-0.129	15-OCT-21
Tin (Sn)			104.1		%		70-130	15-OCT-21
Titanium (Ti)			100.5		%		70-130	15-OCT-21
Uranium (U)			95.3		%		70-130	15-OCT-21
Vanadium (V)			106.5		%		70-130	15-OCT-21
Zinc (Zn)			105.0		%		70-130	15-OCT-21
Zirconium (Zr)			101.5		%		70-130	15-OCT-21
WG3638134-7 DUP		**WG3638134-6**						
Aluminum (Al)		20600	20600		ug/g	0.4	40	15-OCT-21
Antimony (Sb)		0.20	0.20		ug/g	1.5	30	15-OCT-21
Arsenic (As)		6.91	6.93		ug/g	0.3	30	15-OCT-21
Barium (Ba)		105	104					

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5619523								
WG3638134-7 DUP		**WG3638134-6**						
Barium (Ba)		105	104		ug/g	0.6	40	15-OCT-21
Beryllium (Be)		0.80	0.78		ug/g	3.1	30	15-OCT-21
Bismuth (Bi)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	15-OCT-21
Boron (B)		7.1	7.1		ug/g	0.2	30	15-OCT-21
Cadmium (Cd)		0.233	0.279		ug/g	18	30	15-OCT-21
Calcium (Ca)		30700	29300		ug/g	4.7	30	15-OCT-21
Chromium (Cr)		26.4	26.3		ug/g	0.4	30	15-OCT-21
Cobalt (Co)		12.6	11.9		ug/g	5.6	30	15-OCT-21
Copper (Cu)		26.7	25.9		ug/g	3.4	30	15-OCT-21
Iron (Fe)		29600	28900		ug/g	2.3	30	15-OCT-21
Lead (Pb)		17.9	18.1		ug/g	1.2	40	15-OCT-21
Lithium (Li)		22.4	21.9		ug/g	2.5	30	15-OCT-21
Magnesium (Mg)		16300	15600		ug/g	4.6	30	15-OCT-21
Manganese (Mn)		855	850		ug/g	0.6	30	15-OCT-21
Molybdenum (Mo)		0.46	0.46		ug/g	0.3	40	15-OCT-21
Nickel (Ni)		25.8	25.1		ug/g	2.6	30	15-OCT-21
Phosphorus (P)		617	594		ug/g	3.9	30	15-OCT-21
Potassium (K)		2340	2270		ug/g	3.1	40	15-OCT-21
Selenium (Se)		0.22	0.23		ug/g	3.9	30	15-OCT-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	15-OCT-21
Sodium (Na)		119	108		ug/g	9.4	40	15-OCT-21
Strontium (Sr)		39.5	39.4		ug/g	0.2	40	15-OCT-21
Sulfur (S)		<1000	<1000	RPD-NA	ug/g	N/A	30	15-OCT-21
Thallium (Tl)		0.169	0.163		ug/g	3.8	30	15-OCT-21
Tin (Sn)		<2.0	<2.0	RPD-NA	ug/g	N/A	40	15-OCT-21
Titanium (Ti)		109	111		ug/g	2.5	40	15-OCT-21
Tungsten (W)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	15-OCT-21
Uranium (U)		0.479	0.489		ug/g	2.0	30	15-OCT-21
Vanadium (V)		36.3	35.2		ug/g	3.2	30	15-OCT-21
Zinc (Zn)		94.2	103		ug/g	8.7	30	15-OCT-21
Zirconium (Zr)		1.7	1.7		ug/g	0.1	30	15-OCT-21
WG3638134-4 LCS								
Aluminum (Al)			105.0		%		80-120	15-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5619523								
WG3638134-4 LCS								
Antimony (Sb)			106.0		%		80-120	15-OCT-21
Arsenic (As)			104.6		%		80-120	15-OCT-21
Barium (Ba)			102.6		%		80-120	15-OCT-21
Beryllium (Be)			89.0		%		80-120	15-OCT-21
Bismuth (Bi)			98.9		%		80-120	15-OCT-21
Boron (B)			86.7		%		80-120	15-OCT-21
Cadmium (Cd)			97.4		%		80-120	15-OCT-21
Calcium (Ca)			98.6		%		80-120	15-OCT-21
Chromium (Cr)			100.0		%		80-120	15-OCT-21
Cobalt (Co)			101.2		%		80-120	15-OCT-21
Copper (Cu)			97.5		%		80-120	15-OCT-21
Iron (Fe)			94.9		%		80-120	15-OCT-21
Lead (Pb)			102.3		%		80-120	15-OCT-21
Lithium (Li)			85.5		%		80-120	15-OCT-21
Magnesium (Mg)			105.2		%		80-120	15-OCT-21
Manganese (Mn)			103.4		%		80-120	15-OCT-21
Molybdenum (Mo)			103.7		%		80-120	15-OCT-21
Nickel (Ni)			97.9		%		80-120	15-OCT-21
Phosphorus (P)			110.5		%		80-120	15-OCT-21
Potassium (K)			108.3		%		80-120	15-OCT-21
Selenium (Se)			99.0		%		80-120	15-OCT-21
Silver (Ag)			94.3		%		80-120	15-OCT-21
Sodium (Na)			101.3		%		80-120	15-OCT-21
Strontium (Sr)			104.0		%		80-120	15-OCT-21
Sulfur (S)			98.5		%		80-120	15-OCT-21
Thallium (Tl)			100.9		%		80-120	15-OCT-21
Tin (Sn)			99.95		%		80-120	15-OCT-21
Titanium (Ti)			101.3		%		80-120	15-OCT-21
Tungsten (W)			102.2		%		80-120	15-OCT-21
Uranium (U)			97.5		%		80-120	15-OCT-21
Vanadium (V)			103.6		%		80-120	15-OCT-21
Zinc (Zn)			97.9		%		80-120	15-OCT-21
Zirconium (Zr)			101.4		%		80-120	15-OCT-21
WG3638134-1 MB								

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5619523								
WG3638134-1 MB								
Aluminum (Al)			<50		mg/kg		50	15-OCT-21
Antimony (Sb)			<0.10		mg/kg		0.1	15-OCT-21
Arsenic (As)			<0.10		mg/kg		0.1	15-OCT-21
Barium (Ba)			<0.50		mg/kg		0.5	15-OCT-21
Beryllium (Be)			<0.10		mg/kg		0.1	15-OCT-21
Bismuth (Bi)			<0.20		mg/kg		0.2	15-OCT-21
Boron (B)			<5.0		mg/kg		5	15-OCT-21
Cadmium (Cd)			<0.020		mg/kg		0.02	15-OCT-21
Calcium (Ca)			<50		mg/kg		50	15-OCT-21
Chromium (Cr)			<0.50		mg/kg		0.5	15-OCT-21
Cobalt (Co)			<0.10		mg/kg		0.1	15-OCT-21
Copper (Cu)			<0.50		mg/kg		0.5	15-OCT-21
Iron (Fe)			<50		mg/kg		50	15-OCT-21
Lead (Pb)			<0.50		mg/kg		0.5	15-OCT-21
Lithium (Li)			<2.0		mg/kg		2	15-OCT-21
Magnesium (Mg)			<20		mg/kg		20	15-OCT-21
Manganese (Mn)			<1.0		mg/kg		1	15-OCT-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	15-OCT-21
Nickel (Ni)			<0.50		mg/kg		0.5	15-OCT-21
Phosphorus (P)			<50		mg/kg		50	15-OCT-21
Potassium (K)			<100		mg/kg		100	15-OCT-21
Selenium (Se)			<0.20		mg/kg		0.2	15-OCT-21
Silver (Ag)			<0.10		mg/kg		0.1	15-OCT-21
Sodium (Na)			<50		mg/kg		50	15-OCT-21
Strontium (Sr)			<0.50		mg/kg		0.5	15-OCT-21
Sulfur (S)			<1000		mg/kg		1000	15-OCT-21
Thallium (Tl)			<0.050		mg/kg		0.05	15-OCT-21
Tin (Sn)			<2.0		mg/kg		2	15-OCT-21
Titanium (Ti)			<1.0		mg/kg		1	15-OCT-21
Tungsten (W)			<0.50		mg/kg		0.5	15-OCT-21
Uranium (U)			<0.050		mg/kg		0.05	15-OCT-21
Vanadium (V)			<0.20		mg/kg		0.2	15-OCT-21
Zinc (Zn)			<2.0		mg/kg		2	15-OCT-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5619523								
WG3638134-1 MB								
Zirconium (Zr)			<1.0		mg/kg		1	15-OCT-21
MOISTURE-WT	**Soil**							
Batch R5613824								
WG3633021-2 LCS								
% Moisture			99.97		%		90-110	08-OCT-21
WG3633021-1 MB								
% Moisture			<0.25		%		0.25	08-OCT-21
Batch R5616455								
WG3635608-3 DUP		**L2648775-8**						
% Moisture		72.9	72.7		%	0.2	20	13-OCT-21
WG3635608-2 LCS								
% Moisture			99.7		%		90-110	13-OCT-21
WG3635608-1 MB								
% Moisture			<0.25		%		0.25	13-OCT-21

Quality Control Report

Workorder: L2647648 Report Date: 19-OCT-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	GHD Ltd. (Acct 13791)
Contact:	Pascal Renella
Phone:	519-884-0510
	Company address below will appear on the final report
Street:	455 Phillip St.
City/Province:	Waterloo, ON
Postal Code:	N2L 3X2
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	GHD Ltd. (Acct 13791)
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: pascal.renella@ghd.com
Email 2: See SSOW/PO
Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: APinvoices-735@ghd.com
Email 2:

Turnaround Time (TAT) Requested

☐ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☑ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush resuests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For tests that can not be performed according to the TAT requested, you will be contacted.

Project Information

ALS Account # / Quote #:	Q83585
Job #:	~~11218309-04~~ 1230721-01
PO / AFE:	73524385
LSD:	LWO # L2647648
ALS Lab Work Order # (lab use only):	L2647648

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Rick H	Sampler: Dathon Ash

Analysis Request

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	O.Reg 153 Metals & Inorganics	PCBs (PCB-511-WT)	VOCs/PHCs (VOC,F1-F4-511-P-WT)	SVOCs (SVOC-511-GP-WT)	Metals	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
				Soil		R	R	R	R				
18	MW-2-21-A-Native	12-10-2021	16:00	Soil	1					X			
19	MW-2-21-B-Native	12-10-2021	15:00	Soil	1					X			

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Metals only, no inorganics

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
6.9				5.0			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Dathon Ash	Oct 12, 2021	17:30

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
	13 OCT	

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
	14-OCT-21	@900

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Chain of C [illegible] / Analytical Request Form

www.alsglobal.com

L2647648-COFC

COC Number: 20 -

Page of

Report To	Contact and company name below will appear on the final report	Select Report Format: ☑ PDF ☑ EXCEL ☐ ☐	Turnaround Time (TAT) Requested (if received by 3pm M-F - no surcharges apply)	AFFIX ALS BARCODE LABEL HERE (ALS use only)
Company:	GHD Ltd. (Acct 13791)	Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A	☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum	
Contact:	Pascal Renella	☐ Compare Results to Criteria on Report - provide details below if box checked	☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum	
Phone:	519-884-0510	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum	
	Company address below will appear on the final report		☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum	
Street:	455 Phillip St.	Email 1 or Fax pascal.renella@ghd.com	☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush resuests on weekends, statutory holidays and non-routine tests	
City/Province:	Waterloo, ON	Email 2 See SSOW/PO		
Postal Code:	N2L 3X2	Email 3	Date and Time Required for all E&P TATs:	
Invoice To	Same as Report To ☑ YES ☐ NO	**Invoice Recipients**	For tests that can not be performed according to the TAT requested, you will be contacted.	
	Copy of Invoice with Report ☐ YES ☑ NO	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX		
Company:	GHD Ltd. (Acct 13791)	Email 1 or Fax Invoicing-Canada@ghd.com		
Contact:		Email 2		

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	11230721-01	Major/Minor Code:	Routing Code:
PO / AFE:	73524385	Requisitioner:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): L2647648 **ALS Contact:** Rick H **Sampler:**

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				
				Soil				

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				5.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
							21 OCT 21	16:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

L2647648

Company:	GHD Ltd. (Acct 13791)	Email 1 or I	Invoice-Canada@ghd.com		☐ F						Indicate
Contact:		Email 2									
Project Information		**Oil and Gas Required Fields (client use)**									
ALS Account # / Quote #:		AFE/Cost Center:		PO#							
Job #:	11230721-01	Major/Minor Code:		Routing Code:							
PO / AFE:	73524385	Requisition									
LSD:		Location:									
Work Order # (lab us		**ALS Contact:**	**Rick H**	**Sampler:**							

L2647648-COFC

ALS Sample # (lab use only)	ple Identification and/or Coordin is description will appear on the rep	Date (dd-mmm-yy)	Time (hh:mm)	ample Typ	NUMBER OF CONTAINERS	Metals	BTEX	DEPTH		
2	P1 (seen on Photo 6547)	04-010-21	8:43	Soil	1	X		1.5		
3	P2 (seen on Photo 6547)	04-010-21	9:15	Soil	1	X		1.5		
4	P3 (seen on Photo 6547)	04-010-21	10:03	Soil	1	X		1.5		
5	P4 (seen on Photo 6547)	04-010-21	10:42	Soil	1	X		1.5		
6	MW-1-21-A 1 of 2 Top (seen on Pl	04-010-21	11:15	Soil	3		X	30mm		
7	MW-1-21-A Fill 1 of 2 (seen on Ph	04-010-21	11:22	Soil	3		X	1.45		
8	MW-1-21-A Top 2 of 2 (seen on Pl	04-010-21	11:15	Soil	3		X	30mm		
9	MW-1-21-B Fill 1/1 (seen on Photo	04-010-21	11:45	Soil	3		X	1.5		
10	NO SAMPLE ID – USE "MW-1-21	04-010-21	11:50	Soil	3		X	35mm		
~~11~~										
~~12~~ 11	MW-2-21-A Top (see Photo 6548	04-010-21	13:00	Soil	1	X		35mm		
~~13~~ 12	MW-2-21-B Top (see lid on Photo	04-010-21	1310	Soil	1	X		35mm		
~~14 15~~										
13	MW-5-21-A Top (see Photo 6549)	04-010-21	12:00	Soil	1	X		35mm		
14	MW-5-21-A Fill (see Photo 6549)	04-010-21	12:05	Soil	1	X		1.5		
15	MW-5-21-B Top (see Photo 6549)	04-010-21	12:25	Soil	1	X		30mm		
16	MW-5-21-B Fill (see Photo 6549)	04-010-21	12:15	Soil	1	X		1.45		
17	MW-5-21-B-D Fill (see Photo 6549	04-010-21	12:15	Soil	1	X		1.45		
1	Soil Trip Blank (see Photo 6549)	04-010-21	--	Soil	1		X			

Chain of Custo

L2647648-COFC

COC Number: 20 - 998294

Page of

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Report To	Contact and company name below will appear on the final report
Company:	GHD Limited
Contact:	Pascal Renella
Phone:	519 884 0510
Company address below will appear on the final report	
Street:	455 Phillip street
City/Province:	Waterloo, ON
Postal Code:	N2L 3X2
Invoice To	Same as Report To [X] YES [ ] NO
	Copy of Invoice with Report [ ] YES [X] NO
Company:	GHD Limited
Contact:	

Reports / Recipients	
Select Report Format:	[X] PDF [X] EXCEL [X] EDD (DIGITAL)
Merge QC/QCI Reports with COA	[ ] YES [ ] NO [ ] N/A
[ ] Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	pascal.renella@ghd.com
Email 2	See 70 is SOW
Email 3	

Invoice Recipients	
Select Invoice Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	Invoice-Canada@GHD.com
Email 2	

Turnaround Time (TAT) Requested
[X] Routine [R] if received by 3pm M-F - no surcharges apply
[ ] 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
[ ] 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
[ ] 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
[ ] 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
[ ] Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information	
ALS Account # / Quote #:	BR329965
Job #:	11230721-01
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only):

ALS Contact: Rick H

Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX	Metals	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	Trip Blank - Soil - Methanol	-	-	-	1	X				

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? [ ] YES [X] NO

Are samples for human consumption/ use? [ ] YES [X] NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: [ ] NONE [ ] ICE [X] ICE PACKS [ ] FROZEN [ ] COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: [ ] YES [ ] NO

Cooler Custody Seals Intact: [ ] YES [ ] N/A Sample Custody Seals Intact: [ ] YES [ ] N/A

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
13.4						

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date: 2021-10-04	Time:	Received by:	Date: 4 OCT	Time: 2PM	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1 If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Appendix C

Data Quality Assessment and Verification

Technical Memorandum

August 09, 2021

To	Joseph Drader	**Tel**	450-902-4349
Copy to	Kathleen Schaller	**Email**	pascal.renella@ghd.com
From	Pascal Renella/an/01	**Ref. No.**	11230721
Subject	Data Quality Assessment and Verification		

Laboratory:	ALS Canada Ltd.
Lab Job No.:	L2615201, L2615912, L2619458
Date(s) Sampled:	July 14, 15, 16, 26, 2021
Media Sampled:	Soil

QA/QC	Criteria	Pass	Qualifiers	Fail	N/A
Holding Times	Analyte specific	☐	☒	☐	☐
Temperature	<10ºC at receipt	☐	☒	☐	☐
Sample Preservation	Required container/preservatives	☒	☐	☐	☐
Field Duplicate (blind)	Within 100% of original/<2xRL	☐	☐	☐	☒
Field Blank (blind)	Non detect	☐	☐	☐	☒
Trip Blank	Non detect	☒	☐	☐	☐
Lab QA/QC	Within standard recoveries	☐	☒	☐	☐

Samples collected on July 14 and 15 were submitted at 3ºC at the laboratory depot but due to courier delays arrived at the laboratory with a temperature >10ºC. All results, with the exception of metals and sodium adsorption ratio, have been qualified as estimated for detected results and as undetected with an estimated detection limit for undetected results.

The following result is qualified due to detections in the method blank:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2615912	07/16/2021	S-11230721-1600721-DA-MW6-21-SS-4	Copper	31.8	J+	µg/g

The following result is qualified due to analysis done past recommended holding time:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2619458	07/26/2021	GW-11230721-260721-DA-MW5-21-001	Oxidation reduction potential (ORP)	353	J	millivolts

The following results are qualified due to laboratory control sample outlying recoveries

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2615201	07/14/2021	S-11230721-140721-JS-MW1-21-SS-2B	Silver	0.20	UJ	µg/g
L2615201	07/14/2021	S-11230721-140721-JS-MW2-21-SS-4	Silver	0.26	J-	µg/g
L2615201	07/14/2021	S-11230721-140721-JS-MW5-21-SS-2B	Silver	0.20	UJ	µg/g
L2615201	07/15/2021	S-11230721-150721-JS-TH1-21-GS-1	Silver	0.20	UJ	µg/g
L2615201	07/15/2021	S-11230721-150721-JS-TH2-21-GS-1	Silver	0.84	J-	µg/g
L2615912	07/16/2021	S-11230721-1600721-DA-MW7-21-SS-4	Silver	0.20	UJ	µg/g
L2615912	07/16/2021	S-11230721-1600721-DA-MW3-21-SS-2A	Dichlorodifluoromethane (CFC-12)	0.050	UJ	µg/g
L2615912	07/16/2021	S-11230721-1600721-DA-MW7-21-SS-4	Dichlorodifluoromethane (CFC-12)	0.050	UJ	µg/g

The following result is qualified due to sodium adsorption ratio (SAR) calculated from undetected calcium or magnesium:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2615912	07/16/2021	S-11230721-1600721-DA-MW7-21-SS-4	Sodium adsorption ratio (SAR)	17.0	J+	none

Based on the assessment detailed in the foregoing, the data are acceptable with the specific qualifications noted herein.

Notes:

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.

UJ - Not detected; estimated reporting limit

Regards,

Pascal Renella
Data Management - Data Validator

Technical Memorandum

August 09, 2021
Revised January 11, 2022

To	Joseph Drader	**Tel**	1 450 902 4349
Copy to	Kathleen Schaller	**Email**	pascal.renella@ghd.com
From	Pascal Renella/an/01	**Ref. No.**	11230721
Subject	Data Quality Assessment and Verification		

Laboratory:	ALS Canada Ltd.
Lab Job No.:	L2615201, L2615912, L2619458, L2642785, L2647648
Date(s) Sampled:	July 14, 15, 16, 26, September 20, 21, and October 4, 2021
Media Sampled:	Soil and Groundwater

QA/QC	Criteria	Pass	Qualifiers	Fail	N/A
Holding Times	Analyte specific	☐	☒	☐	☐
Temperature	<10ºC at receipt	☐	☒	☐	☐
Sample Preservation	Required container/preservatives	☒	☐	☐	☐
Field Duplicate (blind)	Within 100% of original/<2xRL	☐	☐	☐	☒
Field Blank (blind)	Non detect	☐	☐	☐	☒
Trip Blank	Non detect	☒	☐	☐	☐
Lab QA/QC	Within standard recoveries	☐	☒	☐	☐

Samples collected on July 14-15, 2021were submitted at 3ºC at the laboratory depot but due to courier delays arrived at the laboratory with a temperature >10ºC. All results, with the exception of metals and sodium adsorption ratio, have been qualified as estimated for detected results and as undetected with an estimated detection limit for undetected results.

Groundwater samples collected on September 21, 2021 and soil samples collected October 4, 2021 arrived at the laboratory on the day of sampling and had not had time to achieve a temperature of <10°C. This is acceptable since the cooling process had been initiated.

The following results are qualified due to detections in the method blank:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2615912	07/16/2021	S-11230721-1600721-DA-MW6-21-SS-4	Copper	31.8	J+	µg/g

The following result is qualified due to analysis done past recommended holding time:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2619458	07/26/2021	GW-11230721-260721-DA-MW5-21-001	Oxidation reduction potential (ORP)	353	J	millivolts

The following results are qualified due to detections in the method blank:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2642785	09/21/2021	GW-11230721-0920-GL-005	Petroleum hydrocarbons F1 (C6-C10)	25	UJ	µg/L
L2642785	09/21/2021	GW-11230721-0920-GL-005	Petroleum hydrocarbons F1 minus BTEX	25	UJ	µg/L

The following results are qualified due to laboratory control sample outlying recoveries

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2615201	07/14/2021	S-11230721-140721-JS-MW1-21-SS-2B	Silver	0.20	UJ	µg/g
L2615201	07/14/2021	S-11230721-140721-JS-MW2-21-SS-4	Silver	0.26	J-	µg/g
L2615201	07/14/2021	S-11230721-140721-JS-MW5-21-SS-2B	Silver	0.20	UJ	µg/g
L2615201	07/15/2021	S-11230721-150721-JS-TH1-21-GS-1	Silver	0.20	UJ	µg/g
L2615201	07/15/2021	S-11230721-150721-JS-TH2-21-GS-1	Silver	0.84	J-	µg/g
L2615912	07/16/2021	S-11230721-1600721-DA-MW7-21-SS-4	Silver	0.20	UJ	µg/g
L2615912	07/16/2021	S-11230721-1600721-DA-MW3-21-SS-2A	Dichlorodifluoromethane (CFC-12)	0.050	UJ	µg/g
L2615912	07/16/2021	S-11230721-1600721-DA-MW7-21-SS-4	Dichlorodifluoromethane (CFC-12)	0.050	UJ	µg/g

The following result is qualified due to sodium adsorption ratio (SAR) calculated from undetected calcium or magnesium:

Lab Report #	Sample Date (mm/dd/yyyy)	Sample ID	Analyte	Result	Qualifier	Units
L2615912	07/16/2021	S-11230721-1600721-DA-MW7-21-SS-4	Sodium adsorption ratio (SAR)	17.0	J+	none

Conclusion:

Based on the assessment detailed in the foregoing, the data are acceptable with the specific qualifications noted herein.

Notes:

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.

UJ - Not detected; estimated reporting limit

BTEX - Benzene, Toluene, Ethylbenzene, Xylene

Regards,

Pascal Renella
Data Management - Data Validator

Appendix D

Waste Analytical and Shipping

GHD Limited (Waterloo)
ATTN: Pascal Renella
455 Phillip St
Waterloo ON N2L3X2

Date Received: 21-SEP-21
Report Date: 27-SEP-21 10:27 (MT)
Version: FINAL

Client Phone: 519-884-0510

Certificate of Analysis

Lab Work Order #: L2642782

Project P.O. #: 73524385
Job Reference: 11230721-01
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642782-1 WASTE-11230721-0920-GL-001 Sampled By: CLIENT on 20-SEP-21 @ 08:45 Matrix: SOIL							
Sample Preparation							
Initial pH	9.55		0.10	pH units		24-SEP-21	R5596876
Final pH	5.62		0.10	pH units		24-SEP-21	R5596876
Physical Tests							
Air Velocity Of Fume Hood	0.22		0.10	m/sec		24-SEP-21	R5596998
Burning Rate	NA		0.010	mm/sec		24-SEP-21	R5596998
Ignitability-Class	NON-FLAMMABLE					24-SEP-21	R5596998
Samp Comment	BROWN SOIL					24-SEP-21	R5596998
Temperature Of Test Material	21.0		1.0	Deg. C		24-SEP-21	R5596998
Time To Ignition	NA		1.0	sec		24-SEP-21	R5596998
TCLP Extractables							
Cyanide, Weak Acid Diss	<0.10		0.10	mg/L		24-SEP-21	R5598401
Fluoride (F)	<10		10	mg/L		24-SEP-21	R5600637
Nitrate and Nitrite as N	<4.0		4.0	mg/L		24-SEP-21	R5600637
Nitrate-N	<2.0		2.0	mg/L		24-SEP-21	R5600637
Nitrite-N	<2.0		2.0	mg/L		24-SEP-21	R5600637
TCLP Metals							
Arsenic (As)	<0.050		0.050	mg/L		24-SEP-21	R5598058
Barium (Ba)	0.71		0.50	mg/L		24-SEP-21	R5598058
Boron (B)	<2.5		2.5	mg/L		24-SEP-21	R5598058
Cadmium (Cd)	<0.0050		0.0050	mg/L		24-SEP-21	R5598058
Chromium (Cr)	<0.050		0.050	mg/L		24-SEP-21	R5598058
Lead (Pb)	<0.025		0.025	mg/L		24-SEP-21	R5598058
Mercury (Hg)	<0.00010		0.00010	mg/L		24-SEP-21	R5597739
Selenium (Se)	<0.025		0.025	mg/L		24-SEP-21	R5598058
Silver (Ag)	<0.0050		0.0050	mg/L		24-SEP-21	R5598058
Uranium (U)	<0.25		0.25	mg/L		24-SEP-21	R5598058
TCLP VOCs							
1,1-Dichloroethylene	<0.025		0.025	mg/L		27-SEP-21	R5600258
1,2-Dichlorobenzene	<0.025		0.025	mg/L		27-SEP-21	R5600258
1,2-Dichloroethane	<0.025		0.025	mg/L		27-SEP-21	R5600258
1,4-Dichlorobenzene	<0.025		0.025	mg/L		27-SEP-21	R5600258
Benzene	<0.025		0.025	mg/L		27-SEP-21	R5600258
Carbon tetrachloride	<0.025		0.025	mg/L		27-SEP-21	R5600258
Chlorobenzene	<0.025		0.025	mg/L		27-SEP-21	R5600258
Chloroform	<0.10		0.10	mg/L		27-SEP-21	R5600258
Dichloromethane	<0.50		0.50	mg/L		27-SEP-21	R5600258
Methyl Ethyl Ketone	<1.0		1.0	mg/L		27-SEP-21	R5600258
Tetrachloroethylene	<0.025		0.025	mg/L		27-SEP-21	R5600258
Trichloroethylene	<0.025		0.025	mg/L		27-SEP-21	R5600258
Vinyl chloride	<0.050		0.050	mg/L		27-SEP-21	R5600258
Surrogate: 4-Bromofluorobenzene	104.9		70-130	%		27-SEP-21	R5600258
Volatile Organic Compounds							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2642782-1 WASTE-11230721-0920-GL-001 Sampled By: CLIENT on 20-SEP-21 @ 08:45 Matrix: SOIL							
Volatile Organic Compounds							
Surrogate: 1,4-Difluorobenzene	100.5		70-130	%		27-SEP-21	R5600258

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CN-TCLP-WT	Waste	Cyanide for O. Reg 347	APHA 4500CN I

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fiber filter. The extract is then analyzed using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.

F-TCLP-WT	Waste	Fluoride (F) for O. Reg 347	EPA 300.1

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fiber filter. The extract is then analyzed using procedures adapted from EPA 300.1 and is analyzed by Ion Chromatography with conductivity and/or UV detection.

HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	EPA 1631E

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using atomic absorption spectrophotometry (EPA 1631E).

IGNITABILITY-WT	Waste	O. Reg 347 Ignitability	EPA SW846, Method 1030, 1996

Preliminary Screening Test:
Prepare a sample "as received" 250 mm long by 20 mm wide by 10 mm high. Apply the tip of the flame to the end of the sample strip.
If the sample is non-metallic, hold the flame tip on the sample until the sample ignites or for a maximum of 2 minutes. If combustion occurs, begin timing with a stop watch and note whether the sample propagates up to the 200 mm mark within the 2 minute test period.
If the sample is metal or metal alloy powder, hold the flame tip on the sample until the sample ignites or for a maximum of 5 minutes. If combusiton occurs, begin timing with a stop watch and note whether the sample propagates up to the 200 mm mark within the 20 minute test period.
Note: If the waste propagates burning of 200 mm of the test strip within 2 minutes (20 minutes for metals), the material must be evaluated by the burning rate test.
Burning Rate Test:
Refer to section 7.2 of EPA Method 1030. Samples that have a burning rate of greater than 2.2 mm/s are considered to have a positive result for ignitability according to DOT regulations. For metallic samples , the burning rate must be greater than 0.17 mm/s.

LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311

Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).

MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 6020B

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020B).

N2N3-TCLP-WT	Waste	Nitrate/Nitrite-N for O. Reg 347	EPA 300.1

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fiber filter. The extract is then analyzed using procedures adapted from EPA 300.1 and is analyzed by Ion Chromatography with conductivity and/or UV detection.

VOC-TCLP-WT	Waste	VOC for O. Reg 347	SW846 8260

A sample of waste is leached in a zero headspace extractor at 30–2 rpm for 18–2.0 hours with the appropriate leaching solution. After tumbling the leachate is analyzed directly by headspace technology, followed by GC/MS using internal standard quantitation.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Reference Information

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2642782 Report Date: 27-SEP-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-TCLP-WT	**Waste**							
Batch R5598401								
WG3624257-7 DUP		**L2642639-1**						
Cyanide, Weak Acid Diss		<0.10	<0.10	RPD-NA	mg/L	N/A	50	24-SEP-21
WG3624257-6 LCS								
Cyanide, Weak Acid Diss			97.7		%		70-130	24-SEP-21
WG3624257-5 MB								
Cyanide, Weak Acid Diss			<0.10		mg/L		0.1	24-SEP-21
WG3624257-8 MS		**L2642639-1**						
Cyanide, Weak Acid Diss			109.2		%		50-140	24-SEP-21
F-TCLP-WT	**Waste**							
Batch R5600637								
WG3624270-3 DUP		**L2641413-1**						
Fluoride (F)		<10	<10	RPD-NA	mg/L	N/A	30	24-SEP-21
WG3624270-2 LCS								
Fluoride (F)			93.0		%		70-130	24-SEP-21
WG3624270-1 MB								
Fluoride (F)			<10		mg/L		10	24-SEP-21
WG3624270-4 MS		**L2641413-1**						
Fluoride (F)			92.0		%		50-150	24-SEP-21
HG-TCLP-WT	**Waste**							
Batch R5597739								
WG3624314-3 DUP		**L2642676-2**						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	24-SEP-21
WG3624314-2 LCS								
Mercury (Hg)			99.6		%		70-130	24-SEP-21
WG3624314-1 MB								
Mercury (Hg)			<0.00010		mg/L		0.0001	24-SEP-21
WG3624314-4 MS		**L2642676-2**						
Mercury (Hg)			98.7		%		50-140	24-SEP-21
MET-TCLP-WT	**Waste**							
Batch R5598058								
WG3624295-4 DUP		**WG3624295-3**						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	24-SEP-21
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	50	24-SEP-21
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	50	24-SEP-21
Barium (Ba)		0.58	0.55		mg/L	5.6	50	24-SEP-21
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	24-SEP-21
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	50	24-SEP-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT	**Waste**							
Batch R5598058								
WG3624295-4 DUP		**WG3624295-3**						
Lead (Pb)		<0.025	<0.025	RPD-NA	mg/L	N/A	50	24-SEP-21
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	50	24-SEP-21
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	50	24-SEP-21
WG3624295-2 LCS								
Silver (Ag)			101.3		%		70-130	24-SEP-21
Arsenic (As)			107.5		%		70-130	24-SEP-21
Boron (B)			97.7		%		70-130	24-SEP-21
Barium (Ba)			104.6		%		70-130	24-SEP-21
Cadmium (Cd)			103.4		%		70-130	24-SEP-21
Chromium (Cr)			105.2		%		70-130	24-SEP-21
Lead (Pb)			99.8		%		70-130	24-SEP-21
Selenium (Se)			103.7		%		70-130	24-SEP-21
Uranium (U)			100.7		%		70-130	24-SEP-21
WG3624295-1 MB								
Silver (Ag)			<0.0050		mg/L		0.005	24-SEP-21
Arsenic (As)			<0.050		mg/L		0.05	24-SEP-21
Boron (B)			<2.5		mg/L		2.5	24-SEP-21
Barium (Ba)			<0.50		mg/L		0.5	24-SEP-21
Cadmium (Cd)			<0.0050		mg/L		0.005	24-SEP-21
Chromium (Cr)			<0.050		mg/L		0.05	24-SEP-21
Lead (Pb)			<0.025		mg/L		0.025	24-SEP-21
Selenium (Se)			<0.025		mg/L		0.025	24-SEP-21
Uranium (U)			<0.25		mg/L		0.25	24-SEP-21
WG3624295-5 MS		**WG3624295-3**						
Silver (Ag)			108.7		%		50-140	24-SEP-21
Arsenic (As)			104.6		%		50-140	24-SEP-21
Boron (B)			96.1		%		50-140	24-SEP-21
Barium (Ba)			111.2		%		50-140	24-SEP-21
Cadmium (Cd)			101.0		%		50-140	24-SEP-21
Chromium (Cr)			103.1		%		50-140	24-SEP-21
Lead (Pb)			99.7		%		50-140	24-SEP-21
Selenium (Se)			104.8		%		50-140	24-SEP-21
Uranium (U)			99.3		%		50-140	24-SEP-21
N2N3-TCLP-WT	**Waste**							

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
N2N3-TCLP-WT	**Waste**							
Batch R5600637								
WG3624270-3 DUP		**L2641413-1**						
Nitrate-N		<2.0	<2.0	RPD-NA	mg/L	N/A	25	24-SEP-21
Nitrite-N		<2.0	<2.0	RPD-NA	mg/L	N/A	25	24-SEP-21
WG3624270-2 LCS								
Nitrate-N			95.9		%		70-130	24-SEP-21
Nitrite-N			96.9		%		70-130	24-SEP-21
WG3624270-1 MB								
Nitrate-N			<2.0		mg/L		2	24-SEP-21
Nitrite-N			<2.0		mg/L		2	24-SEP-21
WG3624270-4 MS		**L2641413-1**						
Nitrate-N			94.3		%		50-150	24-SEP-21
Nitrite-N			95.2		%		50-150	24-SEP-21
VOC-TCLP-WT	**Waste**							
Batch R5600258								
WG3625362-1 LCS								
1,1-Dichloroethylene			97.4		%		70-130	27-SEP-21
1,2-Dichlorobenzene			94.3		%		70-130	27-SEP-21
1,2-Dichloroethane			91.0		%		70-130	27-SEP-21
1,4-Dichlorobenzene			93.5		%		70-130	27-SEP-21
Benzene			92.8		%		70-130	27-SEP-21
Carbon tetrachloride			96.9		%		60-140	27-SEP-21
Chlorobenzene			95.4		%		70-130	27-SEP-21
Chloroform			94.7		%		70-130	27-SEP-21
Dichloromethane			89.9		%		70-130	27-SEP-21
Methyl Ethyl Ketone			90.3		%		50-150	27-SEP-21
Tetrachloroethylene			102.4		%		70-130	27-SEP-21
Trichloroethylene			97.0		%		70-130	27-SEP-21
Vinyl chloride			85.6		%		60-130	27-SEP-21
WG3625362-2 MB								
1,1-Dichloroethylene			<0.025		mg/L		0.025	27-SEP-21
1,2-Dichlorobenzene			<0.025		mg/L		0.025	27-SEP-21
1,2-Dichloroethane			<0.025		mg/L		0.025	27-SEP-21
1,4-Dichlorobenzene			<0.025		mg/L		0.025	27-SEP-21
Benzene			<0.025		mg/L		0.025	27-SEP-21
Carbon tetrachloride			<0.025		mg/L		0.025	27-SEP-21

Quality Control Report

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-TCLP-WT	**Waste**							
Batch R5600258								
WG3625362-2 MB								
Chlorobenzene			<0.025		mg/L		0.025	27-SEP-21
Chloroform			<0.10		mg/L		0.1	27-SEP-21
Dichloromethane			<0.50		mg/L		0.5	27-SEP-21
Methyl Ethyl Ketone			<1.0		mg/L		1	27-SEP-21
Tetrachloroethylene			<0.025		mg/L		0.025	27-SEP-21
Trichloroethylene			<0.025		mg/L		0.025	27-SEP-21
Vinyl chloride			<0.050		mg/L		0.05	27-SEP-21
Surrogate: 1,4-Difluorobenzene			101.6		%		70-130	27-SEP-21
Surrogate: 4-Bromofluorobenzene			106.6		%		70-130	27-SEP-21
WG3625362-3 MS		**L2641890-1**						
1,1-Dichloroethylene			82.2		%		50-140	27-SEP-21
1,2-Dichlorobenzene			86.6		%		50-140	27-SEP-21
1,2-Dichloroethane			85.0		%		50-140	27-SEP-21
1,4-Dichlorobenzene			84.1		%		50-140	27-SEP-21
Benzene			81.5		%		50-140	27-SEP-21
Carbon tetrachloride			82.9		%		50-140	27-SEP-21
Chlorobenzene			84.9		%		50-140	27-SEP-21
Chloroform			84.8		%		50-140	27-SEP-21
Dichloromethane			81.2		%		50-140	27-SEP-21
Methyl Ethyl Ketone			85.8		%		50-140	27-SEP-21
Tetrachloroethylene			86.7		%		50-140	27-SEP-21
Trichloroethylene			84.3		%		50-140	27-SEP-21
Vinyl chloride			71.9		%		50-140	27-SEP-21

Quality Control Report

Workorder: L2642782 Report Date: 27-SEP-21

Client: GHD Limited (Waterloo)
455 Phillip St
Waterloo ON N2L3X2
Contact: Pascal Renella

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 898293

Page 1 of 1

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L2642782-COFC

ida Toll Free: 1 800 668 9878

Report To	Contact and company na.	Reports / Recipients	Turnaround Time (TAT) Requested
Company:	GHD Limited	Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)	☐ Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	Pascal Renella	Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A	☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
Phone:	1-450-902-4349	☐ Compare Results to Criteria on Report - provide details below if box checked	☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
	Company address below will appear on the final report	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
Street:	179 Colonnade Rd	Email 1 or Fax pascal.renella@ghd.com	☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
City/Province:	Ottawa, ON	Email 2 joseph.Drader@ghd.com	☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests
Postal Code:	K2E 7J4	Email 3	Date and Time Required for all E&P TATs:
Invoice To	Same as Report To ☑ YES ☐ NO	Invoice Recipients	For all tests with rush TATs requested, please contact your AM to confirm availability.
	Copy of Invoice with Report ☑ YES ☐ NO	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax pascal-renella@ghd.com	
Contact:		Email 2	

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	BR329966	AFE/Cost Center:	PO#
Job #:	11230721-05 WASTE	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):	L2642782	ALS Contact:	Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	TCLP OReg 347 Metals & Inorganics (Volatiles)	TCLP OReg 347 VOC (Leachable)	Flashpoint	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
1	WASTE-11230721-0920-GL-001	20-09-21	8:45am	WASTE	3	✓	✓	✓			

G.L.

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)	SAMPLE RECEIPT DETAILS (ALS use only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO		Cooling Method: ☐ NONE ☑ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Are samples for human consumption/ use? ☐ YES ☐ NO		Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO
		Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A
		INITIAL COOLER TEMPERATURES °C: 10.7 — FINAL COOLER TEMPERATURES °C: 6.7

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Genevieve L'Heureux	Date: Sept 21, 2021	Time: 2:58 pm	Received by:	Date: 21 SEP	Time: 3:20	Received by:	Date: 22 Sep 21	Time: 0930

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY

AUG 2019 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

Equivalency Certificate No. SU 6954 (Ren. 6)
W/O #WO20711

MX119226-3

This Movement document/manifest conforms to all federal and provincial environmental legislation.
Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement.

In case of EMERGENCY, call Drain-All Ltd.'s 24 HOUR EMERGENCY No. 1-613-739-1070
In case of DANGEROUS GOODS EMERGENCY call Canutec's 24 HOUR No. 1-613-996-6666

Movement Document / Manifest Reference No.
N° de référence du document de mouvement/manifeste

A Generator / consignor / Producteur / expéditeur

Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial: ON5662697

C/O - Drain-All Ltd.

Company name / Nom de l'entreprise: Canderel Management Inc

Mailing address / Adresse postale: 900-2000 Peel Street | City / Ville: Montreal | Province: QC | Postal code / Code postal: H3A 2W5

E-mail / Courrier électronique | Tel. No. / N° de tél.: 514-940-1420

Shipping site address / Adresse du lieu de l'expédition: 1209 St Laurent Boulevard

City / Ville: Ottawa | Province: ON | Postal code / Code postal: K1J 1A2

Intended Receiver / consignee / Réceptionnaire / destinataire prévu 2

Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial: A460722

Drain-All Ltd.

Mailing address / Adresse postale: 2705 Stevenage Drive | City / Ville: Ottawa | Province: ON | Postal code / Code postal: K1G 3N2

E-mail / Courrier électronique | Tel. No. / N° de tél.: 613-739-1070

Receiving site address / Adresse du lieu de destination: 2705 Stevenage Drive

City / Ville: Ottawa | Province: ON | Postal code / Code postal: K1G 3N2

B Carrier / Transporteur

Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial: A860302 — 23

Company name / Nom de l'entreprise: DRAIN-ALL LTD.

Mailing address / Adresse postale: 2705 STEVENAGE DRIVE | City / Ville: Ottawa | Province: ON | Postal code / Code postal: K1G 3N2

E-mail / Courrier électronique | Tel. No. / N° de tél.: 613-739-1070

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1re remorque - wagon	RA 1139 B	ON
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée: International use only

Port of exit / Point de sortie: International use only — 25

Carrier Certification : I certify that I have received waste or recyclable material from the generator / consignor for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct.
***Attestation du transporteur :** J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptionnaire / destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.* — 26

Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie): Jason Sears

Tel. No. / N° de tél.: (613-739-1070)

Year / Année: 21 | Month / Mois: 10 | Day / Jour: 17 | Signature:

Reference Nos. of other movement document(s)/manifest(s) used / N° de référence des autres documents de mouvement/manifestes utilisés — 27

C Receiver / consignee / Réceptionnaire / destinataire

Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial — 28

Receiver / consignee information same as in Part A
Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A
☐ Yes / Oui ☐ No, complete the box below / Non, remplir la case ci-dessous

Company name / Nom de l'entreprise

Mailing address / Adresse postale

City / Ville | Province | Postal code / Code postal

E-mail / Courrier électronique | Tel. No. / N° de tél. ( )

Receiving site address / Adresse du lieu de destination

Date received / Date de réception — Year / Année | Month / Mois | Day / Jour

Time / Heure — 29 — ☐ A.M. ☐ P.M.

If waste or recyclable material to be transferred, specify intended company name/ Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire — 30

Registration No./Provincial ID No. / N° d'immatriculation/d'id provincial

	Prov. code / Code prov. 3	Shipping name / Appellation réglementaire 4	Class / Classe 5 Sub. class(es) / Classe(s) sub.	UN No. / N°NU 6	Packing / risk gr. / Gr. d'emballage / de risque 7	Quantity shipped / Quantité expédiée	Units 8 L or / ou Kg Unités	Packaging/Contenant 9 No. / N°	Codes Int.– ext.	Phys. state / État phys. 10
(i)	146L	PURGE WATER	NA	NA	NA	820	L	04	01	L
(ii)										
(iii)										
(iv)										

Quantity received / Quantité reçue	Units 31 L or / ou kg Unités	Comments / Commentaires 32	Handling 33 Code / Code de manutention	Shipment / Envoi 34 Accepted / Accepté	Refused / Refusé	Decont. 35 Pack. Cont.	Veh. Véh.

	Notice No. / N° de notification 11	Notice Line No / N° de ligne de la notification	Shipment / Envoi 12	Of / De	D or R code / Code D ou R 13	C code / Code C 14	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE 15	H code / Code H 16	Y code / Code Y 17	National code in country of / Code du pays 18 Export / Exportation	Import / Importation	Customs code(s) / Code(s) de douanes 19
(i)												
(ii)												
(iii)	International use only											
(iv)												

If handling code "Other" (specify) / Si code de manutention « autre » (spécifier) — 36

***Receiver / consignee certification :** I certify that the information contained in Part C is correct and complete. / **Attestation du réceptionnaire / destinataire :** J'atteste que tous les renseignements à la partie C sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — 37

Signature | Tel. No. / N° de tél. ( )

***Generator / consignor certification:** I certify that the information contained in Part A is correct and complete. I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.*
***Attestation du producteur / expéditeur:** J'atteste que tous les renseignements à la partie A sont exacts et complets. Je déclare que le contenu de ce chargement est décrit ci-dessus de façon complète et exacte par la désignation officielle de transport et qu'il est convenablement classé, emballé, marqué, étiqueté, muni de plaques-étiquettes et à tous égards bien conditionné pour être transporté conformément aux réglementations internationales et nationales applicables.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie): Jason Sears — Tel. No. / N° de tél.: 613 739 1070 — 20

Signature

Special handling / Manutention spéciale — 22

☐ Attached /Ci-joint ☐ As follows/ Ci-contre :

24 Hr No. located above Section B of the Manifest

Date shipped / Date d'expédition — 21 — Year / Année: 21 | Month / Mois: 10 | Day / Jour: 17 | Time / Heure: ☐ A.M. ☐ P.M. | Scheduled arrival date / Date d'arrivée prévue: Year / Année: 21 | Month / Mois: 10 | Day / Jour: 17

Retained by Consignor
Gardée par l'expéditeur

Copy / Copie 2 (green / verte)

SHIPPING DOCUMENT

DA # 30968

Drain-All

Equivalency Certificate No. SU 8954 (Ren. 6)

24-HOUR NUMBER

IN THE EVENT OF AN EMERGENCY, PLEASE CALL DRAIN-ALL LTD.'S 24-HOUR NUMBER 1-800-265-3868 OR (613) 739-1070

IN THE EVENT OF A DANGEROUS GOODS EMERGENCY, CALL THE CANUTEC 24-HOUR NUMBER (613) 996-6666

Work Order No: WO20711	Associated Manifest No. (if applicable):	Date: Oct 19 2021

Carrier: DRAIN-ALL LTD.	Licence Plate No: PA11398	Driver's Name (print): JASON SEARS
Carrier M.O.E. Number: A860302	Unit No: 463	Signature:

Generator/Consignor: Canderel Management Inc		Receiver/Consignee: Drain-All Ltd.	
Shipping site address: 1209 St Laurent Boulevard		Receiving site address: 2705 Stevenage Drive	
City: Ottawa	Province: ON	City: Ottawa	Province: ON
Postal Code: K1J 1A2	Tel. No: 514-940-1420	Postal Code: K1G 3N2	Tel. No: 613-739-1070

DG	UN Number	Shipping Name (If applicable, Technical Name)	Class (Primary and Subsidiary)	PG	Quantity Shipped (kg or L)	No. of Containers	Type of Containers	Quantity Received (kg or L)	No. of Containers Received
	NA	SOLID NON HAZARDOUS MATERIAL (soil cuttings)	NA	NA	600 kg	06	Drums		
	NA	Empty Drums for Recycle (soil + water)	NA	NA	Residue Last Contained	06	Drums		

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respects in proper condition for transport according to the Transportation of Dangerous Goods Regulations."

Shipper's Name (print): JASON SEARS

Signature:

Tel. No: 6137391070

☐ Signed on behalf of Client

Drain-All Ltd.
www.drainall.com
M.O.E. A860302 Carrier
Phone: 613-739-1070 or Toll Free: 1-800-265-3868
24 Hour Emergency Service Available

Ottawa Transfer and Processing Facility
M.O.E. A460722
2705 Stevenage Drive
Ottawa, Ontario, K1G 3N2
Fax 613-739-5971

Napanee Transfer and Processing Facility
M.O.E. 3437-8TAKXD
444 Advance Ave
Napanee, Ontario, K7R 3Z6
Fax: 613-354-9076

De-Watering: _____% Water _____% Solid

Purchase Order No. (if required):

White – Generator Yellow – Carrier Pink - Receiver

ghd.com

The Power of Commitment